



**SPIE**

# 2011 Photonics West

## Exhibition Guide

The Moscone Center  
San Francisco, California, USA

## Moving Technology to Market™ The Moscone Center North & South Halls

BiOS Weekend  
22-23 January  
South Hall  
180 exhibitors

Photonics West  
25-27 January  
South Hall 600 exhibitors  
North Hall 560 exhibitors

**Engage your Customers  
with a Video by**

**Photonics Media**

- Present New Products
- Explain Complex Processes
- Introduce Your Team
- Include Customer Testimonials

**\$995  
Trade Show  
Special!**

**VIDEO PRODUCTION  
PACKAGE INCLUDES:**

- Video Shoot and Editing
- 3 Months Hosting on [Photonics.com](http://Photonics.com)
- Email Blast to Thousands of Prospects
- Posting in the [Photonics.com](http://Photonics.com) *Buyers' Guide*

[www.photonics.com/videosales](http://www.photonics.com/videosales)

Visit the Photonics Media Booth and register for your chance to win a **FREE** video package.

**PHOTONICS** MEDIA  
THE PULSE OF THE INDUSTRY

BiOs, Booth 8526 and Photonics West, Booth 522



# SPIE Photonics West

See the world's premier photonics and laser marketplace

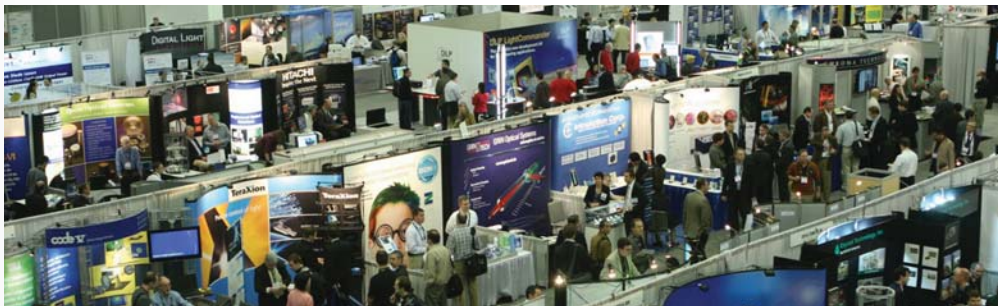
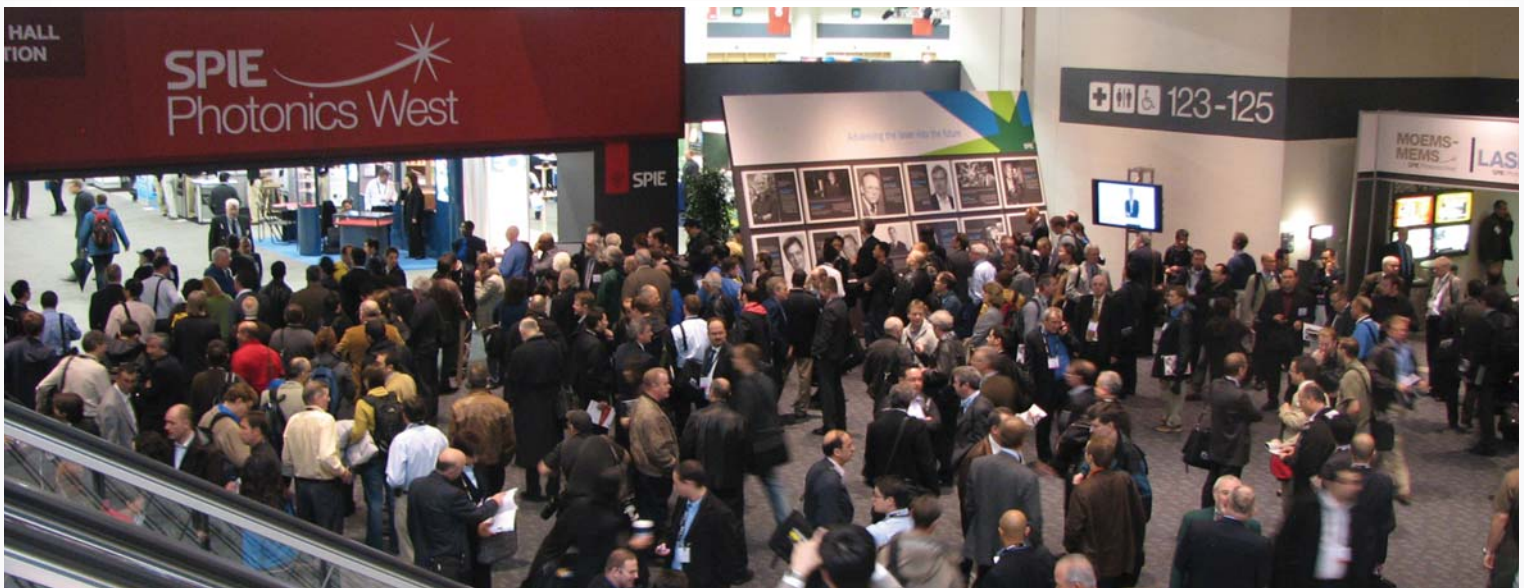
## Moving Technology To Market™

BiOS Exhibition: 22–23 January 2011

Photonics West Exhibition: 25–27 January 2011

Conferences and Courses: 22–27 January 2011

The Moscone Center | San Francisco, California, USA



## BiOS\*

### South Hall A

Saturday 22 January ..... 12:00 to 5:00 pm  
 Sunday 23 January ..... 10:00 am to 5:00 pm

Product Demonstrations . . . . .	26
New Product Launches . . . . .	28–30
Sponsors . . . . .	31
Floor Plan/Booth Map . . . . .	32
Exhibitor Index . . . . .	33
Company List/Descriptions . . . . .	34–55
Companies by Product Category . . . . .	56–58

### Special Events

Facility Map . . . . .	6
SPIE Courses at Photonics West . . . . .	8–12
Industry Presentations/Workshops . . . . .	14–20

## SPIE Photonics West

### North and South Halls

Tuesday 25 January . . . . . 10:00 am to 5:00 pm  
 Wednesday 26 January . . . . . 10:00 am to 5:00 pm  
 Thursday 27 January . . . . . 10:00 am to 4:00 pm

Product Demonstrations . . . . .	62–69
New Product Launches . . . . .	66–79
Floor Plan/Booth Map . . . . .	80–83
Exhibitor Index . . . . .	84–96
Sponsors . . . . .	85–91
Company List/Descriptions . . . . .	98–262
Companies by Product Category . . . . .	263–382

SPIE Job Fair . . . . .	24
Advertisers . . . . .	96

# General Information

## Exhibition Hours

### BIOS Exhibition

South Hall A

Saturday 22 January . . . . . 12:00 to 5:00 pm  
Sunday 23 January . . . . . 10:00 am to 5:00 pm

### Photonics West Exhibition

North Hall, South Hall

Tuesday 25 January . . . . . 10:00 am to 5:00 pm  
Wednesday 26 January . . . . . 10:00 am to 5:00 pm  
Thursday 27 January . . . . . 10:00 am to 4:00 pm

## Onsite Registration and Information Hours

North Lobby

Saturday 22 January . . . . . 7:00 am to 5:00 pm  
Sunday 23 January . . . . . 7:15 am to 5:00 pm  
Monday 24 January . . . . . 7:00 am to 5:00 pm  
Tuesday 25 January . . . . . 7:30 am to 5:00 pm  
Wednesday 26 January . . . . . 7:30 am to 5:00 pm  
Thursday 27 January . . . . . 7:30 am to 4:00 pm

Multiple facilities in downtown San Francisco may be used for courses, so please allow yourself enough time to register, pick up your materials and possibly walk to a nearby facility before your course begins.

## Food and Beverage Services

### Coffee Breaks

Complimentary coffee will be served twice each day at approximately 10:00 am and 3:00 pm in the Exhibition Halls.

### Desserts

#### Saturday and Sunday

Served in the BIOS Exhibition, South Hall A

#### Tuesday through Thursday

Served in the North and South Exhibition Halls

Dessert snacks will be served from 3:00 to 3:30 pm. Complimentary tickets for the dessert will be included in course and conference attendee registration packets.

### Meals and Refreshments for Purchase

#### Saturday through Thursday

A variety of food outlets will serve hot and cold snacks, espresso, beverages, deli-type sandwiches, salads, hot entrees, and pastries.

#### Food Outlets Open in the Exhibition Halls

South Exhibition Hall

Saturday . . . . . 12:00 to 3:00 pm  
Sunday . . . . . 11:00 am to 3:00 pm

North and South Exhibition Halls

Tuesday through Thursday . . . . . 10:00 am to 4:00 pm

## Course Materials Desk

Located near the SPIE Registration Area, North Lobby

Open during Registration Hours

- If you have registered to attend a course, please stop by the Course Materials Desk AFTER you pick up your badge.
- You must obtain your course notes to find out class location.
- Ask at the Course Materials Desk about the latest Education Services catalog (includes all SPIE courses, videos, and CD-ROMs) as well as customized in-company courses.

## Product Locator Kiosks

North Hall Concourse · South Hall Concourse

Find your way around the Exhibition. Perform a product or keyword search, review the Product Demonstrations, see new products being launched, print out the results, and be on your way in no time!

## Policies

### Audio/Video/Digital Recording Policy

**In the Exhibition Hall:** For security and courtesy reasons, photographing or videotaping individual booths and displays in the exhibit hall is allowed ONLY with explicit permission from onsite company representatives. Individuals not complying with this policy will be asked to surrender their film and to leave the exhibition hall.

### Underage Persons on Show Floor

For safety and insurance reasons, no persons under the age of 16 will be allowed in the exhibition area during move-in and move-out. During open exhibition hours, only children over the age of 12 accompanied by an adult will be allowed in the exhibition area.

### Unauthorized Solicitation

Unauthorized solicitation in the Exhibition Hall is prohibited. Any non-exhibiting manufacturer or supplier observed to be soliciting business in the aisles, or in another company's booth, will be asked to leave immediately.

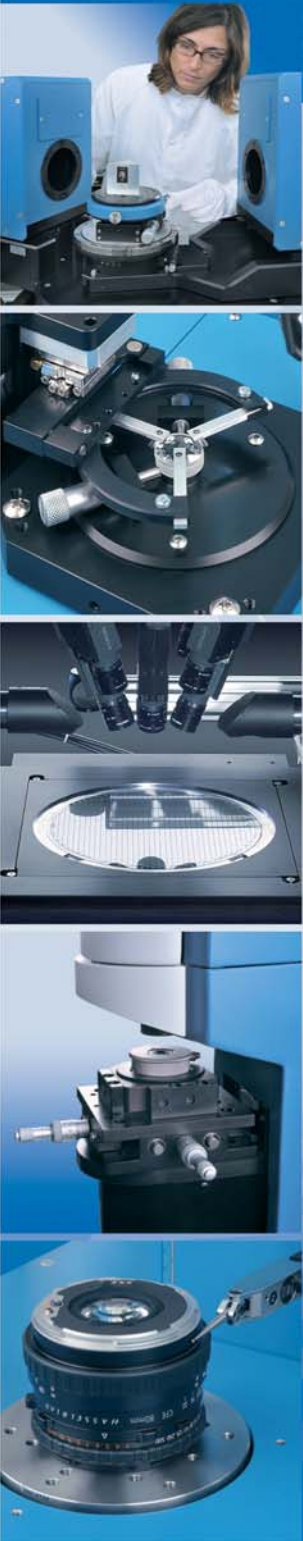
### Unsecured Items

Personal belongings such as briefcases, backpacks, coats, book bags, etc., should not be left unattended in meeting rooms or public areas. These items will be subject to removal by security upon discovery.



# Optical Metrology

## The Whole Spectrum



- MTF measurement instruments
- Optical alignment, cementing and bonding
- Interferometers
- Wavefront measurement with Shack-Hartmann Sensors
- Goniometers
- Spectrometers
- Camera test devices
- Electronic Autocollimators
- Visual collimators, telescopes and autocollimators
- Ophthalmic metrology instruments
- Prisms and polygons according to N.I.S.T. standards



**TRIOPTICS**

[www.trioptics.com](http://www.trioptics.com)



**Davidson Optronics**

A TRIOPTICS COMPANY

[www.davidsonoptronics.com](http://www.davidsonoptronics.com)

## General Information

### SPIE Onsite Services

---

#### **SPIE Marketplace**

North Hall Concourse

Open during Registration hours

Visit the Marketplace for:

- SPIE Press books and proceedings
- Educational and professional development CDs and DVDs
- T-shirts and gifts for kids
- SPIE Membership and Digital Library subscriptions
- Free posters and information

#### **Press Room**

The on-site Press Room provides meeting space, refreshments, access to exhibitor press releases, and high-speed internet connections for the use of registered press covering the event. For more information about SPIE resources for the media, see [www.spie.org/pr](http://www.spie.org/pr)

#### **Internet Access**

Concourse (Exhibit Level)

Saturday – Wednesday . . . . . 7:30 am to 6:00 pm

Thursday . . . . . 7:30 am to 4:00 pm

There will be multiple workstations allowing attendees to access their internet e-mail during the conference, and several Ethernet connections to use with your personal laptop. There will be a 10-minute time limit per each person's internet session.

#### **WiFi**

Complimentary WiFi access for attendees with 802.11b wireless enabled laptops and PDAs will be available Saturday through Thursday in the South Lobby and in the Concourse (exhibit level) near the SPIE Marketplace.

### Car Rental

---



Hertz Car Rental is the official car rental agency for this Symposium. To reserve a car, identify yourself as a Photonics West Conference attendee using the Hertz Meeting Code CV# 029B0015.

- In the United States call 1-800-654-2240.

#### **Parking During Photonics West**

For parking information please check the SPIE website [www.spie.org/x24985.xml](http://www.spie.org/x24985.xml) or Concierge Desk located in Registration, North Lobby.

### Business Services

---

#### **Moscone Business Center**

Near South Hall C (Exhibit Level)

The Moscone Business Center provides full service business needs for your convenience. They provide photocopying, faxing, computer workstations and printing services. Shipping is provided through UPS. Office supplies are also available. Phone 415-974-4080. Saturday through Thursday.

#### **Messages**

SPIE has an urgent message line available during registration hours Saturday through Thursday by calling: 415-905-1000.

#### **Luggage/Package Storage and Coat Check**

Room 102 (Exhibit Level)

Saturday through Thursday

Complimentary luggage/package and coat storage will be available to attendees.

Please note hours of operation posted onsite. If you intend to stay later than closing time, you will need to claim your checked items before this station closes.

#### **Boarding Pass Kiosks**

Room 102 (Exhibit Level)

Complimentary boarding pass printing is available at kiosks located in the coat/luggage check area.

#### **Concierge Desk**

North Lobby

A Concierge Desk will be open 10:00 am to 6:00 pm Saturday through Wednesday and 10:00 am to 2:00 pm on Thursday during registration hours for sightseeing, shopping, and restaurant information.

#### **Housing Desk**

North Lobby

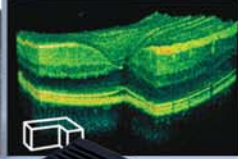
A housing desk will be open in the North Lobby; hours are posted at the desk.



SWIR image of  
laser pointers at dusk



OCT scan using  
SWIR camera



Visible



Forest Fire



SWIR

SWIR sees  
through silicon



# RIGHT InGaAs. RIGHT INNOVATION.

Sensors Unlimited - Goodrich ISR Systems, has been the leading innovator of InGaAs technology for shortwave infrared imaging since 1991. Our cutting-edge SWIR products are available in high-volume quantities for a wide variety of applications, including laser detection, surveillance, spectroscopy, process control and biomedical imaging.

Our high resolution, high sensitivity off-the-shelf SWIR products include 2D cameras, linescan cameras, focal plane and linear arrays. For more information and quick delivery, contact us today.

Sensors Unlimited, Inc. Seeing Beyond™.

phone: 609-520-0610

email: [sui\\_sales@goodrich.com](mailto:sui_sales@goodrich.com)

[www.sensorsinc.com](http://www.sensorsinc.com)

See us at

BIOS - Booth #8811

Photonics West - Booth #811

- ▶ Digital SWIR Video Cameras
  - ▶ high resolution
  - ▶ fast frame rate & windowing
  - ▶ small form factor
  - ▶ low light level sensitivity
  - ▶ extended visible response
- ▶ Machine Vision Linescan Cameras
- ▶ Linear Photodiode Arrays
  - ▶ largest selection
  - ▶ extended NIR & SWIR response

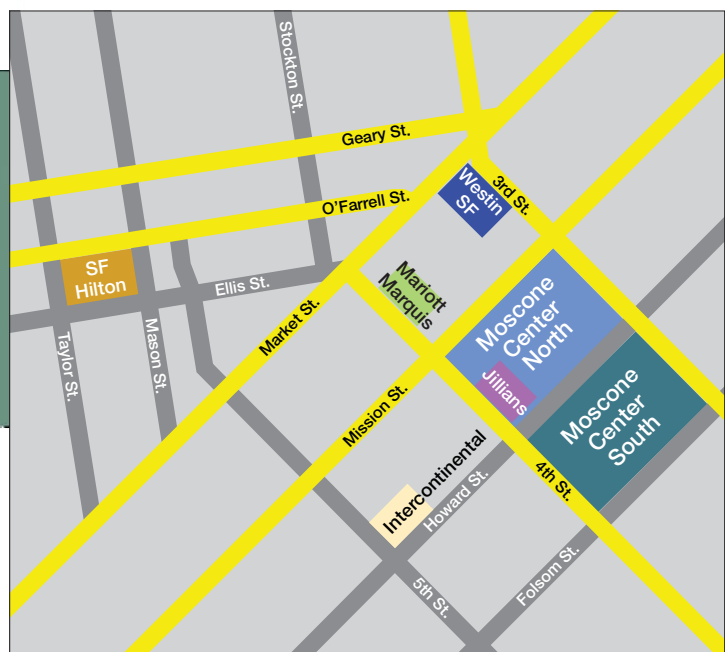
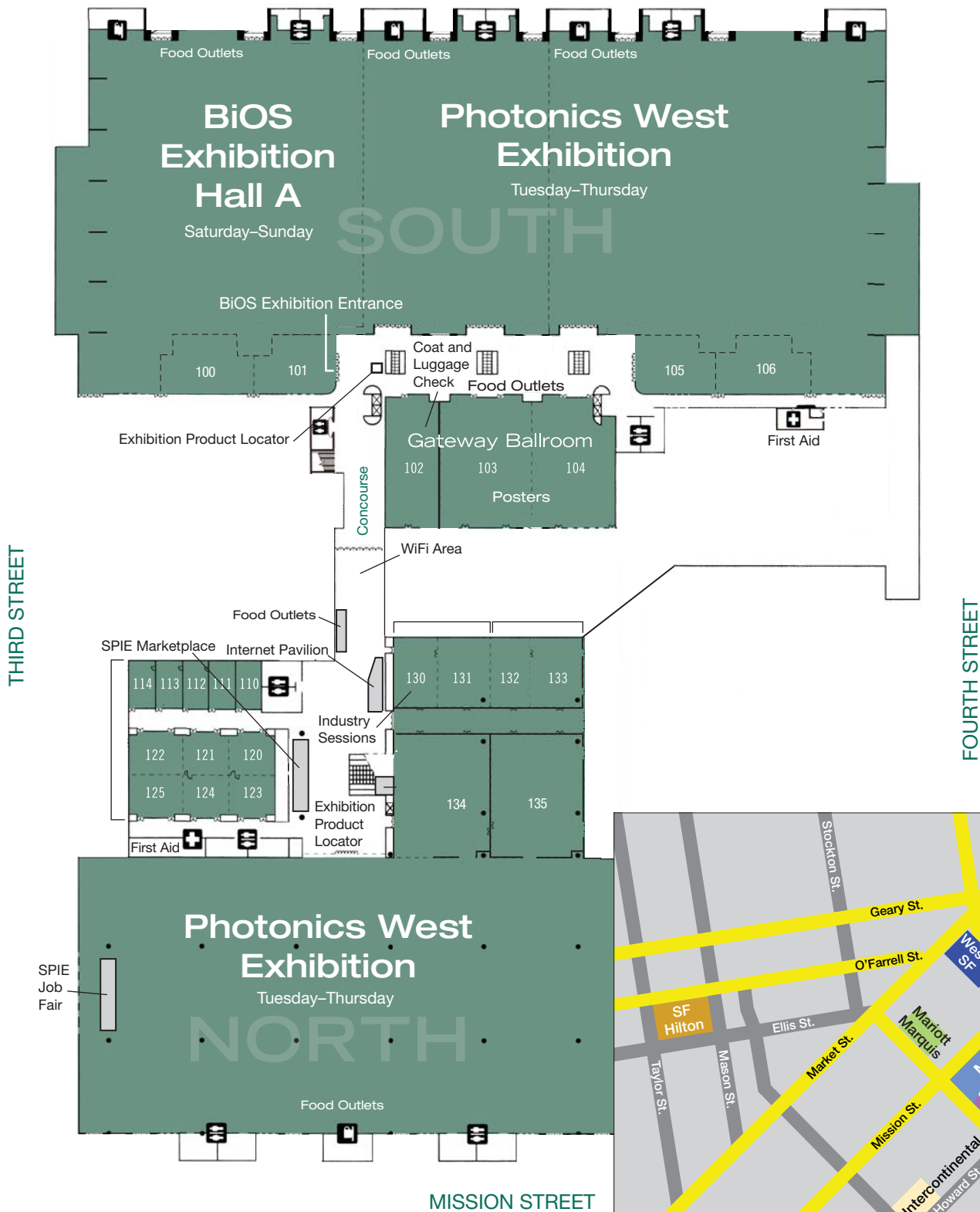
right attitude/right approach/right alongside  
[www.goodrich.com](http://www.goodrich.com)

**GOODRICH**

# The Moscone Center

## EXHIBIT LEVEL

FOLSOM STREET





# Bigger wafer.

higher volume  
higher reliability  
lower cost

## From our bigger, better wafer fab.

What's the big news at Opto Diode? Our bigger, better 6" silicon wafer – now in full production. How does it impact you? We engineer, design and manufacture LEDs and silicon photodiodes in our custom-built, domestic state-of-the-art wafer fab specifically to provide high quality, high volume parts with unsurpassed repeatability – at affordable prices.

Our automated processes ensure top quality products delivered fast. And we can provide comprehensive testing of chips, wavelengths and output power, so you don't have to.

Contact us today. And find out why our 6" wafer means a great deal to you.

### High Power LEDs, Silicon Photodetectors & High Level Assemblies

- Fast prototyping
- High volume, low cost
- Highly reliable and repeatable
- Automated production
- Complete testing capabilities

### Applications

- Medical
- Biotechnology
- Scientific
- Military
- R&D
- Commercial

**See us at  
Photonics West Booth #5325**

**On Shore. On Time. On Budget.**



**OPTO DIODE CORP.**

750 Mitchell Road, Newbury Park, CA 91320

805-499-0335 Fax 805-499-8108

[www.optodiode.com](http://www.optodiode.com)



# Get the training you need to stay competitive in today's job market

Courses at SPIE Events offer an engaging experience for those who prefer face-to-face instruction, where interaction with the instructor and sharing information with other students provide increased value.

## Biomedical Spectroscopy, Microscopy, and Imaging

- Sun SC978 **Light Microscopy** (*Tkaczyk*)  
1:30 to 5:30 pm,  
\$385 / \$440
- Mon SC981 **Biomedical Fiber Optic Sensors and Applications** (*Mendez, McLaughlin*)  
8:30 am to 12:30 pm,  
\$350 / \$405
- Mon SC979 **Fundamentals of Three-Dimensional Optical Microscopy** (*Martinez-Corral, Javidi*) 8:30 am to 5:30 pm,  
\$575 / \$685
- Tues SC1013 **Choosing the Correct Optical Filter for Your Application** (*Reichel*)  
8:30 am to 12:30 pm,  
\$350 / \$405
- Tues SC868 **Optical Design for Biomedical Imaging** (*Liang*) 1:30 to 5:30 pm,  
\$425 / \$480
- Weds SC865 **Microscope Design** (*Seward*) 8:30 am to 12:30 pm, \$350 / \$405

## Clinical Technologies and Systems

- Sun SC312 **Principles and Applications of Optical Coherence Tomography** (*Fujimoto*)  
1:30 to 5:30 pm,  
\$350 / \$405
- Mon SC981 **Biomedical Fiber Optic Sensors and Applications** (*Mendez, McLaughlin*)  
8:30 am to 12:30 pm,  
\$350 / \$405

## Displays and Holography

- Mon SC011 **Design of Efficient Illumination Systems** (*Cassarly*) 1:30 to 5:30 pm,  
\$350 / \$405

## Laser Applications

- Tues SC746 **Introduction to Ultrafast Technology** (*Trebino*) 1:30 to 5:30 pm,  
\$350 / \$405
- Weds SC188 **Laser Beam Propagation for Applications in Laser Communications, Laser Radar, and Active Imaging** (*Phillips, Andrews*)  
8:30 am to 5:30 pm,  
\$695 / \$805

## Laser Micro-/ Nanoengineering

- Mon SC743 **Micromachining with Femtosecond Lasers** (*Nolte, Schaffer*) 1:30 to 5:30 pm, \$350 / \$405
- Weds SC689 **Precision Laser Micromachining** (*Schaeffer*)  
8:30 am to 12:30 pm,  
\$350 / \$405

## Laser Source Engineering

- Sat SC752 **Solid State Laser Technology** (*Hodgson*)  
8:30 am to 5:30 pm,  
\$575 / \$685
- Sun SC744 **Ultrafast Fiber Lasers** (*Fermann*) 8:30 am to 12:30 pm, \$350 / \$405

- Sun SC984 **Fiber Amplifiers** (*Digonet*) 1:30 to 5:30 pm, \$350 / \$405
- Sun SC748 **High-Power Fiber Sources** (*Nilsson*) 1:30 to 5:30 pm,  
\$350 / \$405
- Sun SC1020 **Splicing of Specialty Fibers and Glass Processing of Fused Fiber Components** (*Wang*)  
1:30 to 5:30 pm,  
\$350 / \$405
- Mon SC931 **Applied Nonlinear Frequency Conversion** (*Paschotta*) 8:30 am to 5:30 pm, \$575 / \$685
- Mon SC974 **Interconnection and Splicing of High-Power Optical Fibers** (*Yablon*) 8:30 am to 12:30 pm,  
\$350 / \$405
- Mon SC1012 **Coherent Mid-Infrared Sources and Applications** (*Vodopyanov*) 1:30 to 5:30 pm, \$350 / \$405
- Tues SC818 **Laser Beam Quality** (*Paschotta*) 8:30 am to 12:30 pm, \$350 / \$405
- Tues SC977 **Fundamentals of Laser Beam Profile Measurements** (*Rypma*)  
1:30 to 5:30 pm, \$350 / \$405
- Tues SC746 **Introduction to Ultrafast Technology** (*Trebino*)  
1:30 to 5:30 pm, \$350 / \$405
- Weds WS972 **Basic Laser Technology** (*Sukuta*) 8:30 am to 12:30 pm, \$350 / \$405
- Weds SC860 **Resonator Design for Solid State Lasers** (*Paschotta*)  
8:30 am to 5:30 pm,  
\$575 / \$685

## Registration Required

See SPIE Cashier, North Lobby.



# are all optical coatings alike?



we say "bah".

At Deposition Sciences you'll find a lot more than the usual run-of-the-mill optical coatings. Our ultra-durable coatings and patented deposition processes have made us leaders in coating technology. And we're leading the herd again with our newest coatings on plastic - the perfect solution when

lightweight or low cost optics are required. Soon you'll have even more to chew on. We're taking coatings to the next level with our new eco-friendly, energy-efficient products. From visible to UV and IR, visit us today at [www.depsci.com](http://www.depsci.com). DSI - where precision optical coatings are *not* created equal.

See us at  
BIOS Booth #8714  
Photonics West Booth #312

[www.depsci.com](http://www.depsci.com)

*innovation*  
**DSI** Deposition Sciences  
INCORPORATED

*Bringing Technology to Light*

3300 Coffey Lane, Santa Rosa, CA 95403 Tel (707) 573-6700 / 866-433-7724 Fax (707) 573-6748 email: [solutions@depsci.com](mailto:solutions@depsci.com)

# Course Index

## Micro/Nanofabrication

- Mon SC743 **Micromachining with Femtosecond Lasers** (Nolte, Schaffer) 1:30 to 5:30 pm, \$350 / \$405
- Weds SC689 **Precision Laser Micromachining** (Schaeffer) 8:30 am to 12:30 pm, \$350 / \$405
- Weds SC532 **Micro- and Nanofluidics - Technology and Applications** (Gärtner) 8:30 am to 12:30 pm, \$350 / \$405
- Weds SC1014 **Microfabrication Technologies for Microfluidic Devices** (Becker) 1:30 to 5:30 pm, \$350 / \$405

## Nano/Biophotonics

- Sun SC309 **Fluorescent Markers: Usage and Optical System Optimization** (Levi) 8:30 am to 12:30 pm, \$350 / \$405
- Sun SC463 **Biophotonics** (Prasad) 9:00 am to 6:00 pm, \$650 / \$760
- Sun SC461 **Bio-Optical Detection Systems** (Levi) 1:30 to 5:30 pm, \$350 / \$405
- Tues SC1013 **Choosing the Correct Optical Filter for Your Application** (Reichel) 8:30 am to 12:30 pm, \$350 / \$405
- Weds SC727 **Nanoplasmonics** (Stockman) 8:30 am to 5:30 pm, \$575 / \$685

## Nanotechnologies in Photonics

- Sun SC608 **Photonic Crystals: A Crash Course, from Bandgaps to Fibers** (Johnson) 1:30 to 5:30 pm, \$395 / \$450

## Nonlinear Optics

- Sun SC1020 **Splicing of Specialty Fibers and Glass Processing of Fused Fiber Components** (Wang) 1:30 to 5:30 pm, \$350 / \$405
- Mon SC931 **Applied Nonlinear Frequency Conversion** (Paschotta) 8:30 am to 5:30 pm, \$575 / \$685
- Mon SC974 **Interconnection and Splicing of High-Power Optical Fibers** (Yablon) 8:30 am to 12:30 pm, \$350 / \$405
- Mon SC1012 **Coherent Mid-Infrared Sources and Applications** (Vodopyanov) 1:30 to 5:30 pm, \$350 / \$405

## Optical Communications: Devices to Systems

- Weds SC188 **Laser Beam Propagation for Applications in Laser Communications, Laser Radar, and Active Imaging** (Phillips, Andrews) 8:30 am to 5:30 pm, \$695 / \$805

## Optics and Optical Engineering

- Sun SC935 **Introduction to Lens Design** (Bentley) 8:30 am to 5:30 pm, \$675 / \$685
- Sun SC212 **Modern Optical Testing** (Wyant) 8:30 am to 12:30 pm, \$380 / \$435
- Mon SC156 **Basic Optics for Engineers** (Ducharme) 8:30 am to 5:30 pm, \$610 / \$720
- Mon SC690 **Optical System Design: Layout Principles and Practice** (Greivenkamp) 8:30 am to 5:30 pm, \$680 / \$790
- Mon SC702 **Optics and Optical Quality of the Human Eye** (Roorda) 8:30 am to 12:30 pm, \$350 / \$405
- Mon SC321 **Thin Film Optical Coatings** (Macleod) 8:30 am to 5:30 pm, \$575 / \$685
- Mon SC011 **Design of Efficient Illumination Systems** (Cassarly) 1:30 to 5:30 pm, \$350 / \$405
- Mon SC932 **Ophthalmic Adaptive Optics** (Miller) 1:30 to 5:30 pm, \$350 / \$405
- Tues SC1013 **Choosing the Correct Optical Filter for Your Application** (Reichel) 8:30 am to 12:30 pm, \$350 / \$405
- Tues SC206 **Polarized Light: A Practical Hands-on Introduction** (Fisher) 8:30 am to 5:30 pm, \$575 / \$685
- Tues-SC003 **Practical Optical System Design** (Fischer, Youngworth) 8:30 am to 5:30 pm, \$1135 / \$1390
- Tues SC017 **Principles of Fourier Optics and Diffraction** (Gaskill) 8:30 am to 5:30 pm, \$680 / \$790
- Tues SC384 **The Design of Plastic Optical Systems** (Schaub) 1:30 to 5:30 pm, \$405 / \$460
- Tues SC1011 **Understanding Waviness and Roughness Specifications for Optics** (Aikens) 1:30 to 5:30 pm, \$350 / \$405

- Weds WS972 **Basic Laser Technology** (Sukuta) 8:30 am to 12:30 pm, \$350 / \$405
- Weds SC700 **Understanding Scratch and Dig Specifications** (Aikens) 8:30 am to 12:30 pm, \$420 / \$475
- Weds SC1017 **Optics Surface Inspection Workshop** (Aikens) 1:30 to 5:30 pm, \$400 / \$455

## Optoelectronic Materials and Devices

- Sun SC984 **Fiber Amplifiers** (Digonnet) 1:30 to 5:30 pm, \$350 / \$405
- Mon SC931 **Applied Nonlinear Frequency Conversion** (Paschotta) 8:30 am to 5:30 pm, \$575 / \$685
- Mon SC747 **Semiconductor Optoelectronic Device Fundamentals** (Linden) 8:30 am to 5:30 pm, \$575 / \$685
- Weds SC817 **Silicon Photonics** (Michel, Saini) 8:30 am to 12:30 pm, \$350 / \$405
- Weds SC547 **Terahertz Wave Technology and Applications** (Zhang) 8:30 am to 12:30 pm, \$350 / \$405

## Optomechanics

- Tues-Wed SC010 **Introduction to Optical Alignment Techniques** (Ruda) 8:30 am to 5:30 pm, \$1050 / \$1305
- Tues SC1019 **Mounting of Optical Components** (Burge) 8:30 am to 5:30 pm, \$660 / \$770
- Tues SC015 **Structural Adhesives for Optical Bonding** (Daly) 8:30 am to 12:30 pm, \$350 / \$405
- Weds SC781 **Optomechanical Analysis** (Hatheway) 8:30 am to 5:30 pm, \$575 / \$685

## Photonic Integration

- Mon SC747 **Semiconductor Optoelectronic Device Fundamentals** (Linden) 8:30 am to 5:30 pm, \$575 / \$685
- Weds SC817 **Silicon Photonics** (Michel, Saini) 8:30 am to 12:30 pm, \$350 / \$405

**Registration Required**

See SPIE Cashier, North Lobby.



# From operating room to war room... our optical coatings answer the call to duty.



No matter where your operations take place, the reliability and performance of your thin film optical coatings can make a critical difference. From anti-reflection to hot mirrors, we have fail-safe coatings for your optical system.

ZC&R can precision coat glass substrates up to 29.5" diameter, provide computer-controlled scribes, and deliver unparalleled cleaning in a class 100 cleanroom, all with state-of-the-art quality control. And together with Abrisa, we offer a complete array of optical glass fabrication services.

Call us or visit [www.zcrcoatings.com](http://www.zcrcoatings.com) for a quote. ZC&R. Medical to military – and everywhere in between.

#### Optical Coatings for:

- Medical / Biomedical
- Military / Defense
- Surveillance
- Aerospace
- Commercial
- Scientific
- R&D
- Industrial
- Lighting



ISO9001/AS9100 compliant

See us at  
Photonics West Booth #541



Abrisa Glass Company



ZC&R Coatings for Optics  
[www.zcrcoatings.com](http://www.zcrcoatings.com)



Sycamore Glass Components

# Course Index

## Photonic Therapeutics and Diagnostics

- Mon SC702 **Optics and Optical Quality of the Human Eye** (Roorda) 8:30 am to 12:30 pm, \$350 / \$405
- Mon SC932 **Ophthalmic Adaptive Optics** (Miller) 1:30 to 5:30 pm, \$350 / \$405

## Semiconductor Lasers and LEDs

- Sun SC1020 **Splicing of Specialty Fibers and Glass Processing of Fused Fiber Components** (Wang) 1:30 to 5:30 pm, \$350 / \$405
- Mon SC657 **Accurate Measurement of LED Optical Properties** (Tirpak) 8:30 am to 12:30 pm, \$350 / \$405
- Mon SC974 **Interconnection and Splicing of High-Power Optical Fibers** (Yablon) 8:30 am to 12:30 pm, \$350 / \$405
- Mon SC052 **Light-Emitting Diodes** (Schubert) 8:30 am to 12:30 pm, \$420 / \$475

- Mon SC747 **Semiconductor Optoelectronic Device Fundamentals** (Linden) 8:30 am to 5:30 pm, \$575 / \$685
- Mon SC1012 **Coherent Mid-Infrared Sources and Applications** (Vodopyanov) 1:30 to 5:30 pm, \$350 / \$405
- Mon SC011 **Design of Efficient Illumination Systems** (Cassarly) 1:30 to 5:30 pm, \$350 / \$405
- Mon SC958 **LED & Solid-State Lighting Standardization** (Jiao) 1:30 to 5:30 pm, \$350 / \$405
- Tues SC977 **Fundamentals of Laser Beam Profile Measurements** (Rypma) 1:30 to 5:30 pm, \$350 / \$405

## Standards

- Mon SC958 **LED & Solid-State Lighting Standardization** (Jiao) 1:30 to 5:30 pm, \$350 / \$405
- Tues SC1011 **Understanding Waviness and Roughness Specifications for Optics** (Aikens) 1:30 to 5:30 pm, \$350 / \$405

- Weds SC700 **Understanding Scratch and Dig Specifications** (Aikens) 8:30 am to 12:30 pm, \$420 / \$475
- Weds SC1017 **Optics Surface Inspection Workshop** (Aikens) 1:30 to 5:30 pm, \$400 / \$455

## Tissue Optics, Laser-Tissue Interaction, and Tissue Engineering

- Sun SC029 **Tissue Optics** (Jacques) 1:30 to 5:30 pm, \$350 / \$405

## Industry Workshops

### Business, Patents + IP

- Mon WS1008 **Negotiation Strategy and Tactics** (Levine) 8:30 am to 12:30 pm, \$150 / \$200
- Tues WS973 **Valuation of Closely Held Technology Companies, Product Lines and Intellectual Property** (Smith) 8:30 am to 12:30 pm, \$350 / \$405
- Tues WS1010 **Smart Patenting** (Gortych) 1:30 to 5:30 pm, \$350 / \$405
- Weds WS933 **Complying with the ITAR: A Case Study** (Scarlott) 1:30 to 5:30 pm, \$350 / \$405

### Fundamental Optics

- Mon WS609 **Basic Optics for Non-Optics Personnel** (Harding) 1:30 to 4:00 pm, \$150 / \$200
- Weds WS972 **Basic Laser Technology** (Sukuta) 8:30 am to 12:30 pm, \$350 / \$405

### Professional Development

- Mon WS1008 **Negotiation Strategy and Tactics** (Levine) 8:30 am to 12:30 pm, \$150 / \$200
- Mon WS1018 **Laser-Sharp Career Strategy: Resumes/CVs and Interviewing** (Levine) 1:30 to 5:30 pm, \$150 / \$200
- Weds WS667 **The Craft of Scientific Presentations: A Workshop on Technical Presentations** (Alley) 8:30 am to 12:30 pm, \$125 / \$175
- Weds WS668 **The Craft of Scientific Writing: A Workshop on Technical Writing** (Alley) 1:30 to 5:30 pm, \$125 / \$175

## SPIE Online Courses

A great way to fulfill your training needs

At Your Pace · On Your Schedule · At Your Desk

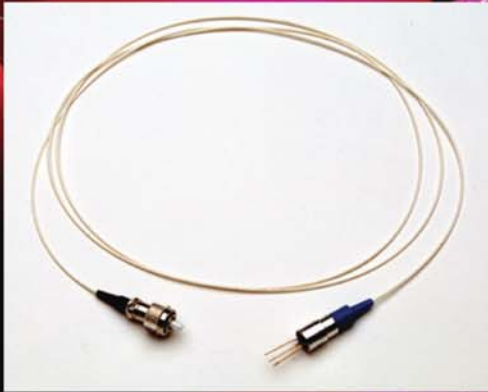
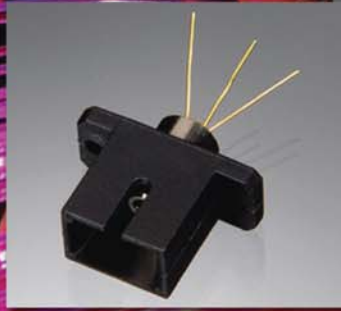
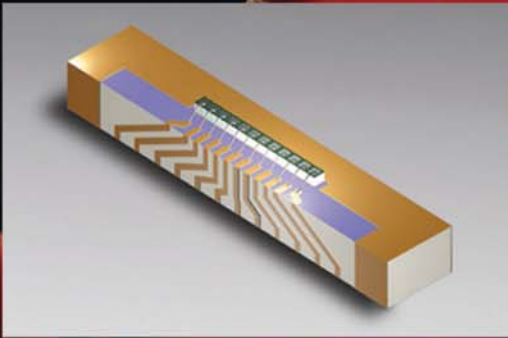
[spie.org/onlinecourses](http://spie.org/onlinecourses)

- Full video of instructor
- Synchronized PowerPoint slides
- Quizzes to test retention
- Earn CEU Credits
- No added travel time and expense





# Light Sensing Ideas



## InGaAs and Silicon Photodetectors



OSI Optoelectronics is the global leader in design and manufacture of high performance standard, custom and OEM InGaAs and Silicon photodiodes and a host of other optoelectronic components and sub-assemblies.

- Monitor Photodiodes (MPD) on Leadless Chip Carriers (LCC)
- Photodetectors and Receivers from 155Mbps to 10Gbps for 850nm, 1310nm, 1550nm applications
- WDM Monitor Photodiode Arrays
- Silicon, InGaAs
- TO, Ceramic and custom packages
- Custom Design Chips and Packages

**OSI Optoelectronics**  
An OSI Systems Company

For Sales:  
Phone: +1 310-978-0516  
Email: sales@osioptoelectronics.com

[www.osioptoelectronics.com](http://www.osioptoelectronics.com)

Visit us at Photonics West 2011 Booth 1008 in the South Hall



# Industry Events

Don't miss these  
**FREE Sessions**

Hear from industry leaders on some of the biggest challenges and most promising areas of the optics and photonics marketplace. Understand market trends and lessons learned.

**Open to All Attendees**  
EXHIBITION VISITORS, EXHIBITORS, AND TECHNICAL  
CONFERENCE ATTENDEES

## Silicon Photonics and Photonic Integrated Circuits

Tuesday 25 January  
2:00 to 3:00 pm | Room: 130 (Exhibit Level)

Panel Moderator:  
**Peter Hallett**, SPIE

Panel Members:

**IBM ZÜRICH RESEARCH LAB.**  
**Bert-Jan Offrein**, Science and Technology Group

**ORACLE/SUN LABS.**  
**Ashok Krishnamoorthy**, Distinguished Engineer

**LUXTERA**  
**Peter De Dobbelaere**, Vice President of Engineering

**ONECHIP PHOTONICS**  
**Andy Weirich**, Vice President of Product Line  
Management

**UNIV. OF WASHINGTON**  
**Michael Hochberg**, Professor, Electrical Engineering

**INFINERA**  
**Radha Nagarajan**, Director of Advanced Optical Technologies

Demand for smaller and cheaper optical interconnections inside computers is a main driver for silicon photonics, which will create a new market of miniaturized, low-cost photonic components that can leverage the scale of CMOS manufacturing. Learn what industry leaders have discovered at the frontier of silicon photonics and hear how this will revolutionize industries from computing and communication, to biomedicine and imaging.

## Executive Perspectives on the World of Optics and Photonics

Wednesday 26 January  
2:00 to 3:00 pm | Room: 130 (Exhibit Level)

Panel Moderator:  
**Tom Hausken**, Director, Components Practice at Strategies Unlimited

Panel Members:

**HAMAMATSU CORP.**  
**Kenneth Kaufmann**, Vice President

**TRUMPF INC.**  
**Timothy Morris**, Managing Director

**CVI MELLES GRIOT**  
**Stuart Schoenmann**, President and CEO

**EDMUND OPTICS INC.**  
**Robert Edmund**, CEO and Chairman of the Board

**COHERENT**  
**Mark Sobey**, Senior Vice President of Specialty Laser Systems

**NEWPORT CORP.**  
**Dennis Werth**, Vice-President, Precision Components and Systems  
Business

These top executives, representing different aspects of the marketplace, will share their insight and hard-fought lessons regarding trends and opportunities in optics and photonics. Weathering 2009 and 2010 has required extraordinary skills and experience to successfully reset goals and allocate resources. Listening to and questioning these executives will help you understand the current environment better and to set priorities for your business.



**2  $\mu\text{m}$**  Mode-Locked Fiber Laser

**2  $\mu\text{m}$**  Q-Switched Fiber Laser

**2  $\mu\text{m}$**  CW Fiber Laser

**2  $\mu\text{m}$**  Fiber Amplifier

**2  $\mu\text{m}$**  ASE Source

**2  $\mu\text{m}$**  Isolator

***Custom Wavelengths***

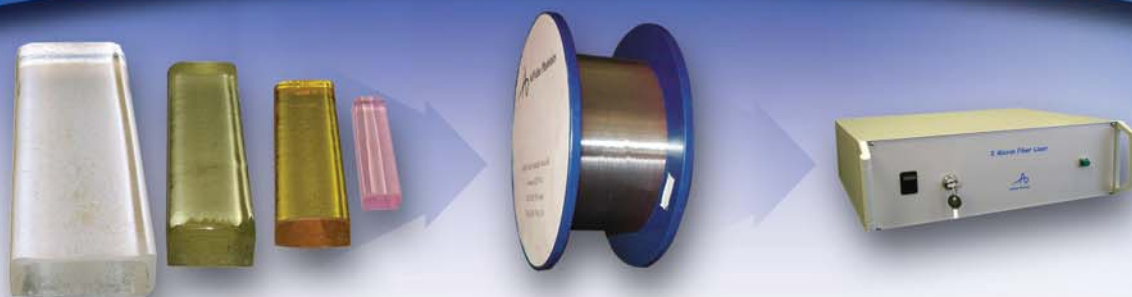


**AdValue Photonics**

[www.advaluephotonics.com](http://www.advaluephotonics.com)

1-520-790-5468

Innovative Products Made in the Optics Valley, Tucson, Arizona, USA



**See us at Booth #928**

## Hot Markets in Green Photonics

Wednesday 26 January  
3:30 to 4:30 pm | Room: 130 (Exhibit Level)

Panel Moderator:

**Stephen J. Eglash**, Precourt Institute for Energy, Stanford Univ.

Panel Members:

**SORAA**

**Steven Den Baars**, Co-Founder

**FIRST ANALYSIS PRIVATE EQUITY AND LIGHTWAVE ADVISORS, INC.**

**John Dexheimer**, President

**CLEAN TECHNOLOGY AND SUSTAINABLE INDUSTRIES ORGANIZATION**

**Patricia Glaza**, Executive Director/CEO

**VANTAGEPOINT VENTURE PARTNERS**

**Douglas Kirkpatrick**, Partner

**NAVIGANT CONSULTING, INC.**

**Paula Mints**, Principal Analyst, PV Services Program & Associate  
Director, Energy Practice

**GREENTECH MEDIA, INC.**

**Eric Wesoff**, Senior Analyst

Even with continuing market challenges in 2010, new solar and other green energy technology and market developments provided strong growth opportunities for many companies and across varied industry segments. For makers of lasers, optical coatings, thin-film and metrology equipment and other photonics-related technologies, this represents growth opportunity. From core optical engineering to nanotechnology, materials science to funding and economic policy, there is always more to learn and game-changing developments are happening every month. These speakers bring a forward-looking understanding of market and technology trends on path to widespread commercialization in the green marketplace. Join this session to gain a better sense of the direction of green photonic technologies, worldwide markets, and opportunities for business.

## Crosslight Software Tutorial on Optoelectronic Device Simulation

Thursday 28 January 1:30 to 5:30 pm

The tutorial gives an introduction to high-end simulation tools for electronic and optoelectronic devices (APSYS, LASTIP, PICS3D by Crosslight Software Inc., see [www.crosslight.com](http://www.crosslight.com).) These software packages combine electrical, thermal, optical, and quantum-mechanical models in two or three dimensions. They can be applied to a large variety of semiconductor devices such as laser diodes, light-emitting diodes, solar cells, photodetectors, modulators, amplifiers, and transistors. The tutorial explains and demonstrates the basic operation of these software tools. Model options and material parameters are discussed, and strategies for obtaining realistic simulation results are outlined. Deep insight into micro- and nano-scale physical processes is provided using realistic device examples.

**INTENDED AUDIENCE:** Students, device engineers, and researchers who are interested in using advanced simulation software for designing and analyzing modern optoelectronic devices.

**INSTRUCTOR:** Joachim Piprek received his Ph.D. degree (Dr. rer. nat.) in theoretical physics from Humboldt University in Berlin, Germany. Dr. Piprek has been using Crosslight Software tools for more than 10 years in design and analysis of practical devices. He has published three books on semiconductor device simulation, co-chairs the annual conference on Numerical Simulation of Optoelectronic Devices, and gives device simulation courses at universities and companies worldwide. Dr. Piprek is currently president of the NUSOD Institute ([www.nusod.org](http://www.nusod.org)).

To register for the tutorial and receive a free Crosslight Software software training license, please e-mail your contact information to [piprek@nusod.org](mailto:piprek@nusod.org). More information on the tutorial is available at:

<http://www.nusod.org/crosslight11pw.html>

## Assessing the Impact and Future of Photonics in the United States

*Give your input on a new National Academies study*

Thursday 27 January

8:45 to 9:30 am | Room: 134 (Exhibit Level)

Moderators: **Eugene Arthurs**, CEO, SPIE and **Erik Svedberg**, Senior Program Officer, National Academies of Science

**Come voice your opinion about challenges facing innovators today, and help the National Academies begin work on an update to the 1998 landmark Harnessing Light study. Discuss your thoughts on where the science is going, where the funding is going to be, current and potential market size, current employment and potential for job creation, and many other other pressing issues.**

This interactive “town hall” session will look at the statement of task and gather input to the committee for a new study of optics and photonics, conducted by the National Academies and its operating arm the National Research Council, with an emphasis on impact. SPIE is supporting an effort to publish an updated version of the 1998 document called Harnessing Light produced by the U.S. National Research Council. This session will help harness community insight to give input to the new study and its committee, which ultimately would inform industry plans and government policy by providing a unique community view of the future directions for our science and technology and market trends. What would make such a study useful to you? Join us in dialogue that drives the collection, analysis, and sharing of information about the future of photonics.

While the original Harnessing Light report has been extremely useful to academic, industrial, and governmental organizations throughout the world, in the past 10 years, enormous progress has been made in photonics sciences and technologies. Irrespective of the economic conditions, optical science and engineering is headed toward another strong growth period, driven by developments in advanced materials, solid state lighting, solar technologies, sensors, lasers, imaging, fiber-optic communications, digital photography, diagnostic medicine, computing/processing, and consumer displays/TVs. The impacted markets encompass critical issues that affect society, ranging from energy and healthcare to manufacturing, communications, data storage and security. Therefore the committee will be convened to look at the following issues:

1. Review updates in the state of the science that have taken place since publication of the National Research Council report, Harnessing Light, in 1998.
2. Identify the technological opportunities that have arisen from recent advances in and potential applications of optical science and engineering.
3. Assess the current state of optical science and engineering in the United States and abroad, including trends in private and public research, market needs, and examples of translating progress in photonics innovation into competitiveness advantage (including activities by small businesses), workforce needs, manufacturing infrastructure, and the impact of photonics on the national economy.
4. Prioritize a set of research grand-challenge questions to fill identified technological gaps in pursuit of national needs and national competitiveness.
5. Recommend actions for the development and maintenance of global leadership in the photonics driven industry--including both near-term and long-range goals, likely participants, and responsible agents of change.

We invite you to join us in support of an updated study.

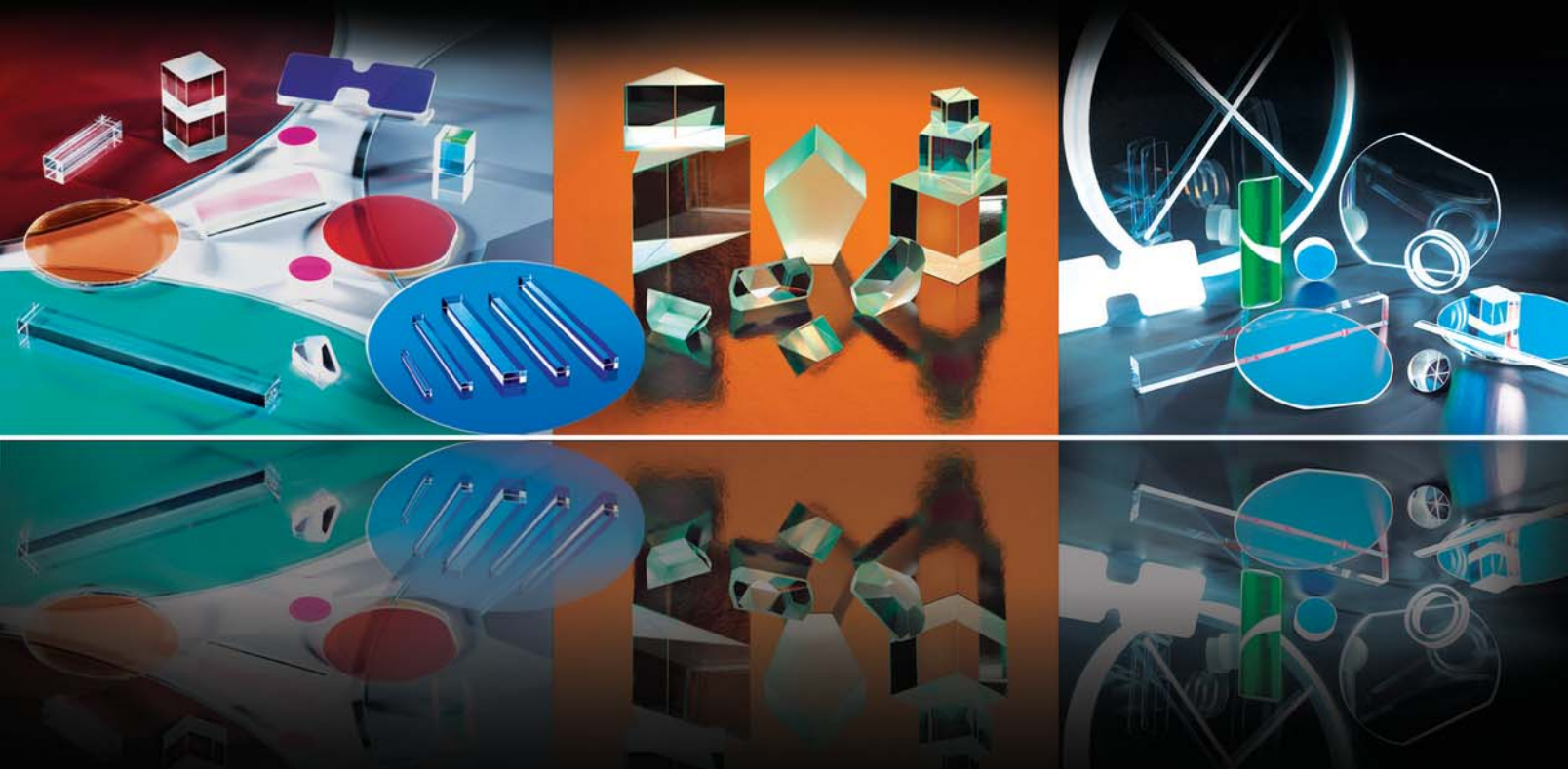
Sponsors:



DIVISION OF LASER SCIENCE



# This is no optical illusion.



## It's simply what we deliver.

When it comes to precision optical components, glass fabrication, and thin film coatings...there isn't much we don't do. Whether custom or standard, we have the engineering staff, customer service, and a facility full of state-of-the-art equipment to provide high performance optical components, no matter what size, shape, or quantity you need. From our extensive glass inventory – to grinding and polishing or fabricating and coating – we provide innovative, high quality, cost effective solutions for a wide variety of applications.

For more information, call or visit [www.pgo.com](http://www.pgo.com). PG&O. Where innovative solutions are always a reality.

Precision Optical Components  
Commercial Components  
Glass Substrates  
Complete Fabrication Capabilities  
Advanced Thin Film Coatings

Aerospace / Defense / Military  
Astronomy • Biomedical  
Digital Cinema • Imaging  
Laser Manufacturing  
Photovoltaics



Optics. Coatings. Precision.

See us at Photonics West  
Booth #5300, North Hall

**PG&O**  
Precision Glass & Optics

[www.pgo.com](http://www.pgo.com)

3600 West Moore Avenue, Santa Ana, CA 92704 / 714.540.0126 / [info@pgo.com](mailto:info@pgo.com)

## Industry Workshops

### Fundamental Optics

#### Basic Optics for Non-Optics Personnel

WS609 · Course level: Introductory · CEU .20 \$100 / \$150 USD  
Monday 1:30 to 4:00 pm

This course will provide the technical manager, sales engineering, marketing staff, or other non-optics personnel with a basic understanding of the terms, specifications, and measurements used in optical technology to facilitate effective communication with optics professionals on a functional level. Topics to be covered include basic concepts such as interference, diffraction, polarization and aberrations, definitions relating to color and optical quality, and an overview of the basic measures of optical performance such as MTF and wavefront error. The material will be presented with a minimal amount of math, rather emphasizing working concepts, definitions, rules of thumb, and visual interpretation of specifications. Specific applications will include defining basic imaging needs such as magnification and depth-of-field, understanding MTF curves and interferograms, and interpreting radiometric terms.

**Kevin Harding** has been active in the optics industry for over 30 years, and has taught machine vision and optical methods for over 25 years in over 70 workshops and tutorials. He is a past President of SPIE.

#### Basic Laser Technology

WS972 · Course level: Introductory · CEU .35 \$300 / \$355 USD  
Wednesday 8:30 am to 12:30 pm

If you are uncomfortable working with lasers as “black boxes” and would like to have a basic understanding of their inner workings, this introductory course will be of benefit to you. The workshop will cover the basic principles common to the operation of any laser/laser system. Next, we will discuss laser components and their functionality. Components covered will include laser pumps energy sources, mirrors, active media, and Q-switches.

**Sydney Sukuta** is currently a Laser Technology professor at San Jose City College.

### Registration Required

See SPIE Cashier, North Lobby.



**Held in conjunction with**  
**SPIE Photonics West**

**LaserFocusWorld**  
**Lasers & Photonics Marketplace**  
SEMINAR<sup>®</sup>  
**Analyzing the Business of Photonics**

**JANUARY 24, 2011 • SAN FRANCISCO, CA • THE INTERCONTINENTAL FRANCISCO**

**For more information about the global photonics marketplace, attend the Lasers & Photonics Marketplace Seminar.**

**FIND OUT MORE!**  
Visit our website at  
[www.marketplaceseminar.com](http://www.marketplaceseminar.com)

**Owned and Produced by**  
**PennWell**

Based on the *Laser Focus World* Annual Market Review and Forecast, the Lasers & Photonics Marketplace Seminar provides business leaders, investors, and technology analysts with a detailed review of worldwide laser markets, coupled with discussions of key business and technology trends for the laser and optoelectronics markets.

**The Lasers & Photonics Marketplace Seminar** is the only event anywhere in the world that focuses on the entire laser marketplace and presents information and analysis of market trends segmented by applications and laser technology. It provides investors, photonics manufacturers, and their suppliers with a comprehensive market perspective that is unobtainable elsewhere.



# IMRA

The Femtosecond Fiber Laser Company



- Pioneering quality engineering and manufacturing of femtosecond fiber lasers
- Manufacturing quality control system benchmarked to the automotive and medical industries
- Production sites located in the US and Japan for redundancy and risk management
- High volume manufacturing operation
- More than 700 femtosecond fiber lasers deployed in the field
- Over 1 Million accumulated hours of laser operation at industrial customer sites



Photonics West Booth #418, BiOS Booth #8418

1044 Woodridge Ave | Ann Arbor, MI 48105 | (734) 930-2560 | [www.imra.com](http://www.imra.com) | [lasers@imra.com](mailto:lasers@imra.com)

## Industry Workshops

Business, Patents + IP

### Smart Patenting



WS1010 · Course level: Introductory · CEU .35 \$300 / \$355 USD  
Tuesday 1:30 to 5:30 pm

Recent economic conditions have forced many high-tech companies to re-think and reform their patenting efforts. Maintaining a solid IP position with diminished resources is a serious challenge that requires developing and implementing smarter approaches to patenting. This course addresses how informed high-tech companies view the patenting process. It discusses specific steps companies and organizations can take to implement “IP best practices” and get the most IP value for their money and effort. Specific examples and issues based on audience participation and interest will be addressed and integrated into the discussion.

**Joseph Gortych** is a registered patent attorney and president of Opticus IP Law, PLLC, an IP law firm based in Sarasota, Florida. He specializes in the strategic development, management and protection of intellectual property for optics, photonics and semiconductor technologies. His technical experience includes working at IBM Corporation as an optical engineer.

### Complying with the ITAR: A Case Study

WS933 · Course level: Introductory · CEU .35 \$300 / \$355 USD  
Wednesday 1:30 to 5:30 pm

In the world of international trade, it's what you don't know that can hurt you. With the U.S. government's focus on homeland security and its increasing reliance on photonics for the development and production of defense-related products and services, your activities may well be subject to the ITAR. This workshop will begin with a brief contextual overview of U.S. export controls, then transition into a case study focused on the ITAR. Real world situations and lessons learned will be shared. You will also learn about current enforcement trends and best practices for avoiding violations.

**Kerry Scarlott** is a Director at the law firm of Goulston & Storrs. Kerry focuses his practice on business law and international trade law, with particular expertise in assisting technology-based companies. He serves as general outside counsel to companies and entrepreneurs, providing guidance in connection with entity formation, debt and equity financings and private offerings, mergers and acquisitions, day-to-day commercial contract matters, strategic alliances, private label manufacturing, and intellectual property protection and utilization.

### Valuation of Closely Held Technology Companies, Product Lines and Intellectual Property

WS973 · Course level: Introductory · CEU .35 \$300 / \$355 USD  
Tuesday 8:30 am to 12:30 pm

This course focuses on the strategies and process that business leaders employ in acquisitions and divestitures and in raising capital financing. The course is centered on closely held, small and middle market technology companies (< \$200 million revenue). An overview of business and intellectual property valuation methods will be provided. The course will focus on positioning strategies to maximize the valuation in sale, divestiture, capital financing, or licensing.

**Linda Smith**, through Ceres Technology Advisors, provides strategic planning, business development, marketing, and M&A advisory services to buyers and sellers of small and middle market firms and to entrepreneurs and investors financing and building early stage ventures. She is an Associate Member of the American Society of Appraisers.

### Negotiation Strategy and Tactics



WS1008 · Course level: Introductory · CEU .35 \$100 / \$150 USD  
Monday 8:30 am to 12:30 pm

This course is free to SPIE Student Members, but you must register to attend

Negotiation is at the heart of succeeding in every business and scientific endeavor. In this course, you will learn why nothing happens until it is negotiated and how to prepare and position yourself for a winning negotiation experience. The basics of orchestrating a win-win situation for all parties will be taught and examples will be given to clarify skills, ideas and opportunities. Teambuilding and facilitation negotiation techniques will be addressed, and you will become fluent in negotiation terms and tactics to engineer successful business partnerships, teams, and enterprises. You are constantly negotiating - you just may not realize it, and this course will ensure you approach every negotiation with a high level of skill and discipline.

**Alaina Levine** is President of Quantum Success Solutions, a leadership training enterprise with a focus on advancing the professional development expertise of engineers and scientists.

## Registration Required

See SPIE Cashier, North Lobby.

**SPIE Career Center**  
**Job Fair**  
**Two Days Only**  
North Hall | Aisle 5600  
**Employers are coming together to interview and hire candidates at Photonics West!**  
Tuesday 25 January · 10:00 am to 5:00 pm  
Wednesday 26 January · 10:00 am to 5:00 pm  
[spie.org/careercenter](http://spie.org/careercenter)



**LASER  
WAKEFIELD  
ACCELERATION**

**HHG AND  
ATTOSECOND  
PULSE GENERATION**

**X-RAY  
AND GAMMA-RAY  
GENERATION**

**Unique know-how of  
PetaWatt solutions**

**THALES**

**Up to Multi-PetaWatt solutions with**

**ALPHA PW level**

- Above PW peak power
- Sub 25fs pulse duration
- Lowest ASE level with patented XPW
- Suppression of transverse lasing with patented solutions
- Quick start-up and easy operation

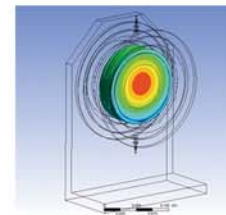
Pumped by

**ATLAS+**

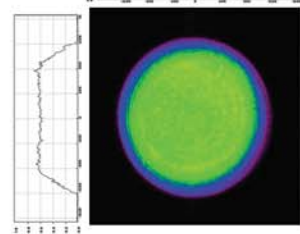
- Nd:Glass pump laser
- 25J @ 532nm per beam
- 0.1Hz

**GAÏA-R HP**

- Nd:YAG pump laser
- 14J @ 532nm per beam
- Up to 5Hz



Thermal effect management with anti-transverse lasing mount



14J at 1 Hz  
GAÏA-R HP  
spatial beam profile

# PRISM 20 AWARDS 10

PrismAwards.org

## 3RD ANNUAL PRISM AWARDS FOR PHOTONICS INNOVATION

**SPIE and Photonics Media wish to thank and congratulate all the Prism Award Finalists.**

Join 350 industry leaders, top executives and scientists for an enjoyable and important industry event.

### BANQUET & AWARD CEREMONY

**WEDNESDAY 26  
JANUARY 2011  
6:30 pm**

**Hilton San Francisco  
Union Square  
Continental Ballroom**

TICKETS ARE AVAILABLE AT THE  
EXHIBITOR ASSISTANCE DESK, SOUTH LOBBY.

## Prism Award Finalists

### Defense and Security

#### Block Engineering<sup>†</sup>

LaserScan

#### CVI Melles Griot<sup>†</sup>

Xsquared™ High Extinction Plate  
Polarizer

#### Headwall Photonics<sup>†</sup>

Hyperspec Point & Stare Sensor

### Detectors, Sensing, Imaging, and Cameras

#### Ball Aerospace & Technologies

Electronically Steerable Flash Lidar

#### General Electric

TrueSense Personal Water Analytics

#### Specim, Spectral Imaging Ltd.<sup>†</sup>

Thermal hyperspectral imagers

### Industrial Lasers

#### Amplitude Systems<sup>†</sup>

Tangerine

#### IPG Photonics<sup>†</sup>

YLR-150/1500-QCW-AC

#### Raydiance<sup>†</sup>

Smart Light Active Pulse Management

### Information and Communication

#### PHOTONIS USA

Optical Receiver Module

#### Pixel Qi Corp.

3Qi Screen

### Life Sciences and Biophotonics

#### Genia Photonics<sup>†</sup>

Synchronized Programmable Picosecond  
Fiber Laser

#### JenLab GmbH<sup>†</sup>

MPTflex

#### PHOTONIS USA

Gen2 UltraFast™ Time-of-Flight Detector

### Optics and Optical Components

#### Edmund Optics<sup>†</sup>

TECHSPEC Plastic Hybrid Aspheric  
Lenses

#### Molecular Technology GmbH (MolTech)

Focal-piShaper Beam Shaping Optics

#### Semrock<sup>†</sup>

VersaChrome Tunable Bandpass Filters

### Other Light Sources

#### Energetiq Technology<sup>†</sup>

EQ-99 LDLST™ Laser-Driven Light Source

#### Innovations in Optics<sup>†</sup>

1240B-100 UltraViolet LED Projector

#### Texas Instruments<sup>†</sup>

DLP LightCommander

### Scientific Lasers

#### Coherent<sup>†</sup>

Legend Elite Duo HP

#### EKSPLA<sup>†</sup>

NT200 series nanosecond tunable  
wavelength lasers

#### MPB Communications/ European Southern Observatory<sup>†</sup>

Visible Raman Fiber Amplifier

### Test, Measurement, Metrology

#### 4D Technology Corp.<sup>†</sup>

PhaseCam Sq Dynamic White Light  
Interferometer

#### Anasys Instruments Corp.

nanolR

#### Lumen Dynamics

formerly EXFO Life Sciences &  
Industrial Division  
X-Cite XP750

Sponsored by

**PHOTONICS** MEDIA  
LAURIN PUBLISHING

**SPIE**

<sup>†</sup>Exhibitors at Photonics West





*Diagnostics to defense...*  
**High-def solutions for high-priority applications.**



**From science to surveillance, Toshiba delivers endless compact HD solutions.**

With the widest variety of high definition cameras on the market, Toshiba has a solution for the most demanding imaging applications. From compact, single body to ultra-small remote head cameras, get the flexibility of 1080i/1080p/720p and DVI or HD-SDI output options and a host of controller configurations. Our HD cameras are as small as 1.18" x 1.37" x 1.41", with weight ranging from 1.76 to 4.3 ounces.

When clear imagery is as critical as your operation, let Toshiba bring your project to HD life.

Specializing in high resolution video cameras for Scientific, Industrial, Broadcast, and Research markets

**TOSHIBA**  
**Leading Innovation >>>**  
[www.cameras.toshiba.com](http://www.cameras.toshiba.com)

See us at Photonics West - Booth #5301, North Hall



**Super compact models include**

- 3CCD remote head with prism block technology
- Ultra-small CMOS remote head with two controller options
- CMOS one-piece camera with true progressive scan
- CMOS one-piece camera with selectable output
- 1080i, 1080p and 720p options
- DVI/HD-SDI video outputs

**Applications**

- Life Sciences / Diagnostics / Microscopy
- Homeland Security / Surveillance
- Aviation
- Industrial / Inspection
- Specialty Broadcast



# Two Days Only Job Fair

North Hall | Aisle 5600

Tuesday 25 January · 10:00 am to 5:00 pm  
Wednesday 26 January · 10:00 am to 5:00 pm

Whether you're looking for a better job, re-entering the workforce or just starting your career, the Job Fair is a great place to start.

- Meet with employers and interview on the spot
- Learn more about opportunities in our industry

These companies will be on hand to discuss career opportunities.

# FOCUS ON THE PERFECT MATCH

**accessoptics**  
exceptional optics...worldwide™

**AcuityBrands.**  
Lighting

**BWTEK** INC.

**CHROMA**®

**DAYLIGHT SOLUTIONS**®

**DSI** Deposition Sciences INCORPORATED  
Bringing Technology to Light™

**GE** Global Research

**CYMER.**

**INVUITY**

**JDSU**

**GENERAL ATOMICS AERONAUTICAL**

**GLOBALFOUNDRIES**

**KLA Tencor**  
Accelerating Yield

**Labsphere.**

**QPC Lasers**  
By Laser Operations LLC

**LASERTEL**™

**LIGHT AGE, INC.**  
YOUR LASER SOURCE

**NORTHROP GRUMMAN**

**QIOPTIQ**  
Photonics for Innovation

**THORLABS**

**Quantel**

**Newport.**  
Experience | Solutions

**Industry Professionals Offer Career Advice**  
Supporting students and early career professionals is a priority at Newport. Be sure to stop by their table at the career fair to review open positions and get advice from their staff.

- Free gift while supplies last.



[spie.org/careercenter](http://spie.org/careercenter)





The world's largest international biomedical optics and biophotonics exhibition

**BiOS**\*

SPIE Photonics West

**22–23 January 2011**



**BiOS**\*

**South Hall A**

Saturday 22 January ..... 12:00 to 5:00 pm  
Sunday 23 January ..... 10:00 am to 5:00 pm

Product Demonstrations .....	26
New Product Launches .....	28–30
Sponsors .....	31
Floor Plan/Booth Map .....	32
Exhibitor Index .....	33
Company List/Descriptions .....	34–55
Companies by Product Category .....	56–58

**SPIE Photonics West  
Exhibition Directory  
Listing** See page 61.

## Exhibitor Product Demonstrations – South Hall / Demo Area

Product Demonstrations are open to all attendees. Various exhibiting companies will be showcasing new and successful products in half-hour demonstration/question and answer sessions.

	Saturday, 22 January	Sunday, 23 January
	South Hall A / Demo Area	South Hall A / Demo Area
10:30 am	EXHIBITION CLOSED	<p><b>92 KHz SD-OCT Camera for Use at 1.05, 1.31 and 1.6 Microns</b>            Doug Malchow, <b>Sensors Unlimited-Goodrich ISR Systems</b>            The development of a 92 KHz line scan camera for SD-OCT will be described and images presented from small animal and human patient studies, illustrating the advantage of faster A-line rates.</p>
11:30 am	EXHIBITION CLOSED	
12:30 pm	<p><b>High Performance Optical Components from SCHOTT</b>            Charles Bernheim, <b>SCHOTT North America, Inc.</b>            Discover the high end components made by SCHOTT with its highly transmissive glasses. A special attention will be paid to polished aspheres.</p>	
1:30 pm		<p><b>Ultrafast Fibre Coupled Oscillator for Life Science</b>            Robert Braunschweig, <b>Amplitude Systemes</b>            We present an ultrafast fibre coupled oscillator and its applications in life science and more specifically for clinical use. Results for Multiphoton microscopy and nanodissection will be presented.</p>
2:30 pm	<p><b>Novel Interference Filters for Bio-photonic &amp; Analytical Applications</b>            Steffen Reichel/Dr. Angela Hohl-AbiChedid, <b>SCHOTT North America, Inc.</b>            SCHOTT takes advantage of a custom configured new magnetron sputtering machine that enables production of interference filters with extreme wavelength discrimination (notchfilter, bandpass, etc.). Achievements in filter development will be presented.</p>	<p><b>CORE Illumination and Imaging Subsystem for Bioanalysis</b>            Claudia Jaffe, <b>Lumencor, Inc.</b>            This customizable optical train for quantitative fluorescence utilizes intense, solid state sources and all the optics to deliver high performance images to a detector in a bioanalytical instrument.</p>
3:30 pm	<p><b>New Generation SuperK Supercontinuum Systems</b>            Dr. Husain Imam, <b>NKT Photonics Inc.</b>            The new generation SuperK supercontinuum laser sources with expanded SpectraK accessories offer unsurpassed white, laser-like light for applications in microscopy, FLIM &amp; other biophotonics fields.</p>	



# Arizona the original optics valley.

## **Exhibiting Sponsors (Arizona Cluster)**

**Breault Research Organization, Inc.**  
Tucson, Arizona  
Booth #923  
[www.breault.com](http://www.breault.com)

**Kiyohara Optics USA**  
Tucson, Arizona  
Booth #926  
[www.koptic.co.jp](http://www.koptic.co.jp)

## **Exhibiting Members (Arizona Cluster)**

AdValue Photonics, Inc.

AGM Container Controls, Inc.

College of Optical Sciences,  
The University of Arizona

Lasertel, Inc.

Lincoln Laser Corp.

Optics  
Valley  Arizona

# New products launched at SPIE BiOS

You don't want to miss these new products released for the first time at the BiOS exhibition.



## BWT Beijing Ltd. Booth #8905

### New Product: 9xxnm/100W High Brightness Diode Laser

With new K9xSW2F-100W added to high brightness 9xxnm product line of BWT Beijing Ltd., we increased the range of power levels for fiber laser pumping source. The family of High Brightness lasers based on technology of multi-single emitters coupled into one fiber, and is now available in power levels 20W/25W/50W/100W.



## Cambridge Technology Booth #8801

### New Product: 8315K and 8310K High Stability Galvanometers

Stability over temperature, positional accuracy/repeatability, and low dither are becoming increasingly important in precision imaging applications such as laser confocal and multi-photon microscopy, OCT, and in other biomedical laser applications such as vision correction, photo-coagulation, etc. The 83xxK family is ideal for the most demanding imaging and biomedical applications. The 83xxK family provides stability comparable to expensive digital encoder galvanometers, but maintain the high speeds required by these applications.



## Cobolt AB Booth #8827

### New Product: New high performance lasers from Cobolt

Cobolt introduces new wavelengths on the 05-01 DPSS laser platform, for advanced cell analysis applications. Available wavelengths are 355, 491, 532, 561, 660 and 1064 nm at up to 2W. The new unique 05-01 platform for compact and robust high performance laser features ultra-low noise, high power and immunity to optical feed-back.



## CVI Melles Griot Booth #8329

### New Product: Optical Filters – Catalog, Custom and OEM Flexibility

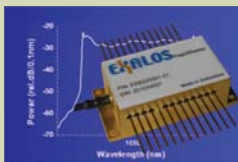
CVI Melles Griot designs and manufactures the highest performance optical filters. Using our Xsquared™ Hard Coating technology we achieve the highest demands in a wide range of applications including fluorescence microscopy, flow Cytometry, analytical life sciences, Raman spectroscopy, industrial instrumentation, laser applications, aerospace, and photolithography.



## Edinburgh Instruments Ltd. Booth #8712

### New Product: UV-EPLED picoseconds pulsed LED

The UV-EPLED range provides picoseconds pulses in the UV spectrum. UV-EPLEDs feature an onboard controller for standalone operation and are ideal excitation sources for time-resolved measurement (particularly TCSPC experiments). Wavelengths are available from 255-380nm and have preset repetition rates from 20kHz to 10MHz as well as an external trigger function.



## EXALOS AG Booth #8322

### New Product: RapidSweep Swept Source ESS1050

EXALOS launches a new swept source for imaging applications. With a coherence length of 15mm, an A-scan rate of 20kHz and a wavelength sweep range of 100nm centered around 1050nm, photonic product maker EXALOS, Switzerland, is introducing a perfect light source for both retina and anterior chamber OCT imaging.

## FEMTOLASERS, Inc. Booth #8517

The FEMTOSOURCE™ scientific™ XL high energy ultrafast oscillator is presented as complete system together with the NEW Optical Parametric Amplifier (OPA) and MHz repetition rate Pulse Picker. The former is the first commercially available oscillator pumped OPA. The latter offers customizable high throughput and excellent contrast ratio pulse picking capabilities.



## Fianium Booth #8701

### New Product: SC400-6-PP

Fianium have extended their unrivalled supercontinuum product portfolio with the release of the SC400-6-PP laser. The system combines the highest power and spectral brightness available with the additional flexibility of selectable repetition rates from 80MHz down to 100kHz. These unique properties enable a single-source solution for use across numerous applications.



## Frankfurt Laser Company

Booth #8600

### New Product: High Power Visible and IR Laser Diode Module with Fiber Optical Output

HEML-FC laser module is equipped with up to 2W laser diode and multimode fiber output (standard 100µm, NA=0.22, SMA905 connector, others on request) and provides high output power for variety of medical, biological and other applications where compact and rugged laser source combined with convenience of fiber light delivery are required.



## Genia Photonics Booth #8309

### Picosecond Synchronized Programmable Laser System

The Picosecond Synchronized Programmable Laser system consists of two integrated fiber lasers that remain synchronized even while sweeping wavelengths. A programmable dispersion-tuned, actively mode-locked fiber laser and a MOPA whose synchronized outputs serve well for non-linear spectroscopy applications such as CARS and SRS.





**IMM Photonics GmbH** Booth #8617

**New Product: Spectrometer with Exchangeable Light Source Modules.**

The new spectrometer of IMM Photonics has a wavelengths-range between 360 nm and 1040 nm with a spectral resolution of < 2 nm. Light source modules (e.g. Laser diodes or LEDs) are integrated and can be easily plugged in and controlled by provided Software.



**Innovative Photonic Solutions**

Booth #8704

**New Product: 532 nm Single Frequency Raman Source Laser**

IPS's new single frequency 532 nm Raman excitation source offers > 50 mW of fiber coupled output power. IPS's new single frequency 532 nm Raman excitation source offers > 50 mW of fiber coupled output power. The source is available as a turn-key module and as an OEM package. Open beam units are also available.



**IRphotonics** Booth #8627

**New Product: iCure™ P200 Power Meter**

The iCure P200 Power Meter is a plug&play modular tool for measuring optical power for curing spot curing systems and specifically designed for large scale manufacturing environment. It is composed of a power monitor and a power detector. It offers unmatched performance to calibrate and set optical power levels.



**Laser Components IG, Inc.**

Booth #8923

**New Product: A New Benchmark in Photon Counting**

The new COUNT photon counting modules achieve an unrivaled quantum efficiency of over 70% in the red region and record-breaking counts rates of <10 eps (counts per second). Thanks to its plug&play compatibility, replacing existing photon counters with the COUNT module is child's play. Counting photons? COUNT on LASE COMPONENTS.



**Lumencor, Inc.** Booth #8416

**New Product; CORE**

Lumencor's CORE is a customizable illumination and emission subsystem for quantitative fluorescence. It integrates intense solid state sources and all the optics required to deliver emission light to a camera or detector in instruments built for multicolor bioanalysis. Benefits include streamlined engineering, fast development and lower instrument costs.



**Lumics** Booth #8728

**New Product: LuOcean™ Mini**

Lumics' new Medical Laser line with up to 30W including features like pilot beam, fiber sensor and temperature sensor. The wavelength ranges from 793 to 1470nm for all kinds of applications in the medical sector.



**NKT Photonics** Booth #8723

**New Product: Next generation SuperK supercontinuum lasers**

The new SuperK light laser range together with an expanded SpectraK accessory portfolio move turn-key supercontinuum technology into another league. New features including variable repetition rate, spectrally stable output and tunable filtering with variable bandwidth offer unprecedented flexibility for applications within biophotonics, semiconductor and nanotechnology for OEM and academic customers.



**OXXIUS** Booth #8301

**New Product: LBX-590**

LBX-590 is the first cost effective orange solid-state laser for fluorescence excitation available at 25 and 50mW. It offers outstanding performance in a very compact laser head of 100x40x40mm size.



**Photon etc.** Booth #8309

**New Product: V-OES Hyperspectral Camera**

Photon etc. offers high-resolution hyperspectral imaging systems with narrow spectral bandwidths (0.3 nm to 3 nm) and operating from 400 nm to 2.3 μm, with up to 60% of efficiency (unpolarized). Our systems are a perfect match for Raman and photoluminescence microscopic imaging or for wide field non-invasive analysis.

# New products launched at SPIE BiOS

You don't want to miss these new products released for the first time at the BiOS exhibition.



**Photon Technology International, Inc.** Booth #8835

## **New Product: EasyRatioPro Plus**

Introducing new successor to the way successful ERP+ fluorescence imaging system. Fast, powerful, economical imaging engine with full real time control of acquisition, ideal for low light level high speed imaging applications such as for ratio metric dyes. Compatible with all the latest cameras used in fluorescence imaging.



**Power Technology** Booth #8319

## **New Product: 445nm 1W IQ (Instrument Quality) Blue Laser Module**

445nm 1W IQ (Instrument Quality) laser is our highest power blue module, compact and versatile.



**Sensors Unlimited - Goodrich ISR Systems** Booth #8811

## **New Product: New SU-LDH2 InGaAs Shortwave Infrared Linescan Camera**

The smaller, easy-to-integrate SU-LDH2 indium gallium arsenide shortwave infrared (SWIR) linescan camera features a high speed line rate increase to 92KHz, making it ideal for Spectral- Domain Optical Coherence Tomography (SD-OCT) imaging applications. Compact housing (2.4 x 2.9 x 3 in.) features.



**SPOT Imaging Solutions** Booth #8709

## **New Product: SPOT Insight GigaBit Camera**

SPOT Imaging Solutions' Low Noise Insight GigaBit provides 4th generation design, cost effectiveness and reliability. Specifications include: 2048 x 2048 (4 Mp) resolution color mosaic interline CCD, 15 FPS at full resolution, 57 % peak QE, 15 -e read noise, 4/3" C-mount lens interface and SDK with engineering support. Contact us at 1-866-604-SPOT or [www.SPOTImaging.com](http://www.SPOTImaging.com)\OPRGB4



**Vytran, LLC** Booth #8729

## **New Product: LFS-4000**



Vytran's LFS-4000 is a stand-alone optical fiber splicer for standard, large-diameter and specialty fibers. It combines Vytran's unique filament fusion technology, a high degree of user process control, and simple manufacturing operation. It is ideal for manufacturing fiber assemblies for fiber laser, sensing, medical device and R&D applications, among others.



**Vytran, LLC New Product: LDC-400**

Vytran's LDC-400 is an automated optical fiber cleaver for producing flat and angled cleaves on fibers ranging from 80 microns to 1.25 mm in diameter. LDC-400 cleaves standard and specialty fibers such as PCF, LMA and stressed fibers. Applications range from fiber lasers and sensing to fiber-based medical devices.



Banner	Meter Boards
 <p>Booth #8708 www.lasersafety.com</p>	 <p>Booth #8505 www.opticsbalzers.com</p>
General Refreshment Sponsors	Promotional Partners
<p>B&amp;W Tek, Inc. Booth #8803 Fiberguide Industries Inc. Booth #8701 OFS, Specialty Photonics Division Booth #8506</p>	<p>BioOptics World                      Photonics Media IOP Publishing                        Photonics Online Optics.org</p>



## Perfect Partners

Newton & apples. Laurel & Hardy. Batman & Robin.  
Lennon & McCartney. Ben & Jerry.

Complementary partnerships create brilliant results.

In a development partnership with Gooch and Housego you'll be able to get your products to market better, faster and more cost-effectively. No other optoelectronic company provides such a broad and proven product range, the capability to develop customer-specific new products, and the skills, experience and capacity to offer fully-tailored through-life product support.



### Gooch & Housego

ENABLING OPTICAL TECHNOLOGIES

E : enquirypw11@goochandhousego.com  
www.goochandhousego.com

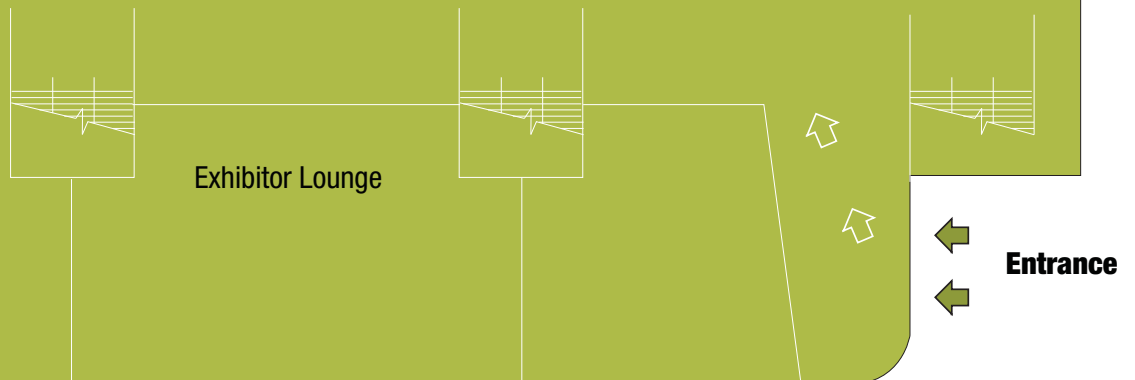
See us at Photonics West - Booth 1107

# BiOS

## South Hall A



### South Hall A





- 8300** Fresnel Technologies Inc.  
**8301** OXXIUS  
**8302** Pavilion Integration Corp.  
**8303** ASI/Applied Scientific Instrumentation Inc.  
**8304** SensL Technologies Ltd.  
**8305** Max Levy Autograph, Inc.  
**8308** Qioptiq  
**8309** ACAMP (Alberta Centre for Advance MNT Products)  
**8309** Canada Pavilion  
**8309** Genia Photonics  
**8309** GiGa Concept Inc.  
**8309** P&P Optica Inc.  
**8309** Photon Etc Inc.  
**8309** Quebec Photonic Network  
**8310** ISS, Inc.  
**8312** General Photonics Corp.  
**8314** Prior Scientific Inc.  
**8315** MPB Communications Inc.  
**8317** Optikos Corp.  
**8318** Reynard Corp.  
**8319** Power Technology, Inc.  
**8322** EXALOS AG  
**8323** Mitsubishi Cable Industries, Ltd.  
**8325** Xenics  
**8326** JenLab GmbH  
**8328** NP Photonics  
**8329** CVI Melles Griot  
**8330** Boston Electronics Corp.  
**8330** ID Quantique SA  
**8400** National Aperture, Inc.  
**8401** Headwall Photonics, Inc.  
**8402** Iridian Spectral Technologies Ltd.  
**8403** DiCon Fiberoptics, Inc.  
**8404** Media Cybernetics, Inc.  
**8404** Princeton Instruments  
**8405** Axsun Technologies  
**8409** National Instrument Technology Research Center  
**8413** Chroma Technology Corp  
**8414** SCHOTT North America, Inc.  
**8416** Lumencor, Inc.  
**8417** Andor Technology  
**8418** IMRA America, Inc.  
**8422** Sutter Instrument  
**8423** Edmund Optics  
**8424** Santec USA Corp.  
**8425** Hamamatsu Corp.  
**8426** CeramOptec Industries, Inc.  
**8411** 89 North  
**8500** Andover Corp.
- 8501** ASML Optics  
**8502** IPG Photonics Corp.  
**8503** EM4, Inc.  
**8504** Gooch & Housego, Orlando (formerly ChromoDynamics)  
**8505** Optics Balzers  
**8506** OFS, Specialty Photonics Division  
**8507** Amplitude Laser  
**8508** Onefive GmbH  
**8509** Imagine Optic Inc.  
**8509** Lambert Instruments  
**8510** Carl Zeiss MicroImaging, Inc.  
**8512** Foreal Spectrum, Inc.  
**8513** BaySpec, Inc.  
**8517** FEMTOLASERS, Inc.  
**8522** JENOPTIK Laser GmbH  
**8523** Superlum  
**8524** JENOPTIK Optical Systems, Inc.  
**8525** Mad City Labs, Inc.  
**8526** Photonics Media  
**8529** Calmar Laser, Inc.  
**8533** New Focus, A Newport Corporation Brand  
**8533** Newport Corp.  
**8533** Spectra-Physics, A Newport Corporation Brand  
**8539** G-S PLASTIC OPTICS  
**8541** HORIBA Scientific  
**8600** Frankfurt Laser Co.  
**8601** LIMO Lissotschenko Mikrooptik GmbH  
**8604** MPA Crystal Corp.  
**8605** Texas Instruments  
**8606** CrystaLaser  
**8608** Stanford Photonics, Inc.  
**8609** Energetiq Technology, Inc.  
**8610** NTT Advanced Technology Corp.  
**8611** PAC TECH USA  
**8613** IMT North America  
**8614** Ibsen Photonics  
**8615** ALPAO  
**8616** Semrock, Inc.  
**8617** Electro Optical Components Inc.  
**8617** IMM Photonics GmbH  
**8619** High Q Laser (US), Inc.  
**8622** Optimax Systems, Inc.  
**8623** IOP Publishing Ltd.  
**8624** Noren Products, Inc.  
**8625** Stanford Computer Optics, Inc.  
**8626** OPOTEK, Inc.  
**8627** IRphotonics
- 8628** Barr Associates, please refer to Williams Advanced Materials  
**8628** Thin Film Technology, please refer to Williams Advanced Materials  
**8628** Williams Advanced Materials  
**8629** Nufern  
**8631** Vixar  
**8632** SCANLAB America, Inc.  
**8633** Photon Gear, Inc.  
**8634** Navitar  
**8635** SSCP USA  
**8637** Kohoku Kogyo Co., Ltd.  
**8638** Fujikura Ltd.  
**8640** DenseLight Semiconductors Pte Ltd.  
**8700** PI (Physik Instrumente) LP  
**8701** Fiberguide Industries, Inc.  
**8703** Fianium Inc.  
**8704** Innovative Photonic Solutions  
**8707** Translume, Inc.  
**8708** Laservision USA  
**8709** SPOT Imaging Solutions  
**8711** Photometrics  
**8712** Edinburgh Instruments Ltd  
**8713** Light Age, Inc.  
**8714** Deposition Sciences, Inc  
**8715** Oclaro, Inc.  
**8716** Hellma USA  
**8716** tec5USA  
**8717** Fibertech Optica  
**8719** Micro Laser Systems, Inc.  
**8722** InPhenix Inc.  
**8723** NKT Photonics A/S  
**8724** OZ Optics Ltd.  
**8726** Bid-Service LLC  
**8728** Lumics Laser  
**8729** Vytran LLC  
**8730** Changchun New Industries Optoelectronics Technology Co., Ltd.  
**8732** Glass & Ceramic Engineered Solutions LLC  
**8734** Clear Align  
**8735** Thorlabs, Inc.  
**8736** Alphion Corp.  
**8738** PHASICS  
**8800** Agilent Technologies, CAG  
**8801** Cambridge Technology, Inc.  
**8803** B&W Tek, Inc.  
**8804** High Tech Photonics  
**8804** JT Ingram  
**8806** Isuzu Glass Inc.  
**8807** Omega Optical, Inc.  
**8809** nPoint, Inc.
- 8810** PolarOnyx, Inc.  
**8811** Sensors Unlimited-Goodrich ISR Systems  
**8812** INO  
**8814** Grintech GmbH  
**8816** Lockheed Martin Aculight  
**8817** Toptica Photonics, Inc.  
**8823** Polymicro Technologies, a subsidiary of Molex Incorporated  
**8825** Coastal Connections  
**8827** Cobolt AB  
**8829** LightSmyth Technologies, Inc.  
**8831** World Star Technologies  
**8833** PROMET International Inc.  
**8835** Optical Building Blocks Corporation  
**8835** Photon Technology International, Inc.  
**8900** Coherent Inc.  
**8901** Wasatch Photonics  
**8903** Western Photonics Technology  
**8905** BWT Beijing Ltd.  
**8906** PicoQuant Photonics North America, Inc.  
**8909** Lumen Dynamics Group  
**8910** Micro Photon Devices  
**8910** OptoElectronic Components  
**8911** Ocean Thin Films  
**8912** NoIR  
**8913** Ocean Optics, Inc.  
**8917** Avo Photonics, Inc.  
**8922** Multiwave Photonics  
**8923** Laser Components IG, Inc.  
**8924** MegaWatt Lasers, Inc.  
**8925** Applied Precision, Inc.  
**8926** American Society for Laser Medicine & Surgery, Inc.  
**8928** Lincoln Laser Co.  
**8929** Optimum Technologies, Inc.  
**8930** Boulder Nonlinear Systems, Inc.  
**8931** OSA - The Optical Society  
**8932** BioOptics World  
**8933** Laser-Compact Co. Ltd.  
**8934** CEDRAT Technologies  
**8935** Quantum BioMedical, Inc.  
**8936** Photonics Online



# SPIE BiOS Exhibition Directory

SPIE BiOS exhibitors are listed in alphabetical order with details about products or services each is exhibiting. Companies are additionally cross-indexed by technology areas. The address of each exhibitor is also listed, making this Exhibition Guide an excellent reference tool to take back to your office and share with your colleagues.

Exhibitor List as of 13 December 2010

## 89 North

SPIE Corporate Member

1 Mill St Unite 285, Burlington, VT, 05401  
+1 802 881 0302; fax +1 802 881 0808  
info@89north.com; www.89north.com

**Featured Product: The Heliophor is an ultrastable high-intensity light engine for quantitative fluorescence.**

89 North develops innovative products to improve fluorescent imaging for the life sciences. Applications for our light sources include fluorescence microscopy, automated DNA sequencing, HTS/HCS, qPCR and microarray analysis. Our light sources, including the Heliophor and Photofluor II, produce ultrastable, high-intensity output for reliable quantitative fluorescence. 89 North is a subsidiary of Chroma Technology Corp, a leader in the design and manufacture of precision optical components. Contact: Karoly Csatorday, Sales Manager, kcsatorday@89north.com; Chris Baumann, Director of Sales & Marketing, cbaumann@89north.com.

## #8411

## ACAMP (Alberta Centre for Advance MNT Products)

## #8309

1919 94th St NW, Edmonton, AB, Canada, T6N 1E6  
+1 780 468 2443; fax +1 780 628 0952  
info@acamp.ca; www.acamp.ca

ACAMP is a not for profit organization that provides specialized business services to micro nano & optics technology clients. Clients have access to world-class equipment, facilities, expertise and a network of organizations that support and develop micro and nano technology devices, advanced materials and manufacturing worldwide. ACAMP's services encompass key areas identified as critical for the commercialization of MNT products—Marketing & Business Development, Product Development, Packaging and Assembly, Test and Characterization.

## Agilent Technologies, CAG

## #8800

SPIE Corporate Member

2700 Mitchell Dr, Walnut Creek, CA, 94598  
+1 800 926 3000  
www.agilent.com



**ALPAO**

2217 rte de Meylan, Biviers, France, 38330  
+33 4 76 63 55 05; fax +33 4 76 51 45 32  
contact@alpao.fr; www.alpao.fr

**Featured Product: ALPAO Core Engine: get results easily thanks to this adaptive optics toolbox for Matlab.**

The company ALPAO designs and manufactures full Adaptive Optics Systems and deformable mirrors. Its unique patented technology satisfies the requirements of different applications such as: -Astronomy, -Vision science, -Microscopy, -Low power LASER. ALPAO is currently becoming one of the Adaptive Optics leader, thanks to its unique technology which offers many benefits such as very large strokes, high bandwidth and a large variety of deformable mirrors. Contact: Frederic Rooms, CEO, contact@alpao.fr.

**#8615**

**Andor Technology**

**SPIE** Corporate Member

425 Sullivan Ave Ste 3, South Windsor, CT, 06074  
+1 860 290 9211; fax +1 860 290 9566  
www.andor.com

Andor is a world leader in low light imaging, spectroscopy solutions and microscopy systems. The company acquired Bitplane, the world's leading interactive microscopy image analysis software company in 2009, and Photonic Instruments, market leaders in fluorescence imaging and laser ablation for confocal and wide field microscopy in 2010. Andor now counts over 250 employees in 17 offices worldwide, offering over 70 products to 10,000 scientific research and OEM customers worldwide. Contact: David Hitrys, National Sales Manager, Microscopy Systems, d.hitrys@andor.com; Domenic Bucci, National Sales Manager, Imaging Products, d.bucci@andor.com.

**#8417**

**Alphion Corp.**

196 Princeton Hightstown Rd, Princeton Junction, NJ, 08550  
+1 609 936 9001; fax +1 609 936 9002  
soa@alphion.com; www.alphion.com

Alphion® develops, manufactures and markets integrated components, subsystems and systems for FTTx, medical imaging, test & measurement, fiber optic sensing and telecommunications markets. The QLight® product family consists of SOA-based WDM and extended PON amplifiers, broad-band sources, nanosecond photonic switches, gain elements for tunable lasers, and advanced integrated devices. Contact: Mario Pinto, Director, Sales, soa@alphion.com.

**#8736**

**Andover Corp.**

**SPIE** Corporate Member

4 Commercial Dr, Salem, NH, 03079  
+1 603 893 6888; fax +1 603 893 6508  
info@andovercorp.com; www.andovercorp.com

Andover manufactures high-quality optical filters and coatings in the UV to Mid IR range. We specialize in narrowband, image-quality and space-qualified filters. We have over 1000 standard items in stock and can provide custom parts in as little as one week. We are ITAR and AS9100 registered. Contact: Phil Clark, Technical Sales, pclark@andovercorp.com; Rob Pursel, Sr. Optical Coating Engineer, rpursel@andovercorp.com.

**#8500**

**American Society for Laser Medicine & Surgery, Inc.**

2404 Stewart Ave, Wausau, WI, 54401  
+1 715 845 9283; fax +1 715 848 2493  
information@aslms.org; www.aslms.org

The American Society for Laser Medicine and Surgery is the world's largest scientific organization dedicated to facilitating research, education, and high standards of clinical care in the field of medical laser applications. It provides a forum for the exchange of scientific information and participates in communicating the latest developments in laser medicine and surgery to clinicians, research investigators, government, regulatory agencies, and the public.

**#8926**

**Applied Precision, Inc.**

1040 12th Ave NW, Issaquah, WA, 98027  
+1 425 557 1000; fax +1 425 557 1055  
sales@api.com; www.appliedprecision.com

**ASI/Applied Scientific Instrumentation Inc.**

29391 W Enid Rd, Eugene, OR, 97402  
+1 541 461 8181; fax +1 541 461 4018  
info@asiimaging.com; www.asiimaging.com

**Featured Product: The RAMM system's modular design allows a custom system to be easily developed.**

ASI manufactures products for sub-micron positioning, including closed-loop DC servomotor stages for ultra-precise positioning, stages with integrated piezos, video-based auto focus systems. ASI also offers illumination and optical components including high-speed filterwheels, shuttering devices, and video microscopes. We offer custom solutions for OEM's & our products are designed for long life under demanding applications. Contact: John Zemek, Ex Dir., john@asiimaging.com; Gary Rondeau, Technical Dir., Gary@asiimaging.com.

**#8925**

**#8303**

**Amplitude Laser**

**SPIE** Corporate Member

One Broadway, Cambridge, MA, 02142  
+1 617 401 2195  
info@amplitude-laser.com; www.amplitude-laser.com

**Featured Product: Mikan: Imaging diode-pumped ultrafast air-cooled oscillator with fiber coupling option.**

Amplitude Laser is the US based subsidiary for Amplitude Systemes, pioneer in Ytterbium laser technology, manufacturing advanced diode-pumped ultrafast lasers for scientific and industrial applications. Products include high energy oscillators (Mikan), amplifiers and fiber amplifiers (Satsuma and Tangerine series). Contact: Robert Braunschweig, US Sales Manager, rbraunschweig@amplitude-laser.com; Eric Mottay, President & CEO, emottay@amplitude-systemes.com. Vincent Rouffiange, Sales and Marketing Manager, vrouffiange@amplitude-systemes.com.

**#8507**

**ASML Optics**

**SPIE** Corporate Member

Danbury Road 77, Wilton, CT, 06897  
+1 203 761 4000; fax +1 203 761 6307  
information@asml.com; www.asml.com

**#8501**

**Avo Photonics, Inc.**

**SPIE** Corporate Member

700 Business Center Dr Ste 125, Horsham, PA, 19044  
+1 215 441 0107; fax +1 215 441 9219  
sales@avophotonics.com; www.avophotonics.com

**#8917**

## Axsun Technologies

1 Fortune Dr, Billerica, MA, 01821  
+1 978 262 0049; fax +1 978 262 0035  
kmooney@volvanocorp.com; www.axsun.com

▶▶▶  
▶ **GENERAL REFRESHMENT SPONSOR**

## B&W Tek, Inc.

**SPIE** Corporate Member

19 Shea Way, Newark, DE, 19713  
+1 302 368 7824; fax +1 302 368 7830  
info@bwtek.com; www.bwtek.com

**Featured Product: The Compass X is a TE Cooled CCD array spectrometer that is high performance but low cost.**

B&W Tek, Inc. is an advanced instrumentation company producing optical spectroscopy, laser instrumentation and portable/lab grade Raman systems. We provide custom product design, development, and manufacturing for biomedical, physical, chemical, and research communities. Our commitment to innovating solutions makes B&W Tek, Inc. a leader in Raman Spectrometer sales worldwide. www.bwtek.com. Contact: Jason Hammock, Director of Sales, jasonh@bwtek.com.

## Barr Associates

*please refer to Williams Advanced Materials*

## BaySpec, Inc.

**SPIE** Corporate Member

1101 McKay Rd, San Jose, CA, 95131  
+1 408 512 5928; fax +1 408 512 5929  
tdaniel@bayspec.com; www.bayspec.com

## Bid-Service LLC

225 Willowbrook Rd, Freehold, NJ, 07728  
+1 732 863 9500; fax +1 732 863 1255  
bidservice@monmouth.com; www.bidservice.com

▶▶▶  
▶ **PROMOTIONAL PARTNER**

## BioOptics World

98 Spit Brook Rd, Nashua, NH, 03062  
+1 603 891 0123; fax +1 603 891 0574  
aadler@pennwell.com; www.bioopticsworld.com

BioOptics World is a global franchise that tracks technology, applications, and business trends related to the use of optical technologies and instrumentation in the life sciences. Comprising an eMagazine, eNewsletter, and website, BioOptics World is primarily intended for researchers and engineers involved in the design, development, and utilization of optical technologies for the study, diagnosis, and treatment of disease and disease processes. Contact: Katrina Frazer, Regional Sales Manager, katrinaf@pennwell.com; Barbara Goode, Editor-in-Chief, barbarag@pennwell.com.

## Boston Electronics Corp.

**SPIE** Corporate Member

91 Boylston St, Brookline, MA, 02445  
+1 617 566 3821; fax +1 617 731 0935  
boselec@boselec.com; www.boselec.com

#8405

## Boulder Nonlinear Systems, Inc.

**SPIE** Corporate Member

450 Courtney Way Unit 107, Lafayette, CO, 80026-8878  
+1 303 604 0077; fax +1 303 604 0066  
info@bnonlinear.com; www.bnonlinear.com

Boulder Nonlinear Systems, Inc. (BNS) designs, manufactures, and sells standard and custom light control solutions. Spatial Light Modulators, Polarization Rotators, and Optical Shutters are offered for beam forming, beam steering, biotechnology, microscopy, military/civil defense, phase/polarization control, pulse shaping, wavefront analysis/testing, and other applications. Contact: Kelly Gregorak, Director, Sales & Marketing, info@bnonlinear.com.

#8930

#8803

## BWT Beijing Ltd.

**SPIE** Corporate Member

Fengtai District, 6 Fl No 4A Hangfeng Rd, Beijing, China, 100070  
+86 10 83681053; fax +86 10 83681077  
sales@bwt-bj.com; www.bwt-bj.com.cn

BWT Beijing Ltd., a leading manufacturer of specially dedicated diode lasers fiber coupling and packaging, provides a variety of products with wavelength from 405nm to 1550nm, output power from 1mW to 100W, and integrated functions like aiming beam, internal TEC, fiber detector etc. Contact: BWT Beijing, sales@bwt-bj.com; Hellen Wang, Director Sales & Marketing, hellen@bwt-bj.com.

#8905

#8628

## Calmar Laser, Inc.

**SPIE** Corporate Member

755 N Pastoria, Sunnyvale, CA, 94085  
+1 408 733 7800; fax +1 408 733 3800  
contacts@calmarlaser.com; www.calmarlaser.com

**Featured Product: World-record 780nm femtosecond fiber laser up to 500mW, <200fs, 50MHz excellent beam quality.**

Leading manufacturer of ultrafast fiber laser system for 15 years; pulse energy >10uJ, average power >10W. 300mW 780nm 250fs femtosecond fiber laser with ultra compact leaser head. OEM seed femtosecond fiber lasers at 1.5µm/1µm/0.78µm, 10 and 40 GHz ps fiber laser, low dispersion high power EDFA for short pulses, bit rate multiplier. Applications: biomedical imaging and multi-photon microscopy, vision correction surgery, defense, micro-machining, telecommunications, and measurement. Contact: Peter Hu, Sales Director, peter.h@calmarlaser.com; Claire Chen, VP of Marketing, claire.c@calmarlaser.com.

#8513

#8529

#8726

#8932

## Cambridge Technology, Inc.

**SPIE** Corporate Member

25 Hartwell Ave, Lexington, MA, 02421  
+1 781 541 1600; fax +1 781 541 1601  
scanners@camtech.com; www.camtech.com

**Featured Product: High stability galvos, 2 & 3-axis scanning subsystems, ScanMaster Designer software, USB controllers.**

Cambridge Technology, Inc is the technology leader in closed-loop, galvanometer based optical scanning components, scan heads, subsystems, controlling hardware and software, and custom scanning solutions. Cambridge Technology beam-steering products excel in a variety of applications including laser marking, engraving, drilling, machining, cutting, biomedical, ophthalmology, DNA sequencing, confocal microscopy, laser projection, and any application where quality laser beam steering is required. Contact: David Freihofer, Director, Sales & Marketing, davidf@camtech.com.

#8801

#8330

**Canada Pavilion**

1200 Montreal Rd, Ottawa, ON, Canada, K1A 0R6  
+1 613 991 2060; fax +1 613 993 7250  
sadiq.hasnain@nrc.gc.ca

**Carl Zeiss Microlmaging, Inc.**

One Zeiss Dr, Thornwood, NY, 10594  
+1 800 233 2343; fax +1 914 681 7446  
micro@zeiss.com; www.zeiss.com/materials

**CEDRAT Technologies**

15 Chemin de Malacher, Meylan, France, 38240  
+33 4 7690 5045; fax +33 4 5638 0830  
actuator@cedrat.com; www.cedrat.com

**Featured Product: Stepping Piezo Actuators (SPAs) are new long-stroke linear piezoelectric motors.**

CEDRAT TECHNOLOGIES is an internationally recognized mechatronics specialist and manufacturer of piezo and magnetic actuators. We offer a wide range of standard products: amplified (APA®), pre-stressed piezo actuators, XY piezo stages, stepping motors, shutters, magnetic actuators, the associated electronics and also customized products. Our products are used in medical applications: mechanical stabilizers, 3D localization, MRI, bio-robotics, drug-delivery, internal valves, endoscopes. Contact: Mr Thomas Maillard, Mechatronic Sales Manager, actuator@cedrat.com.

**CeramOptec Industries, Inc.**

**SPIE** Corporate Member

515 Shaker Rd, East Longmeadow, MA, 01028  
+1 413 525 0600; fax +1 413 525 0611  
salesengineering@ceramoptec.com; www.ceramoptec.com

**Featured Product: Non-circular core optical fibers for applications including material processing and astronomy.**

CeramOptec Industries Inc is a world leader in the production of specialty silica optical fibers including non-circular core fibers, bundles, assemblies and vacuum products. All silica fibers for operation from 190nm to 2500 with NA's from 0.12 to 0.53. Hard polymer clad, plastic clad fibers, Silver halide fibers for MIR. Custom engineered solutions with competitive prices. High quality from preform manufacture to finished product. Contact: Kevin Bakhshpour, V.P. of Sales & Marketing, kb@ceramoptec.com; Cheryl Provost, Scientific Industrial Sales Engineer, cheryl.provost@ceramoptec.com.

**Changchun New Industries Optoelectronics Technology Co., Ltd.**

No 668 Chuangxin Rd, High-Tech Zone, Changchun Jilin, China, 130022  
+86 431 85603799; fax +86 431 87025016  
sales@cnilaser.com; www.cnilaser.com

**Featured Product: Single longitudinal mode blue laser at 473nm, can be used in full-color holography applications.**

Changchun New Industries (CNI) founded in 1996, is a leading manufacturer of solid-state and diode laser systems. Our products include infrared laser, Visible laser, UV laser, single longitudinal mode laser and Q-switched laser systems. CNI lasers are featured with high performance, low cost and excellent laser beam quality, which are specifically designed for OEM, scientific, industrial and instrumentation use. Contact: Lu Wang, Sales Manager, amer@cnilaser.com; Ava Zheng, Salesman, sales@cnilaser.com.

**#8309**

**#8510**

**#8934**

**#8426**

**#8730**

**Chroma Technology Corp**

**SPIE** Corporate Member

10 Imtec Ln, Rockingham, VT, 05101  
+1 802 428 2500; fax +1 802 428 2525  
sales@chroma.com; www.chroma.com

**Clear Align**

**SPIE** Corporate Member

2550 Boulevard of the Generals Ste 280, Norristown, PA, 19403  
+1 484 956 0510; fax +1 484 956 0511  
info@clearalign.com; www.clearalign.com

**Coastal Connections**

2368 Eastman Ave Ste 11, Ventura, CA, 93003  
+1 805 644 5051; fax +1 805 644 5355  
andy@coastalcon.com; www.coastalcon.com

**Featured Product: Fiber End-Caps for 405nm fibers to dramatically increase the life of 405nm cables.**

Coastal Connections is the leading provider of engineered fiber optic cables and terminations in the USA. Specializing in short (350-980nm) and long (2-9µm) wavelengths along with custom solutions for all environments including fibers for arterial catheters. Offering Fiber End-Caps for 405nm cables along with SM, PM, MM and high power cables for the biomedical industry. Please contact our experienced staff to discuss your unique requirements. Contact: Andy Devine, President, andy@coastalcon.com; Ryan Laudato, Manufacturing Manager, ryan@coastalcon.com.

**Cobolt AB**

Vretenvägen 13, Solna, Sweden, 171 54  
+46 8 545 912 30  
info@cobolt.se; www.cobolt.se

**Featured Product: Our new single frequency 05-01 platform for higher powers, 0.2W-2W, cw at 532nm, 561nm, & 1064nm.**

Cobolt supplies high performance lasers in the UV, visible and near IR regions, for stand-alone use or OEM integration in equipment for fluorescence analysis, Raman spectroscopy, interferometry and range finding. The Cobolt lasers are based on PPKTP for efficient frequency conversion and are manufactured in a compact and robust hermetically sealed package using proprietary HTCure Technology that provides outstandingly high tolerance to demanding environmental conditions and ensured lifetime. Contact: info@cobolt.se.

**Coherent Inc.**

**SPIE** Corporate Member

5100 Patrick Henry Dr, Santa Clara, CA, 95054  
+1 408 764 4000; fax +1 408 764 4800  
tech.sales@coherent.com; www.coherent.com

Coherent, Inc. is one of the world's leading providers of lasers, laser systems and tools, laser measurement and control products, and a wide range of laser accessories. Our products feature superior reliability, performance and provide significant cost advantages for customers. These product characteristics and our history of innovation, provide a decided advantage to our scientific customers as they seek breakthroughs in research or in the development of cutting-edge applications. Contact: Corrine LaDrig, Marketing, corrine.ladrig@coherent.com.

**#8413**

**#8734**

**#8825**

**#8827**

**#8900**



## CrystaLaser

SPIE Corporate Member

4750 Longley Ln #205, Reno, NV, 89502  
+1 775 348 4820; fax +1 775 348 7047  
office@crystalaser.com; www.crystalaser.com

#8606

## Edinburgh Instruments Ltd

2 Bain Sq, Kirkton Campus, Livingston,  
United Kingdom, EH54 7DQ  
+44 1506 425300; fax +44 1506 425320  
sales@edinst.com; www.edinst.com

#8712

**Featured Product: TCSPC filter based wavelength selection module for Supercontinuum Laser: 400-700nm, bandpass of 15nm.**

Edinburgh Instruments is recognized internationally as the leading supplier of advanced research grade modular fluorescence & laser flash photolysis spectrometers, TCSPC based fluorescence lifetime instrumentation, and IR gas lasers. They also develop and manufacture high quality gas sensors, which ensure accurate and reliable measurement of target gases such as CO<sub>2</sub>, CO, CH<sub>4</sub> and refrigerants. Contact: Nicholas Leeson, Sales Engineer, nicholas.leeson@edinst.com; Robbie Thomas, Sales and Marketing Manager, robbie.thomas@edinst.com.

## CVI Melles Griot

SPIE Corporate Member

200 Dorado Pl SE, Albuquerque, NM, 87123  
+1 505 296 9541; fax +1 505 298 9908  
optics@cvimellesgriot.com; www.cvimellesgriot.com

#8329

**Featured Product: Optical Filters.**

CVI Melles Griot is excited to be your photonic technology partner! Visit us at booth #8329. Learn how our new lasers and filters can help you deliver faster, better results – cost effectively. Visit us at our website and learn how to make your project a success!

## DenseLight Semiconductors Pte Ltd.

6 Changi North St 2, Singapore, Singapore, 498831  
+65 6415 7989; fax +65 6415 4414  
info@denselight.com; www.denselight.com

#8640

DenseLight Semiconductors designs, fabricates and manufactures Infrared Optoelectronics Light Sources, including Superluminescent LEDs, Broadband Light Sources, Single-Frequency Lasers and High Power Pulsed Lasers (form factors: chip, TO-can, BTF/DIL, module and benchtop) for applications in Sensing (Fiber-optics gyroscopes, gas/chemical sensing, FBG sensors, Brillouin OTDR, laser ranging), Medical healthcare (OCT imaging, non-invasive body-sensing) & communications (WDM-PON, network testers) Contact: HT Wong, VP (Marketing & Sales), ht Wong@denselight.com; Haiqun Zheng, Director, Marketing & Sales, hqzheng@denselight.com.

## Deposition Sciences, Inc

SPIE Corporate Member

3300 Coffey Ln, Santa Rosa, CA, 95403  
+1 707 573 6758; fax +1 707 573 6748  
solutions@depSci.com; www.depSci.com

#8714

Since 1985, Deposition Sciences, Inc. has produced the most durable optical thin film filter coatings in the industry. DSI's coating capability ranges from the ultraviolet (UV), through the visible, to near-infrared (NIR), midwave-infrared (MWIR), and out to the longwave infrared (LWIR) region. DSI's technology is based on its proprietary MicroDyn<sup>®</sup> reactive sputtering deposition process that enables superior, multilayer thin film coatings for precision optics. Contact: Tatiana Goobanoff, Customer Service Supervisor, goobanoff@depSci.com.

## DiCon Fiberoptics, Inc.

SPIE Corporate Member

1689 Regatta Blvd, Richmond, CA, 94804  
+1 510 620 5000; fax +1 510 620 4100  
www.diconfiberoptics.com

#8403

**Featured Product: LED Microscope Illuminator with User Selectable IR & Visible Wavelengths for Biomedical applications.**

Manufacturer of MEMS Fiber Optic Switches, MEMS Variable Attenuators, LED Microscope Illuminators and other LED Lighting products. Founded in 1986, DiCon is an established leader in high quality solutions for Biomedical, Machine Vision, Telecommunications, Military and other applications. Contact: sales@diconfiberoptics.com.

## Edmund Optics

SPIE Corporate Member

101 E Gloucester Pike, Barrington, NJ, 08007  
+1 856 547 3488; fax +1 856 573 6272  
sales@edmundoptics.com; www.edmundoptics.com

#8423

**Featured Product: Edmund Optics' filters, aspheres & optical components for biotech, imaging & infrared applications.**

Edmund Optics is a world leader in the design and development of optical components for the biotech market. Our experience in micro optics manufacturing, asphere production, and complex assemblies, coupled with our expertise in thin film coating design, make us uniquely qualified to service all areas of biotech research, development and production. EO's extensive collection of biotech optics are designed to provide tremendous value to researchers and OEMs alike. Contact: Anthony Artigliere, Sales Manager, AArtigliere@edmundoptics.com; Marisa Edmund, VP of Marketing and Communications, MEdmund@edmundoptics.com.

## Electro Optical Components Inc.

SPIE Corporate Member

5460 Skylane Blvd, Santa Rosa, CA, 95403  
+1 707 568 1642; fax +1 707 568 1652  
info@eoc-inc.com; www.eoc-inc.com

#8617

**Featured Product: MY Polymers Low Refractive Index Coatings; Micro-Hybrid MEMS PZT Pyros; FEMTO Charge Amplifier.**

Electro Optical Components (EOC) provides technologically advanced components for laser and optoelectronic systems from the UV to the far IR. Our products include signal recovery amplifiers and photoreceivers; thermopile, pyroelectric, UV and diamond detectors and arrays; IR and visible laser diodes and modules; optics and coatings (including CO<sub>2</sub>); low refractive index coatings; interference filters (IR to UV); E-O modulators; beam shapers and many other key E-O components. Contact: Bill Bolster, Sales, billbolster@eoc-inc.com.

**EM4, Inc.**  
SPIE Corporate Member

#8503

7 Oak Park, Bedford, MA, 01730  
+1 781 275 7501; fax +1 781 275 7569  
www.em4inc.com

**Featured Product: The EM600 integrated high power DFB module.**

Manufacturer of high reliability, hermetically packaged, fiber pigtailed and free space optoelectronic components and subsystems for harsh environments: terrestrial, marine and aerospace. Featuring: 100 mW DFB lasers (C and L band, 5 GHz direct mod); 10W multimode pumps(780nm-980nm); 800mW SM pumps (915nm-1064nm); < 10 ns rise/fall time AOM's (530nm, 1060nm & 1550nm); 20 GHz detectors; HP fiber coupled isolators. Contact: Winn Gatewood, CSR, wgatewood@em4inc.com; Basil Garabet, CEO, bgarabet@em4inc.com.

**Energetiq Technology, Inc.**

#8609

SPIE Corporate Member

7 Constitution Way, Woburn, MA, 01801  
+1 781 939 0763  
www.energetiq.com

Energetiq Technology, Inc. is a developer and manufacturer of ultrahigh-brightness light sources for use in analytical instrumentation. Energetiq's unique Laser-Driven Light Source (LDLS™) technology features broadband output from 170nm in the deep UV, through visible and into the infrared. The LDLS products offer higher reliability, more than 10X brightness, and better than 10X lifetime of conventional Xenon arc and Deuterium lamps. For more information, visit www.energetiq.com. Contact: Peter Dwyer, Global Sales Director, pdwyer@energetiq.com.

**EXALOS AG**

#8322

SPIE Corporate Member

Wagistr 21, Schlieren, Switzerland, 8952  
+41 43 444 60 90; fax +41 43 444 60 99  
info@exalos.com; www.exalos.com

**Featured Product: SweptSource External Cavity Tunable Laser Superluminescent LEDs in the visible spectral range.**

EXALOS is a privately held, technology driven company, which focuses on the design, development and sales of advanced broadband light sources. The solutions are based on semiconductor optoelectronic devices and tailored for scientific and industrial applications. The company is the leading supplier of Superluminescent Light-Emitting Diodes (SLEDs) and your partner for custom OEM solutions where SLEDs are combined with driver electronics and optical peripherals. EXALOS is ISO 9001:2008 certified. Contact: Uwe Achatz, VP Marketing, achatz@exalos.com; Gene Covell, VP Sales, covell@exalos.com.

**FEMTOLASERS, Inc.**

#8517

SPIE Corporate Member

1 Mifflin Place, 119 Mount Auburn St Ste 400,  
Cambridge, MA, 02138  
+1 971 456 9920; fax +1 971 456 9922  
infofli@femtolasers.com; www.femtolasers.com

**Featured Product: FEMTOPOWER™ V ultrafast 2-stage Ti:Sa mJ amplifier system incl. FEMTOSOURCE™ ultrafast oscillator.**

FEMTOLASERS is the premiere manufacturer of ultrafast laser oscillator and amplifier solutions, offering laser pulses down to sub-7 fs at MHz and multi-kHz repetition rates up to multi-mJ energies. FEMTOOPTICS™ features a patented optics line with ultra-broadband dispersive/non-dispersive components and custom solutions. Applications include ultrafast spectroscopy, OCT, THz-generation, MP-microscopy, micromachining, and Attoscience. Contact: Catalin Neacsu, Sales Manager, infofli@femtolasers.com; Barbara Kritsch, Secretary, barbara.kritsch@femtolasers.com.

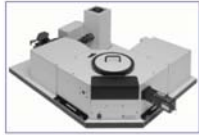
## Tried, Tested, Trusted Instrumentation

Edinburgh Instruments (EI) designs and manufactures a wide range of Time Resolved and Steady State Fluorescence Spectrometers, infrared gas lasers and pulsed diode lasers.

As pioneers of time-correlated-single-photon-counting (TCSPC) we have been meeting the diverse needs of our customers for over 30 years.

Our dedicated products:


- Deliver flexibility through modularity
- Use a single software package to control any type of measurement
- Pre-aligned system, with an enclosed sample chamber, enables ease of operation
- Can be customized to meet specific requirements
- Are supported by unparalleled customer support worldwide



EI products are used in an extensive range of markets and applications, these include:

- Sample analysis for photochemistry, protein studies, interferometry, plasma diagnostics, biochemistry, protein studies, ablation, atmospheric studies, biophysics, solid state physics and material science
- EI EPLs and EPLEDs are used as ideal excitation sources for spectroscopy

**Visit Edinburgh Instruments:**  
**BIOS 2011 Booth no: 8712**  
**Photonics West 2011 Booth no: 2612**  
 Contact Information: [sales@edinst.com](mailto:sales@edinst.com) or visit [www.edinst.com](http://www.edinst.com)



**Fianium Inc.**

#8703

SPIE Corporate Member

858 W Park St, Eugene, OR, 97401  
+1 541 343 6767; fax +1 541 343 1838  
sales@fianium.com; www.fianium.com

Fianium is a leading manufacturer of optical supercontinuum lasers, operating across 400-2400 nm spectral range and delivering up to 6 W of power in a collimated laser beam. These unique laser sources enable multiple applications in BioSciences and imaging instruments. Other high power and high energy, picoseconds and femtosecond, fiber lasers enable applications in Metrology and Materials processing. Contact: Ted Naugler, Sales Manager, ted.naugler@fianium.com; Ross Hodder, European Sales Manager, ross.hodder@fianium.com.



**GENERAL REFRESHMENT SPONSOR**

**Fiberguide Industries, Inc.**

#8701

SPIE Corporate Member

1 Bay St, Stirling, NJ, 07980  
+1 908 647 6601; fax +1 908 647 8464  
info@fiberguide.com; www.fiberguide.com

Manufacture comprehensive line of high transmission multimode, single mode and graded index optical fibers from UV-IR and temperatures from -269°C to +700°C. Design/engineer assemblies with widest range of endfittings/connectors and outer jackets to tailor a product to technical and economic requisites. High power laser delivery assemblies, collimators and high temperature/high pressure vacuum feedthroughs; reflection/backscattering probes for dissolution systems. ISO9001:2008 certified. Contact: Bill Lepior, Director North American Sales, blepior@fiberguide.com; Gary Churchill, Sales Manager, gchurchill@fiberguide.com.

## Fibertech Optica

SPIE Corporate Member

330 Gage Ave Ste 1, Kitchener, ON, Canada, N2M 5C6  
+1 519 745 2763; fax +1 519 342 0128  
info@fto.ca; www.fto.ca

**Featured Product: Specialty fiber assemblies.**

Designer and manufacturer of specialty fiber patchcords, pigtails, spot-to-line converters, bundles, reflectance probes, linear and spaced v-groove arrays, vacuum feedthrough and high power laser cables. Spectral bands coverage from deep UV to MIR. Distributor of specialty multimode all-silica, HCS, PCS, Hard Clad all-silica fibers including our brand new broadband (275-2100nm) silica fiber. Core diameters from 10um to 2000um. Contact: Jeff Dupuis, VP Sales & Marketing, jeffdup@fto.ca.

#8717

## Fujikura Ltd.

SPIE Corporate Member

PO Box 3127, Spartanburg, SC, 29304  
+1 800 235 3423; fax +1 864 433 5560  
maggie.steckiel@afglobal.com; www.afglobal.com

#8638

## General Photonics Corp.

#8312

5228 Edison Ave, Chino, CA, 91710  
+1 919 590 5473; fax +1 919 902 5536  
info@generalphotonics.com; www.generalphotonics.com

**Featured Product: Polarization stabilized wavelength swept laser source - wide spectral range, stable sweep profile.**

General Photonics is the leading supplier of polarization and timing products to the telecommunications, photonics, fiber sensor, and medical imaging markets. General Photonics offers a full line of components, modules and instruments that manage and measure polarized light. Specialized products for medical imaging include a swept laser source, balanced detector, delay lines, and a scanning probe subassembly. Contact: Febian Bahari, Sales, fbahari@generalphotonics.com.

## Foreal Spectrum, Inc.

SPIE Corporate Member

2370-A Qume Dr, San Jose, CA, 95131  
+1 408 436 5558; fax +1 408 436 5557  
sales@forealspectrum.com; www.forealspectrum.com

#8512

**Featured Product: High power, high brightness LED light sources in white, red, green and blue.**

Foreal is a supplier of optical coatings, optical modules, and LED light sources. Our custom coatings include fluorescence filters, eye safety filters, polarization beam splitters, polarization management coatings, AR coating, wideband and narrowband filters, and notch filters. All coatings are manufactured using our custom Ion Beam Sputtering process. Our LED light sources are designed for optimum brightness, and are available in white, red, green and blue. Contact: Claire Nipress, clairen@forealspectrum.com; James Kiss, jkiss@forealspectrum.com.

## Frankfurt Laser Co.

SPIE Corporate Member

An den 30 Morgen 13, Friedrichsdorf, Germany, 61381  
+49 6172 27978 0; fax +49 6172 27978 10  
sales@frlaserco.com; www.frlaserco.com

#8600

**Featured Product: High Power Visible and IR Laser Diode Module with Fiber Optical Output.**

FLC supplies CW single mode, DFB, DBR and broad area laser diodes and Quantum Cascade Lasers (370nm to 12um with 5mW-15W), pulse IR laser diodes, superluminescent diodes in 680nm - 2300nm range in free space and fiber-coupled packages, high-power laser diode arrays with fiber output (2W-750W) CW and QCW, laser diode modules with high-quality glass optic, red, orange, yellow, green, blue and violet DPSS lasers, laser diode collimating and focusing optic, mid-IR 1.7um-4.3 um LED. Contact: Vsevolod Mazo, Sales Director, dr.v.mazo@frlaserco.com; Scott Harvey, Sales Engineer, scott.harvey@frlaserco.com.

## Fresnel Technologies Inc.

101 W Morningside Dr, Fort Worth, TX, 76110  
+1 817 926 7474; fax +1 817 926 7146  
www.fresneltech.com

#8300

Manufacturer of molded plastic Fresnel lenses and related optical components, as well as infrared transmitting materials and optics made from them. Specialties include lens arrays for passive infrared applications, diffusers and microlens arrays for illumination, and optics for environmental monitoring at 3.4 microns. Design assistance, tooling and production services, and diamond machining available. Contact: Nelson Claytor, President, nclaytor@fresneltech.com; Elvia Zavala, Director of Operations, ezavala@fresneltech.com.

## Genia Photonics

#8309

1111 Lapierre St, Montréal, QC, Canada, H8N 2J4  
+1 514 364 0343  
info@geniaphotonics.com; www.geniaphotonics.com

**Featured Product: Picosecond synchronized programmable laser system.**

Genia Photonics develops and manufactures a series of fiber based components and laser systems that will significantly change the way certain procedures and functions are performed in the medical, industrial, and military communities. A combination of optical, electrical, and mechanical expertise has led to a series of patented design breakthroughs that are at the core of their lasers systems, offering capabilities that are unique as the design. Contact: Antoine Kasprzak, Sales Director, antoine.kasprzak@geniaphotonics.com; Joseph Salhany, VP R&D and Product Management, joseph.salhany@geniaphotonics.com.

## GiGa Concept Inc.

#8309

11811 Suzor-Cote, Montreal, QC, Canada, H3M 2H8  
+1 514 745 8877; fax +1 514 626 6784  
www.gigaconcept.com

**Featured Product: All Fiber polarization control: deterministic semi-static. Operating beyond 600nm to 1550nm SM or MM.**

Patent pending all fiber Polarization Control technology featuring extremely low PMD. Deterministic control and high stability. Options include number of SOP control planes, resolution and speed >10Hz. Full wavelength range coverage from 600nm to 1550nm and beyond in SM or MM fibers. Available as OEM module, reference design or fully integrated USB control. Applications: Optical Coherence Tomography, PS-OCT, All fiber delay lines, Gain control, Servo SOP control, Test and Measurement. Contact: Eric Girard, Sales and Engineering Manager, egirard@gigaconcept.com; Vincent Gagne, Operations Manager, vgagne@gigaconcept.com.

## Glass & Ceramic Engineered Solutions LLC#8732

PO Box 68, Tenafly, NJ, 07670  
+1 201 569 8695; fax +1 201 568 8179  
gcessales@verizon.net

GCES is a manufacturer's representative for wide range of material suppliers that include glass, fused quartz, ceramics and Teflon materials. Forms of supply can range from raw materials to finished components. Material selection and design consultation services are available. Areas of expertise include laser optics, fiber optics, light sources, medical devices, analytical components and industrial processing. Contact: gcessales@verizon.net.



**Gooch & Housego, Orlando (formerly ChromoDynamics)**

#8504

**SPIE** Corporate Member

4632 36th St, Orlando, FL, 32811  
+1 407 422 3171; fax +1 407 658 5412  
www.goochandhousego.com/products/systems

Gooch & Housego is a manufacturer of precision optical components, sub-systems, light measurement instrumentation and services. Our expertise spans a broad range of complementary technologies – Crystal Growth, Acousto Optics and RF Drive Electronics, Electro Optics, Fibre Optics, Optical Polishing and Coatings, LED Test and Measurement Systems, Spectroradiometers, Integrating Spheres, NIST-Traceable Calibration Standards and Services, Spectral Imaging and Synthesis. Contact: Alexandre Fong, Senior VP, Life Sciences & Instrumentation, afong@goochandhousego.com; Jim Dermody, Instrumentation Sales Manager, jdermody@goochandhousego.com.

**Grintech GmbH**

#8814

**SPIE** Corporate Member

Schillerstr 1, Jena, Germany, 07745  
+49 3641 2276 0; fax +49 3641 2276 11  
info@grintech.de; www.grintech.de

GRINTECH manufactures gradient index (GRIN) lenses and lens systems for applications in biophotonics, medical imaging, fiber optics, sensor technology and laser diode beam shaping Contact: Herbert Stuermer, Product Manager, info@grintech.de.

**G-S PLASTIC OPTICS**

#8539

**SPIE** Corporate Member

408 St Paul St, Rochester, NY, 14605  
+1 585 295 0212; fax +1 585 232 2314  
info@gsoptics.com; www.gsoptics.com

**Featured Product: GSPO has upgraded its metrology lab with the addition of a PerkinElmer Lambda 950 spectrophotometer.**

G-S PLASTIC OPTICS manufactures precision polymer optics for imaging, scanning, detection, and illumination applications worldwide. In addition to an extensive catalog offering of precision polymer optics, the company has in-house capability to provide custom designed diamond turned and injection molded prototypes, production injection molding of optics, thin film and reflective coatings, and integrated optical solutions for a wide range of military, medical, commercial, and consumer markets. Contact: Will Beich, Director of New Business Development, wbeich@gsoptics.com.

**Hamamatsu Corp.**

#8425

**SPIE** Corporate Member

360 Foothill Rd, Bridgewater, NJ, 08807  
+1 908 231 0960; fax +1 908 231 1539  
usa@hamamatsu.com; www.sales.hamamatsu.com

**Headwall Photonics, Inc.**

#8401

**SPIE** Corporate Member

601 River St, Fitchburg, MA, 01420  
+1 978 353 4010; fax +1 978 348 1864  
information@headwallphotonics.com;  
www.headwallphotonics.com

Manufacturer of imaging spectrometers and spectroscopy instruments for OEMs and end-users. Complete systems for field, factory, military, and laboratory environments. Spectral ranges of products - UV, VIS, VNIR, NIR and SWIR. Core technology: high performance spectral instruments characterized by high signal-to-noise and high dynamic range. Products: In-line inspection sensors, hyperspectral imagers, Raman spectrometers, single and dual-beam spectrometers, original holographic gratings for OEMs. Contact: David Bannon, Sales & Marketing, information@headwallphotonics.com; Jay Zakrzewski, Business Development, information@headwallphotonics.com.

**Hellma USA**

#8716

**SPIE** Corporate Member

80 Skyline Dr, Plainview, NY, 11803  
+1 516 939 0888; fax +1 516 939 0555  
info@hellmausa.com; www.hellmausa.com

**Featured Product: High-quality CaF<sub>2</sub> crystals grown from purest (synthetic) raw material-formerly from Schott Lithotec.**

Manufacturer of Hellma Optics, Photometer Cells, Fiber Optic Immersion Probes, Photometric Calibration Standards, Quartz Microplates. Cylindrical/Flat Optics, Beam Splitters and Mirrors for Laser and other applications. Supplier of Heraeus Light Sources including D2, HCL, PID, Spectral Line; Zeiss MMS/MCS Monolithic Miniature Spectrometer modules covering 190-2200nm in combination (16 bit S/N); Custom designs of all products. Contact: Ed Roth, Sales Engineer, eroth@hellmausa.com; Eugene Friedmann, efriedmann@hellmausa.com.

**High Q Laser (US), Inc.**

#8619

**SPIE** Corporate Member

118 Waltham St, Watertown, MA, 02472  
+1 617 924 1441; fax +1 617 924 5554  
office@highq-us.com; www.highqlaser-us.com

High Q Laser is a leading specialist for industrial and scientific ultrafast lasers. Products are designed to withstand tough industrial environments and are tested for thermal and mechanical stability. All lasers are based on direct diode-pumping and semiconductor saturable absorber mirror (SESAM) modelocking. The set-up of High Q Laser systems is compact and modular - operation and installation is easy. Sealed-off technology guarantees long lifetime and reliability. Contact: Alex Lang, Sales Manager & Technical Support, alex.lang@highq-us.com.

**High Tech Photonics**

#8804

316 Harlequin Ct, Oviedo, FL, 32765  
+1 800 335 5582; fax +1 253 663 2608  
jim@jtingram.com; www.jtingram.com

Manufacturers of Mid Infrared, NIR, VIS and UV fiber optics including probes for FTIR, raman, reflection/transmission, ATR, High Temperature, etc. Manufacturers of fiber optic assemblies including arrays, bundles, and spot to slit converters as well as accessories including couplers, collimators, focus optics, etc. New products include fiber coupled QCLs, LEDs, High Power Beam Expanders. Contact: Jim Ingram, jim@jtingram.com.

## HORIBA Scientific

#8541

3880 Park Ave, Edison, NJ, 08820  
+1 732 494 8660; fax +1 732 494 5125  
info@horiba.com; www.horiba.com/scientific

**Featured Product: DynaMyc: Lifetime system; SPRI-Plex: Automated, multiplexed system; XploRA: Raman microscope.**

HORIBA Scientific (comprising Jobin Yvon, SPEX, IBH and GenOptics), is the global leader in fluorescence and Raman. Macro and microscope solutions feature the most sensitive steady state and lifetime spectrofluorometers, highest performance, most flexible Raman systems for every budget, and Surface Plasmon Resonance imaging systems for affinity and binding measurements. Contact: Ishai Nir, Director of Fluorescence Division, ishai.nir@horiba.com; John Enterline, Sales Manager, john.enterline@horiba.com.

## Ibsen Photonics

#8614

Ryttermarken 17, Farum, Denmark, 3520  
+45 4434 7000; fax +45 4434 7001  
tpr@ibsen.dk; www.ibsen.dk

**Featured Product: ROCK series of pre-configured OEM spectrometers based on Ibsen's high efficiency gratings.**

Ibsen Photonics is a global leader in holographic, fused silica transmission gratings, Interrogation monitors, and spectrometer modules for a wide range of telecom, analytical, sensing and laser markets. Contact: Thomas Rasmussen, VP Business Development, Sales and Marketing, tpr@ibsen.dk.

## ID Quantique SA

#8330

Chemin de la Marbrerie 3, Carouge/Geneva, Switzerland, 1277  
+41 22 301 83 71; fax +41 22 301 83 79  
info@idquantique.com; www.idquantique.com

**Featured Product: A dual channel electronic module for superconducting detectors is now available.**

ID Quantique will be showing a range of photon counters. The id100, based on a Si diode for VIS wavelength. It has the world shortest jitter of 40 ps and noise down to less than 2Hz. The id201 is optimized for telecom wavelength and the id400 is optimized for photon detection at 1064nm with adjustable quantum efficiency up to 30%. The id300 is a short pulse laser source at 1310 or 1550nm. New is our dual channel electronic module for superconducting detectors. Contact: Leonard Widmer, VP Sales, leonard.widmer@idquantique.com.

## Imagine Optic Inc.

#8509

1 Broadway 14th Fl, Cambridge, MA, 02142  
+1 617 401 2198; fax +1 617 401 9818  
contact@imagine-optic.com; www.imagine-optic.com

**Featured Product: Micao, first "out-of-the box" adaptive optics system dedicated to standard HR microscopy.**

Imagine Optic a leading company developing adaptive optics solutions dedicated to Biophotonics. We released the AO kit BIO and the MICA0, both based on the MIRA0 52 e, enable to improve any type of microscope's performances. Contact: Jerome Ballesta, US Sales Manager, jballesta@imagine-optic.com.

## IMM Photonics GmbH

#8617

Ohmstrasse 4, Unterschleissheim, Germany, 85716  
+49 89 3214120; fax +49 89 32141211  
sales@imm-photonics.de; www.imm-photonics.de

**Featured Product: Spectrometer with Exchangeable Light Source Modules.**

IMM Photonics GmbH - Competence in Laser Technology, Optoelectronic and Fiberoptic - is one of the leading supplier with own development and production department. Products: Spectrometer with Exchangeable Light Source Modules, Laser Diode Modules in high quality, Laser Diode Collimators, Solid-State Laser DPSS, LED Pointlight Collimators, Laser Diode, Driver-IC's, Aspherical Precision Glasoptics, LED optics, Video Inspector for fiber optic connectors, Fibertester FIBERPOINT®, Fiber Optic Components Contact: Sales, sales@imm-photonics.de.

## IMRA America, Inc.

#8418

**SPIE Corporate Member**  
1044 Woodridge Ave, Ann Arbor, MI, 48105  
+1 734 930 2560; fax +1 734 930 9957  
lasers@imra.com; www.imra.com

**Featured Product: Now even more compact! Introducing the Femtolite FX-100i femtosecond laser for OEM integration.**

The most experienced femtosecond fiber laser company, providing compact, reliable products since 1990. IMRA's pioneering technologies, rigorous quality control and high volume manufacturing operation make our lasers the sound choice for scientific, OEM and industrial use. Applications include processing of transparent materials, thin film ablation, waveguide writing, pulsed laser deposition, multiphoton microscopy, non-linear spectroscopy, terahertz generation, and refractive surgery. Contact: Leah Clemens, Sales Engineer, lasers@imra.com; Alan Arai, Applications Engineer, lasers@imra.com.

## IMT North America

#8613

11 Bridge St, West Wyoming, PA, 18644  
+1 570 954 0933; fax +1 570 693 3631  
rtrottini@imtmask.com; www.imtag.ch

## Innovative Photonic Solutions

#8704

**SPIE Corporate Member**  
4250 US Hwy 1 Ste 1, Monmouth Junction, NJ, 08852  
+1 732 355 9300; fax +1 732 355 9302  
srudder@innovativephotonics.com;  
www.innovativephotonics.com

**Featured Product: The I0532SU0050MF offers >50 mW of single frequency 532 nm retro-reflection insensitive output.**

IPS specializes in the manufacture of high performance spectrum stabilized lasers for use in Raman spectroscopy, fiber laser pumping & seeding, & remote sensing applications. Our technology enables us to lock the laser to any wavelength without complex feedback mechanisms. Products include multi-mode and single frequency lasers & span the 532 nm - 2400 nm wavelength range. Lasers are available in 14-Pin BF packages or in turn-key modules with integral laser and temperature control electronics. Contact: Scott Rudder, V.P. Marketing & Sales, srudder@innovativephotonics.com.

**INO #8812 Iridian Spectral Technologies Ltd. #8402**

2740 rue Einstein, Quebec City, QC, Canada, G1P 4S4  
+1 418 657 7006; fax +1 418 657 7009  
info@ino.ca; www.ino.ca

INO is a world-class technology developer and provider, using its core expertise in optics and photonics to bring to the industry custom solutions that enable more competitive products and production processes. INO produces in-house prototypes and short run products tailored to the needs of partners & clients. Our expertise in biophotonics is based on a mastery of optical techniques in biological media such as fluorescence, spectroscopy, and modeling. Contact: Pierre Talbot, Business Development Manager, pierre.talbot@ino.ca.

1200 Montreal Rd, Ottawa, ON, Canada, K1A 0R6  
+1 613 741 4513  
sales@iridian.ca; www.iridian.ca

**Featured Product: Iridian now offers standard dichroic and emission filters for use in flow cytometry instruments.**

Iridian is the leader in optical filter solutions for UV, visible, and near-IR applications. Our dielectric thin-film filters provide long term durability and reliability with industry leading optical performance. Our Raman filters provide pass band transmittances of >90%, exceptional edge steepness, and blocking of >OD6. Our single or multi-band filters for fluorescence microscopy and flow cytometry offer high transmission with sharp cutoffs and excellent isolation. Contact: Jason Palidwar, Customer Account Manager, jason.palidwar@iridian.ca; Sales, sales@iridian.ca.

**InPhenix Inc. #8722**

**SPIE** Corporate Member

250 N Mines Rd, Livermore, CA, 94551  
+1 925 606 8809; fax +1 775 628 4967  
www.inphenix.com

**Featured Product: Broadband Swept Light Sources 880-1550nm Center Wavelengths, 50 KHz Sweep-rate, 10mm Coherence Length.**

InPhenix, a privately held company headquartered in Livermore, CA, designs and manufactures active optoelectronic components and modules. Our facility includes a state-of-the-art wafer fab, a production area with complete packaging capabilities and a test area capable of testing products from chip-level to module-level. Our products include Semiconductor Optical Amplifiers (SOAs), Superluminescent Light Emitting Diodes (SLEDs), Gain Chips, Photodetectors and Fabry-Perot Lasers. Contact: Rodrick Cross, Sales Director, rcross@inphenix.com; Steve Vitkovsky, Sales Manager, svitkovsky@inphenix.com.

**IRphotonics #8627**

627 McCaffrey, St-Laurent, QC, Canada, H4T 1N3  
+1 514 345 6982; fax +1 514 227 5210  
sales@irphotonics.com; www.irphotonics.com

**Featured Product: iCure™ P200 Power Meter for Thermal Spot Curing System.**

IRphotonics is a leading designer and manufacturer of technologically sophisticated infrared fibers and systems that are used for the transmission of infrared light and for assembly operations requiring high intensity infrared heat. The company leverages its unique and in depth expertise of infrared light and material to offer innovative products ranging from specialty fibers and light guides to its revolutionary thermal spot curing system, winner of the 2010 Prism Award for Photonic Innovation. Contact: Ruben Burga, VP Sales, rburga@irphotonics.com; Simon Pageau, Technical Sales, spageau@irphotonics.com.

»»» **PROMOTIONAL PARTNER**

**IOP Publishing Ltd. #8623**

Dirac House, Temple Back, Bristol, United Kingdom, BS1 6BE  
+44 1179 297481; fax +44 1179 301178  
custserv@iop.org; www.iop.org

IOP Publishing, a not for profit company wholly owned by the Institute of Physics, is one of the largest and most dynamic publishers of physics information in the world. Our publishing activity, which dates back to 1874, includes a wide range of journals, magazines and community websites. We partner more than a dozen international organizations and have a global network of offices located in Bristol, Philadelphia, Washington DC, Munich, St Petersburg, Moscow, Beijing and Tokyo. Contact: Edward Jost, Group Advertising Manager, edward.jost@iop.org; Simon Harris, Senior Publisher, simon.harris@iop.org.

**ISS, Inc. #8310**

1602 Newton Dr, Champaign, IL, 61822-1061  
+1 217 359 8681; fax +1 217 359 7879  
service@iss.com; www.iss.com

**Isuzu Glass Inc. #8806**

**SPIE** Corporate Member

23505 Crenshaw Blvd Ste 130, Torrance, CA, 90505  
+1 310 517 1866; fax +1 310 517 1869  
sales@isuzuglass.com; www.isuzuglass.com

Manufacturer of molded glass optical components and optical filter glass. Optical components include lenses, lens arrays, flyeye lenses, CPC's, CPV secondary concentrators, aspheres. Filter glass includes heat/IR absorbing, cut on and cut off, contrast enhancing, color correction, UV transmitting and IR transmitting. Contact: Mike Preston, Sales Manager, mike@isuzuglass.com; Hiro Yokoi, Vice President, hiro@isuzuglass.com.

**IPG Photonics Corp. #8502**

**SPIE** Corporate Member

50 Old Webster Rd, Oxford, MA, 01540  
+1 508 373 1100; fax +1 508 373 1103  
sales.us@ipgphotonics.com; www.ipgphotonics.com

IPG Photonics manufactures active fiber lasers, direct diode and amplifiers operating at 0.7 - 2 microns for applications in Material Processing, Communications and Scientific Research. Industrial lasers operating at 1 micron are available from 10 watts to 50 kilowatts. These devices feature low divergence, air cooling, high electrical efficiency and unparalleled diode life. Contact: Franck Leibreich, Sales Director, fleibreich@ipgphotonics.com; Mike O'Connor, moconnor@ipgphotonics.com.

**JenLab GmbH #8326**

Schillerstr 1, Jena, Germany, 07745  
+49 3641 470 501; fax +49 3641 470 543  
info@jenlab.de; www.jenlab.de



## JENOPTIK Laser GmbH

SPIE Corporate Member

Goeschwitzer Str 29, Jena, 07745  
+1 49 3641 65 3053; fax +1 49 3641 65 4011  
sales-laser.lm@jenoptik.com; www.jenoptik.com/lm

**Featured Product: Diode laser modules, diode laser stacks and solid-state lasers for medical applications.**

JENOPTIK Laser GmbH is one of the worldwide leading providers of lasers for usage in medical applications. The company develops, manufactures and globally markets lasers and provides the entire technology chain for lasers – from customized epitaxial service to high quality semiconductor material and reliable diode lasers as well as turnkey diode laser systems, diode-pumped solid-state lasers and fiber lasers. Contact: Dr. Detlev Wolff, Head of Laser Sales, detlev.wolff@jenoptik.com; Fred Kallweit, Head of Medical Laser Sales, fred.kallweit@jenoptik.com.

#8522

## Laser Components IG, Inc.

SPIE Corporate Member

9 River Rd, Hudson, NH, 03051  
+1 603 821 7040; fax +1 603 821 7041  
info@laser-components.com; www.lasercomponents.com

**Featured Product: Photon counting modules with record-breaking dark count rates and highest quantum efficiency.**

Provides high power laser optics from 193 nm to 10.6 μm, custom-made lenses, Flexpoint miniature laser modules, Glass polarizing filters, and fiberoptic assemblies. Photon Counting Modules, Avalanche Photodiodes (APD) and Pulsed Laser Diodes (PLD) in stock as well as drive electronics, hybrids, and complete modules. Also available are IR lead salt diode lasers (3-25 μm) and SPECILAS spectroscopic diode lasers. Contact: Gary Hayes, General Manager, hayes@laser-components.com; Valerie King, Sales/Marketing, king@laser-components.com.

#8923

## JENOPTIK Optical Systems, Inc.

SPIE Corporate Member

205 Import Cir, Huntsville, AL, 35806  
+1 256 859 1886; fax +1 256 859 5890  
marketing@jenoptik.com; www.jenoptik-inc.com

Photonic technologies play an ever increasing role in the Health Care & Life Science business, whether for medical imaging, analytics, diagnostics or laser therapy. We can offer our customers anything along the complete process chain: from design, development and prototyping to volume production of innovative optical, opto-mechanical and opto-electronic systems, modules, objective lenses and components. Contact: Tim Lindsey, Manager Sales & Marketing, tim.lindsey@jenoptik-inc.com; Ray Malcom, Vice President, Marketing & Sales, Ray.malcom@jenoptik-inc.com.

#8524

## Laser-Compact Co. Ltd.

SPIE Corporate Member

3 Vvedensky St, Moscow, Russia, 117342  
+7 495 720 5450; fax +7 495 720 5451  
ik@lcompact.msk.ru; www.laser-export.com

**Featured Product: DTL-399QT (1053nm, 527nm and 351nm), 3-wavelength DPSS Q-switched laser for scientific applications.**

Specializes in the field of DPSS lasers radiating in green, UV and IR ranges of spectrum. A 19-year custom design experience. Products include CW and pulsed Q-switched lasers, small laser modules and laser systems. Application fields: laser microdissection, laser microscopy, mass spectrometry, holography, non-destructive control etc. Over 40,000 of DPSS lasers have been produced for world-leading industrial companies. The biggest Russian exporter of DPSS lasers (delivery for 39 countries). Contact: Natalia Gavrilenko, Head of Sales Department, sales@laser-export.com.

#8933

## JT Ingram

23 Alafaya Woods Blvd, Oviedo, FL, 32765  
+1 800 335 5582  
jim@jtingram.com; www.jtingram.com

Manufacturers of Mid Infrared, NIR, VIS and UV fiber optics including probes for FTIR, raman, reflection/transmission, ATR, High Temperature, etc. Manufacturers of fiber optic assemblies including arrays, bundles, and spot to slit converters as well as accessories including couplers, collimators, focus optics, etc. New products include fiber coupled QCLs, LEDs, High Power Beam Expanders. Contact: Jim Ingram, Jim@jtingram.com.

#8804



**BANNER SPONSOR**

## Laservision USA

SPIE Corporate Member

595 Phalen Blvd, St. Paul, MN, 55130  
+1 651 357 1800; fax +1 651 357 1830  
info@lasersafety.com; www.lasersafety.com

Laservision is your worldwide laser safety expert for more than thirty years. We specialize in cutting edge design, development and manufacture of laser protective technologies for the Safe Use of Lasers. Laser users worldwide rely on Laservision for the most advanced laser safety solutions and technical support. Contact: Huyen Vu, Sales and Marketing Director, h.vu@lasersafety.com; Richard Greene, Key Account Manager/Academy Director, r.greene@lasersafety.com.

#8708

## Kohoku Kogyo Co., Ltd.

1623 Takatsuki, Takatsuki-Cho Ika-Gun, Shiga, Japan, 529-0241  
+81 749 85 6260; fax +81 749 85 3215  
opt-dw@kohokukogyo.co.jp; www.kohokukogyo.co.jp

#8637

## Lambert Instruments

Oosteinde 16, Roden, The Netherlands, 9301 ZP  
+31 50 5018461; fax +31 50 5010034  
info@lambert-instruments.com; www.lambert-instruments.com

**Featured Product: LIFA-X, Lambert Instruments FLIM Attachment for Fluorescence and Phosphorescence.**

Lambert Instruments is dedicated to the development, production and worldwide sales of scientific-grade products for imaging at low light levels. Our products include the LIFA series for FLIM/FRET and high-speed intensified cameras such as the HiCAM and HiCATT. By continuously watching the latest technological developments and looking for opportunities to apply these in existing and new products, highly qualified people make sure your wishes get the best possible attention. Contact: Dr. Michiel Kregel, Product Manager FLIM, michielkregel@lambert-instruments.com; Jeroen Wehmeijer, Product Manager ICS, jeroen@lambert-instruments.com.

#8509

## Light Age, Inc.

SPIE Corporate Member

500 Apgar Dr, Somerset, NJ, 08873  
+1 732 563 0600; fax +1 732 563 1571  
bbroadnax@lightage.com; www.lightage.com

#8713

**LightSmyth Technologies, Inc.**

#8829

875 Wilson St Ste C, Eugene, OR, 97402  
+1 541 431 0026  
info@lightsmyth.com; www.lightsmyth.com

**Featured Product: Fused silica grating for near IR, peak diffraction efficiency 98%, 1850, 1600 and 1000 grooves/mm.**

LightSmyth offers a wide range of high performance diffraction gratings at low prices using unique fabrication technology. The gratings are distinguished by high efficiency, low PDL, ultra-low-scatter and high power handling. Each grating is a master but priced as a replicated grating. Applications include remote sensing, spectroscopy, optical coherence tomography, pulse compression, optical instruments, telecommunication. Nano-stamps for microfluidics and nanoimprinting are also offered. Contact: Dmitri lazikov, Sr. Design Engineer, info@lightsmyth.com.

**LIMO Lissotschenko Mikrooptik GmbH**

#8601

Bookenburgweg 4-8, Dortmund, Germany, 44319  
+49 231 222 41 0; fax +49 231 222 41 140  
www.limo.de

LIMO is world-market leader in refractive micro optics and is manufacturer of micro optics, beam shaping solutions, diode lasers and laser systems. Our laser sources have been reliable and secure in medical applications for many years. We offer: laser for medical equipment manufacturing and for materials processing. Contact: Andre Gruetz, Director Medical Solutions, a.gruetz@limo.de.

**Lincoln Laser Co.**

#8928

**SPIE** Corporate Member  
234 E Mohave, Phoenix, AZ, 85004-2845  
+1 602 257 0407; fax +1 602 257 0728  
www.lincolnlaser.com

Custom Engineered and Manufactured Solutions for precision laser beam delivery systems and laser-based technologies. Extensive engineering expertise and manufacturing resources for component, sub-assembly or module level projects, prototype to production. Products include Polygon Mirrors, Motors, Galvanometers, Control Electronics, Optics, Precision Spindles and Electro-Optic Modules. Any Industry. Any Application. Contact: George Helser, Regional Sales Manager West, ghelser@lincolnlaser.com; David K. Saunders, Regional Sales Manager East, dsaunders@lincolnlaser.com.

**Lockheed Martin Aculight**

#8816

**SPIE** Corporate Member  
22121 20th Ave SE, Bothell, WA, 98021  
+1 425 482 1100; fax +1 425 482 1101  
info.dp-ms2-bothell@lmco.com; www.aculight.com

Lockheed Martin Aculight designs, develops & manufactures lasers & laser-based systems for medical research & OEM apps operating from UV to mid-IR. Our technologies address unique operating parameters & wavelengths for Otolaryngology, Neurology, Ophthalmology & general surgical apps. The product line includes an IR nerve stimulator, a medical research device that provides higher resolution, non-contact & artifact-free nerve stimulation for research apps that is unachievable w/electrical methods. Contact: Mark Bendett, Bothell Business Development, mark.bendett@lmco.com.

**SPIE** Photonics West

**Visit the Marketplace**

- ▶ Books
- ▶ Professional Development
- ▶ Membership
- ▶ Souvenirs
- ▶ Gifts for Children
- ▶ Free Posters
- ▶ Information

**SPIE**  
Connecting minds. Advancing light.

## Lumen Dynamics Group

#8909

2260 Argentia Rd, Mississauga, ON, Canada, L5N 6H7  
+1 905 821 2600; fax +1 905 821 2055  
x-cite@ldgi.com; www.ldgi-xcite.com

**Featured Product: "Celebrating the X-Cite® XP750 Objective Plane Power Sensor nomination as a Prism Award Finalist!"**

X-Cite® offers innovative illumination and measurement solutions that provide researchers with unsurpassed reliability and control essential for fluorescence cellular imaging. Recognized as the industry standard with UV light applications expertise, X-Cite® combines maximum optical performance and stability with ease of use. Together with established global alliances, X-Cite® provides customers with increased accessibility and convenience while enhancing their ability to accelerate research. Contact: X-Cite Sales, Inside Sales, X-Cite@LDGI.com.

## Lumencor, Inc.

#8416

15250 NW Greenbrier Parkway, Beaverton, OR, 97006  
+1 503 213 4269; fax +1 503 536 6741  
info@lumencor.com; www.lumencor.com

**Featured Product: Robust, intense, solid state illuminator and imaging subsystem for fluorescent bioanalysis.**

Lumencor manufactures light engines and imaging subsystems and offers optics expertise to provide high performance illumination in a range of bioanalytical instruments including fluorescence microscopes. Solid state sources yield power on par with an arc lamp in discrete bands throughout the UV-Vis-NIR. Intense, stable, durable, switchable light is produced from a compact, axially aligned unit for end users and OEMs. Complete optical systems for quantitation are now available. Contact: Claudia Jaffe, V.P. Business Development, claudia.jaffe@lumencor.com; Les Decker, Product Manager, les.decker@lumencor.com.

## Lumics Laser

#8728

Carl-Scheele-Str 16, Berlin, Germany, 12489  
+49 30 67806760; fax +49 30 678067626  
infous1@lumics.com; www.lumics.com

**Featured Product: Medical Laser at 808, 9xx, 1064, 1470nm or mixed, 7W up to 30W incl. fiber sensors, pilot beam etc.**

As a leading supplier of high performance semiconductor laser components and subsystems, Lumics offers the highest power density and best power-conversion efficiency. The product line includes single emitter and laser diode heads from 793 – 1470nm for medical, analytical, sensing, ranging, pumping, communication and industrial applications. The LuOcean™ Mini laser line is used for treatments in dermatology, dentistry, ophthalmology, veterinary and others. Contact: Mathias Milstrey, Sales Manager Americas, mathias.milstrey@lumics.com; Lee Branst, Regional Sales Manager North America, lee.branst@lumics.com.

## Mad City Labs, Inc.

#8525

**SPIE** Corporate Member

2524 Todd Drive, Madison, WI, 53713  
+1 608 298 0855  
sales@madcitylabs.com; www.madcitylabs.com

Mad City Labs designs and manufactures high precision, piezo based nanopositioning devices for research and industry. Our products offer innovative flexure guided designs, proprietary low drift PicoQ® sensor technology and closed loop control. System attributes include picometer precision, high speeds, real time position sensing. Suitable for inspection, metrology, microscopy, imaging and beam steering applications. Custom/OEM specialists. Contact: Erin Ruppert, Technical Sales, sales@madcitylabs.com; Dale Baldwin, Technical Sales, sales@madcitylabs.com.

## Max Levy Autograph, Inc.

#8305

**SPIE** Corporate Member

2710 Commerce Way, Philadelphia, PA, 19154  
+1 215 842 3675; fax +1 215 842 3637  
sales@maxlevy.com; www.maxlevy.com

Max Levy Autograph specializes in ultra-precision patterned components and 3D structures for the photonic, biomedical, mil-aerospace, semiconductor, and metrology industries. Applications range from the X-Ray out to Infrared. Major manufacturing process capabilities include: photolithography, electroforming, photochemical etching, film products, micro-contouring/machining, and NIST traceable calibration services. Contact: Tom Cinque, Sales Manager, tom@maxlevy.com; Rich Rosenfeld, Front Office Manager, richr@maxlevy.com.

## Media Cybernetics, Inc.

#8404

4340 East-West Highway Ste 400, Bethesda, MD, 20814  
+1 301 495 3305; fax +1 301 495 5964  
info@mediacy.com; www.mediacy.com

Media Cybernetics develops image analysis & processing software used in scientific industries and applications such as cell biology, failure analysis, forensics, genomics/proteomics, materials analysis, microscopy, neuroscience, pathology, pharmaceutical, semiconductor inspection and quality assurance. Key products are Image-Pro® Plus image processing, enhancement and analysis software and AutoQuant X, image deconvolution software. Contact: info@mediacy.com.

## MegaWatt Lasers, Inc.

#8924

**SPIE** Corporate Member

PO Box 24190, Hilton Head Island, SC, 29925  
+1 843 342 7221; fax +1 843 342 7223  
scott.hamlin@megawattlasers.com; www.megawattlasers.com

MWL manufactures eyesafe microlasers, pump chambers, and application specific lasers. A popular product is the ER-100 eyesafe Er:Glass microlaser; packaged in a T0-3 housing, this laser produces 2ns pulses with a peak power of 50 kW making it ideal for remote sensing applications. Our high efficiency diffuse reflector pump chambers are ideal for both pulsed and CW solid state lasers. We also manufacture application specific solid state lasers for medical, industrial, and defense applications. Contact: Scott Hamlin, President, scott.hamlin@megawattlasers.com.

## Micro Laser Systems, Inc.

#8719

**SPIE** Corporate Member

12841 Western Ave Ste H, Garden Grove, CA, 92841  
+1 714 898 6001; fax +1 714 897 0979  
sales@microlaser.com; www.microlaser.com

**Featured Product: Fiber coupled lasers, 375nm to 1064nm.**

Fiber Coupled Lasers from 375nm to 1064nm in Turnkey or OEM versions using singlemode or multimode fibers. Output from fiber to 500mW. Applications in fluorescence excitation, photodynamic therapy, Raman and confocal microscopy. Lasers, Fibers Collimators, Splitters, probes and Combiners all work perfectly together. Custom laser/optical assemblies are routinely manufactured for OEM users. Contact: Norma Adachi, Marketing Director, sales@microlaser.com.

Plan to Attend  
FREE Exhibitor Product  
Demonstrations

Refer to page 26  
for complete times,  
schedules, and  
locations.



**Micro Photon Devices**

#8910

Via Stradivari 4, Bolzano, Italy, 39100  
+39 0471 051212; fax +39 0471 501524  
nick.bertone@optoecomponents.com;  
www.microphotondevices.com

MPDs single-photon detection modules have ultra-fast timing resolution, high photon detection efficiency, low power consumption, small size and are extremely robust and reliable. The company benefits of the efforts and the expertise of a research group at Politecnico di Milano, lead by Professor Sergio Cova. Contact: Nick Bertone, sales@optoecomponents.com; Natalie Raymond, Marketing, Natalie.Raymond@optoecomponents.com.

**Mitsubishi Cable Industries, Ltd.**

#8323

6F Shin-Kokusai Bldg, 4-1 Marunouchi 3-Chome, Tokyo, Japan, 100-8303  
+81 3 3215 3947; fax +81 3 3216 3999  
www.mitsubishi-cable.co.jp

Mitsubishi Cable Industries is Japan's leading producer of silica core/silica clad and silica core/hard polymer clad optical fiber for use in medical applications. All of our fibers are available with certified Biocompatible Jacketing. We also produce the world's leading small diameter/high pixel count coherent image guide fiber. Our engineers will be in our booth to discuss and assist end users in finding solutions to demanding fiber optic applications requirements. Contact: James Stevens, US Fiber Optics Marketing Manager, James-Stevens@comcast.net.

**MPA Crystal Corp.**

#8604

**SPIE** Corporate Member  
1702-L Meridian Ave #234, San Jose, CA, 95125  
+1 408 300 0301; fax +1 408 300 0282  
mpma@mpa-crystal.com; www.mpa-crystal.com

**Featured Product: Sapphire, Fused silica, Glass, Silicon, including Windows, Lenses, Rods, Waveguides, custom designs.**

We're the US Branch of the manufacturer-Nanjing Sapphire Electro-Optics Co., Ltd. located in China. We specialize in producing Crystal optics made of SAPPHIRE, Quartz, Silicon, Glass, YAG, Germanium and coatings. Products include Windows, Lenses, Substrates, Waveguides, Rods, Tips and much more. Custom made optics and requirements from your designs available. Contact: Pauline Liang, CEO, mpma@mpa-crystal.com.

**MPB Communications Inc.**

#8315

**SPIE** Corporate Member  
147 Hymus Blvd, Pointe-Claire, QC, Canada, H9R 1E9  
+1 514 694 8751; fax +1 514 969 5167  
info@mpbc.ca; www.mpbcommunications.com

**Featured Product: New! SF532nm & SF589nm, 488nm & 647nm join our family of Visible Fiber Lasers.**

MPB Communications Inc. has been supplying lasers and amplification products to the Photonics Community for more than 30 years. With products for Biomedical, Forensics, Telecommunications, Aerospace, Defense and Scientific markets, MPB is renown for highly reliable, innovative designs. MPBC Fiber Lasers and Single-Frequency Fiber Lasers have allowed researchers to pioneer new areas of discovery in the Medical, Biomedical and Scientific arena. Contact: Claudette Linton, Business Development, claudette.linton@mpbc.ca; Jane Bachynski, Business Development, jane.bachynski@mpbc.ca.

**Multiwave Photonics**

#8922

**SPIE** Corporate Member  
Rua Eng Frederico Ulrich 2650, Moreira da Maia, Portugal, 4470-605  
+351 22 9408260; fax +351 22 9408261  
www.multiwavephotonics.com

Multiwave offers next generation pulsed fiber lasers that allow the customer to control its key operating parameters in unique ways. Multiwave also offers other innovative optical sources based on fiber-optic technologies, as well as product design, product development and engineering services aimed at developing and selling cost-effective and reliable products and solutions. Contact: John Goings, North American Sales Manager, jgoings@multiwavephotonics.com; Bill Holtkamp, VP of Sales, bholtkamp@multiwavephotonics.com.

**National Aperture, Inc.**

#8400

**SPIE** Corporate Member  
16 Northwestern Dr, Salem, NH, 03079  
+1 603 893 7393; fax +1 603 893 7857  
www.nationalaperture.com

**National Instrument Technology Research Center**

#8409

20 R&D Rd VI, Hsinchu Science Park, Hsinchu, Taiwan, 300  
+886 3 5779911; fax +886 3 5789343  
www.itrc.org.tw

**Featured Product: Advanced optical, mechanical and electrical instruments.**

Instrument Technology Research Center is a government funded research institute pioneering in instrument related frontier researches. Our long term prospect is to advance national science competence and to improve the quality of lives for the public. Contact: Chi-Hung Hwang, Deputy Director General, chhwang@itrc.org.tw; Shu-Wen Li, Assistant, gisele20th@itrc.org.tw.

**Navitar**

#8634

200 Commerce Dr, Rochester, NY, 14623  
+1 585 359 4000  
info@navitar.com; www.machinevision.navitar.com

Navitar manufactures a variety of high magnification imaging optics for a broad range of applications for the Medical and Biotechnology industries, including flow cytometry, cellular analysis, fluorescence imaging, DNA sequencing, in-vitro fertilization, and laser eye surgery. Navitar provides leading equipment manufacturers with highly repeatable and automated precision optics which are designed into new instrumentation offering a smaller footprint and lower price than older biotech equipment. Contact: Craig Fitzgerald, Vice President of Product Development, c\_fitzgerald@navitar.com.

**New Focus, A Newport Corporation Brand**

#8533

3635 Peterson Way, Santa Clara, CA, 95054  
+1 408 980 4300; fax +1 408 480 6921  
sales@newfocus.com; www.newfocus.com

## Newport Corp.

1791 Deere Ave, Irvine, CA, 92606  
+1 949 863 3144; fax +1 949 253 1680  
sales@newport.com; www.newport.com

Newport is a leading supplier of lasers, light sources, motion systems, optical components, and integrated photonics solutions for life and health science applications. Our integrated expertise draws upon world-leading brands including; Corion® Filters, New Focus™, Oriol® Instruments, Richardson Gratings™ and Spectra-Physics® Lasers. One company, the brands you trust. Contact: Arnd Krueger, arnd.krueger@spectra-physics.com.

#8533

## nPoint, Inc.

SPIE Corporate Member

3030 Laura Ln Ste 100, Middleton, WI, 53562  
+1 608 824 1770; fax +1 608 824 1774  
info@npoint.com; www.npoint.com

nPoint, Inc. manufactures ultra-precision motion and control piezo stages for nano-scale research and manufacturing. Our products include a series of nanopositioning systems that consist of stages and control electronics. The positioning products enable rapid, precise, and repeatable motion and are used in applications ranging from life science to semiconductor industry. Contact: Katerina Moloni, VP of Sales and Product Development, katerina.moloni@npoint.com; Sharath Chandrasekaran, Sales Account Manager, sharath@npoint.com.

#8809

## NKT Photonics A/S

SPIE Corporate Member

Blokken 84, Birkerød, Denmark, 3460  
+45 4348 3900; fax +45 4348 3901  
sales@nktphotonics.com; www.nktphotonics.com

**Featured Product: New generation SuperK & SpectraK supercontinuum systems: better than ever.**

NKT Photonics uses its PCF platform to design & manufacture industrial solutions in high-power fiber amplifiers, supercontinuum lasers & ultra precise DFB fiber lasers under brand names CRYSTAL FIBRE, aeroLASE™, SuperK™ and KOHERAS™. Systems are commercially deployed in material processing, biophotonics, metrology, sensing, coherent comms, test & measurement, spectroscopy and LIDAR markets. NKT Photonics is wholly owned by the Danish industrial conglomerate NKT Holding A/S. Contact: Husain Imam, Sales Manager (USA), hui@nktphotonics.com; Rich Ramsay, Sales Manager, rjr@nktphotonics.com.

#8723

## NTT Advanced Technology Corp.

1741 Technology Dr Ste 380, San Jose, CA, 95110  
+1 408 392 4280; fax +1 408 573 7721  
ktn@ml.ntt-at.co.jp; www.ntt-at.com

**Featured Product: The KTN scanner is a high speed, solid state, opto-electric laser beam scanner.**

NTT Advanced Technology is a subsidiary of NTT, the largest telecommunications service provider in Japan. NTT-AT brings to market the research conducted in NTT Labs. NTT-AT has been offering high quality and innovative technology solutions in the information and communication fields to enterprises around the world. Contact: Michael Reimers, ktn@ml.ntt-at.co.jp.

#8610

## NoIR

SPIE Corporate Member

6155 Pontiac Trail, South Lyon, MI, 48105  
+1 800 521 9746; fax +1 734 769 1708  
www.noirlaser.com

#8912

## Nufern

SPIE Corporate Member

7 Airport Park Rd, East Granby, CT, 06026  
+1 860 408 5000; fax +1 860 844 0210  
info@nufern.com; www.nufern.com

Nufern is a leading U.S. manufacturer of specialty optical fibers, precision wound optical fiber coils, fiber lasers and amplifiers. Our integrated team has the experience, resources, and facilities required to design, manufacture, test and qualify highly-engineered optical fibers and fiber-based products for diverse applications and industries. Contact: Fernando Martins, Customer Service Manager, fmartins@nufern.com; Violet D'Antonio, Customer Service Specialist, vdantonio@nufern.com.

#8629

## Noren Products, Inc.

SPIE Corporate Member

1010 O'Brien Dr, Menlo Park, CA, 94025  
+1 650 322 9500; fax +1 650 324 1348  
tradeshows@norenproducts.com; www.norenproducts.com

Noren Products has been the leader in thermal management for over 40 years. Our Thermal Management Group has expertise in phase change technology, mechanical design, 3D modeling, thermal and CFD analysis, rapid prototyping, first article prototyping, thermal performance testing, and thermographic imaging. Our capabilities include machining, prototyping, production, and testing services. Contact: Dennis Scott, Sales Manager, dscott@norenproducts.com; Ivan Pantic, Sales, ivanp@norenproducts.com.

#8624

## Ocean Optics, Inc.

SPIE Corporate Member

830 Douglas Ave, Dunedin, FL, 34698  
+1 727 733 2447  
info@oceanoptics.com; www.oceanoptics.com

#8913

## NP Photonics

SPIE Corporate Member

9030 S Rita Rd Ste 120, Tucson, AZ, 85747  
+1 520 799 7400; fax +1 520 799 7403  
info@np Photonics.com; www.npphotonics.com

NP Photonics is a leading manufacturer of fiber lasers for the sensing, medical and research markets. The NP Photonics proprietary fiber technology is used across a broad family of products including narrow line-width, low phase-noise fiber lasers specifically designed for operation in an industrial environment. Contact: Terry Hannon, VP of Sales and Marketing, thannon@np Photonics.com; Eddie Oteiza, Director of Sales, eoteiza@np Photonics.com.

#8328

## Ocean Thin Films

SPIE Corporate Member

8060 Bryan Dairy Rd, Largo, FL, 33777-1441  
+1 727 545 0741; fax +1 727 544 4221  
info@oceanthinfilms.com; www.oceanthinfilms.com

Ocean Thin Films provides custom engineered coatings and components that support a broad range of life sciences applications and medical devices - including biochip, optical sensing, lighting and imaging. Specialized components are designed to guide, reflect, select and condition light for Biochips & instrumentation, Multi-spectral imaging, 3D stereoscopic displays & imaging, fluorescence and bio-luminescent detection, Microscopy & spectroscopy and other emerging applications. Contact: Todd Jennings, Application Sales Engineer - BioPhotonics, todd.jennings@oceanthinfilms.com; John Dougherty, Application Sales Engineer - Sensing & Imaging, john.dougherty@oceanthinfilms.com.

#8911

**Oclaro, Inc.**  
SPIE Corporate Member

#8715

2584 Junction Ave, San Jose, CA, 95134  
+1 408 383 1400  
info@oclaro.com; www.oclaro.com

Oclaro produces Clarity™ hard coated filters offering superior performance and durability for a variety of life science applications ranging from fluorescence microscopy, to flow cytometry, to real-time PCR. We specialize in custom filters for biotech and analytical instrumentation; our Clarity filters have seen more than a billion hours of field service with zero field failure and is backed by a lifetime warranty. Contact: Min Chen, Product Line Manager, min.chen@oclaro.com.

»»»  
GENERAL REFRESHMENT SPONSOR

**OFS, Specialty Photonics Division**

#8506

SPIE Corporate Member

55 Darling Dr, Avon, CT, 06001  
+1 860 678 0371; fax +1 860 678 6513  
info@specialtyphotonics.com; www.specialtyphotonics.com

**Featured Product: Green Laser Module**  
[515nm/543nm/555nm/561nm] HPU50221 Series.

OFS is a vertically integrated manufacturer with a dedicated engineering team to design and produce medical grade fiber, cable, and assemblies. We are certified to ISO 13485 and build product to meet USP Class VI Standards. OFS is committed to work with your team, develop the right design, support all stages of development, and meet your go-to-market timeline. OFS rapidly scales, from prototype to production volumes, meeting your market driven demand. Contact: Steve Allen, Medical Market Manager, rallen@ofsoptics.com.

**Omega Optical, Inc.**

#8807

SPIE Corporate Member

Delta Campus, 21 Omega Dr, Brattleboro, VT, 05301  
+1 802 254 2690; fax +1 802 254 3937  
sales@omegafilters.com; www.omegafilters.com

**Onefive GmbH**

#8508

SPIE Corporate Member

In Böden 139, Zurich, Switzerland, 8046  
+41 43 538 36 57; fax +41 43 538 36 86  
contact@onefive.com; www.onefive.com

**Featured Product: Katana: Versatile ps laser with 10 uJ pulse energy at truly continuously variable repetition rates.**

Onefive is a global supplier of versatile industry-proven, low-noise ultrafast pulsed lasers as well as narrow-linewidth single-frequency lasers engineered for OEM integration and with guaranteed 24/7 operation. The air-cooled lasers are as user-friendly as a laser pointer. The portfolio contains femtosecond and picosecond lasers in the 257 – 2010 nm range. Pulse repetition rates from single-shot to GHz are available and pulse energies range from a few pJ to several uJ. Contact: Lalit B. Sharma, Head of Sales & Marketing, contactus@onefive.com.

**OPOTEK, Inc.**

#8626

2233 Faraday Ave Ste E, Carlsbad, CA, 92008  
+1 760 929 0770  
lamoine.baker@opotek.com; www.opotek.com

mso jena is now  
Optics Balzers Jena  
www.opticsbalzers.com

## Enabling Innovative Optical Solutions

Optics Balzers has been the preferred partner for innovative optical solutions for more than 60 years. As a global leader, Optics Balzers focuses on high-tech markets such as Biophotonics, Fluorescence Microscopy, Laser & Defense, Projection Display, Sensors & Imaging, and Space. The company possesses comprehensive know-how in optical thin-film coatings and components, glass processing, patterning, and sealing technologies.



**Optics Balzers AG**  
Balzers/Liechtenstein  
info@opticsbalzers.com  
T +423 388 9200

**Optics Balzers Jena GmbH**  
Jena/Germany  
info.jena@opticsbalzers.com  
T +49 3641 3529 30  
www.opticsbalzers.com



**BIOS and Photonics West**  
San Francisco from 22 – 27 January 2011

**Optical Building Blocks Corporation**

#8835

300 Birmingham Rd, PO Box 186, Birmingham, NJ, 08011  
+1 609 894 1541; fax +1 609 784 7809  
contact@obb1.com; www.obb1.com

Optical Building Blocks Corporation (OBB) is built on 34 years of pioneering industry expertise in Electro-optical instrumentation. OBB designs, manufactures and markets proprietary light sources, monochromators, detectors, light based components for microscopes and bench top fluorescence systems. OBB products can be found at work in medical, healthcare, industrial process, quality control and environmental science laboratories and research facilities around the world.

»»»  
METER BOARD SPONSOR

**Optics Balzers**

#8505

Neugrüt 35, Balzers, Lichtenstein, LI-9496  
+42 3388 9200; fax +42 3388 9390  
info@opticsbalzers.com; www.opticsbalzers.com

**Featured Product: Customized multiple notch filters with spectral performance close to the theoretical limits.**

For over 60 years, Optics Balzers has been the preferred partner for innovative optical solutions. Together with its affiliated company in Jena, Optics Balzers is one of the global leaders in the supply of optical components. The services that it offers range from optical thin-films, patterning technologies to optical subassemblies. Contact: Steffen Capello, Sales Manager USA, steffen.capello@opticsbalzers.com; Dirk von Frajer, Director Marketing & Sales, dirk.von.frajer@opticsbalzers.com.



## Optikos Corp.

SPIE Corporate Member

107 Audubon Rd Bldg 3, Wakefield, MA, 01880  
+1 617 354 7557; fax +1 617 354 5946  
sales@optikos.com; www.optikos.com

**Featured Product: The LensCheck VIS is an economical system for accurately quantifying imaging properties of lenses.**

Optikos Corporation is the world's largest manufacturer of equipment for the measurement of optical image quality and a leading provider of optical product development services. As the world leader in the field of MTF testing, Optikos offers complete solutions for both component and system level tests on imaging systems operating from the ultraviolet to the far infrared. Optikos' product line includes testing suites for measuring the performance of optical and electro-optical imaging systems. Contact: Roger Kirschner, Marketing Director, rkirschner@optikos.com; Jim Scott, Key Account Manager, jscott@optikos.com.

## Optimax Systems, Inc.

SPIE Corporate Member

6367 Dean Pky, Ontario, NY, 14519-8939  
+1 585 265 1066; fax +1 585 265 1033  
sales@optimaxsi.com; www.optimaxsi.com

**Featured Product: Optimax has the technology and know-how to manufacture 1/10 wave optical components in one week!**

Optimax grinds and shines optical materials to make Aspheres, Cylinders, Spheres, and Prisms to customer specifications. We specialize in producing optics in small lot sizes with diameters up to 300mm. With over 100 opticians, deterministic CNC machining, and in-house coating capabilities, Optimax can deliver precision optics in record time. Call us! Contact: Jamie Hutchins, Sales Engineer, jhutchins@optimaxsi.com; Rick Plympton, CEO, rick@optimaxsi.com.

## Optimum Technologies, Inc.

68 West St, Southbridge, MA, 01550  
+1 508 765 8100; fax +1 508 765 8101  
schinnock@optimum-tech.com; www.optimum-tech.com

## OptoElectronic Components

SPIE Corporate Member

28 Des Lilas, Kirkland, QC, Canada, H9J 4A7  
+1 514 694 0336; fax +1 514 694 8535  
sales@optoelectroniccomponents.com; www.optoelectroniccomponents.com

**Featured Product: Infrared Photon Counting Modules based on Superconducting Nanowires.**

Supplier of single photon counting detector modules with 30ps timing resolution from Micro Photon Devices, TCSPC electronics and software from PicoQuant, and Infrared Photon Counting Modules based on Superconducting Nanowires from PhotonSpot. OptoElectronic Components also builds custom modules for demanding light detection applications. Contact: Nick Bertone, President, Nick.Bertone@optoelectroniccomponents.com; Natalie Raymond, Natalie.Raymond@optoelectroniccomponents.com.

#8317

## OSA - The Optical Society

#8931

2010 Massachusetts Ave NW, Washington, DC, 20036-1023  
+1 202 223 8130; fax +1 202 223 1096  
custserv@osa.org; www.osa.org

**Featured Product: Biomedical Optics Express, a new rapid, open-access, peer-reviewed journal from OSA.**

Learn about OSA's products and services for the biomedical community such as: Biomedical Optics Express, a new rapid, open-access, peer-reviewed journal dedicated to optics, photonics and imaging in the life sciences; Optics in the Life Sciences, an OSA Optics and Photonics Congress to be April 4-6 2011 in Monterey, California, will cover emerging optics-based tools and techniques for biomedical and life sciences; and OSA's Bio-Medical Optics Membership Division. Learn more at www.osa.org. Contact: Daphne Greenwood, Director of Marketing, Publishing, dgreen@osa.org; Kelly Cohen, Director, Manuscripts Office, kcohen@osa.org.

## OXXIUS

SPIE Corporate Member

#8301

4 Rue de Broglie, Lannion, France, 22300  
+33 2 96 48 70 28; fax +33 2 96 48 21 90  
sales@oxxius.com; www.oxxius.com

**Featured Product: LBX-590 is the first cost effective orange laser for fluorescence excitation available up to 50mW.**

Oxxius manufactures innovative solid-state lasers for Biotech applications. Its compact laser modules, featuring wavelengths in the visible and near-UV, have outstanding performance with power up to 900mW. The SLIM DPSS line features a monolithic resonator technology that ensures excellent power stability and reliability. The LaserBoxx line is a performing drivers integrated laser diode module. Available wavelengths are 375, 405, 445, 473, 488, 532, 553, 561, 590, 638, 642, 660 and 785 nm. Contact: Pascal Voluer, Director of Sales, pvoluer@oxxius.com; sales@oxxius.com.

#8622

#8929

## OZ Optics Ltd.

SPIE Corporate Member

#8724

219 Westbrook Rd, Ottawa, ON, Canada, K0A 1L0  
+1 613 831 0981; fax +1 613 836 5089  
sales@ozoptics.com; www.ozoptics.com

High Power Components/Isolators/Combiners/Patchcords/Connectors/ Intelligent Tunable Laser Diode Sources/Safety Interlocks/Shutters/ Optical Coatings, Laser to Fiber Delivery Components, Collimators/ Focusers, Polarization Maintaining Components, PM/SM/MM Fused Fiber Couplers, PM Patchcords/Connectors/Splitters, Polarized Sources, Polarization Rotators/Controllers/Analyzers, Polarizers, PDL Emulators, Extinction Ratio Meter, Turnkey Laser Diode Sources, Hermetically Sealable Patchcords. Contact: Omur Sezerman, CEO & President, sales@ozoptics.com.

## P&P Optica Inc.

#8309

330 Gage Ave, Kitchener, ON, Canada, N2M 5C6  
+1 519 576 0007; fax +1 519 576 0885  
rob@ppo.ca; www.ppo.ca

**Featured Product: Raman Spectrometer and custom gas/liquid flow-cell for <1 ppm impurities measurement.**

P&P Optica Inc. offers a series of exceptionally sensitive line-imaging spectrometers with up to 1" by 0.5" 2D detector arrays for simultaneous registration of the complete spectrum. The key element of these spectrometers is the VPH transmission gel grating providing high efficiency and low scattered light levels. Spectrometers with these gratings together with transmission optics perform exceptional imaging in the spectral range of 250nm to 2500nm with SNR reaching 100,000:1. Contact: Rob McAleer, Business Development, rob@ppo.ca; Luc Charron, Sales Manager, luc@ppo.ca.

**PAC TECH USA**

328 Martin Ave, Santa Clara, CA, 95050  
+1 408 588 1925; fax +1 408 588 1927  
sales@pactech-usa.com; www.pactech.com

**Pavilion Integration Corp.**

**SPIE** Corporate Member

2380 Qume Dr Ste F, San Jose, CA, 95131  
+1 408 453 8801; fax +1 408 453 8802  
www.pavilionintegration.com

**PHASICS**

XTEC Bât 404 Campus de l'Ecole Polytechnique, Palaiseau, France, 91120  
+33 1 69 33 89 99; fax +33 1 69 33 89 88  
contact@phasics.fr; www.phasics.fr

**Photometrics**

3440 E Britannia Dr, Tucson, AZ, 85706  
+1 520 889 9933; fax +1 520 573 1944  
info@photomet.com; www.photomet.com

Photometrics designs and manufactures high performance CCD and EMCCD cameras for life science applications. Researchers across the globe rely on its state-of-the-art imaging instrumentation, including its popular CoolSNAP™, Cascade®, QuantEM® and new "Intelligent" Evolve™ cameras. Photometrics delivers first-class service and support to leading researchers, scientific institutions and OEMs throughout the world, backed by a global network of subsidiaries and distributors. Contact: Cyndy Player, Marketing Manager, cplayer@photometrics.com.

**Photon Etc Inc.**

5795 De Gaspé Ave #222, Montreal, QC, Canada, H2S 2X3  
+1 514 385 9555; fax +1 514 279 5493  
sales@photonetc.com; www.photonetc.com

**Featured Product: Resonant Raman Spectroscopy System allows studying material properties in a non-destructive manner.**

Photon etc. is a Montreal-based company working in the field of optics. From UV to NIR, our expertise in spectral analysis allows us to offer state-of-the-art instruments for spectroscopic and hyperspectral imaging. Based on volume Bragg gratings made out of photo-thermo-refractive glass, our technology provides unmatched reliability and durability to our instruments. Our standard and custom products are applied in numerous fields of laboratory and industrial research. Contact: Bernard-Alexandre Gaulin, Sales & Marketing Manager, bagualin@photonetc.com; Sebastien Blais-Ouellette, President, sbo@photonetc.com.

**Photon Gear, Inc.**

245 David Pkwy, Ontario, NY, 14519  
+1 585 265 3360; fax +1 585 265 3364  
sales@photongear.com; www.photongear.com

Photon Gear specializes in the design, assembly and characterization of high-precision optical systems. Custom lens assemblies are verified with interferometric test capabilities from 266 nm to 1600 nm. Supported application areas include semiconductor inspection and processing, military, metrology, biomedical, laser scanning and polymer optics. We also provide contract optical engineering and optical design services as well as systems engineering support for custom software and optical hardware. Contact: Gary Blough, President, blough@photongear.com.

**#8611**

**Photon Technology International, Inc.**

**SPIE** Corporate Member

PO Box 272, Birmingham, NJ, 08011-0272  
+1 609 894 4420; fax +1 609 894 1579  
marketing@pti-nj.com; www.pti-nj.com

**Featured Product: ImageMaster fastest most sensitive fluorescence imaging engine.**

Photon Technology International Inc is a 25 year young fluorescence technology Company, innovative designer & leading manufacturer of fluorescence instrumentation used in research in biology, medicine, photochemistry, materials science & related disciplines. Products include steady state spectrafluorometer with attomolar sensitivity, patented Stroboscopic & TCSPC lifetime with pico seconds resolution, gated & single shot phosphorescence, steady state & time-resolved NIR, ratio & imaging systems. Contact: Charles G. Marianik, North American Sales Manager, marianik@pti-nj.com; Alex Siemiarzczuk, Product Sales Specialist, asiemiarzczuk@pti-can.com.

**#8302**

**#8738**

**#8711**



**PROMOTIONAL PARTNER**

**Photonics Media**

2 South St, Pittsfield, MA, 01201  
+1 413 499 0514; fax +1 413 442 3180  
photonics@laurin.com; www.photonics.com

*Photonics Media* – the Pulse of the Industry - is Laurin Publishing Company's international suite of media with more than 50 years as the industry's leading publications. In print with *Photonics Spectra* and *BioPhotonics* magazines, the EuroPhotonics and AsiaPhotonics feature sections, the Photonics Showcase supplement and the Photonics Buyers' Guide. Also online at Photonics.com. Contact: Robert Briere, Director of Sales, advertising@laurin.com; Laura Marshall, Managing Editor, editorial@laurin.com.

**#8526**



**PROMOTIONAL PARTNER**

**Photonics Online**

5340 Fryling Rd, Erie, PA, 16510  
+1 819 897 7700; fax +1 819 899 5584  
www.photonicsonline.com

Photonics Online is a comprehensive online resource for engineers and scientists who use optics and photonics technologies in industrial, military/defense, R&D, medical, and other applications. White papers, technical articles, product updates, breaking research, and industry news and views can all be found at www.photonicsonline.com and in our weekly e-newsletter. Contact: Brian Droz, Advertising Sales Consultant, bdroz@vertmarkets.com; Josh Butia, Customer Relationship Manager, jbutia@vertmarkets.com.

**#8936**

**PI (Physik Instrumente) LP**

**SPIE** Corporate Member

16 Albert St, Auburn, MA, 01501  
+1 508 832 3456; fax +1 508 832 0506  
info@pi-usa.us; www.pi-usa.us

**Featured Product: XYZ Super Resolution Microscope Stage, Piezomotor Stage; Miniature Hexapod, Fast Steering Mirrors.**

NEW: PInano XYZ Microscope Stage, with ultra-linear sensors. High Stability Long Travel Microscope Stage, NEW: 1 mm Nanofocus Z-Drive for 3D Imaging; Ceramic Linear Actuators & Motors; Fast Beam Steering Mirrors / Scanners; Piezo Tubes, PZT Actuators & Controllers, Advanced 6-Axis Stages; Nanometrology Sensors, Advanced Digital Piezo Controllers (Improved Settling, Speed and Linearity). ISO9001, global leader in piezo / nanopositioning technology. ITAR, ISO9001. Contact: info@pi-usa.us.

**#8633**

**#8700**

## PicoQuant Photonics North America, Inc. #8906

**SPIE** Corporate Member

61 Union St, Westfield, MA, 01085  
+1 413 562 6161; fax +1 413 562 6167  
info@picoquant-usa.com; www.picoquant-usa.com

Product lines include Pulsed Diode Lasers, Time-Correlated Single Photon Counting (TCSPC) electronics and detectors, fluorescence lifetime spectrometers, time-resolved fluorescence microscopes and upgrade kits for Laser Scanning Microscopes. Applications include Single Molecule Spectroscopy, Fluorescence Lifetime Imaging (FLIM), Fluorescence Resonance Energy Transfer (FRET), Fluorescence Correlation Spectroscopy (FCS), Optical tomography and Quantum Key Distribution. Contact: Alain Bourdon, bourdon@picoquant-usa.com.

## PolarOnyx, Inc. #8810

**SPIE** Corporate Member

2526 Qume Dr Ste 17&18, San Jose, CA, 95131  
+1 408 573 0931; fax +1 408 573 0932  
sales@polaronyx.com; www.polaronyx.com

**Featured Product: Compact high power/energy fs fiber laser.**

World leading company in high energy/power ultrashort (fs, ps, ns) fiber lasers. Excellent for material processing, micromachining, spectroscopy, microscopy, biomedical instrumentation & optical sensing applications. OEM and instrument version are available. Wavelength ranges from UV to Mid-IR. Contact: Lihmei Yang, Director Sales & Products, lihmeiyang@polaronyx.com; Jian Liu, President, jianliu@polaronyx.com.

## Polymicro Technologies, a subsidiary of Molex Incorporated #8823

**SPIE** Corporate Member

18019 N 25th Ave, Phoenix, AZ, 85023-1200  
+1 602 375 4100; fax +1 602 375 4110  
polymicrosales@molex.com; www.polymicro.com

**Featured Product: High Temperature Fibers: Acrylate Buffered Fiber up to 200°C & Graded Index Fiber w/polyimide buffer.**

Polymicro manufactures multimode, step-index fused silica optical fibers with polyimide, acrylate, silicone & custom buffers; dual clad optical fibers, solarization resistant optical fibers; hollow silica waveguides; fiber optic cables & assemblies; high strength, high temperature flexible fused silica capillaries; square capillaries; light guiding capillaries; custom precision silica & quartz rod & tubing pieces; custom shaped rod & tubing; multilumen tubing; telecom ferrules & sleeves. Contact: polymicrosales@molex.com.

## Power Technology, Inc. #8319

**SPIE** Corporate Member

PO Box 191117, Little Rock, AR, 72219-1117  
+1 501 407 0712; fax +1 501 407 0036  
ptmarketing@powertechnology.com;  
www.powertechnology.com

**Featured Product: PTI will be displaying a new 375nm UV laser with 200mW, a 405nm 600mW laser, and a 445nm 1000mW laser.**

PTI designs, manufactures, and distributes standard and custom lasers ranging from 263nm to 13,900nm. Our IQ lasers are highly stable and are well suited for spectroscopy, biomedical, fluorescence, analytical, industrial, illumination, aiming, pointing, trace gas detection, semiconductor inspection, and many other applications. Contact: James Jackson, Sales Engineer, sales@powertechnology.com; Glenn Sullivan, Sales Engineer, sales@powertechnology.com.

## Princeton Instruments #8404

**SPIE** Corporate Member

3660 Quakerbridge Rd, Trenton, NJ, 08619-1208  
+1 609 587 9797; fax +1 609 587 1970  
info@princetoninstruments.com;  
www.princetoninstruments.com

Princeton Instruments is the proven choice for high-performance CCD cameras, spectroscopy and optical coating solutions for demanding research, industrial and OEM applications, with decades of experience helping scientists solve challenging problems. Many of our cameras are now available with PI's exclusive eXcelon technology, providing enhanced sensitivity, reduced etaloning and lower dark current. Contact: info@princetoninstruments.com.

## Prior Scientific Inc. #8314

80 Reservoir Park Dr, Rockland, MA, 02370  
+1 781 878 8442; fax +1 781 878 8736  
sales@prior.com; www.prior.com

## PROMET International Inc. #8833

**SPIE** Corporate Member

4611 Chatsworth St, Shoreview, MN, 55126  
+1 651 481 9661; fax +1 651 481 9565  
info@promet.net; www.promet.net

**Featured Product: 0-50° Variable Angle Tilt Stage for Optical Fiber Cleave Inspection.**

Provides precision optical and opto-mechanical design, testing and manufacturing services, and FiBO true phase-shifting Michelson interferometers for easy and exact 3D geometry and visual defect detection of fiber optic connector and bare fiber endfaces. With experienced staff and comprehensive laboratory facilities and equipment, PROMET has served aerospace, biometrics, data network, machine vision, medical, military, and telecommunications customers worldwide since 1993. Contact: Jeanne Ann Zinser, Sales and Marketing Director, jazinser@promet.net; Helena Mares, Communications Manager, helena@promet.net.

## Qioptiq #8308

**SPIE** Corporate Member

Mitchell Point, Ensign Way, Hamble Hampshire, United Kingdom, SO31 4RF  
+44 2380 744500; fax +44 2380 744501  
sales@qpl.qioptiq.com; www.qioptiq.com

## Quantum BioMedical, Inc. #8935

112 Orbison St, Barneveld, WI, 53507  
+1 608 924 3000; fax +1 608 924 3007  
rschumacher@quantumdev.com; www.q-bmi.com

**Featured Product: SpectraLife - Gold Standard for Light emitting diode research in agriculture and biomedical studies.**

Quantum BioMedical, Inc (QBMI): "Improving the Quality of Life through the Power in Light" QBMI set the gold standards for photobiomodulation research, photodynamic cancer therapy and agriculture research. QBMI invented the WARP product line to assist NASA astronauts with wound healing, using HEALS® (High Emissivity Aluminumiferous Light-emitting Substrate) technology. Contact: Robin Schumacher, Sales/Marketing, rschumacher@quantumdev.com; Dawn Forseth, Customer Service Manager, dforseth@quantumdev.com.



**Quebec Photonic Network**

**#8309**

111 rue Lapierre BP 128, LaSalle, QC, Canada, H8N 2J4  
+1 514 368 1677  
francoiselee@photoniquequebec.ca;  
www.photoniquequebec.ca

The Quebec Photonic Network is a non-profit organization whose mission is to accelerate the economic development of the Photonic Industry in the Province of Quebec. It is the voice of the industry for: Business development agencies; Provincial and Federal government agencies; Other Photonics Clusters. Membership in the Quebec Photonic Network is for Quebec-based companies, research centers, institutions, government agencies, professionals and individuals involved in photonics.

**Reynard Corp.**

**#8318**

**SPIE** Corporate Member  
1020 Calle Sombra, San Clemente, CA, 92673  
+1 949 366 8866; fax +1 949 498 9528  
sales@reynardcorp.com; www.reynardcorp.com

Reynard supplies custom & stock optical components, filters & thin film coatings 0.2µm to 50µm (UV-FAR IR) to demanding specs for medical, military, aerospace & telecom appl. Other services: Optical & Mech Fab, Photolithography Patterns, Environmental Testing & Sub-Assembly. Our expertise with gradient filters, beam splitters & fluorescent coatings enables us to stay on the leading edge of technological advancements through research partnerships, commercial development programs & internal R&D. Contact: Beth Kinchyk, sales@reynardcorp.com.

**Santec USA Corp.**

**#8424**

433 Hackensack Ave, Hackensack, NJ, 07601  
+1 201 488 5505; fax +1 201 488 7702  
info@santec.com; www.santec.com

**SCANLAB America, Inc.**

**#8632**

**SPIE** Corporate Member  
100 Illinois St Ste 200, Saint Charles, IL, 60174  
+1 630 797 2044; fax +1 630 797 2001  
info@scanlab-america.com; www.scanlab-america.com

OEM manufacturer of high-performance galvanometer scanners and galvanometer-based scanning systems for deflection and positioning of laser beams in up to three dimensions. Serves industrial and medical applications. Product range includes standard and high-end scan heads (more than 1200 cps), scan systems for kW-range lasers, customized systems, control electronics, laser processing software and accessories. Contact: Dale Sabo, Vice President Sales and Marketing, d.sabo@scanlab-america.com; Dominik Brunner, Sales Manager America and Asia, d.brunner@scanlab.de.

**SCHOTT North America, Inc.**

**#8414**

**SPIE** Corporate Member  
400 York Ave, Duryea, PA, 18642  
+1 570 457 7485; fax +1 570 457 7330  
info.optics@us.schott.com; www.us.schott.com

SCHOTT offers a broad range of cutting-edge components & materials for the medical industry & is a leading manufacturer of interference filters, laser glass, ZERODUR glass ceramics, filters, optical and i-line glass. Contact: Heather Rayle, Vice President/General Manager, heather.rayle@us.schott.com; Marlene Deily, Promotions Manager, marlene.deily@us.schott.com.

**Semrock, Inc.**

**#8616**

**SPIE** Corporate Member  
3625 Buffalo Rd Ste 6, Rochester, NY, 14624  
+1 585 594 7000; fax +1 585 594 7095  
semrock@idexcorp.com; www.semrock.com

**Featured Product: VersaChrome™ filters - tunable over 12% of the CWL with no change in spectral performance.**

Semrock manufactures advanced hard-coated optical filters that set the new standard for biomedical and analytical instrumentation. These include BrightLine™ fluorescence filters, high-performance filters for Raman spectroscopy, and unique laser system optics. Semrock's products are built on the latest in optical coating technology. Founded in September 2000, Semrock is based in Rochester, New York, a well-known center of optics. Visit Semrock and our products at www.semrock.com.

**SensL Technologies Ltd.**

**#8304**

**SPIE** Corporate Member  
Bldg 6800 Ave 6000, Cork Airport Business Park, Cork, Ireland  
+353 21 2407100; fax +353 21 2407119  
info@sensl.com; www.sensl.com

**Sensors Unlimited-Goodrich ISR Systems**

**#8811**

**SPIE** Corporate Member  
3490 US Rte 1 - Bldg 12, Princeton, NJ, 08540  
+1 609 520 0610; fax +1 609 520 1663  
sui\_info@goodrich.com; www.sensorsinc.com

**Featured Product: New LDH2 SWIR Line Scan Camera Images Up To 92,000 Lines per Second - Ideal for SD-OCT Scanning.**

Manufacturer of indium gallium arsenide (InGaAs) near-infrared (NIR) and shortwave infrared (SWIR) imagers and detectors (available fully packaged or as OEM imaging modules). Innovative InGaAs-based products include fast-framing and high-resolution cameras, linescan imagers, and focal plane arrays. Our products feature easy-integration, use standard glass optics and require no cooling. New LDH2 SWIR Line Scan Camera provides ultra-fast SD-OCT imaging, up to 92,000 lines per second. Contact: Karen Jeffers, Marketing Communications Specialist, Karen.Jeffers@goodrich.com

**Spectra-Physics,  
A Newport Corporation Brand**

**#8533**

**SPIE** Corporate Member  
3635 Peterson Way, Santa Clara, CA, 95054  
+1 408 980 4300; fax +1 408 480 6921  
sales@spectra-physics.com; www.spectra-physics.com

**SPOT Imaging Solutions**

**#8709**

6540 Burroughs, Sterling Heights, MI, 48314  
+1 586 731 6000; fax +1 586 731 6469  
info@diaginc.com; www.diaginc.com

**Featured Product: The SPOT Pursuit™ USB 1.4 Mp camera is cost effective and reliable.**

SPOT™ Imaging Solutions, a subsidiary of Diagnostic Instruments, Inc., is celebrating their 44th year of designing products that support the Research and OEM customer. The SPOT™ scientific digital camera line is renown for their benchmark specifications including low read noise, consistent reliability and state of the art technologies. Contact: David Springett, Regional Sales Manager, springett@diaginc.com; Stephan Palmer, Regional Sales Manager, Palmer@diaginc.com.

## SSCP USA

#8635

400 Atrium Dr #151N, Somerset, NJ, 08873  
+1 732 271 0350; fax +1 732 271 0360  
contactusa@eng.sscpcorp.com; www.eng.sscpcorp.com/

**Featured Product: PC 363, lowest index polymer cladding, with 1.363 index at 850 nm, NA of 0.50 on fused silica.**

SSCP manufactures Efirion® UV curable polymer claddings with NAs from 0 to 0.50, primary/secondary fiber coatings, adhesives, and ink and matrix for fiber ribbons. We are featuring our latest products, including PC 363, the lowest index polymer cladding available, with an index of 1.363 at 850 nm, giving NA of 0.50 on fused silica, and PC 404F, a cladding designed with faster curing speed, optimized viscosity for drawing, and increased modulus. Contact: Timothy Clark, Marketing Director, timothyelclark@sspcorp.com.

## Stanford Computer Optics, Inc.

#8625

SPIE Corporate Member

780 Cragmont Ave, Berkeley, CA, 94708  
+1 510 527 3516; fax +1 510 558 9582  
info@stanfordcomputeroptics.com;  
www.stanfordcomputeroptics.com

**Featured Product: XX-RapidFrame is the fastest multiframing ICCD camera system with 0.01ns interframing time.**

Manufactures intensified CCD cameras. High-speed, gated (200 picosecond), intensified cameras with nanoLux sensitivity. Imaging spectroscopy software for complex data acquisition, time-resolved spectroscopy, and pixel-by-pixel image analysis using SCO's 4Picos/4QuikE. Sensitivity of 1count/ 1photoelectron/pixel w/ 200 picosecond gate times. MCP and diode image intensifiers and low-light cameras. Contact: E Manriquez, ems@stanfordcomputeroptics.com.

## Stanford Photonics, Inc.

#8608

1032 Elwell Ct Ste 104, Palo Alto, CA, 94303  
+1 650 969 5991; fax +1 650 969 5993  
info@stanfordphotonics.com; www.stanfordphotonics.com

Stanford Photonics, Inc. designs and manufactures digital CCD and ICCD cameras for imaging applications. Mega-pixel resolution and rates of 30 to 1000 fps are supported by SPI's proprietary acquisition and RAID-based streaming software. SPI offers integrated systems for TIRF, single molecule/single photon ultra low light bioluminescence imaging. Based on the combination of sensitivity, speed and resolution, SPI provides the highest performing cameras available to the marketplace. Contact: Michael Buchin, President, mbuchin@stanfordphotonics.com; David Callard, Director of Operations, dcallard@stanfordphotonics.com.

## Superlum

#8523

Unit 1F Eastlink Business Park, Carrigtwohill, Cork, Ireland  
+353 21 45 33 666; fax +353 21 453 3026  
sales@superlum.ie; www.superlumdiodes.com

SUPERLUM is the leader in developing and manufacturing of Broadband Light Sources: Superluminescent Diodes for cutting edge OCT technologies, fiber-optic gyros and other fiber-optic sensors; broadband SOA and gain modules with extreme outstanding parameters; widely tunable lasers/swept sources. Contact: Nataly Tuchapsky, Sales Executive, nataly@superlum.ie; Vladimir R. Shidlovski, Vice Director, support@superlum.ie.

## Sutter Instrument

#8422

SPIE Corporate Member

1 Digital Dr, Novato, CA, 94949  
+1 415 883 0128; fax +1 408 883 0572  
info@sutter.com; www.sutter.com

**Featured Product: The DG4 PLUS has twice the speed and 30% higher output power than our previous version.**

Sutter Instrument is a leading manufacturer of precision electromechanical instrumentation for scientific research and industry. Products include optical filter wheels, filter switchers, xenon and extended life light sources, the stepper-motor controlled SmartShutter, and motorized X-Y translator. Our P-2000 is the premier NSOM fiber tip puller. With extensive motor control and CNC machining experience, we are able to design and deliver versatile, robust optical products at affordable prices. Contact: Alexandra Cooper, Sales & Marketing, alex@sutter.com; Jack Belgum, PhD, Sr. VP, R&D, jack@sutter.com.

## tec5USA

#8716

SPIE Corporate Member

80 Skyline Dr, Plainview, NY, 11803  
+1 516 653 2000; fax +1 516 939 0555  
info@tec5USA.com; www.tec5USA.com

**Featured Product: Ethernet spectrometer electronics with preprocessing, dark current, averaging, non-linearity correct.**

High-quality products for spectroscopy, light sources, light guides, fiber-optic switches and probes, spectrometer modules, operating electronics. (Multi-channel) spectrometer systems for multiple applications in lab or process, e.g. concentration, filter transmission, color, thin film thickness. Optical instrumentation as remote control biomass detection systems. Various software support. Custom designed components and systems. Contact: Gert Noll, General Manager, gert.noll@tec5usa.com; Dan Fields, General Manager, dan.fields@tec5usa.com.

## Texas Instruments

#8605

12500 TI Blvd MS 8680, Dallas, TX, 75243  
www.ti.com

DLP® Products, a division of Texas Instruments, creates world-class digital technology allowing electronics manufacturers, scientists, and engineers to innovate. DLP technology enables industrial, medical and life science applications such as 3D optical measurement, direct imaging systems, microscopy and optical networking. TI is committed to delivering great solutions that solve customers' problems and to making the world smarter, healthier, safer and more fun. Visit www.ti.com/MEMS.

## Thin Film Technology

#8628

*please refer to Williams Advanced Materials*

## Thorlabs, Inc.

#8735

SPIE Corporate Member

435 Rt 206, Newton, NJ, 07860  
+1 973 300 3000; fax +1 973 300 3600  
sales@thorlabs.com; www.thorlabs.com

Thorlabs is dedicated to serving the photonics community by designing, manufacturing, and supporting a complete line of research equipment. Founded in 1989, Thorlabs' product portfolio includes optomechanical, motion control, vibration isolation, optical, fiber, light analysis, laser, SLD, optical amplifier, and imaging components and systems. We have over 500 employees at manufacturing and sales offices throughout the United States, United Kingdom, Germany, France, Sweden, Japan, and China. Contact: Tyler Morgus, Marketing, tmorgus@thorlabs.com.

**Toptica Photonics, Inc.**

#8817

**SPIE** Corporate Member

1286 Blossom Dr Ste 1, Victor, NY, 14564  
+1 585 657 6663  
office@toptica-usa.com; www.toptica.com

TOPTICA is the world leader in diode laser and ultrafast technology for industrial and scientific markets. We offer the widest range of single mode tunable light in the 190 to 2900nm and 0.5-2.5THz spectral region with various accessories to measure, characterize, stabilize and analyze light. With our Passion for Precision, TOPTICA delivers! Contact: office@toptica-usa.com.

**Translume, Inc.**

#8707

**SPIE** Corporate Member

655 Phoenix Dr, Ann Arbor, MI, 48108  
+1 734 528 6371; fax +1 734 528 6334  
www.translume.com

**Featured Product: Microfluidic chips and flow cells for life science, chemical and industrial applications.**

Translume specializes in manufacturing glass microfluidic chips and flow cells. The company is a leader in micromachining of fused silica glass and offers a variety of fabrication and integration services. Using proprietary laser writing and etching techniques, Translume fabricates devices that combine microfluidic components, optical fibers, optical waveguides, and glass micromechanical (glass MEMS) elements. Contract manufacturing for any volume, from prototyping to large production runs. Contact: Eric Jacobson, Vice President, ericjacobson@translume.com; Philippe Bado, President & CTO, pbado@translume.com.

**Vixar**

#8631

**SPIE** Corporate Member

15350 25th Ave N Ste 110, Plymouth, MN, 55447  
info@vixarinc.com; www.vixarinc.com

**Featured Product: Two inch linear 680 nm laser scanning array. Available as well in a four inch version.**

Vixar offers high performance, cost effective, and reliable visible and near IR VCSEL components and solutions. Our VCSEL based solutions can reduce power consumption in your handheld or body worn device, improve the range or precision of your motion control sensor, or enhance performance of your office peripheral or vehicle/home network. Contact: Mary Hibbs-Brenner, CEO, mhibbsbrenner@vixarinc.com; Bouchaib Nessar, Business Development, bnessar@vixarinc.com.

**Vytran LLC**

#8729

1400 Campus Dr W, Morganville, NJ, 07751  
+1 732 972 2880; fax +1 949 209 2585  
jstathis@vytran.com; www.vytran.com

Vytran produces equipment for optical fiber stripping, cleaning, cleaving, splicing, recoating and testing. Its all-in-one systems and individual process tools are used in the sensing, medical, telecom, aerospace and defense, research, and fiber laser markets. The company's unique products enable low-loss, high-performance components such as the combiners and tapers that are a foundation of scalable fiber lasers. Contact: Dan Bowden, Sales Engineer, dbowden@vytran.com; Jim Stathis, Business Development Manager, jstathis@vytran.com.

**Wasatch Photonics**

#8901

1305 N 1000 W Ste 120, Logan, UT, 84321  
+1 435 752 4301; fax +1 435 752 4306  
info@wasatchphotonics.com; www.wasatchphotonics.com

**Western Photonics Technology**

#8903

**SPIE** Corporate Member

2005 Orange St Ste D, Alhambra, CA, 91803  
+1 626 289 1686; fax +1 626 289 1048  
info@wptec.com; www.wptec.com

**Featured Product: Precision cemented lens, Rod lens, Mini optics.**

Develops and manufactures miniature optics (lens, rod lens, C-lens, G-lens, prism, window), optics (window, lens, prism; filter), IR, visible, UV optics (Sapphire, Germanium, ZnSe, CaF<sub>2</sub>), laser and optical crystals (Nd:YAG, BBO), coatings, optical system, fiber optics (fiber pigtail), borescopes (IR, visible, UV rigid/flexible borescope, high temperature borescope, endoscope), lasers (CTH:YAG laser, Nd:YAG laser, CO<sub>2</sub>, laser), hologram (hologram label). Contact: Roger Xie, North American Manager, info@wptec.com.

**Williams Advanced Materials**

#8628

2978 Main St, Buffalo, NY, 14214  
+1 716 837 1000  
www.williams-adv.com

We have combined the efforts of Barr Associates and Thin Film Technology to create the most diverse and technologically advanced thin film coating company in the world. We are a leading manufacturer and supplier of precision optical filters and coating services from the UV through the Far IR for life sciences, commercial, defense, space, and scientific applications. In addition to Optical filters, we also manufacture custom thin film hybrid circuits, flexible sensors and interconnects.

**World Star Technologies**

#8831

**SPIE** Corporate Member

321 Lesmill Rd, Toronto, ON, Canada, M3B 2V1  
+1 416 363 3332; fax +1 416 363 3112  
info@worldstartech.com; www.worldstartech.com

**Featured Product: Compact Computer Controlled Laser from 405nm to 1064nm with RS-232/USB control.**

World Star Technologies specializes in manufacturing ultra compact energy efficient lasers which delivery high stability and low noise. Our goal is to introduce highly compact and efficient diode pumped lasers which will enable applications previously considered unachievable. Contact: David Stephen, Sales Manager, dstephen@worldstartech.com; Emily Hodgkinson, Customer Support, emily@worldstartech.com.

**Xenics**

#8325

**SPIE** Corporate Member

Ambachtenlaan 44, Leuven, Belgium, 3001  
+32 16 38 99 00; fax +32 16 38 99 01  
sales@xenics.com; www.xenics.com

Xenics is the leading developer of innovative infrared detection solutions for a wide range of applications. Xenics designs, manufactures and sells infrared detectors and cameras, both line-scan and 2-D, covering the infrared wavelength ranges from 0.4 to 14 micrometers. In addition, Xenics delivers custom products according to the agreed specification and planning. Contact: Luc DeBrouckere, US Sales Manager, luc.debrouckere@xenics.com.



# SPIE BiOS Product Index

## **Abrasives, Chemicals & Process Materials**

SSCP USA

## **Astronomy**

ALPAO  
CeramOptec Industries, Inc.  
MPB Communications Inc.  
Optimax Systems, Inc.  
SCHOTT North America, Inc.  
Stanford Computer Optics, Inc.  
Xenics

## **Cameras and CCD Components**

Andor Technology  
CEDRAT Technologies  
Deposition Sciences, Inc.  
JENOPTIK Optical Systems, Inc.  
Lambert Instruments  
Noren Products, Inc.  
Photometrics  
Photon Etc Inc.  
Princeton Instruments  
SCANLAB America, Inc.  
Sensors Unlimited-Goodrich ISR Systems  
SPOT Imaging Solutions  
Stanford Computer Optics, Inc.  
Stanford Photonics, Inc.

## **Chemical & Biological Sensing**

B&W Tek, Inc.  
GiGa Concept Inc.  
Headwall Photonics, Inc.  
High Tech Photonics  
Lambert Instruments  
LightSmyth Technologies, Inc.  
MPB Communications Inc.  
National Instrument Technology Research Center  
NKT Photonics A/S  
P&P Optica Inc.  
Power Technology, Inc.  
Translume, Inc.  
Xenics

## **Clinical, Chemical and Biological Instrumentation**

ALPAO  
B&W Tek, Inc.  
CeramOptec Industries, Inc.  
Genia Photonics  
GiGa Concept Inc.  
High Q Laser (US), Inc.  
Ibsen Photonics  
Imagine Optic Inc.  
LightSmyth Technologies, Inc.  
Lockheed Martin Aculight  
Lumencor, Inc.

P&P Optica Inc.  
Translume, Inc.

## **Communications**

ALPAO  
Calmar Laser, Inc.  
MPB Communications Inc.  
Noren Products, Inc.

## **Displays**

Boulder Nonlinear Systems, Inc.  
Foreal Spectrum, Inc.  
Texas Instruments

## **Distributor or Reseller**

Frankfurt Laser Co.  
IMM Photonics GmbH

## **Electronic Imaging Components, Equipment, Systems**

Andor Technology  
ASI/Applied Scientific Instrumentation Inc.  
Boulder Nonlinear Systems, Inc.  
Cambridge Technology, Inc.  
Deposition Sciences, Inc.  
Electro Optical Components Inc.  
Headwall Photonics, Inc.  
Lincoln Laser Co.  
Noren Products, Inc.  
nPoint, Inc.  
Sensors Unlimited-Goodrich ISR Systems  
Stanford Photonics, Inc.  
Sutter Instrument  
Texas Instruments

## **Electronics, Signal Analysis Equipment**

tec5USA

## **EUV Lithography**

Optimax Systems, Inc.

## **Fiber Optic Components, Equipment, Systems**

CeramOptec Industries, Inc.  
Coastal Connections  
DiCon Fiberoptics, Inc.  
EM4, Inc.  
Energetiq Technology, Inc.  
Fiberguide Industries, Inc.  
Frankfurt Laser Co.  
General Photonics Corp.  
Genia Photonics  
GiGa Concept Inc.  
Glass & Ceramic Engineered Solutions LLC  
Grintech GmbH

Headwall Photonics, Inc.  
Hellma USA  
High Tech Photonics  
IMM Photonics GmbH  
Iridian Spectral Technologies Ltd.  
IRphotonics  
JT Ingram  
Lincoln Laser Co.  
Lockheed Martin Aculight  
Lumics Laser  
Micro Laser Systems, Inc.

Mitsubishi Cable Industries, Ltd.  
MPA Crystal Corp.  
Nufern  
OFS, Specialty Photonics Division  
OZ Optics Ltd.  
P&P Optica Inc.  
Photon Gear, Inc.  
PolarOnyx, Inc.  
Polymicro Technologies, a subsidiary of Molex Incorporated  
SPOT Imaging Solutions  
SSCP USA  
Superlum  
tec5USA  
Vytran LLC  
Western Photonics Technology

## **Finished Optics, Filters, & Coatings, Optical Fabrication Equipment**

Changchun New Industries Optoelectronics Technology Co., Ltd.  
CVI Melles Griot  
Edmund Optics  
Electro Optical Components Inc.  
FEMTOLASERS, Inc.  
Foreal Spectrum, Inc.  
Glass & Ceramic Engineered Solutions LLC  
G-S PLASTIC OPTICS  
Hellma USA  
Iridian Spectral Technologies Ltd.  
Isuzu Glass Inc.  
JENOPTIK Optical Systems, Inc.  
Laser Components IG, Inc.  
LightSmyth Technologies, Inc.  
Max Levy Autograph, Inc.  
MPA Crystal Corp.  
Newport Corp.  
Ocean Thin Films  
Optics Balzers  
Optimax Systems, Inc.  
OZ Optics Ltd.  
Photon Gear, Inc.  
PROMET International Inc.  
Semrock, Inc.  
Thorlabs, Inc.



Williams Advanced Materials

## **High Speed Imaging and Sensing**

ASI/Applied Scientific Instrumentation Inc.  
Gooch & Housego, Orlando (formerly ChromoDynamics)  
Headwall Photonics, Inc.  
High Q Laser (US), Inc.  
Lambert Instruments  
Lumencor, Inc.  
Mad City Labs, Inc.  
Navitar  
nPoint, Inc.  
NTT Advanced Technology Corp.  
Onefive GmbH  
OptoElectronic Components  
Photometrics  
Photon Technology International, Inc.  
PI (Physik Instrumente) LP  
Sensors Unlimited-Goodrich ISR Systems  
SPOT Imaging Solutions  
Stanford Computer Optics, Inc.  
Stanford Photonics, Inc.  
Sutter Instrument  
Texas Instruments  
Xenics

## **Illumination Engineering**

Andor Technology  
Energetiq Technology, Inc.  
Fiberguide Industries, Inc.  
Innovative Photonic Solutions  
JENOPTIK Optical Systems, Inc.  
Lumen Dynamics Group  
Lumencor, Inc.  
Power Technology, Inc.

## **Infrared Sources, Detectors, Systems**

B&W Tek, Inc.  
Changchun New Industries Optoelectronics Technology Co., Ltd.  
Coastal Connections

DiCon Fiberoptics, Inc.  
 Edinburgh Instruments Ltd  
 Electro Optical Components Inc.  
 Energetiq Technology, Inc.  
 EXALOS AG  
 Headwall Photonics, Inc.  
 High Tech Photonics  
 ID Quantique SA  
 Innovative Photonic Solutions  
 InPhenix Inc.  
 JT Ingram  
 Laser Components IG, Inc.  
 Micro Photon Devices  
 Onefive GmbH  
 OptoElectronic Components  
 PolarOnyx, Inc.  
 Reynard Corp.  
 Sensors Unlimited-Goodrich ISR  
 Systems  
 Stanford Photonics, Inc.  
 Superlum  
 Vixar  
 World Star Technologies  
 Xenics

## Lasers and Other Light Sources, Laser Accessories, Laser Systems

Amplitude Laser  
 Andor Technology  
 B&W Tek, Inc.  
 BWT Beijing Ltd.  
 Calmar Laser, Inc.  
 Cambridge Technology, Inc.  
 CeramOptec Industries, Inc.  
 Changchun New Industries  
 Optoelectronics Technology  
 Co., Ltd.  
 Coastal Connections  
 Cobolt AB  
 Coherent Inc.  
 CVI Melles Griot  
 DiCon Fiberoptics, Inc.  
 Edinburgh Instruments Ltd  
 Edmund Optics  
 Energetiq Technology, Inc.  
 EXALOS AG  
 FEMTOLASERS, Inc.  
 Fianium Inc.

Fiberguide Industries, Inc.  
 Foreal Spectrum, Inc.  
 Frankfurt Laser Co.  
 General Photonics Corp.  
 Genia Photonics  
 High Q Laser (US), Inc.  
 IMM Photonics GmbH  
 IMRA America, Inc.  
 Innovative Photonic Solutions  
 InPhenix Inc.  
 IPG Photonics Corp.  
 JENOPTIK Laser GmbH  
 Laser Components IG, Inc.  
 Laser-Compact Co. Ltd.  
 LIMO Lissotschenko Mikrooptik  
 GmbH  
 Lincoln Laser Co.  
 Lockheed Martin Aculight  
 Lumen Dynamics Group  
 Lumencor, Inc.  
 Lumics Laser  
 MegaWatt Lasers, Inc.  
 Micro Laser Systems, Inc.  
 MPB Communications Inc.  
 Multiwave Photonics  
 Newport Corp.  
 NKT Photonics A/S  
 Noren Products, Inc.  
 NP Photonics  
 NTT Advanced Technology Corp.  
 Nufern  
 OFS, Specialty Photonics Division  
 Onefive GmbH  
 OXXIUS  
 OZ Optics Ltd.  
 Photon Etc Inc.  
 Photon Gear, Inc.  
 Photon Technology International,  
 Inc.  
 PicoQuant Photonics North  
 America, Inc.  
 PolarOnyx, Inc.  
 Power Technology, Inc.  
 Quantum BioMedical, Inc.  
 SCANLAB America, Inc.  
 Superlum  
 Sutter Instrument  
 Toptica Photonics, Inc.  
 Vixar  
 World Star Technologies

## Law Enforcement Technologies

Frankfurt Laser Co.  
 Xenics

## Life Sciences

89 North  
 Amplitude Laser  
 ASI/Applied Scientific  
 Instrumentation Inc.  
 Cobolt AB  
 DiCon Fiberoptics, Inc.  
 EM4, Inc.  
 Energetiq Technology, Inc.  
 Fiberguide Industries, Inc.  
 Genia Photonics  
 Gooch & Housego, Orlando  
 (formerly ChromoDynamics)  
 Grintech GmbH  
 Ibsen Photonics  
 ID Quantique SA  
 Imagine Optic Inc.  
 JENOPTIK Optical Systems, Inc.  
 Lambert Instruments  
 Laser-Compact Co. Ltd.  
 Lumen Dynamics Group  
 Mad City Labs, Inc.  
 Media Cybernetics, Inc.  
 Navitar  
 NKT Photonics A/S  
 Oclaro, Inc.  
 OXXIUS  
 P&P Optica Inc.  
 Photometrics  
 Photon Technology International,  
 Inc.  
 PI (Physik Instrumente) LP  
 SCANLAB America, Inc.  
 SPOT Imaging Solutions  
 Stanford Computer Optics, Inc.  
 Sutter Instrument  
 Texas Instruments  
 Thorlabs, Inc.  
 Williams Advanced Materials

## Metrology, Inspection and Process Control

Amplitude Laser  
 Calmar Laser, Inc.  
 Fresnel Technologies Inc.  
 Gooch & Housego, Orlando  
 (formerly ChromoDynamics)  
 G-S PLASTIC OPTICS  
 High Q Laser (US), Inc.  
 Ibsen Photonics  
 Imagine Optic Inc.  
 Innovative Photonic Solutions  
 Lincoln Laser Co.  
 Mad City Labs, Inc.  
 Max Levy Autograph, Inc.  
 National Instrument Technology  
 Research Center  
 Navitar

nPoint, Inc.  
 Photon Gear, Inc.  
 Power Technology, Inc.  
 PROMET International Inc.  
 tec5USA

## Nanotechnology

Amplitude Laser  
 ASI/Applied Scientific  
 Instrumentation Inc.  
 Boulder Nonlinear Systems, Inc.  
 CEDRAT Technologies  
 LightSmyth Technologies, Inc.  
 Mad City Labs, Inc.  
 National Instrument Technology  
 Research Center  
 nPoint, Inc.  
 NTT Advanced Technology Corp.  
 Photon Etc Inc.  
 PI (Physik Instrumente) LP

## Optical Components

Alphion Corp.  
 Boulder Nonlinear Systems, Inc.  
 Cambridge Technology, Inc.  
 Changchun New Industries  
 Optoelectronics Technology  
 Co., Ltd.  
 Coastal Connections  
 CVI Melles Griot  
 Deposition Sciences, Inc  
 Edmund Optics  
 FEMTOLASERS, Inc.  
 Foreal Spectrum, Inc.  
 Frankfurt Laser Co.  
 Fresnel Technologies Inc.  
 Genia Photonics  
 GiGa Concept Inc.  
 Glass & Ceramic Engineered  
 Solutions LLC  
 Grintech GmbH  
 G-S PLASTIC OPTICS  
 Hellma USA  
 IMM Photonics GmbH  
 InPhenix Inc.  
 Iridian Spectral Technologies Ltd.  
 IRphotonics  
 Isuzu Glass Inc.  
 JENOPTIK Optical Systems, Inc.  
 JT Ingram  
 LightSmyth Technologies, Inc.  
 LIMO Lissotschenko Mikrooptik  
 GmbH  
 Lincoln Laser Co.  
 Lumencor, Inc.  
 Lumics Laser  
 Max Levy Autograph, Inc.  
 Micro Photon Devices  
 MPA Crystal Corp.  
 National Instrument Technology  
 Research Center  
 Navitar  
 Ocean Thin Films  
 OFS, Specialty Photonics Division  
 Optics Balzers





Optimax Systems, Inc.  
 OptoElectronic Components  
 Photon Technology International, Inc.  
 PolarOnyx, Inc.  
 Polymicro Technologies, a subsidiary of Molex Incorporated  
 Princeton Instruments  
 Reynard Corp.  
 SCANLAB America, Inc.  
 SCHOTT North America, Inc.  
 Semrock, Inc.  
 Translume, Inc.  
 Vytran LLC  
 Western Photonics Technology  
 Williams Advanced Materials

## Optical Detectors

Deposition Sciences, Inc  
 EM4, Inc.  
 Hellma USA  
 Lambert Instruments  
 Micro Photon Devices  
 Ocean Thin Films  
 OptoElectronic Components  
 Sensors Unlimited-Goodrich ISR Systems

## Optical Fibers

Alphion Corp.  
 CeramOptec Industries, Inc.  
 Changchun New Industries Optoelectronics Technology Co., Ltd.  
 Coastal Connections  
 Fiberguide Industries, Inc.  
 Fibertech Optica  
 GiGa Concept Inc.  
 High Tech Photonics  
 IMM Photonics GmbH  
 IRphotonics  
 JT Ingram  
 Micro Laser Systems, Inc.  
 Mitsubishi Cable Industries, Ltd.  
 NKT Photonics A/S  
 NP Photonics  
 Nufern  
 OFS, Specialty Photonics Division

Polymicro Technologies, a subsidiary of Molex Incorporated  
 SSCP USA  
 Vytran LLC  
 Western Photonics Technology

## Optical Materials and Substrates

CVI Melles Griot  
 Deposition Sciences, Inc  
 Edmund Optics  
 Fresnel Technologies Inc.  
 Glass & Ceramic Engineered Solutions LLC  
 IRphotonics  
 Isuzu Glass Inc.  
 Max Levy Autograph, Inc.  
 MPA Crystal Corp.  
 NTT Advanced Technology Corp.  
 Ocean Thin Films  
 Power Technology, Inc.  
 Reynard Corp.  
 SCHOTT North America, Inc.  
 SSCP USA  
 Williams Advanced Materials

## Optical Test and Measurement Equipment, Interferometer

Alphion Corp.  
 Calmar Laser, Inc.  
 DiCon Fiberoptics, Inc.  
 Fresnel Technologies Inc.  
 General Photonics Corp.  
 Gooch & Housego, Orlando (formerly ChromoDynamics)  
 Ibsen Photonics  
 ID Quantique SA  
 Imagine Optic Inc.  
 InPhenix Inc.  
 Lumen Dynamics Group  
 National Instrument Technology Research Center  
 Navitar  
 Optikos Corp.  
 OZ Optics Ltd.  
 Photon Etc Inc.

PI (Physik Instrumente) LP  
 PolarOnyx, Inc.  
 PROMET International Inc.  
 Reynard Corp.  
 tec5USA  
 Thorlabs, Inc.  
 Western Photonics Technology

## Optical/Laser Microlithography

Amplitude Laser  
 Laser-Compact Co. Ltd.  
 LIMO Lissotschenko Mikrooptik GmbH  
 Max Levy Autograph, Inc.  
 OXXIUS  
 Photon Gear, Inc.  
 Texas Instruments  
 Translume, Inc.

## Optics Manufacturing

Boulder Nonlinear Systems, Inc.  
 Edmund Optics  
 FEMTOLASERS, Inc.  
 Fresnel Technologies Inc.  
 G-S PLASTIC OPTICS  
 Hellma USA  
 InPhenix Inc.  
 Isuzu Glass Inc.  
 Laser Components IG, Inc.  
 LIMO Lissotschenko Mikrooptik GmbH  
 Lumics Laser  
 MPA Crystal Corp.  
 Newport Corp.  
 Ocean Thin Films  
 OFS, Specialty Photonics Division  
 Optimax Systems, Inc.  
 Princeton Instruments  
 PROMET International Inc.  
 Reynard Corp.  
 SCHOTT North America, Inc.  
 Semrock, Inc.  
 Vytran LLC

## Photonics Equipment Manufacturer

B&W Tek, Inc.  
 Calmar Laser, Inc.  
 CEDRAT Technologies  
 Edinburgh Instruments Ltd  
 ID Quantique SA  
 Imagine Optic Inc.  
 Innovative Photonic Solutions  
 IRphotonics  
 Lumen Dynamics Group  
 Micro Laser Systems, Inc.  
 MPB Communications Inc.  
 Newport Corp.  
 NKT Photonics A/S  
 P&P Optica Inc.  
 Photon Technology International, Inc.

Princeton Instruments  
 PROMET International Inc.  
 tec5USA  
 Thorlabs, Inc.  
 Vytran LLC

## Positioning Equipment

ASI/Applied Scientific Instrumentation Inc.  
 Cambridge Technology, Inc.  
 CEDRAT Technologies  
 CVI Melles Griot  
 Mad City Labs, Inc.  
 Newport Corp.  
 nPoint, Inc.  
 PI (Physik Instrumente) LP  
 SCANLAB America, Inc.  
 Sutter Instrument  
 Thorlabs, Inc.

## Sensor & Sensor Systems

Alphion Corp.  
 CEDRAT Technologies  
 Electro Optical Components Inc.  
 Grintech GmbH  
 Ibsen Photonics  
 ID Quantique SA  
 JT Ingram  
 Laser Components IG, Inc.  
 Micro Photon Devices  
 NP Photonics  
 Nufern  
 OZ Optics Ltd.  
 Translume, Inc.

## Services and Publications (Including Professional Societies)

IOP Publishing Ltd.  
 LIMO Lissotschenko Mikrooptik GmbH  
 OSA - The Optical Society  
 Photonics Media  
 Quebec Photonic Network

## Software

ALPAO  
 Andor Technology  
 Media Cybernetics, Inc.  
 OptoElectronic Components  
 SPOT Imaging Solutions  
 Stanford Photonics, Inc.

## Solar and Alternative Energy

Isuzu Glass Inc.  
 Noren Products, Inc.  
 Photon Etc Inc.  
 Western Photonics Technology  
 Williams Advanced Materials





# The world's largest collection of optics & photonics research



Astronomy



Biomedical Optics



Communications



Defense & Security



Imaging



Energy



Nanophotonics



Sensors

**SPIE**  
**Digital**  
**Library**

*Find the answer*  
SPIEDigitalLibrary.org

Stop by for a demo, Booth 5502

# 2012 Photonics West

21–26 January 2012

Mark your calendar

Applications of optoelectronics, lasers,  
micro/nanophotonics, and biomedical optics

**Location**

The Moscone Center  
San Francisco, California, USA

[spie.org/pw](http://spie.org/pw)

**Conference dates**

21–26 January 2012

**Exhibition dates**

BiOS: 21–22 January  
Photonics West:  
24–26 January

**Technologies**

- BiOS–Biomedical Optics
- OPTO–Integrated Optoelectronics
- LASE–Lasers and Applications
- MOEMS–MEMS–Micro & Nanofabrication
- Green Photonics

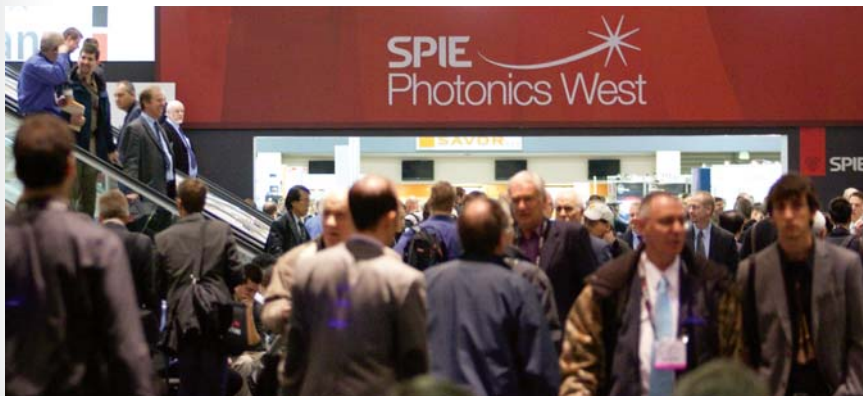


**SPIE**

Connecting minds. Advancing light.

The single most important exhibition for the photonics and laser industry

**SPIE**   
Photonics West 25–27 January 2011



## North and South Halls

Tuesday 25 January . . . . . 10:00 am to 5:00 pm  
Wednesday 26 January . . . . . 10:00 am to 5:00 pm  
Thursday 27 January . . . . . 10:00 am to 4:00 pm

Product Demonstration . . . . .	62–64
New Product Launches . . . . .	66–79
Floor Plan/Booth Map . . . . .	80–83
Exhibitor Index . . . . .	84–94
Sponsors . . . . .	85–91
Company List Descriptions . . . . .	98–262
Companies by Product Category . . . . .	263–281

**SPIE BiOS  
Exhibition Directory  
Listing** See page 25.



# SPIE Photonics West Exhibitor Product Demonstrations

Product Demonstrations are open to all attendees. Various exhibiting companies will be showcasing new and successful products in half-hour demonstration/question and answer sessions.

Tuesday, 25 January			
	South Hall A / Demo Area I	South Hall C / Demo Area II	North Hall / Demo Area III
10:30 am	<p><b>Ultra-G: Optimization for Medical and Defense Applications</b> Kendra Gallup, <b>Laser Operations LLC/ QPC Lasers</b></p> <p>BrightLock® Ultra-G is a breakthrough laser platform based on proprietary BrightLock® semiconductor chip technology. New optimization offers key advantages for medical and defense markets.</p>	<p><b>Glasses from SCHOTT with “Ultra High Transmittance”</b> Charles Bernheim, <b>SCHOTT North America, Inc.</b></p> <p>SCHOTT now provides glasses with outstanding transmittance behavior compared to already offered glasses in the market. All applications with long optical path length inside can take advantage through using components made of this new glass.</p>	<p><b>State of the ARC Fusion Splicing Technology</b> Doug Duke, <b>AFL</b></p> <p>AFL will demonstrate its newest splicing platform, ARCMaster™. It features a patented “split v-groove” clamping system, new PM alignment technology, and special arc calibration capabilities.</p>
11:30 am	<p><b>High Performance Coated Components from SCHOTT</b> Steffen Reichel/Dr. Angela Hohl-AbiChedid, <b>SCHOTT North America, Inc.</b></p> <p>SCHOTT has further enlarged its capability and capacity in producing coated optical components manufactured in-house based on SCHOTT materials. We will present a selection of coated components for high performance applications.</p>	<p><b>LuOcean™ - High Power Tm, Er, Nd and Yb Pump Laser</b> Dr. Karl Eberl, <b>Lumics GmbH</b></p> <p>An introduction to the unique patented Lumics technology - excellent lifetime and high beam quality for powerful pump sources. LuOcean™ - pump power from a lightweight and ultra small footprint device.</p>	<p><b>Optical Fibers for Laser Transmission</b> Dr. Lars Leininger, <b>LEONI Fiber Optics GmbH</b></p> <p>Report the results of damage threshold measurements performed at silica fiber probes. We will present silica fiber solutions including connectors for a variety of laser beam delivery applications.</p>
12:30 pm		<p><b>DLP® LightCommander™ Development Platform</b> Gina Park, <b>Texas Instruments</b></p> <p>Come see DLP® LightCommander™, Texas Instruments' new modular development platform for 3D optical measurement and a variety of other applications. Also visit us at booth 2309!</p>	<p><b>UltraStableIntegrated-DPSSL Systems</b> Tom Bruno, <b>BrunoLaser</b></p> <p>Through novel implementations, GSS system represents a systematic increase in the quality and performance of fully integrated high power DPSSL systems.</p>
1:30 pm	<p><b>New Maestro Touch Screen Laser Monitor</b> Don Dooley, <b>Gentec-EO</b></p> <p>Live demonstration of the all new MAESTRO Laser Power &amp; Energy Monitor with Touch Screen controls, based on a large 5.7 inch color LCD screen!</p>	<p><b>Optikos LensCheck VIS</b> Stephen D. Fantone, <b>Optikos Corporation</b></p> <p>The LensCheck VIS employs a compact unique mechanical design that ensures high accuracy linear and rotary motion in a rapid, economical, easy-to-use device.</p>	<p><b>Fast and Inexpensive Customer Access to Customized 1D and 2D</b> Dr. Jan Grahmann, <b>Fraunhofer IPMS</b></p> <p>The novel construction kit offered by Fraunhofer IPMS allows customer access to customized MEMS scanners by a preprocessed wafer approach combined with a user friendly web interface.</p>
2:30 pm	<p><b>The Optometronic 4000™ Photonics Workstation</b> David Lewis, <b>Nanonics Imaging Ltd.</b></p> <p>Characterize photonic devices from Si waveguides to plasmonic/photonic band gap structures with AFM/NSOM/Apertureless and Far-field for full lightwave characterization of nano/micro structures.</p>	<p><b>Micro-Mechatronic Motion Systems</b> Dan Viggiano III, <b>New Scale Technologies, Inc.</b></p> <p>Investigating the design and manufacture of miniature high precision motion solutions for portable and hand-held devices, OEM instrumentation, PCB mounted cameras, and photonic or RF tuning systems.</p>	<p><b>New Fujikura Equipment for Fiber Preparation</b> Doug Duke, <b>AFL</b></p> <p>New fiber preparation equipment will be presented including three new cleavers, an automated fiber preparation system, and an automated stripper for Polyimide coated fibers.</p>
3:30 pm	<p><b>2 Micron Pulsed Fiber Laser</b> Shibin Jiang, <b>Advalue Photonics Inc.</b></p> <p>This world's first 2µm pulsed fiber laser offers high peak power of 500W, variable pulse repetition rates of 20 to 100kHz, pulse width of 8 to 100ns, and average power of 100mW.</p>	<p><b>Efficient Wavelength Conversion</b> Mark Middleton, <b>Covesion Ltd.</b></p> <p>With a non-linear coefficient 4x greater than KTP, PPLN is the preferred material for many growing markets (laser projectors etc). Covesion maximises these advantages with significantly lowered costs.</p>	<p><b>Fibercore Bow-Tie PM Fiber Splicing Made Easy!</b> Dr. Andy Gillooly, <b>Fibercore Ltd.</b></p> <p>Myth: You can't splice bow-tie PM fibers... Myth busted! Watch and learn how to splice different Fibercore HB fibers at this masterclass presented by Vytran and Fibercore Ltd.</p>

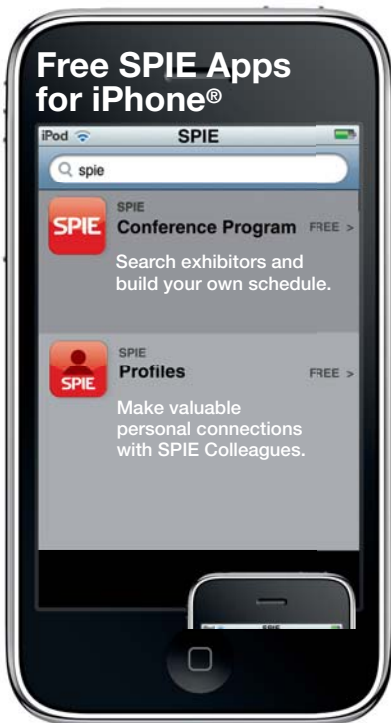
# Wednesday, 26 January

	South Hall A / Demo Area I	South Hall C / Demo Area II	North Hall / Demo Area III
10:30 am	<p><b>A Demo of SolidWorks Integrated APEX Optical Software by BRO</b>                      Dr. Mary Turner, <b>Breault Research Organization (BRO)</b></p> <p>Come see a live demonstration and pick up a demo disc showcasing BRO's new APEX Optical Software program integrated in the industry-standard SolidWorks 3D-modeling environment.</p>	<p><b>OIS, Beam Deviation and Ultra Fast Focus with Liquid Lenses</b>                      Olivier Jacques-Sermet, <b>Varioptic</b></p> <p>Varioptic will demonstrate how liquid lenses enable optical image stabilization, beam deviation and ultra fast focus with no moving parts.</p>	<p><b>Fiber-Coupled Laser-Driven Light Source</b>                      Paul Blackborow, <b>Energetiq Technology, Inc.</b></p> <p>Energetiq's latest enhancement to its ground-breaking, long-life Laser-Driven Light Source a fiber-coupled version simplifies the delivery of high brightness broadband light (from 170nm-NIR).</p>
11:30 am	<p><b>Structural Chemical Nanocharacterization/Raman AFM Interface</b>                      Aaron Lewis, <b>Nanonics Imaging Ltd.</b></p> <p>It will be shown that AFM and Raman form a synergistic combination that enhances both the AFM and Raman and allows a new modality such as Tip-Enhanced Raman Scattering.</p>	<p><b>Modeling of Current Photonics Applications: LED, Lasers, Solar Cells and Si-photonics</b>                      RSoft Senior Application Engineer, <b>RSoft Design Group</b></p> <p>Modeling of current photonics applications: LED, Lasers, Solar Cells and Si-photonics.</p>	<p><b>The Small Micro Lithography Engine</b>  <b>Heidelberg Instruments</b></p> <p>The Small Micro Lithography Engine (SMILE) is a modular, microscope based lithography system ideal for a wide range of applications that require highly precise, localized light dosing.</p>
12:30 pm	<p><b>High Throughput Processing Using Ultrafast Solutions</b>                      Robert Braunschweig, <b>Amplitude Systemes</b></p> <p>We present results of micro and nano processing using ultrafast fiber lasers and ultrafast bulk amplifiers in different field such as semiconductor, anticounterfeiting and photovoltaic.</p>	<p><b>High Speed Photon Counters for VIS &amp; NIR Wavelengths</b>                      Michael Desert, <b>ID Quantique</b></p> <p>ID Quantique, a leader in photon counting technologies, will present high speed photon counters dedicated to VIS, 1064nm and Telecom wavelength based on Si, InGaAsP and InGaAs diode.</p>	<p><b>Compact Laser Speckle Reducer (LSR)</b>                      Dr. Yann Tissot, <b>Optotune</b></p> <p>Our LSR significantly reduces the speckle noise of laser systems by dynamically diffusing the coherent beam. It includes the drive electronics within a single compact housing.</p>
1:30 pm	<p><b>QUAD-4Track Laser Position Monitor</b>                      Don Dooley, <b>Genlec E-O</b></p> <p>Demonstration of QUAD-4Track Laser Position Monitor for Pulsed, CW and Quasi-CW laser from DUV to Far IR. Measure position, beam steering, pulse energy and/or power with Pyro Quad Detector.</p>	<p><b>Field Tracing by VirtualLab™ for System Analysis and Design</b>                      Michael Kuhn, <b>JENOPTIK Optical Systems, Inc.</b></p> <p>Field tracing enables unified optical modeling that integrates simulation techniques ranging from geometrical optics to electromagnetic methods.</p>	<p><b>Light Switching for Optical Systems</b>                      Matthew Webb, <b>FiberTech-RoMack</b></p> <p>Optical fiber switches are designed for demanding applications in optical measurement &amp; test systems, industrial production, process control &amp; biomedical. (Ex: Spectroscopy, temp. sensors, microscopy)</p>
2:30 pm	<p><b>Fiber End-Caps for 405nm and High Power Cables</b>                      Andy Devine, <b>Coastal Connections</b></p> <p>Fiber End-Caps are added to 405nm and high power cables to dramatically increase their life. By reducing the power density at the endface contaminants deposited by 405nm light are eliminated.</p>	<p><b>CORE Illumination and Imaging Subsystem for Bioanalysis</b>                      Claudia Jaffe, <b>Lumencor, Inc.</b></p> <p>This customizable optical train for quantitative fluorescence utilizes intense, solid state sources and all the optics to deliver high performance images to a detector in a bioanalytical instrument.</p>	<p><b>Zing Polarizing Fiber in the Marketplace</b>                      Dr. Andy Gillooly, <b>Fibercore Ltd.</b></p> <p>Following the launch of our true Polarizing fiber a year ago, hear how it was received in the marketplace, see the results that have been fed back and discover how it could work in your application.</p>
3:30 pm	<p><b>Inspection of Photovoltaics with SWIR Imaging</b>                      Don Pancza and Doug Malchow, <b>Sensors Unlimited-Goodrich ISR Systems</b></p> <p>Maximize solar cell performance with shortwave infrared (SWIR) cameras from Goodrich. See why SWIR imaging should be a vital part of your process to produce high quality and efficient solar products.</p>	<p><b>Progress in ZERODUR® Light Weighting</b>                      Dr. Thomas Westerhoff, <b>SCHOTT North America, Inc.</b></p> <p>Latest results of light weighting ZERODUR® for satellite mirrors with CNC machining will be presented.</p>	<p><b>New Generation SuperK Supercontinuum Systems</b>                      Dr. Husain Imam, <b>NKT Photonics Inc.</b></p> <p>The new generation SuperK Supercontinuum laser sources with an expanded SpectraK accessory range offer new features such variable rep rate, variable bandwidth filtering and nIR enhanced systems.</p>
4:30 pm	<p><b>3-wavelength Q-switched DPSS Laser</b>                      Ekaterina Fedyna, <b>Laser-export Co./ Laser-compact Co.</b></p> <p>The new 3-wavelength Q-switched laser emits simultaneous pulses in IR, green and UV. Wide choice of usage modes makes it a unique instrument to define the laser parameters for your application.</p>		

# SPIE Photonics West Exhibitor Product Demonstrations

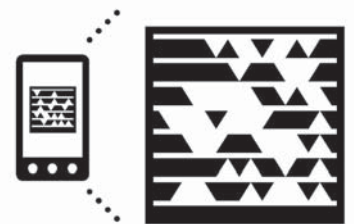
Product Demonstrations are open to all attendees. Various exhibiting companies will be showcasing new and successful products in half-hour demonstration/question and answer sessions.

Thursday, 27 January			
	South Hall A / Demo Area I	South Hall C / Demo Area II	North Hall / Demo Area III
10:30 am	<p><b>Laser Gain Module TARANIS for High Power Lasers</b> Julien Didierjean, <b>FIBERCRYST</b></p> <p>Fiberocryst presents TARANIS, an innovative solid state laser gain module for high energy (mJ), high peak power (MW) pulses and high average power (&gt;100W) lasers.</p>		<p><b>Low Phase Noise DFB Laser</b> Stephen Blazo, <b>Wavelength References</b></p> <p>We describe the Clarity-NLL linewidth narrowed DFB laser locked to a gas line, a cost effective solution for applications requiring a low phase noise laser and also offers superb wavelength stability.</p>
11:30 am		<p><b>OEM Optics for Industrial Applications</b> Christiane Weiss, <b>Berliner Glas KGaA</b></p> <p>With our understanding of optical systems and optical production techniques, Berliner Glas develops and integrates optics, mechanics and electronics into innovative system solutions.</p>	<p><b>Nanooptical Spectral and Polarisation Sensors in CMOS</b> Dr. Stephan Junger, <b>Fraunhofer-Institut for Integrated Circuits</b></p> <p>Tailored spectral and polarization sensors can be implemented in CMOS technology by design of nanostructured layers. The sensors are ready for mass fabrication in application specific ICs.</p>
12:30 pm			
1:30 pm			<p><b>Reinventing Scratch and Dig</b> Dave Aikens, <b>Savvy Optics Corp.</b></p> <p>Software assisted inspection takes the guesswork and subjectivity out of surface quality inspections. This hands-on demonstration of the SIF-4 will change the way you think about scratch and dig.</p>



**PLAN YOUR EXHIBITION**  
Use the SPIE My Schedule tool on the Photonics West site

- Add Exhibitors | Product Demonstrations | Workshops | Industry Sessions



Get the free mobile app at <http://gettag.mobi>

Open the tag reader app and hold your phone's camera over the tag. You'll go to the Photonics West exhibition page, where you can browse for exhibitors, product demos, and more.





## The Power of Choice

Experience shows that the optimization of diverse applications requires different laser technologies. Therefore, there is no "one size fits all" in the world of industrial lasers. TRUMPF offers the broadest industrial laser portfolio of any manufacturer including CO<sub>2</sub>, Nd:YAG, disk, fiber, direct diode and more, so the best laser can be selected for any given application.

Visit TRUMPF at Photonics West and experience the power of choice. Learn the features and benefits of each of our laser technologies from our experts and determine the ideal laser for your specific application.

CO<sub>2</sub> Lasers

Disk Lasers

Fiber Lasers

Pulsed Lasers

Marking Lasers

Direct Diode Lasers

Short Pulsed Lasers

Ultrashort Pulsed Lasers

Fabricating Equipment



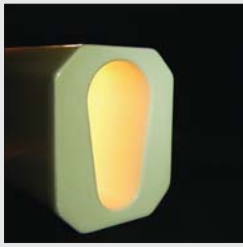
It must be a

734-454-7200 / [oeinfo@us.trumpf.com](mailto:oeinfo@us.trumpf.com)

Photonics West Booth 1631

# New products launched at SPIE Photonics West

Don't miss your opportunity to see these new products and discuss your requirements with suppliers.



## Accuratus Corporation Booth #5400

### New Product: Accuflect

Highly efficient reflector for visible and near infrared. Improves efficiency of optically pumped lasers and infrared manufacturing processes.



## AdValue Photonics Booth #928

### New Product: 2 Micron Pulsed Fiber Laser

The world's first 2 micron pulsed fiber laser from AdValue Photonics offers high peak power and high intensity with single mode fiber output. Pulse repetition rate is variable with pulse width of 8 to 100 ns. Applications include gas sensing, pumping mid-IR lasers, LIDAR, micromachining, laser medicine, and R&D.



## Advanced Microoptic Systems

GmbH Booth #1034

### New Product: Chromium Masked Shack-Hartmann Microlens Array

Descriptor: New Shack-Hartmann microlens array with chromium masking on lens side of elimination of disruptive orders.



## Advanced Software Laser

Design Booth #4601

### New Product: ASLD

ASLD is a new software for designing and development of solid-state lasers. It calculates stability, beam quality and output power. The graphical user interface allows the user to insert optical elements like laser crystal, active Q-switch, saturable absorber, irises, and lenses in the resonator.



## AFL Telecommunications

Booth #4418

### New Product: ARCMaster™

ARCMaster™ is AFL's newest splicing platform that sets a new standard with its State of the ARC™ technology. The product features a patented "split v-groove" clamping system, new PM alignment technology, special arc calibration capabilities, and improved loss estimation technology.



## Aistana Inc. Booth #6018

### New Product: Polarization Maintaining Tap / Isolator / WDM Hybrid

DFeatures: Input Signal Power Monitoring; Pump / Signal Multiplexing; Low Insertion Loss; Low Cost; High Extinction Ratio.

APPLICATIONS: EDFAs; Fiber Lasers; Fiber Optical Test Equipment



## AMPHOS GmbH Booth #4601

### New Product: AMPHOS 200 flex

200W average power, pulse width from 500fs to 2ns, repetition rate from 15kHz to 500MHz



## Anteryon BV Booth #724

Please include: "Artist impression of build-up module"

### New Product: Green Beam Expander

Anteryon offers compact green beam expanders with a diffraction-limited spot quality at long distance, magnification factors up to 50 times.



## Arbor Photonics, Inc. Booth #5001

### New Product: HiPER-3C-Yb-35/250

HiPER-3c-Yb-35/250 optical fiber enables unprecedented high power laser performance with robustly single mode, highly polarized output. Featuring a large, 35- $\mu$ m diameter core, 3C fiber allows increased power extraction from fiber amplifiers, providing great pulse energy/peak power at higher repetition rates for precision processing at 1- $\mu$ m wavelength or conversion to shorter wavelengths.



## Argus International, Ltd. Booth #4916

### New Product: Modular Design™ LED Streetlights F Series

The Modular Design™ LED Street Lights F Series was engineered in our research and development office in Switzerland. The modular design allows integration of different power levels and different types of light distribution with interchangeable LED modules enabled through one sleek design. These LED street light Modular Design™ Series have been studied with great precision to meet all specifications and requirements related to the use of LED in exterior lighting.

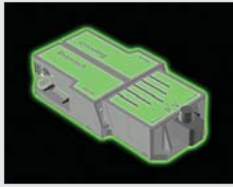


## Artifex Engineering e.K.

Booth #4601-16

### New Product: LIV 100

Laser diode testing system (L-I-V-Test) for adiabatic pre-packaging testing of high power laser diodes on the chip and bar level. By using a very fast and strong current source (up to 400A drive current into the diode) and an inductive-free flat cable the resulting pulse shape of the current into the diode is very close to rectangular (25ns rise time, max. ripple of 5%)



**Beamtech Optronics Co., Ltd.**

Booth #5013

**New Product: Vlite-Hi**

Vlite-Hi is a new member of Beamtech Vlite series PIV laser family. It provides up to 100mJ 532nm laser at 100Hz for high speed or multiphase flow applications.



**Block Engineering** Booth #4641

**New Product: LaserTune**

LaserTune™ is a tunable mid-IR source. The fully integrated LaserTune system has the widest turning range of any mid IR QCL source available. LaserTune comes in two versions: a 6-10 μm tuning range and a 7-12 μm tuning range.



**Bright Solutions S.R.L.** Booth #4532

**New Product: NEW WEDGE HF**

New WEDGE-HF emits more than 200 uJ at 1064 nm with pulse width as short as 500 ps, resulting in a peak power of 400kW. The air cooled unit measures only 18x9x7 cm3. It features a repetition frequency from single shot to 100 kHz, with < 3% Energy Stability over a very wide temperature range. Applications include thin-film ablation, PV micromachining, LIDAR, Aerospace.



**BWT Beijing Ltd.** Booth #905

**New Product: 9xxnm/100W High Brightness Diode Laser**

With new K9xSW2F-100W added to high brightness 9xxnm product line of BWT Beijing Ltd., we increased the range of power levels for fiber laser pumping source. The family of High Brightness lasers based on technology of multi-single emitters coupled into one fiber, and is now available in power levels 20W/25W/50W/100W.



**CAEN Technologies, Inc.** Booth #6012

**New Product: Silicon Photomultiplier Evaluation Kit**

CAEN realized a modular development kit dedicated to Silicon Photomultipliers, representing the state-of-the-art in low light field with photon number resolving capabilities. The kit comprises:

- 2 Channels General Purpose Amplifier and Power Supply Unit (SP5600)
- Desktop Digitizer (DT5720A)
- Led Driver (SP5601)
- An user friendly Control Software and a start-up guide



**Calmar Laser** Booth #529

**New Product: Mendocino high power 780nm femtosecond fiber laser**

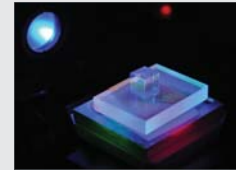
Calmar is providing to the market a world-record high power Mendocino 780nm femtosecond fiber laser up to 500mW, <200fs pulse width, 50MHz repetition rate with excellent beam quality. Optical head is ultra compact for easy integration into customer systems. Applications include terahertz radiation, biomedical imaging, multi-photon microscopy and nanolithography.



**Cambridge Technology** Booth #1000

**New Product: 4kW 3-Axis Scan Head**

Cambridge Technology announces a new family of 4kW 3-axis scan heads for YAG and CO<sub>2</sub> lasers. Using High Power optics and a Dynamic Focus Module, these heads can maintain an in-focus spot size of under 20um and over 200mm x 200mm field of view, which be adjusted to over one meter square. Available in laser-ready air and water cooled beam box or in a modular set for your systems integration.



**CASIX** Booth #831

**New Product: RGB Combiner**

The RGB combiner combines the three fundamental colors (Red, Green and Blue) to produce the desired visible color output through the proper modulate (such as LCD, LCOS). It could be potentially used in Display projection, Laser TV, Mobile Projection. We have RGB combiners for either S- or P- polarization input and with or without cone angle.



**Clear Align** Booth #5330

**New Product: ADAPT™ Night Vision Relay**

When performance matters, try Clear Align's ADAPT™ family of high-speed distortion-free night vision relay lenses. Designed for military reliability, these f/1 field replaceable lenses fit a variety of standard image intensifier tubes and cameras. More information at [www.clearalign.com/ADAPT.html](http://www.clearalign.com/ADAPT.html)



**Coastal Connections** Booth #825

**New Product: Connector Test Probes**

Connector Test Probes are used for continuity test of multichannel, SEMPT, 38999, 28876, TFOCA II, and GHD connectors. Each probe is designed to work with pin and socket connectors. Simply remove the adapter cap to convert from the socket probe to the pin probe.



**Contour Fine Tooling** Booth #4645

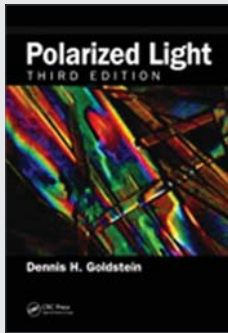
**New Product: Single Crystal Diamond Micro Milling Tools**

Optical quality single crystal diamond milling tools with tool tip radii's from 0.1 mm to 3.0 mm & with 90 degrees of controlled waviness cutting edge arc. These milling tools will have a guaranteed a run out of diamond to the carbide shank of 2.0 micron or better.



# New products launched at SPIE Photonics West

Don't miss your opportunity to see these new products and discuss your requirements with suppliers.



## CRC Press - Taylor and Francis Group LLC Booth #2032

### New Product: Polarized Light, Third Edition

An in-depth exploration of polarized light, this book covers production and uses, facilitating self-study without prior knowledge of Maxwell's equations. This third edition includes more than 2500 figures and equations along with chapters on polarization elements, anisotropic materials, Stokes polarimetry, Mueller matrix polarimetry, and the mathematics of the Mueller matrix.



## CVI Melles Griot Booth #4501

### New Product: CRH Ultra – Compact Self Contained Diode Lasers

50 word text: Compact self contained diode lasers with pointing stability better than 5 microradians per degree C, critical for flow cytometry, microscopy and other fluorescence based applications dependent on stable and known illumination of samples and targets. Lasers available at key wavelengths 375, 408, 442, 488 and 642 nm and powers to 120 mW.



## DataRay Inc. Booth #4925

### New Product: WinCamD-XHR.

Ultra-High Resolution Beam profiler with sensitivity from 190 nm to 1.3 microns. With pixels size of  $3.2 \mu\text{m}^2$  and an image size of  $6.5 \times 4.9 \text{ mm}$ , the WinCamD-XHR offers the researcher a camera based beam profiler with an unprecedented range and resolution.



## Docter Optics Booth #1940

### New Product: Light pipes for CPV / Optical glass concentrators

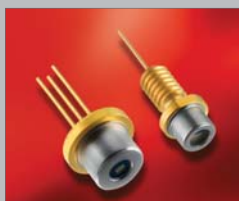
Docter Optics light pipes concentrate and focus sunlight to enable advanced high-performance concentrating photovoltaic (CPV) power systems to achieve maximum efficiency. The advantage of these components is that they consist entirely of special heat-resistant glass with outstanding optical characteristics, which means their service life is virtually unlimited.



## Duma Optronics Ltd Booth #4226

### New Product: Electronic Autocollimator

A precision USB2.0 device combining the functionality of collimator and alignment telescope. Applications are mainly related to detection and measurement of small angular displacements: mirror angle, straightness of linear stages, reflecting surface parallelism. The product has built in adjustment features, such as coarse alignment, leveling bubble, adjustment pan tilt knobs.

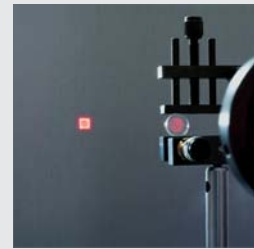


## Eagleyard Photonics GmbH

Booth #1331

### New Product: Pulsed High Power Lasers

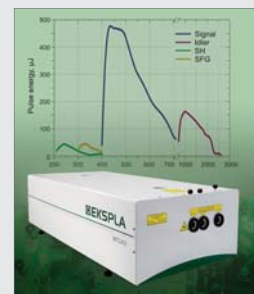
Primary application: Sensing, such as laser radar, speed monitoring, test & measurement  
Key Features: Two wavelengths available @ 808 nm and 905 nm with optical output power ranging from 8W to 80W. Pulse lengths between 200 nsec and 5  $\mu\text{sec}$  with duty cycles from 0.1% to 50%.  
Benefit: Verified to perform under extreme environmental conditions  $-45^\circ\text{C}$  to  $+90^\circ\text{C}$ . Fully qualified for harsh applications.



## EKSMA OPTICS Booth #2417

### New Product: Gauss-to-Top Hat Beam Shaping Lens

Gauss-to-TopHat beam shaping lens GTH-5-250-4 is special free form lens used to distribute energy of Gaussian beam to TopHat profile. Beam energy distribution efficiency is  $>95\%$  of input energy within TopHat profile at 250mm distance. Recommended operation wavelength range is 400-1500nm. BBAR coatings at VIS or IR range are available.



## EKSPLA Booth #2417

### New Product: Tunable wavelength kHz laser system delivers no gap tuning from 210 to 2600 nm

First on the market new NT240 series tunable wavelength laser delivers hands-free no-gap wavelength tuning from 210 to 2600 nm. Up to 1000 Hz repetition rate speeds up data collection and establishes NT240 series laser as a versatile tool for many basic research applications: spectroscopy, photobiology, laser induced fluorescence, photolysis.



## Elite Optoelectronics Co., Ltd.

Booth #5426

### New Product: Mini Red Laser Module 4x10mm

The mini red laser module is 4mm diameter & 10mm length with best beam quality. Very fit for the laser sights, boresights.

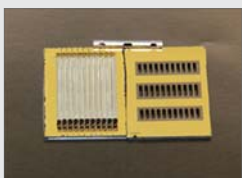


## EMCO High Voltage Corp.

Booth #4238

### New Product: A Series

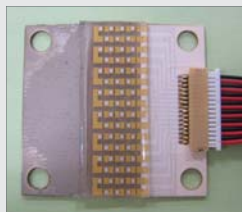
Setting a new standard in the miniature high voltage market place, the A Series offers a very low profile of only one quarter of an inch, and an ultra-miniature package of less than one tenth of a cubic inch. EMCO's proven high voltage conversion technology provides clean, reliable and easy-to-use high voltage in this cost-effective, miniature PC mount package.



## EOTRON LLC Booth #5032

### New Product: 10 Bar Laser Diode Stack, SivPak

EOTRON has developed a new silicon MEMS laser diode package with a benefit of 3X lower thermal resistance, distilled water operation, double-sided bonding, stress-free mounting, ultra-low 'smile' effect and lower cost. This product allows achieving a maximum fiber coupling efficiency due to a precision registration with ultra-low 'smile' effect.



## Epitex Inc./Marubeni America Corporation Booth #6088

### New Product: UV Module P390-S7P8

Epitex new LED module, P390-S7P8 is designated to be a high power light source for UV curing. Consisted of 80 1 mm x 1 mm high power UV chips, P390-S7P generates 5 W / cm<sup>2</sup> with its peak wavelength at 385 - 390 nm.

## Evaporated Metal Films Corp.

Booth #623

### New Product: EMF Ultima Ag99 \*NEW SILVER COATING\*

EMF's Ultima Ag99 silver is designed to optimize blue reflectance while maintaining the high reflectance of silver throughout the rest of the visible and into the NIR. Suitable for glass, nickel-plated aluminum, beryllium, and select polymer substrates. Can currently be deposited on substrates up to 14" diameter.



## Fairchild Imaging Booth #4725

### New Product: SciMOS 2051 F2

Fairchild Imaging manufactures high performance scientific CMOS (sCMOS) sensors and cameras for scientific and industrial imaging applications. We will be exhibiting our new 5.5MP SciMOS camera which combines extreme sensitivity (ultra-low readout noise and excellent QE) with high data outputs of up to 100 FPS readout at 16 bits.

## FEMTOLASERS, Inc. Booth #517

The FEMTOSOURCE™ scientific™ XL high energy ultrafast oscillator is presented as complete system together with the NEW Optical Parametric Amplifier (OPA) and MHz repetition rate Pulse Picker. The former is the first commercially available oscillator pumped OPA. The latter offers customizable high throughput and excellent contrast ratio pulse picking capabilities.



## Fianium Booth #2501

### New Product: SC400-6-PP

Fianium have extended their unrivalled supercontinuum product portfolio with the release of the SC400-6-PP laser. The system combines the highest power and spectral brightness available with the additional flexibility of selectable repetition rates from 80MHz down to 100kHz. These unique properties enable a single-source solution for use across numerous applications.



## Fiberoptic Systems, Inc. Booth #304

### New Product: μFiberScope

Announcing the smallest commercially available μFiberScope. With a diameter <1/2mm (1600 pixels), the μFiberScope is robust, flexible, has a wide field of view (70°), and includes an integral LED for illumination. Applications range from biological to commercial. A research model is available for <\$800.00. Peer into spaces never seen before!



## Fleming Tinker LLC Booth #5238

### New Product: SiC aspheric optics

Flemming Tinker LLC has launched a new company called Aperture Optical Sciences Inc. We manufacture aspheric optics up to 20 inches and work with many materials including silicon carbide and optical glasses. Aspheres are produced using Zeeko Robotic Polishing and our own in-house technologies.



## Foctek Photonics, Inc. Booth #5108

### New Product: Precision Optical Assemblies

Foctek has strong capabilities in Optical assembly/ Mechanical design.

1. Lenses assemblies (Megapixels lens, Machine View Lens, Custom-made lenses)
2. Optical assemblies (Prisms, Windows, Filters, Beamsplitters, etc.)
3. Mechanical assemblies  
Quality guaranteed by ISO90001; Trioptics Angle measuring system; Zygo GPI Interferometer; Trioptics Optospheric Lens measuring system; 3D Measuring system.



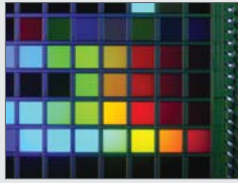
## Frankfurt Laser Company Booth #600

### New Product: High Brightness 9XXnm Coupled Pump Laser Diode

Due to the rapid developments in the laser technology, Frankfurt Laser Company is pleased to offer FBLD-9XX-50.00-2Pin - market highest brightness 9XXnm pump laser diode. It delivers stable 50W of CW power from a 105μm core fiber with NA 0.15 / 0.22. Wavelengths available are 915, 940 and 976nm.

# New products launched at SPIE Photonics West

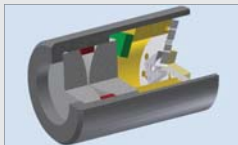
Don't miss your opportunity to see these new products and discuss your requirements with suppliers.



## Fraunhofer-Institut for Integrated Circuits Booth #4601

### New Product: Color and Polarisation Sensor in CMOS Technology

Colour and polarisation sensors utilizing plasmonic effects and the small structures sizes of CMOS technology in the subwavelength range. Arbitrary color filter functions can be implemented just by design and layout of nanostructured metal films in CMOS. CMOS technology allows for inexpensive mass fabrication. Main applications could be micro-spectrometers, multi-spectral cameras, polarisation cameras.



## Fraunhofer IPMS Booth #4421

### New Product: Micro assembled laser endo-microscope head

DESCRIPTION: Microscope head based on two-dimensional scanning mirror for imaging and a diameter for only 8 mm that fits in the tip of an endoscope and can resolve cell measuring 10 to 20 microns may allow quicker diagnoses of certain cancers and reduce the need for tissue biopsies.



## Genia Photonics Booth #5006

### New Product: Picosecond Synchronized Programmable Laser System

The Picosecond Synchronized Programmable Laser system consists of two integrated fiber lasers that remain synchronized even while sweeping wavelengths. A programmable dispersion-tuned, actively mode-locked fiber laser and a MOPA whose synchronized outputs serve well for non-linear spectroscopy applications such as CARS and SRS.



## Heidelberg Instruments Booth #5117

### New Product: The Small Micro Lithography Engine

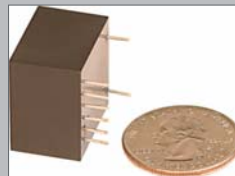
The Small Micro Lithography Engine (SMILE) is a modular, microscope based lithography system designed for the direct patterning of microstructures. This system has been designed for applications ranging from small area mask making and direct write applications, to Surface Chemistry and Biological Applications requiring directed light dosing.



## Hemontech Booth #6080

### New Product: Low temperature melting glass for hermetically sealing glass to metal application.

We specialize in making high quality glazed components such as ferrules and flat surface areas. Our technology eliminates the need of fiber metallization and subsequent soldering problems. The process of glass-to-metal sealing utilizes the solid state induction heating. The melting temperature as low as 315-C-330°C. We provide also low melting point glass microspheres for tack on fibro optics to silicon V grooves application. [www.hemontech.com](http://www.hemontech.com)



## HVM Technology Inc. Booth #2638

### New Product: SMHV (sub-miniature high voltage)

A single-output, fully regulated DC to DC converter supplying up to 10kV@1 watt. these ultra-compact converters are ideal for applications requiring small size, high performance and ease of use. HVM's proprietary, ultra compact resonant converter design maximizes quiescent current and operating noise while delivering maximum performance and reliability.



## id Quantique SA Booth #330

### New Product: Dual channel electronic module for superconducting detectors

- Two separate bias current stages that allow the user to precisely set the current from 0 to 100uA,
- Bias tees and HF amplifiers specifically designed for low timing resolution,
- HF detection counters as well as auxiliary counters for input frequencies up to 100MHz, Applications
- Quantum optics, quantum cryptography, single photon sources characterization.



## Imagine optic Booth #1431

### New Product: HASO R-Flex

I HASO R-Flex unites the HASO wavefront sensor with an adaptable optical system providing users with a versatile and turnkey solution for precision characterization of optical systems and surfaces. It's standard accuracy of  $\lambda/100$ ,  $\lambda/200$  in double pass configurations and robustness enable users to perform reliable measurements.



## IMM Photonics GmbH Booth #4601

### New Product: Spectrometer with Exchangeable Light Source Modules.

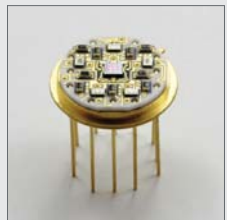
The new spectrometer of IMM Photonics has a wavelengths-range between 360 nm and 1040 nm with a spectral resolution of  $< 2$  nm. Light source modules (e.g. Laser diodes or LEDs) are integrated and can be easily plugged in and controlled by provided Software.





**IMRA America Inc.** Booth #418  
**New Product: Femtolite FX-100 Mini Fiber Laser**

Robust, compact femtosecond fiber laser for Ti:Sapphire replacement in OEM integration. Dimensions: 19.0 cm x 9.9 cm x 7.6 cm; Average power: >100 mW; Wavelength: 805 nm; Pulse duration: >120 fs; Repetition Rate: 75 MHz.



**InfraTec Infrared LLC** Booth #4419  
**New Product: Angular Resolving Flame Detector - PIA-903**

As an upgrade to tri-band flame detectors, the new PIA-903 detector with 3x3 element array and integrated optics is able to provide additional spatial information about the observed scene for a rough angular location of the flame. Calculating the signal ratio of neighboring channels offers and interpolation of angular position.



**INGENERIC GmbH** Booth #1238  
**New Product: Micro-lens array**

DESCRIPTION: The micro-lens array is designed for the efficient collimation of VCSEL arrays. It consists of rotational symmetric micro-aspheres of highest precision and defined pitch to guarantee a perfect fit with the VCSEL array. Alternative designs of the lens array with cylinders allow the homogenization of diode laser radiation. The advantages of the INGENERIC arrays are minimized dead zones and a unique precision.



**inno-spec GmbH** Booth #4601  
**New Product: RedEye 17 (22 preliminary)**

The NIR spectral imaging system RedEye 17, working in the spectral range up to 1.7µm (2.2µm preliminary), is the combination of a smart InGaAs-camera (FPGA-technology) and a high quality transmission spectrograph. It includes internal data acquisition and a fast Gigabit-Ethernet interface. Applications: food, recycling, pharmaceutical and chemistry industry.



**Innovative Photonic Solutions**

Booth #704

**New Product: Single Frequency A-Type Raman Excitation Source**

Designed as a drop in replacement for micro laser sources, the A-Type laser module offers > 100 mW of single frequency output power. The output beam is circularized & collimated, and the module contains an integral TEC, thermistor, linear tracking photodiode, ESD protection, and laser line filter. Many wavelengths available.



**Inspired Photonics, Inc.** Booth #6044

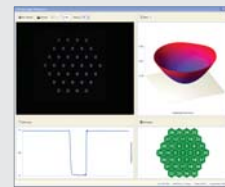
**New Product: Photonics Workbench**

Make Photonics Workbench a part of your daily development process, and realize how essential a simulation engine can be in reducing time-to-market and improving your bottom line. Do not fall behind with time and resource consuming laboratory experiments. Get on top with software assisted research and development.



**Interfiber Analysis** Booth #5104  
**New Product: IFA-100 Multi-Wavelength Optical Fiber Analyzer**

The new IFA-100 features exclusive Multi-Wavelength technology to measure your fiber's refractive index profile anywhere from 460nm to 1000nm. Since measurements are made through the fiber's side, rather than at a cleaved end, the instrument can also measure the evolution of refractive index through fusion splices, tapers, gratings, and couplers.



**Iris AO, Inc.** Booth #4504  
**New Product: PTT111 AO Engine**

The PTT111 AO Engine is a turn-key adaptive-optics (AO) sub system for life-science imaging, microscopy, and beam shaping applications. The system includes a 3.5mm 111-actuator deformable mirror, 60 Hz Shack-Hartmann wavefront sensor, and control computer with an intuitive GUI. Development kits are available to implement a complete AO system.



**ISP Optics Corporation** Booth #2240  
**New Product: FALCON**

FALCON is a 19mm, F/0.9 LWIR a-thermal (-40 to + 62°C) lens for DVE applications. A unique design supporting large format detectors, providing unparalleled performance of near diffraction limit MTF & Low distortion over the entire temperature range. Integration with uncooled cameras is simple because of the long BFL.



**J&M Analytik AG** Booth #4601  
**New Product: TIDAS E**

Primary application: measurement of fluorescence, rapid kinetics, absorption, transmission, colour and thickness. Key features: the integrated cuvette holder as well as the external optical fiber connector allows a flexible measurement without reconstruction.

# New products launched at SPIE Photonics West

Don't miss your opportunity to see these new products and discuss your requirements with suppliers.



## JENOPTIK Laser GmbH Booth #1323

### New Product: JenLas® disk IR70

Jenoptik's Lasers & Material Processing division will introduce its new infrared disk laser JenLas® disk IR70. By expanding the product family to higher power, this 65-watt system meets the requirements of the new solar cell concepts, such as metal wrap-through (MWT), emitter wrap-through (EWT) and laser-fired contacts (LFC). The laser pulse length can be adjusted independently of the repetition rate to achieve optimal laser parameters.

## Keopsys Booth Booth #1023, 1123

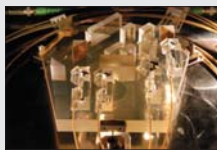
KULT: The Keopsys Ultra-compact Laser Transmitter delivers high peak power and high energy per pulse from a hockey puck size housing. This fiber laser source emits up to 2W of average power at the 1550nm eye-safe wavelength. Other colors available include 532nm, 1064nm and 2000nm.



## Kigre, Inc. Booth #1639

### New Product; HESP-E-7-60 Eye-Safe 1534nm laser

Kigre's latest HESP-E-7-60 compact eye-safe laser provides 6-10mj, 10-60Hz at 1534nm. Kigre laser transmitters are suitable for range-finding, imaging and LIBS. The HESP laser family devices are based upon conduction cooling High Efficiency Side Pumped, (HESP) Diode Pumped Solid State Laser (DPSS).



## Kylia Booth #5209

### New Product: Interferometer prototyping service

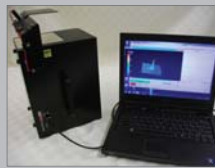
Kylia offers custom-made interferometers and optical assemblies. This prototyping service may include a technical support on the designing phase. Final monolithic units are mounted within a ten-nanometer precision and packaged into compact and stable modules. The applied manufacturing process enabled deployment of telecom components: DWDM mux/demux, DPSK demodulators.



## Labsphere Booth #4509

### New Product: CDS 9800 High Speed CCD Spectrometer

The CDS 9800 High Speed CCD spectrometer is designed to measure critical spectral and optical characteristics of devices with reliability, speed and accuracy, specifically manufacturing environments. Fiberoptic connectors easily connect the CDS-9800 to a variety of measurement devices for both spectroradiometric and photometric measurement.



## Lambda Research Corporation

Booth #323

### New Product: ScatterScope3D

The ScatterScope3D is a revolutionary fully integrated scatterometer in terms of size (shoebox), ease of use and fast, accurate surface measurement (measurement takes less than 1 minute). This fully portable device is perfect for both lab and manufacturing line surface measurement for both process control and texture verification.



## Laser Components IG, Inc.

Booth #2217

### New Product: A New Benchmark in Photon Counting

The new COUNT photon counting modules achieve an unrivaled quantum efficiency of over 70% in the red region and record-breaking counts rates of <10 eps (counts per second). Thanks to its plug&play compatibility, replacing existing photon counters with the COUNT module is child's play. Counting photons? COUNT on LASE COMPONENTS.



## Laser Diode Inc. Booth #218

### New Product: Hybrid Laser Diode For Pulse Operation

The LHCVN/LHCVD series incorporates a pulsed laser driver circuit into the same package as the laser diode. The hybridization of the driver permits much narrower pulse widths and faster rise time at lower voltage requirements than discrete laser drivers. TTL compatibility permits triggering from most digital circuitry.



## Laser - export Co. Ltd. Booth #933

### New Product: DTL-399QT, 3-in-1 DPSS Q-switched laser for scientific applications

The DTL-399QT is a 3-wavelength Q-switched DPSS laser. It emits simultaneous pulses at 1053nm, 527nm and 351nm in one beam with the same direction. It is convenient multiwavelength laser for numerous scientific applications, including various types of spectroscopy, multiphoton excitation, and light detection.



## LaserPoint srl Booth #2613

### New Product: Position Sensing Thermopile Detectors

High resolution position sensing thermopiles show the position of the incident beam and measure laser powers from mWatts to multiKW. Very useful for non-visible beams, they allow a precise alignment of the beam, monitor beam stability and easily center beam on targets .



## Lasever Inc. Booth #4631

### New Product: Green Laser

Applications: laser light show, DNA sequense, Biology detection etc.

Key feature: Nice beam quality, compact size

Benefit: high power in small size and low cost, easy to use.



## LASOS Lasertechnik GmbH

Booth #1331

### New Product: 540 nm, 50 mW diode-pumped solid state laser, GLK 4050 T

Many biophotonic applications have been designed for the 543 nm He-Ne laser. However, this laser is limited to about 1 mW power. The 540 nm DPSSL is a solid state alternative when higher power is required. It is part of the LASOS LasNova Series of high performance lasers for OEM applications.



**Lee Laser, Inc.** Booth #2039

**New Product: Series LDP-HP**

High-performance diode array generates 20%+ increase in power and 25%+ decrease in pulse width. Available at 1064nm and 523nm; CW, Q-switched and pulse pumped. All hard-solder diodes; no Indium migration. Conventional cooling; no micro-channels. Longer diode lifetime with new 2-year limited warranty-standard. All laser applications will benefit from this additional efficiency.



**Leybold Optics** Booth #2411

**New Product: Direct optical monitoring on SYRUSpro box coater with planet**

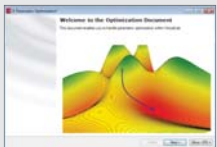
Direct optical monitoring on SYRUSpro coater with double rotation planet results in excellent reproducibility and uniformity. Intermittent optical measurement is used for production of multi-layer precision filters on a SYRUSpro evaporation coating system with unparalleled accuracy.

**Lightcomm Technology Co., Ltd.**

Booth #4413

**New Product: High power combiner, Isolator, PM fiber products**

Lightcomm manufactures various types of high power pump combiner, isolator, PM fiber products, PLC, Coupler, CWDM etc.



**LightTrans VirtualLab UG**

Booth #4601

**New Product: Parametric Optimization by VirtualLab™**

VirtualLab™ 4.10 enables parametric optimization for imaging, beam shaping and illumination systems. Based on field tracing techniques and an electromagnetic representation of light, VirtualLab™ provides fully vectorial results as input for a great variety of merit functions that define the target of optimization problems.



**LOGITECH Ltd** Booth #2223

**New Product: DPI / DP4 Polish Systems**

The LOGITECH DPI and DP4 driven head high speed precision polishing systems are ideal for the semi-automated final stage polishing of wafered optical, photonic or semiconductor materials such as sapphire, silicon carbide (SiC) or gallium nitride (GaN). Filters, wedges and even small LCD panels can be polished to high accuracy.



**Lumina Power** Booth #5200

**New Product: LDD-6000 Laser Diode Driver**

New LDD-6000 Laser Diode Driver with output current to 300amps, 6000 watts. Field selectable 3 phase input section for 200 to 240 or 400 to 440 ±10%. Interface is compatible with standard LDD series power supplies. Auxiliary DC voltages include +5V, +15V, -15V. Designed for high power industrial applications.



**MeshTel INTELITE INC.**

Booth #6052

**New Product: BM400 series Blue Laser**

Low Cost Blue 400 - 450 nM Miniature Size Laser Diode Module with modulation feature For Biomedical Applications.



**Modu-Laser, LLC** Booth #5305

**New Product: Aries-163 Laser System**

The Aries 163 Laser System is a traditional style argon laser system featuring a separate laser head, power supply and controller. The Aries-163 laser head is footprint and mounting hole compatible with the now discontinued Spectra-Physics™ 163 series laser head and will function as a direct replacement for such.



**Multiwave Photonics** Booth #837

**New Product: Dynamic Pulsing fiber laser**

Using a series of short pulses, the MOPA-M-DY laser utilizes dynamic pulsing to minimize heat affected zones in material processing applications.



**My Polymers Ltd.** Booth #4821

**New Product: MY - 132 Optical Adhesive with n=1.32**

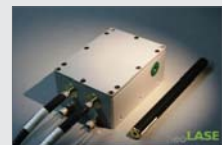
The MY - 132 is the lowest Refractive Index Optical Adhesive, with n=1.32. It is used for bonding, coating and encapsulation in various photonics applications. The MY - 132 enables higher NA and higher Total Internal Reflection. The QH-40, also with n=1.32, was designed for lamination and coating of LCD BLU (Backlight) layers.



**Nalux Co. Ltd.** Booth #2424

**New Product: Stock aspherical collimating lenses**

Nalux has developed a line of stock lenses for the collimation of laser diodes. Both circular and cylindrical lenses are available for immediate shipment.



**neoLASE GmbH** Booth #4601

**New Product: minivan**

miniVAN is a new and compact amplifier system with several ten watt output power for nsec. and psec. laser amplification. The system allows easy integration in existing laser equipment and show a high potential to boost process speed in laser material applications.



# New products launched at SPIE Photonics West

Don't miss your opportunity to see these new products and discuss your requirements with suppliers.



## New Scale Technologies, Inc.

Booth #610

### New Product: M3-L Precision Linear Motion Module

The M3-L is a miniature high-resolution positioning module for applications such as photonic/RF tuning devices, optical instrumentation, precision hand-held devices, aerospace controls and biomedical systems. M3-L modules operate directly from a 3.3V battery, have low power consumption and accept high-level digital motion commands via standard serial interface (I2C or SPI).



## New Source Technology, LLC

Booth #2305

### New Product: 40W CTH:YAG Solid-State Resonator

Our off-the-shelf Laser resonator assemblies provide a turnkey solution of your medical laser systems with high efficient, reliable, uniformed output. Laser assemblies include pump chamber, flash lamp, Laser rod, resonator mirrors, and trigger transformers. All components come with a set in accordance with your specifications.



## NKT Photonics Booth #723

### New Product: Next generation SuperK supercontinuum lasers

The new SuperK white light laser range together with an expanded SpectraK accessory portfolio move turn-key supercontinuum technology into another league. New features including variable repetition rate, spectrally stable output and tunable filtering with variable bandwidth offer unprecedented flexibility for applications within biophotonics, semiconductor and nanotechnology for OEM and academic customers.



## NoIR LaserShields Booth #912

### New Product: #55 LaserShield

Made in the USA and are CE-Certified for the world of laser applications, LaserShields are the point where safety and comfort converge. The #55 frame provides full coverage and retro styling, and is available with any LaserShield filter.



## Northrop Grumman Cutting Edge Optronics Booth #1609

### New Product: Ultra High Density Stacks

A new line of quasi-CW (QCW) laser diode arrays has been specifically designed to generate a maximum level of output power density (<20 kW/cm<sup>2</sup>). These arrays utilize hard solder packaging methods to create arrays that offer a high level of reliability for a wide range of applications.



## Nutfield Technology, Inc.

Booth #1336

### New Product: SurfBoard-II USB Laser/Scanner Control Electronics

For use with Nutfield's WaveRunner Pro Windows XP/7 Advanced Marker Software (GUI and DLLs). Ethernet communication. Available Solo Standalone capability eliminates need for dedicated PC. Six each opto-isolated inputs and outputs. Ten each digital inputs and outputs. USB solution enables easy software setup with notebook or desktop PC.



## OPCO Laboratory, Inc. Booth #911

### New Product: IR Coating

To further enhance our FIR coating capability, OPCO announces the installation of a new state-of-the-art 45" vacuum coating system with ion assist, to be operational in February 2011. It will utilize various planet configurations to accommodate most substrate sizes and IR materials. Computer simulations, metrology, temperature, humidity, durability, and reliability testing are available.



## optoSiC GmbH Booth #5128

### New Product: NY10 FLAT, XY15 FLAT, XY50 Genic

optoSiC manufacture customer-specific-SiC – optoSiC+ galvo scanning mirrors at 10 to 300mm. These include ultra-high dynamic, low inertia scanning mirrors for : laser processing, streak cameras, LIDAR, security, sensing and targeting applications, airborne scanning where the enhanced flexural strength, homogeneity, high resonant frequencies, ultra-low inertia, optical surface quality and realistic price.



## OPOTEK, Inc. Booth #2005

### New Product: Phocus

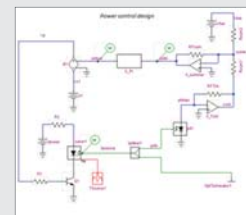
The Phocus is an integrated, turn-key tunable laser system for Photoacoustic Imaging. The system utilizes patented technology, which generates high energy, short pulse beams in the NIR. Incorporating a two crystal ring oscillator, the system has twice the damage threshold of double-pass configurations which prevents downtime due to optical damage.



## Optigrate Corp. Booth #2037

### New Product: Ultra-narrow-band Notch and Bandpass filters

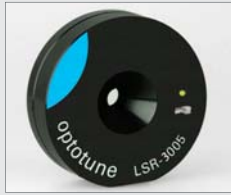
Our new product lines of ultra narrow band Notch and Bandpass filters, available at 488, 532, 633, 785, and 1064 nm wavelengths, will allow one to upgrade the Raman system to measure Stokes and Anti-Stokes frequencies down to 5 cm<sup>-1</sup> with a single-stage monochromator.



## Optiwave Systems Inc. Booth #715

### New Product: OptiSPICE

OptiSPICE is the only SPICE software available for Opto-Electronics. It incorporates equations governing optical components directly into an electrical simulation framework, thus forming a single-engine optoelectronic simulation tool. Previously, the ability for a single software package to tightly model optical-electrical integration, thermal coupling, and various optical effects was non-existent.



**Optotune AG** Booth #4417

**New Product: Transmissive Laser Speckle Reducer LSR-3000**

Our LSR-3000 allows you to significantly reduce the speckle noise of laser systems by dynamic beam diffusion. It integrates diffusing system and drive electronics within the same compact housing. Applications: laser projection, beam homogenizer, metrology, microscopy, lithography.



**Oxide Corporation** Booth #1237

**New Product: High power CW DUV Lasers**

High power CW DUV lasers of 1W @226nm. High quality BBO crystal with high performance voice coil motor guarantees stable operation for long terms in the fields of semiconductor inspection and disc mastering.



**P&P Optica Inc.** Booth #5006

**New Product: Raman Spectrometer and custom gas/liquid flow-cell**

Our new industrial Raman Spectrometer with a custom designed gas/liquid flow-cell has been optimized for the detection and measurement of impurities at <1ppm in industrial processes. Our tests indicate that the system is robust enough to operate with corrosive liquids and pressurized gases at high temperatures.



**PHASEVIEW** Booth #4525

**New Product: WAVEGAUGE**

Turnkey measurement system for aspherics and ophthalmic lenses Critical parameters: MTF, power, and aberrations are measured with outstanding accuracy and repeatability using a unique high resolution wavefront sensor. Providing fast and vibration free measurements, this first class device for optics characterization fits ideally R&D, shop floor and production line needs.



**Photon etc.** Booth #5015

**New Product: Camera PionIR**

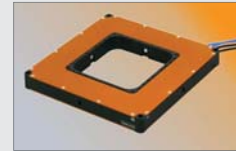
Photon etc. announces its new super-cooled SWIR camera sensitive from 800nm to 2.6µm. Using a 77K Stirling micro cooler, the PionIR camera achieves lower noise levels than TE cooled cameras, and for an affordable price. This camera is perfectly suited for low light applications like chemical imaging and NIR spectroscopy.



**Photon Technology International, Inc.** Booth #835

**New Product: Thermo-electrically cooled PMT housing**

New cooled housing that will accommodate most side on PMT tubes to significantly reduce dark count and enhance signal to noise. Economical housing is highly recommended for PMT tubes that function in the NIR above 650 nm. Has multi-mode detection: three analog, direct and digital modes of operation.



**Piezosystem Jena** Booth #1733

**New Product: PXY AP**

The PXY AP is an extremely flat XY scanning stage with a 100x100mm aperture, and flexible motion of up to 700 µm. Integrated feedback sensors for full closed loop control. Excellent guidance accuracy without any mechanical play; ideal for microscopy/lithography, and all nano-positioning applications.

**Precision Glass & Optics**

Booth #5300

**New Product: After 25 years of consummate quality and service, PG&O knows what it takes.**

Our company began with an ingenious idea: combine high-volume, low-cost commercial glass manufacturing with the technical precision of optics and thin film coating. A quarter-century later, you can rely on us with confidence – because we put all those years of experience into every component we create for you.



**Precision Photometrics Ltd**

Booth #2223

**New Product: MR-550 Series Double Monochromator Spectroradiometer**

The new MR -550 series compact spectrometer from Precision Photometrics provides for the first time a high speed, ultra low stray light double monochromator spectroradiometer with PMT sensitivity; all at an affordable price. Applications include UV & solar measurements, photo-stability testing and low stray light measurements of LED & sources.



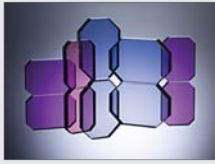
**Precision Photonics** Booth #4830

**New Product: High Energy Super Broadband Polarizing Beamsplitter**

PPC's epoxy-free, super broadband polarizer beamsplitters maintain a > 500:1 extinction ratio throughout the entire Visible to Nir-Infrared (400-1100 nm) without sacrificing overall transmission or damage threshold (> 6J/cm²!). With a standard 1/2" x 1/2" input face, they utilize a PBS cube type design with all dielectric IBS coatings.

# New products launched at SPIE Photonics West

Don't miss your opportunity to see these new products and discuss your requirements with suppliers.



**Precision Photonics** Booth #4830

## New Product: High Energy Plate Polarizers for 2 μm

In addition to standard polarizers for wavelengths throughout the UV to NIR, Precision Photonics now offers custom 45 degree and Brewster plate polarizers for 2.0 & 2.94 μm. Precision Photonics now offers custom 45 degree and Brewster plate polarizers for 2.0 & 2.94 μm. technology to achieve high-power performance at a specific angle of incidence, with no angle tuning required.



**PRIMES GmbH** Booth #4601

## New Product: PowerMeasuringModule

The PowerMeasuringModule measures the optical power right in the processing zone. The industrial bus interface (e.g. ProfiNET) enables an easy integration into many industrial controller systems. The PRIMES PowerMeasuringModule uses the calorimetric principle. This makes the reading independent from spot size and spot position. A motorized shutter prevents the detector from contamination.



**Quantel** Booth #1229

## New Product: Ylia M30EG

Quantel announces the new marking and engraving Ylia M30EG laser. Engraving becomes 80% faster than with standard 20W fiber lasers because of an incredible combination of high average power (30W), high peak power and enhanced beam quality. 2-year full warranty on Ylia M30EG high performances and reliable design (marking on high reflective materials included). Ylia: Compact, Robust, High Performance and Endurable fiber lasers.



**Quantel** Booth #1229

## New Product: TDL+

Compact with new motorized UV and IR options, TDL+ by Quantel is a pulsed tunable dye laser. High optical efficiency, narrow spectral bandwidth, large tunability range (200-4500 nm), extremely amplified spontaneous emission: TDL+: the perfect tool for spectroscopy, LIF, LIDAR, CARS, LIBS, ablation, and many more.



**Quantel** Booth #1229

## New Product: EverGreen

Quantel announces the new EverGreen dual pulsed laser for PIV in three energies: 70 mJ, 145 mJ or 200 mJ. EverGreen features the perfect combination of precisely overlapped 532 nm beams and single power supply in a rugged, compact package. Ships anywhere and arrives perfectly aligned. Guaranteed. Tough, Rugged, Reliable. Simply Easy to Use.



**Rainbow Photonics AG** Booth #4426

## New Product: TeraIMAGE

The TeraIMAGE provides a flexible solution for THz spectroscopy and imaging for applications in materials testing and security. It is based on novel nonlinear organic crystals and femtosecond lasers (1.5 microns). THz frequencies up to 12 THz can be accessed. A dedicated software for data acquisition is included.



**RAYLASE AG** Booth #4601

## New Product: RAZORSCAN-AC

The RAZORSCAN-AC, with RAYLASE designed galvanometers featuring patented built in calibration mechanism to automatically compensate for drift behaviour, the RAZORSCAN is dedicated for precise applications which need drift stability. The innovative galvanometers, high dynamic mirrors and electronics are housed in an industry designed twin-shell system that also aids in reducing drift effects by enhanced thermal management of the complete RAZORSCAN unit.



**Reynard Corporation** Booth #318

## New Product: Infrared Variable Spectral Bandpass Filter

Reynard Corporation introduces an Infrared Variable Spectral Bandpass Filter custom designed for the 8-14μm LWIR spectral band. The 10mm x 4mm filter achieves a 2% FWHM with uniform transmission across the band. The filters can be used in compact IR spectral analysis instruments especially those used in high vibrational environments such as aircraft or rockets.



**SCANLAB America Inc.** Booth #2515

## New Product: intelliSCAN\_de 30

The intelliSCAN\_de 30 is a galvanometer-based scan-head to deflect and position a laser focus for 2D materials processing. Based on a digital encoder and a 30-mm aperture the fully digital intelliSCAN\_de 30 offers outstanding 19-bit resolution combined with exceptionally small spot and lowest drift. This makes the intelliSCAN\_de 30 the ideal choice for demanding micromachining, semiconductor or solar applications.





**SENSOFAR-TECH, S.L.** Booth #1053

**New Product: PLu apex**

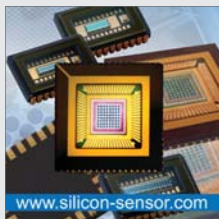
Based on SENSOFAR's Core Technology, the PLu apex is a non-contact optical profiler for the measurement of aspheric surfaces and freeform optics. Confocal tracking based technology. High precision air bearing stage. Up to 65° slope angle.



**Sensors Unlimited - Goodrich ISR Systems** Booth #811

**New Product: New SU-LDH2 InGaAs Shortwave Infrared Linescan Camera**

The smaller, easy-to-integrate SU-LDH2 indium gallium arsenide-shortwave infrared (SWIR) linescan camera features a high speed line rate increase to 92KHz, making it ideal for Spectral-Domain Optical Coherence Tomography (SD-OCT) imaging applications. Compact housing (2.4 x 2.9 x 3 in.) features both metric and SAE mounting holes, for added convenience.

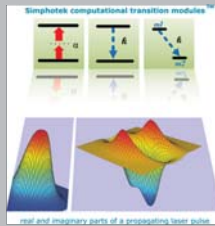


**Silicon Sensor International AG**

Booth #4541

**New Product: APD Matrix Array with Evaluation Board**

This evaluation board made by Silicon Sensor International and its subsidiary Pacific Silicon Sensor is interesting especially for surveillance and orientation tasks to complement conventional image technologies in UAVs (Unmanned Aerial Vehicles), other autonomous vehicles systems and automobiles. Please contact us or visit our website for more information.



**Simphotek** Booth #4314

**New Product: SimphoSoft**

SimphoSoft provides a unique simulation suite for modeling photonic interactions in materials. It enables researchers and product engineers to analyze and optimize novel photoactivated materials avoiding expensive and time-consuming fabrication and laboratory testing. A key benefit is that it uses novel CAD-based diagrams, called transition modules, to replace tedious programming.



**Sino-Galvo (Beijing) Technology Co., Ltd.** Booth #5425

**New Product: JS1403 high speed scanning galvanometer system**

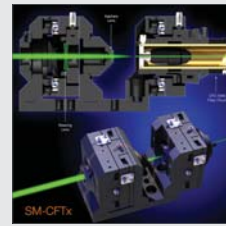
The JS1403 galvo system is designed for Optical fiber lasers. Not only delicate design, but also excellent for it enabled by the new miniature electronics. It has high speed, low drift values, robust and dust proof characteristics, very fit for industrial conditions.



**Sino-Galvo (Beijing) Technology Co., Ltd.** Booth #5425

**New Product: JS1505 Medical And Beauty Galvanometer**

JS1505 is a new generation of medical and beauty galvanometer system which is mainly applied in Fractional Laser system; it has square, rectangle, triangle, circle, hexagon, one glyph and various graphics etc. Each graphics has unique transform functions. JS1505 is not only has small size, powerful software, but also has the real super pulse function, has won a national invention patent.



**Siskiyou Corporation** Booth #2100

**New Product: Fiber Coupler SM-CFTx**

A diffraction-limited asphere and steering lens in an optical lever-arm configuration make single mode coupling easier than ever with the Siskiyou SM-CFTx. Non-influencing axes locks can take a 3G jolt and stayed aligned. 100 pitch screws provide sub-micron adjustment. See it at [www.Siskiyou.com](http://www.Siskiyou.com).

**Spectronix Corporation** Booth #4518

**New Product: Q-switched DPSS Green LASER**

We are happy to announce our new Ultra Compact Q-switched DPSS 10W Green LASER. Our Thermal Analysis and Control Technology for advanced LASER systems had assisted us to achieve both the outstanding Output Stability and Robustness even at various environmental conditions. Optimized to Thin Film PV Scribings and Microprocessings.

**New Product: Q-switched DPSS UV Laser**

We are happy to announce our new Ultra Compact Q-switched DPSS 1.5W UV LASER with high beam quality, excellent output stability and high reliability. Our unique technology has realized a easy to use LASER at harsh environments. This system is optimized for engraving materials such as glass and sapphire substrates.



**SPI Lasers** Booth #1935

**New Product: Pulsed and CW Fiber Lasers**

SPI's pulsed & CW fiber lasers and direct diode lasers are used for a wide range of applications, our lasers are able to cut, weld and mark a large variety of materials, both metal and non-metal, and bring many benefits such as reproducibility and high energy efficiency in a compact and reliable package. SPI Lasers' product range covers countless application process areas across a wide range of industries.

# New products launched at SPIE Photonics West

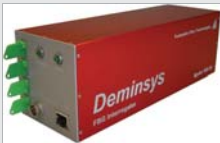
Don't miss your opportunity to see these new products and discuss your requirements with suppliers.



**Stellar Industries Corp.** Booth #937

## New Product: Online Ceramic Substrates Web Store

DESCRIPTION: [www.stellar-ceramics.com](http://www.stellar-ceramics.com) announces their new "Off the Shelf Ceramic" web store as an instant, convenient way to purchase AlN, Al<sub>2</sub>O<sub>3</sub>, and DBCu ceramic substrates from their available online inventory lists. The website provides immediate access and offers secure and easy credit card and PayPal payments and fast 2-3 days standard delivery.



**Technobis Group** Booth #4301

## New Product: FBG interrogator: Deminsys D series

The feedback from the users has been incorporated into the new Deminsys D series: the software was updated and new electronics were installed. These improvements bring us the other level of a mature FBG interrogator that will be used in many research projects which use high-speed, multi-sensor systems.



## TEM Messtechnik GmbH

Booth #4601

## New Product: Aligna - Automated Laser Beam Alignment and Stabilization System

The Aligna System is often used in high precision material processing. It compensates drifts, air fluctuations and mechanical disturbances. Switching of one laser to several applications as well as to different optical tables or rooms is possible. Aligna performs a complete auto-alignment after laser replacement.



**Thorlabs Inc.** Booth #1715

## New Product: Optical Spectrum Analyzers

A new line of Fourier transform-based Optical Spectrum Analyzers (OSAs) from Thorlabs provides a compact, fiber-based solution to quickly and easily resolve wavelength and spectral characteristics in the 380 nm to 2.6  $\mu$ m spectral range. Thorlabs' OSAs feature picometer resolution, fast scan times, and powerful data analysis software.



## Tianjin Tengting Industrial and Trading Co., Ltd

Booth #4405

## New Product: Nine apertures magnifier

Nine apertures magnifier comprises of a prism and a magnifier, which is used for inspecting in the electronic field such as the circuit board.



**Vytran, LLC** Booth #729

## New Product: LFS-4000

Vytran's LFS-4000 is a stand-alone optical fiber splicer for standard, large-diameter and specialty fibers. It combines Vytran's unique filament fusion technology, a high degree of user process control, and simple manufacturing operation. It is ideal for manufacturing fiber assemblies for fiber laser, sensing, medical device and R&D applications, among others.



## New Product: LDC-400

Vytran's LDC-400 is an automated optical fiber cleaver for producing flat and angled cleaves on fibers ranging from 80 microns to 1.25 mm in diameter. LDC-400 cleaves standard and specialty fibers such as PCF, LMA and stressed fibers. Applications range from fiber lasers and sensing to fiber-based medical devices.



**Wasatch Photonics** Booth #1041

## New Product: Spectrometers for Raman and OCT

Wasatch Photonics Systems Group is pleased to announce a line of spectrometers based on Wasatch Photonics ultimate diffraction gratings. These spectrometers provide industry leading throughput and resolution with very low polarization dependent loss in a small form factor.



## Wavelength Electronics, Inc.

Booth #2200

## New Product: QCL Series Low Noise Quantum Cascade Laser Driver

The QCL Series Low Noise Quantum Cascade Laser Driver minimizes linewidth, spectral drift, and center wavelength jitter. Available in models up to 2 A with low RMS noise (1 mA with the QCL1000), the QCL Series is the ideal way to increase your chemical sensor performance.



## Wavelength Technology

Singapore Pte. Ltd Booth #2610

## New Product: Beam Attenuator

Beam Attenuator is based on optical thin film coating technology. It enables to change the entire laser energy, and serves the purpose of continuous adjustment. This product has exquisite contour, the structure is compact, it is very easy to install and use.



**Yenista Optics S.A.** Booth #6006, 6008  
**New Product: TUNICS T100S High & ASE-free tunable laser - XTA50 Highly selective tunable filter**

TUNICS T100S is a new general purpose tunable laser combining high output power and ASE suppression. Working on O, C, L & U band, the T100S guarantees a large wavelength range of 110/150nm. With a tunable FWHM from 50pm to 800pm, XTA50 is the ideal tool for channel selection for BERT or modulation format analysis. The extremely sharp edges of 500dB/nm ensure a clean cut between the signal and the adjacent channels or noise.

**XiO Photonics** Booth #4315  
**New Product: Integrated LaserBox**

The Integrated LaserBox provides a single source for all the wavelengths for confocal microscopy. The compact source is easy-to-use and generates all 8 standard wavelengths for fluorescence applications and combines it into the single-mode output fiber. An easy to use single interface allows the user to control the individual wavelengths.



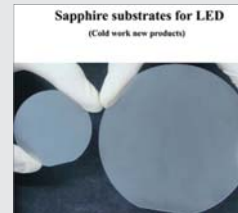
**Zaber Technologies** Booth #2619  
**New Product: T-G-LSM Series Gantry System**

Zaber's Gantries are designed for use where access is required to the entire area under the system. A synchronized pair of lead-screws provide very low backlash and high stiffness. T-G-LSM gantry systems include a baseplate with a full M6 on 25 mm grid of mounting holes, integrated high flex cable and cable management system. Custom gantries available.



**Zeta Instruments** Booth #4401  
**New Product: Zeta Automated Surface Analysis Suite**

Zeta Instruments now has an array of analytical software modules to quickly characterize LEDs, Solar Cells, and Micro-fluidic channels. Our software post-processes the detailed 3D data captured by our Zeta optical profiling systems to calculate surface area, height, size, pitch, density, and other important parameters that determine device performance.



**Zhejiang Crystal-Optech Co., Ltd.**

Booth #5117

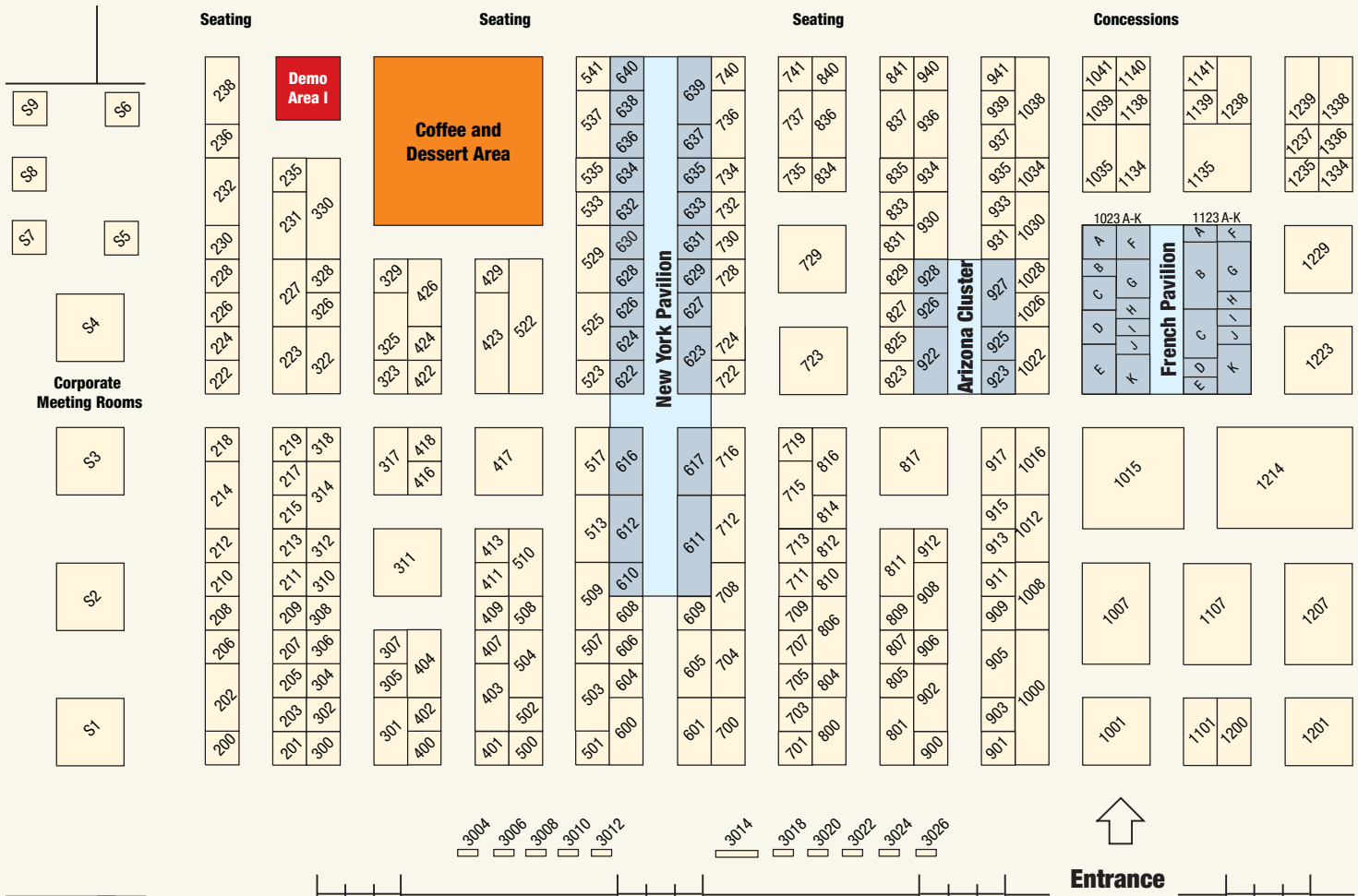
**New Product: 12" glass wafer; Narrow bandpass filter; PSS/Sapphire substrates for LED.**

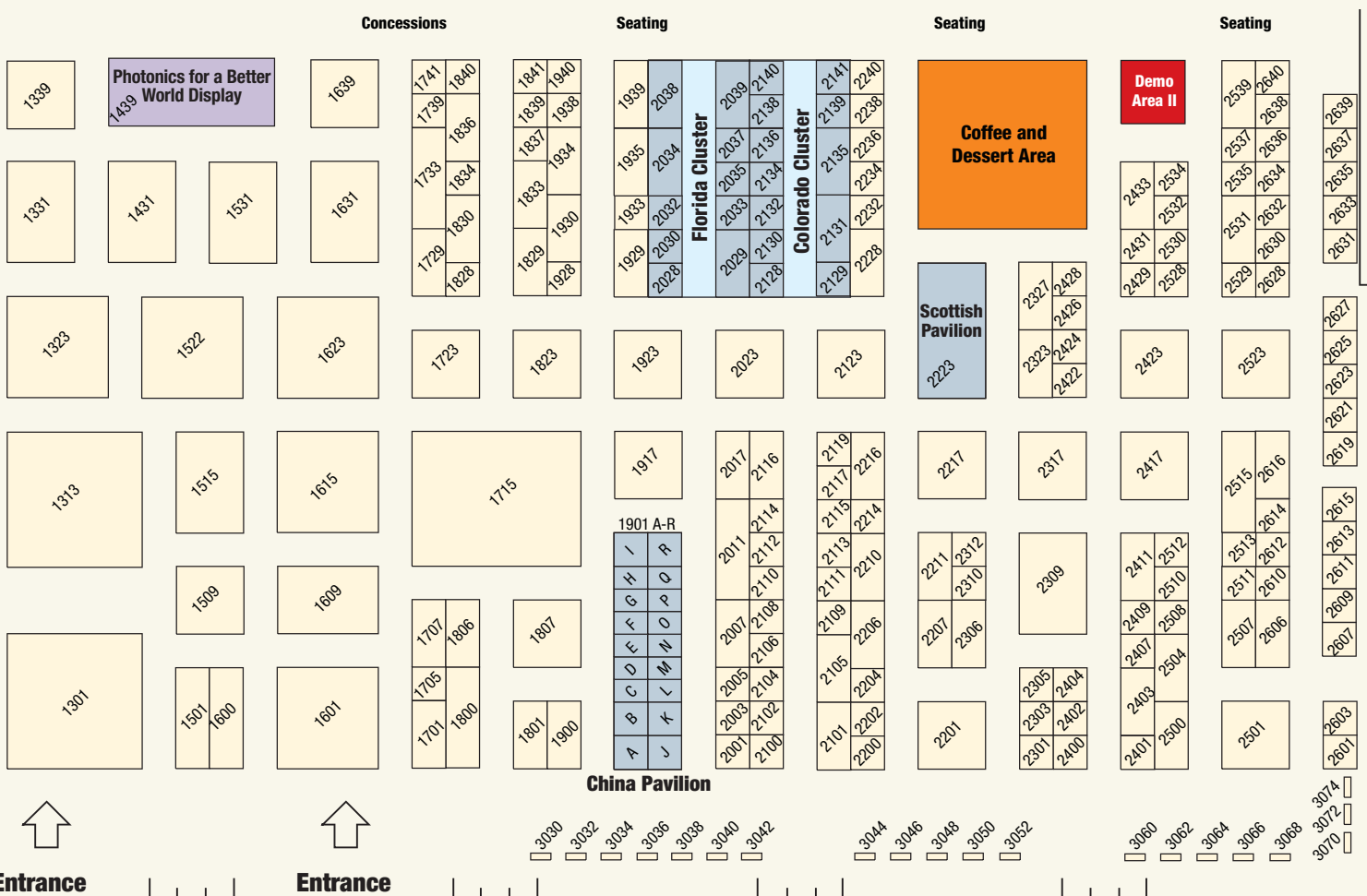
12" polished glass wafer, new products of cold work, TTV can reach 2um. Narrow bandpass filter for entertainment games, new product of coating. PSS/Sapphire substrates for LED, new products of cold work.



# The Moscone Center

## South Hall





# The Moscone Center

## North Hall

Concessions

Seating Area



Entrance





# Exhibitor Booth Index

## South Hall

- 200** Photon Engineering, LLC  
**201** FJW Optical Systems, Inc.  
**202** Steinmeyer, Inc.  
**203** Mitsui Chemicals America, Inc.  
**205** Micropac Industries Inc.  
**206** Element Six  
**207** UNIVET srl  
**208** MegaWatt Lasers, Inc.  
**209** LightGuideOptics USA, LLC  
**210** A.J. Tuck Co.  
**211** Frontier Optics Inc.  
**212** WITCORE Co., Ltd.  
**213** Yangtze Optical Fibre and Cable Co., Ltd.  
**214** Axsys Technologie - General Dynamics Advanced Information Systems  
**215** CASTON Inc.  
**217** Infinite Optics Inc.  
**218** Laser Diode, Inc.  
**219** L-3 Communications, Tinsley  
**222** Tower Optical Corp.  
**223** Omega Optical, Inc.  
**224** Hagitec Co., Ltd.  
**226** Sens-Tech Ltd.  
**227** LightWorks Optics, Inc.  
**228** Janos Technology, Inc.  
**230** Spectral Products  
**231** M Squared Lasers Ltd.  
**232** Pranalytica, Inc.  
**235** Insaco, Inc.  
**236** Infinite Graphics  
**238** Accumold  
**300** Fresnel Technologies Inc.  
**301** Laser Quantum Ltd.  
**302** Pavilion Integration Corp.  
**304** Fiberoptic Systems, Inc.  
**305** DAC International, Inc.  
**305** Larsen Equipment Design, Inc.  
**306** AllMotion  
**307** GT Crystal Systems  
**308** Innolume GmbH  
**310** Sierra Precision Optics  
**311** MPB Communications Inc.  
**312** Deposition Sciences, Inc  
**314** Prior Scientific Inc.  
**317** Power Technology, Inc.  
**318** Reynard Corp.  
**322** EXALOS AG  
**323** Lambda Research Corp.  
**325** Xenics  
**326** NTT Electronics Corp.  
**328** NP Photonics  
**329** SAES Getters USA, Inc.  
**329** Spectra-Mat, Inc.  
**330** Boston Electronics Corp.  
**330** Helioworks, Inc.  
**330** ID Quantique SA  
**400** National Aperture, Inc.
- 401** Headwall Photonics, Inc.  
**402** Apollo Instruments, Inc.  
**403** DiCon Fiberoptics, Inc.  
**404** Laser Operations LLC/QPC Lasers  
**407** Axsun Technologies  
**409** IMT North America Inc.  
**411** 89 North  
**413** ESDI (Engineering Synthesis Design, Inc.)  
**416** Lumencor, Inc.  
**417** Andor Technology  
**418** IMRA America, Inc.  
**422** Sutter Instrument Co.  
**423** DCM-Tech, Inc.  
**423** Mindrum Precision, Inc.  
**424** Santec USA Corp.  
**426** CeramOptec Industries, Inc.  
**429** Nanonics Imaging Ltd.  
**500** Andover Corp.  
**501** ASML Optics  
**502** Denselight Semiconductors Pte Ltd.  
**503** EM4, Inc.  
**504** Kaleido Technology  
**507** COMSOL, Inc.  
**508** New England Photoconductor Corp.  
**509** HC Photonics Corp.  
**509** OP Mount Instrument Inc.  
**510** Foreal Spectrum, Inc.  
**513** BaySpec, Inc.  
**517** FEMTOLASERS, Inc.  
**522** Photonics Media  
**523** Superlum  
**525** Mad City Labs, Inc.  
**529** Calmar Laser, Inc.  
**533** Lattice Electro Optics, Inc.  
**535** International Radiation Detectors, Inc.  
**537** II-VI Infrared  
**541** ZC&R Coatings for Optics, Inc.  
**600** Frankfurt Laser Co.  
**601** LIMO Lissotschenko Mikrooptik GmbH  
**604** Minus K Technology, Inc.  
**605** FLIR Precision Optics  
**605** Scientific Materials Corp.  
**606** Evans Analytical Group  
**608** Stanford Photonics, Inc.  
**609** Ferrotec (USA) Corp.  
**610** New Scale Technologies, Inc.  
**611** Corning Incorporated  
**612** Rochester Precision Optics LLC  
**616** Semrock, Inc.  
**617** Photek Limited  
**617** Sydor Instruments LLC  
**617** Sydor Optics, Inc.  
**622** Optimax Systems, Inc.  
**623** Dynasil Corporation of America
- 623** Evaporated Metal Films Corporation  
**623** Optometrics Corp.  
**624** Xactra Technologies  
**626** OptiPro Systems  
**627** Bristol Instruments, Inc.  
**628** JML Optical Industries Inc.  
**629** Vincent Associates  
**630** Gurley Precision Instruments, Inc.  
**631** Swift Glass Company  
**632** University of Rochester, The Institute of Optics  
**633** Photon Gear, Inc.  
**634** Imaging Solutions Group  
**635** Photonics Industry Association of New York  
**636** Smart System Technology & Commercialization Center (STC)  
**637** AccuCoat, Inc.  
**638** Wordingham Technologies  
**639** Computer Optics Inc.  
**639** Optics Technology, Inc.  
**640** Syntec Optics  
**700** OPTICS 1, Inc.  
**701** Fiberguide Industries, Inc.  
**703** ADIT/Electron Tubes  
**704** Innovative Photonic Solutions  
**705** Wiley-Blackwell  
**707** Translume, Inc.  
**708** Laservision USA  
**709** SPOT Imaging Solutions  
**711** On-Trak Photonics, Inc.  
**712** Schneider Optics, Inc.  
**713** Martek Power Laser Drive, LLC  
**715** Optiwave Systems Inc.  
**716** Hellma Materials GmbH & Co. KG  
**716** Hellma USA  
**716** tec5USA  
**719** Micro Laser Systems, Inc.  
**722** QED Technologies, Inc.  
**723** NKT Photonics A/S  
**724** Anteryon BV  
**728** Optonetic LLC  
**729** Vytran LLC  
**730** CASTECH Inc.  
**732** Electro Optics Magazine  
**734** Teraxion Inc.  
**735** Collimated Holes, Inc.  
**736** Nikon Corp.  
**737** MLOptic Corp.  
**737** Spanoptic Ltd.  
**740** VueMetrix  
**741** Ibsen Photonics  
**800** Agilent Technologies, CAG  
**801** B&W Tek, Inc.  
**804** High Tech Photonics  
**804** JT Ingram  
**805** Argyle International Inc.  
**806** Isuzu Glass Inc.
- 807** Advanced Imaging Magazine/Cygnus Business Media  
**809** nPoint, Inc.  
**810** PolarOnyx, Inc.  
**811** Sensors Unlimited-Goodrich ISR Systems  
**812** INO  
**814** Grintech GmbH  
**816** Lockheed Martin Aculight  
**817** Toptica Photonics, Inc.  
**823** Polymicro Technologies, a subsidiary of Molex Incorporated  
**825** Coastal Connections  
**827** ICA Corporation  
**829** EMD Chemicals Inc.  
**831** CASIX, Inc.  
**833** PROMET International Inc.  
**834** ZEMAX Development Corp.  
**835** Optical Building Blocks Corporation  
**835** Photon Technology International, Inc.  
**836** WZWOPTIC AG  
**837** Multiwave Photonics  
**840** Moeller-Wedel Optical GmbH  
**840** Vermont Photonics Technologies Corp.  
**841** Zeon Chemicals  
**900** Light Age, Inc.  
**901** CRi  
**902** Evaporated Coatings, Inc.  
**903** Western Photonics Technology  
**905** BWT Beijing Ltd.  
**906** Kaiser Systems, Inc.  
**908** Chroma Technology Corp.  
**909** Process Materials Inc.  
**911** OPCO Laboratory, Inc.  
**912** NoIR  
**913** Electro-Optics Technology, Inc.  
**915** TecOptics, Inc.  
**917** Avo Photonics, Inc.  
**922** Lincoln Laser Co.  
**923** Breault Research Organization  
**925** Univ. of Arizona, College of Optical Sciences  
**926** Kiyohara Optics USA  
**927** Lasertel Inc.  
**928** AdValue Photonics Inc.  
**930** Diffractive Optics Ltd.  
**931** AGM Container Controls, Inc.  
**933** Laser-Compact Co. Ltd.  
**933** Laser-export Co. Ltd.  
**934** Precision Optics Corp Inc.  
**935** Spectroscopy Magazine  
**936** Photonics Online  
**937** Stellar Industries Corp.  
**939** Ondax, Inc.

Thanks the following sponsors for their generous support

Lanyards	Internet Pavilion	Hotel Room Key Cards
 <p><b>DILAS</b> The diode laser company.</p> <p>Booth # 4837 www.dilas.com</p>	 <p><b>Princeton Instruments</b></p> <p>Booth #1223 www.princetoninstruments.com</p>	 <p><b>TRUMPF</b></p> <p>Booth #1631 www.us.trumpf.com</p>
Stairway Strips	Floor Graphics	Conference Bags
 <p><b>SCHOTT</b> glass made of ideas</p> <p>Booth #1601 www.us.schott.com/ advanced_optics</p>	 <p><b>HIGH Q LASER</b> THINK ULTRAFAST!</p> <p>Booth #4719 www.highq-us.com</p>	 <p><b>Edmund optics</b>   worldwide</p> <p>Booth #1214 www.edmundoptics.com</p>
Banner		
 <p><b>CVI Melles Griot</b> AllThingsPhotonic.com</p> <p>Booth #4501 www.cvimellesgriot.com</p>	 <p><b>KEOPSYS</b> THE LIGHT TOUCH</p> <p>Booth #2114 www.keopsys.com</p>	 <p><b>LASER COMPONENTS</b></p> <p>Booth #2217 www.laser-components.com</p>
 <p><b>laservision</b> WE PROTECT YOUR EYES</p> <p>Booth #708 www.lasersafety.com</p>	 <p><b>modulight</b> on your wavelength</p> <p>Booth #4635 www.modulight.com</p>	 <p><b>QIOPTIQ</b> Photonics For Innovation</p> <p>Booth #1522 www.qioptiq.com</p>
 <p><b>Semrock</b> A Unit of <b>IBEX</b> Corporation</p> <p>Booth #616 www.semrock.com</p>	 <p><b>TOPTICA</b> PHOTONICS</p> <p>Booth #817 www.toptica-usa.com</p>	 <p><b>United Lens</b></p> <p>Booth #1929 www.unitedlens.com</p>



# Exhibitor Booth Index

<b>940</b>	GEL-PAK	<b>1200</b>	Optical Research Associates see Synopsys, Inc.	<b>1515</b>	RMI Laser Div.	<b>1901</b>	CIEC Overseas Exhibition Co., Ltd.
<b>941</b>	ThermoTek Inc.	<b>1200</b>	Synopsys, Inc.	<b>1515</b>	Rocky Mountain Instrument Co.	<b>1901A</b>	HB Optical Technology Co., Ltd.
<b>1000</b>	Cambridge Technology, Inc.	<b>1201</b>	HORIBA Scientific	<b>1522</b>	Qioptiq	<b>1901B</b>	Beijing Glass Research Institute
<b>1000</b>	ExoTec Precision	<b>1207</b>	IPG Photonics Corp.	<b>1522</b>	Varioptic	<b>1901C</b>	Gold Dragon Optics Electronic Technology Co., Ltd.
<b>1000</b>	MicroE Systems	<b>1214</b>	Anchor Optics	<b>1531</b>	Zygo Corporation	<b>1901D</b>	Thatshigh Photoelectric Technology Co., Ltd.
<b>1001</b>	Oclaro, Inc.	<b>1214</b>	Edmund Optics	<b>1600</b>	Barr Associates, please refer to Williams Advanced Materials	<b>1901E</b>	Filtech Photonics Co., Ltd.
<b>1007</b>	Ocean Optics, Inc.	<b>1223</b>	Acton Optics & Coatings	<b>1600</b>	Thin Film Technology, please refer to Williams Advanced Materials	<b>1901F</b>	Dayoptics, Inc.
<b>1008</b>	Ferson Technologies, Inc.	<b>1223</b>	Media Cybernetics, Inc.	<b>1601</b>	SCHOTT North America, Inc.	<b>1901G</b>	Zhejiang ZCN Scientific Co., Ltd.
<b>1008</b>	OSI Optoelectronics, Inc.	<b>1223</b>	Princeton Instruments	<b>1609</b>	Northrop Grumman Cutting Edge Optronics	<b>1901H</b>	Suzhou Delphi Laser Co., Ltd.
<b>1012</b>	Technical Manufacturing Corp.	<b>1229</b>	Quantel	<b>1609</b>	Northrop Grumman SYNOPTICS	<b>1901I</b>	Xi'an Focuslight Technologies Co., Ltd.
<b>1015</b>	Coherent Inc.	<b>1235</b>	Max Levy Autograph, Inc.	<b>1615</b>	JDSU	<b>1901J</b>	The China and South Optical Crystals Co.
<b>1016</b>	Tessera Inc.	<b>1237</b>	Oxide Corp.	<b>1623</b>	OptoSigma Corp.	<b>1901K</b>	Fuzhou USTRON Optoelectronic Materials Co., Ltd.
<b>1022</b>	Incom, Inc.	<b>1238</b>	INGENERIC GmbH	<b>1631</b>	TRUMPF Inc.	<b>1901L</b>	Silian Technical Import & Export Co., Ltd. Chongqing
<b>1023A</b>	ALPAO	<b>1239</b>	HOLOEYE Photonics AG	<b>1639</b>	Kigre, Inc.	<b>1901M</b>	Wuhan TianYu Optical & Electronic Instrument Co., Ltd.
<b>1023B</b>	Fiberocryst	<b>1301</b>	New Focus, A Newport Corporation Brand	<b>1639</b>	Spica Technologies, Inc.	<b>1901N</b>	Wuhan Zhongji Optical Instrument Co., Ltd.
<b>1023C</b>	Bretagne International	<b>1301</b>	Newport Corp.	<b>1701</b>	TwinStar Optics, Coatings, & Crystals	<b>1901O</b>	Wuhan Huaray Precision Laser Co., Ltd.
<b>1023C</b>	PERFOS	<b>1301</b>	Oriel Instruments, A Newport Corporation Brand	<b>1705</b>	Aerotech, Inc.	<b>1901P</b>	Sichuan GLAS Opt & Ele Technology Co., Ltd.
<b>1023D</b>	Keopsys SA	<b>1301</b>	Richardson Gratings, A Newport Corporation Brand	<b>1707</b>	Optikos Corp.	<b>1901Q</b>	Beijing Bodian Optical Technology Co., Ltd.
<b>1023E</b>	Teem Photonics	<b>1301</b>	Spectra-Physics, A Newport Corporation Brand	<b>1715</b>	The Cooke Corp.	<b>1901R</b>	Phosctech Photonics Ltd.
<b>1023F</b>	PHASICS France	<b>1313</b>	Hamamatsu Corp.	<b>1715</b>	Menlo Systems GmbH	<b>1917</b>	FLIR Systems, Inc.
<b>1023G</b>	INDATECH	<b>1323</b>	JENOPTIK   Lasers & Material Processing	<b>1715</b>	Thorlabs, Inc.	<b>1923</b>	ProPhotonix, Ltd.
<b>1023G</b>	Savimex	<b>1323</b>	JENOPTIK   Optical Systems	<b>1723</b>	Continuum	<b>1928</b>	Navitar
<b>1023H</b>	POPsud - Optitec	<b>1331</b>	JENOPTIK   Optical Systems	<b>1729</b>	Inrad, a PPGI Company	<b>1928</b>	Special Optics
<b>1023I</b>	GL Events Exhibition	<b>1331</b>	Cobolt AB	<b>1729</b>	Laser Optics, a PPGI company	<b>1929</b>	United Lens Co., Inc.
<b>1023J</b>	New Imaging Technologies	<b>1331</b>	CryLaS GmbH	<b>1729</b>	MRC a PPGI company	<b>1930</b>	Ayase America, Inc.
<b>1023K</b>	iXFiber SAS	<b>1331</b>	Eagleyard Photonics GmbH	<b>1729</b>	Photonic Products Group Inc. (PPGI)	<b>1933</b>	Apollo Optical Systems
<b>1026</b>	Rubicon Technology, Inc.	<b>1331</b>	LASOS Lasertechnik GmbH	<b>1733</b>	Piezosystem Jena, Inc.	<b>1934</b>	ficonTEC Corporation
<b>1028</b>	Leister Technologies, LLC	<b>1331</b>	Market Tech, Inc.	<b>1733</b>	SIOS	<b>1935</b>	SPI Lasers
<b>1030</b>	Hinds Instruments, Inc.	<b>1331</b>	Necsel	<b>1739</b>	Laser Institute of America	<b>1938</b>	Lattice Materials LLC
<b>1034</b>	Advanced Microoptic Systems GmbH	<b>1331</b>	Omicron Laserage Laserprodukte GmbH	<b>1741</b>	Valley Design Corp.	<b>1939</b>	OXXIUS SA
<b>1035</b>	AMO WaveFront Sciences, LLC	<b>1331</b>	Xiton Photonics GmbH	<b>1800</b>	Heraeus	<b>1940</b>	Docter Optics, Inc.
<b>1036</b>	nLight Corporation	<b>1334</b>	Applied Photonics Inc.	<b>1801</b>	KLA-Tencor	<b>2001</b>	Optec S.p.A.
<b>1039</b>	NASA Tech Briefs	<b>1334</b>	LASCAD	<b>1806</b>	Stanford Research Systems, Inc.	<b>2003</b>	Sensor Electronic Technology, Inc.
<b>1041</b>	Wasatch Photonics	<b>1334</b>	PHASICS	<b>1807</b>	Photonics Industries International, Inc.	<b>2005</b>	OPOTEK, Inc.
<b>1101</b>	Veeco Instruments Inc.	<b>1336</b>	Nutfield Technology, Inc.	<b>1823</b>	Universal Photonics, Inc.	<b>2007</b>	Laser 2000 GmbH
<b>1107</b>	Gooch & Housego	<b>1338</b>	Moore Nanotechnology Systems LLC	<b>1828</b>	G-S PLASTIC OPTICS	<b>2011</b>	ER Precision Optical Corp.
<b>1123A</b>	AUREA Technology	<b>1339</b>	Intense	<b>1829</b>	Precitech, Inc., a division of AMETEK	<b>2011</b>	OPTIX Co.
<b>1123B</b>	French Pavilion – UBIFRANCE	<b>1431</b>	Amplitude Systemes	<b>1830</b>	CrystaLaser	<b>2017</b>	Spectrum Thin Films Inc.
<b>1123D</b>	KERDRY	<b>1431</b>	Amplitude Technologies	<b>1833</b>	AOC Technologies, Inc.	<b>2023</b>	RSoft Design Group
<b>1123E</b>	Microcertec	<b>1431</b>	Cristal Laser SA	<b>1833</b>	Conex Systems Technology, Inc.	<b>2028</b>	Analog Modules, Inc.
<b>1123F</b>	AA OPTO-ELECTRONIC	<b>1431</b>	FASTLITE	<b>1834</b>	CRYSTECH Inc.	<b>2029</b>	LightPath Technologies, Inc.
<b>1123G</b>	Route des Lasers	<b>1431</b>	Imagine Optic	<b>1836</b>	Fisba Optik AG		
<b>1123H</b>	Innoptics	<b>1439</b>	Jewish World Watch	<b>1836</b>	SUSS MicroOptics SA		
<b>1123I</b>	Azur Light Systems	<b>1439</b>	Light Up the World	<b>1837</b>	Opnext, Inc.		
<b>1123J</b>	ISP System	<b>1439</b>	One Million Lights	<b>1839</b>	Stemmerich, Inc.		
<b>1123K</b>	EOLITE SYSTEMS	<b>1439</b>	SPIE Photonics for a Better World	<b>1840</b>	Lumics Laser		
<b>1134</b>	Mildex, Inc.	<b>1501</b>	Laser Focus World	<b>1841</b>	DPSS Lasers Inc.		
<b>1135</b>	Marlow Industries, Inc.	<b>1509</b>	Quantronix Corp.	<b>1900</b>	Photron		
<b>1135</b>	Photop Technologies, Inc.						
<b>1135</b>	VLOC						
<b>1138</b>	Changchun New Industries Optoelectronics Technology Co., Ltd.						
<b>1139</b>	Luna Technologies						
<b>1140</b>	Glass Fab Inc.						
<b>1141</b>	RPC Photonics, Inc.						

Coffee Breaks

**HAMAMATSU**

Booth #1313  
sales.hamamatsu.com

**HIGH Q LASER®**  
THINK ULTRAFAST!™

Booth #4719  
www.highq-us.com

**NUFERN™**  
Driven To Light.

Booth #2105  
www.nufern.com

Coffee/Dessert Break

**GOODRICH**

Booth #811  
www.sensorsinc.com

**ofs**

A Furukawa Company

Booth #2201  
www.specialtyphotonics.com

Conference Bag Inserts

**AMERICAN ELEMENTS**

www.americanelements.com

**CVI Melles Griot**  
AllThingsPhotonic.com

Booth #4501  
www.cvimellesgriot.com

**eagleyard**  
PHOTONICS

We focus on power.  
Booth #1331  
www.eagleyard.com

**KENTEK®**  
"Laser Smart Products"™

Booth #4431  
www.kenteklaserstore.com

**modulight**  
on your wavelength

Booth #4635  
www.modulight.com

**MW multiwave**

Booth #837  
www.multiwavephotonics.com

**OptoSigma®**

Booth #1623  
www.optosigma.com

**PhotonicsOnline**

Booth #936  
www.photonicsonline.com

**RSOFT**  
Design Group

Booth #2023  
www.rsoftdesign.com

**DLP**  
TEXAS INSTRUMENTS

Booth #2309  
www.ti.com/mems

**SmarAct**  
GmbH

Booth #4106  
www.smaract.de

# Exhibitor Booth Index

<b>2030</b> Tecport Optics, Inc.	<b>2211</b> Berliner Glas KGaA Herbert Kubatz GmbH & Co.	<b>2402</b> Hitachi High Technologies America	<b>2611</b> Covesion Ltd.
<b>2032</b> CRC Press - Taylor and Francis Group LLC	<b>2211</b> SwissOptic AG	<b>2403</b> CorActive High-Tech, Inc.	<b>2612</b> Edinburgh Instruments Ltd
<b>2033</b> Quality Thin Films, Inc.	<b>2214</b> IntraAction Corp.	<b>2404</b> Sandia National Laboratories	<b>2613</b> LaserPoint Srl
<b>2034</b> CREOL, The College of Optics & Photonics, UCF	<b>2216</b> Ophir Optics, LLC	<b>2407</b> Sinclair Manufacturing	<b>2614</b> PerkinElmer Analytical Sciences and Laboratory Services (ASLS)
<b>2034</b> Florida Photonics Cluster	<b>2217</b> CODIXX AG	<b>2409</b> Beijing Century Sunny Technology Co., Ltd.	<b>2615</b> Holo-Or Ltd.
<b>2035</b> Pangolin Laser Systems Inc.	<b>2217</b> Laser Components Canada, Inc.	<b>2411</b> Leybold Optics USA, Inc.	<b>2616</b> V-gen Ltd.
<b>2037</b> OptiGrate Corp.	<b>2217</b> Laser Components DG, Inc.	<b>2417</b> Altos Photonics, Inc.	<b>2619</b> Zaber Technologies Inc.
<b>2038</b> Naked Optics Corp.	<b>2217</b> Laser Components GmbH	<b>2417</b> EKSMA Optics	<b>2621</b> Valdor Fiber Optics
<b>2038</b> Phoenix Optical Technologies Ltd.	<b>2217</b> Laser Components IG, Inc.	<b>2417</b> EKSPLA UAB	<b>2623</b> nanoplus Nanosystems and Technologies GmbH
<b>2038</b> Precision Optics Gera	<b>2217</b> Philips Technologie GmbH U-L-M Photonics GmbH	<b>2417</b> Light Conversion Ltd.	<b>2625</b> Allied Laser Solutions, LLC
<b>2039</b> Lee Laser, Inc.	<b>2223</b> Compound Semiconductor Technologies Global (CSTG) Ltd.	<b>2417</b> Standa	<b>2627</b> Keting Optical Technology Inc.
<b>2100</b> Siskiyou Corporation	<b>2223</b> Forth Dimension Displays Ltd.	<b>2422</b> Brimrose Corporation of America	<b>2628</b> SCD-Semi Conductor Devices
<b>2101</b> Teledyne Judson Technologies	<b>2223</b> Gilден Photonics Ltd	<b>2423</b> Thermo Scientific - CIDTEC	<b>2630</b> Shimadzu Corp.
<b>2102</b> ULTRA Tec Mfg., Inc.	<b>2223</b> Helia Photonics Ltd.	<b>2423</b> Thermo Scientific, Scientific Instruments	<b>2631</b> Accurate Engineering Inc.
<b>2104</b> Physics Today	<b>2223</b> Intellemetrics Global Ltd.	<b>2424</b> Nalux Co., Ltd.	<b>2632</b> Kyosemi Corporation
<b>2105</b> Nufern	<b>2223</b> Logitech Ltd.	<b>2426</b> KELK Ltd.	<b>2633</b> Redfern Integrated Optics, Inc.
<b>2106</b> Fotofab	<b>2223</b> Photonic Solutions Ltd.	<b>2428</b> Rolyn Optics Co.	<b>2634</b> Heriot-Watt University
<b>2108</b> Spire Semiconductor, LLC	<b>2223</b> PowerPhotonic Ltd.	<b>2429</b> Gentex Corp.	<b>2635</b> Lighthouse Photonics Inc.
<b>2109</b> UltraVolt, Inc.	<b>2223</b> Precision Photometrics Ltd.	<b>2431</b> Optikron GmbH	<b>2636</b> Spectral Evolution
<b>2110</b> EpiWorks, Inc.	<b>2223</b> Pyreos Ltd.	<b>2433</b> Research Electro-Optics, Inc.	<b>2637</b> Optisiv Ltd.
<b>2111</b> Innovations In Optics, Inc.	<b>2223</b> Scottish Development International	<b>2500</b> ILX Lightwave Corp.	<b>2638</b> HVM Technology Inc.
<b>2112</b> NM Laser Products Inc.	<b>2223</b> Scottish Optoelectronics Association	<b>2501</b> Fianium Inc.	<b>2639</b> StellarNet, Inc.
<b>2113</b> OptiSource, LLC	<b>2223</b> Scottish Universities Physics Alliance (SUPA)	<b>2504</b> Daylight Solutions	<b>2640</b> Lanmark Controls Inc.
<b>2114</b> Keopsys Inc.	<b>2228</b> Onyx Optics Inc.	<b>2507</b> International Light Technologies	<b>3004</b> Guild Optical Associates, Inc.
<b>2115</b> QPhotonics, LLC	<b>2232</b> Laser Research Optics	<b>2508</b> Yokogawa Corporation of America	<b>3006</b> Unice E-O Services Inc.
<b>2116</b> Lambda Research Optics Inc.	<b>2232</b> Meller Optics, Inc.	<b>2510</b> AXT, Inc.	<b>3008</b> Polymer Optics, LLC
<b>2117</b> Norland Products Inc.	<b>2234</b> Boston Micromachines Corp.	<b>2511</b> GPD Optoelectronics Corp.	<b>3010</b> VisiMax Technologies, Inc.
<b>2119</b> Blue Sky Research	<b>2236</b> Isomet Corp.	<b>2512</b> Vacuum Engineering & Materials Co., Inc.	<b>3012</b> R. Mathews Optical Works, Inc.
<b>2123</b> Ophir-Spiricon, LLC	<b>2238</b> Spectrum Scientific, Inc.	<b>2513</b> Snake Creek Lasers	<b>3014</b> Archer OptTx, Inc.
<b>2123</b> Photon Inc.	<b>2240</b> ISP Optics Corporation	<b>2515</b> SCANLAB America, Inc.	<b>3018</b> Shanghai Optics Inc.
<b>2128</b> Boulder Nonlinear Systems, Inc.	<b>2301</b> Excelitas Technologies Corp.	<b>2523</b> PicoQuant Photonics North America, Inc.	<b>3020</b> IOP Publishing Ltd.
<b>2129</b> Meadowlark Optics	<b>2303</b> Raicol Crystals Ltd.	<b>2523</b> Time-Bandwidth Products, Inc.	<b>3022</b> Harold Johnson Optical Labs.
<b>2130</b> Kimmon Electric US, L.P.	<b>2305</b> New Source Technology, LLC	<b>2528</b> Laserline Inc.	<b>3024</b> Dominar, Inc.
<b>2131</b> Avantes, Inc.	<b>2306</b> Agilent Technologies, Inc.	<b>2529</b> Canon U.S.A.	<b>3026</b> Epner Technology, Inc.
<b>2132</b> ALIO Industries	<b>2309</b> Texas Instruments	<b>2530</b> j-fiber GmbH	<b>3030</b> Bid Service
<b>2134</b> Colorado Photonics Industry Association	<b>2310</b> Micron Optics, Inc.	<b>2531</b> LightMachinery Inc.	<b>3032</b> Precision Asphere Inc.
<b>2135</b> Kapteyn-Murnane Labs. Inc. (KMLabs)	<b>2312</b> Spectrogon US Inc.	<b>2532</b> AdTech Optics, Inc.	<b>3034</b> Anson Optical Products Co., Ltd.
<b>2136</b> Saint-Gobain Crystals	<b>2317</b> Davidson Optronics, Inc.	<b>2534</b> Solid State Cooling Systems	<b>3036</b> Photonic Cleaning Technologies
<b>2138</b> Perkins Precision Developments LLC	<b>2317</b> Trioptics GmbH	<b>2535</b> Zomega Terahertz Corp.	<b>3038</b> OSA - The Optical Society
<b>2138</b> Triad Technology Inc.	<b>2323</b> China Daheng Group Inc.	<b>2537</b> Electro-Optical Products Corp.	<b>3040</b> Taboada Research Instruments, Inc.
<b>2139</b> Advanced Thin Films	<b>2327</b> Photon Design	<b>2539</b> KLASTECH - Karpushko Laser Technologies GmbH	<b>3042</b> Strasbaugh
<b>2140</b> Scientech, Inc.	<b>2400</b> Rainbow Research Optics, Inc.	<b>2601</b> Gavish, Inc.	<b>3044</b> Dyna Technologies, Inc.
<b>2141</b> Virtual Industries, Inc.	<b>2401</b> Sofradir EC, Inc.	<b>2603</b> Kurt J. Lesker Company	<b>3046</b> Swamp Optics, LLC
<b>2200</b> Wavelength Electronics, Inc.	<b>2401</b> ULIS	<b>2606</b> Fiber Optic Center, Inc.	<b>3048</b> Carl Hanser Verlag GmbH & Co. KG
<b>2201</b> OFS, Specialty Photonics Division		<b>2607</b> Tresky Corp.	<b>3050</b> Phoenix Infrared
<b>2202</b> InPhenix Inc.		<b>2609</b> Blue Ridge Optics LLC	<b>3052</b> APS Optics
<b>2204</b> Finetech		<b>2610</b> Wavelength Technology Singapore Pte Ltd.	
<b>2206</b> Axcel Photonics Inc.			
<b>2206</b> Sheumann Laser Inc.			
<b>2207</b> Precision Optical			
<b>2210</b> ARGES GmbH			



Exhibitor Reception Co-Sponsors



**SPIE** Connecting minds.  
Advancing light.

[www.SPIE.org](http://www.SPIE.org)



Booth #1501  
[www.laserfocusworld.com](http://www.laserfocusworld.com)



Booth #1501  
[www.industrial-lasers.com](http://www.industrial-lasers.com)



Booth #1501  
[www.bioopticsworld.com](http://www.bioopticsworld.com)




Booth #1501  
[www.vision-systems.com](http://www.vision-systems.com)

Exhibition/City Map Sponsors



Booth #730  
[www.castech.com](http://www.castech.com)



Booth #4501  
[www.cvimellesgriot.com](http://www.cvimellesgriot.com)



Booth #4410  
[www.exciton.com](http://www.exciton.com)



Booth #600  
[www.frlaserco.com](http://www.frlaserco.com)



Booth #311  
[www.mpbcommunications.com](http://www.mpbcommunications.com)



Booth #837  
[www.multiwavephotonics.com](http://www.multiwavephotonics.com)



Booth #1001  
[www.oclaro.com](http://www.oclaro.com)




Booth # 1837  
[www.opnext.com](http://www.opnext.com)



Booth #715  
[www.optiwave.com](http://www.optiwave.com)



Booth #1601  
[www.us.schott.com/  
advanced\\_optics](http://www.us.schott.com/advanced_optics)



Booth #2423  
[www.thermoscientific.com](http://www.thermoscientific.com)



Booth #2317  
[www.trioptics.com](http://www.trioptics.com)

# Exhibitor Booth Index

## North Hall

<b>4100</b> Krell Technologies	<b>4228</b> Schneider Optical Machines, Inc.	<b>4407</b> Kreischer Optics, Ltd.	<b>4535</b> FiberTech USA, Inc., Div. of Leoni Fiber Optics
<b>4101</b> Silicon Valley Optics Technology, Inc.	<b>4229</b> Critical Link LLC	<b>4408</b> Swiss Jewel Co.	<b>4535</b> LEONI Fiber Optics GmbH
<b>4102</b> Zurich Instruments	<b>4230</b> CLaser Photonics, Inc.	<b>4409</b> Diemat, Inc.	<b>4540</b> Cimcoop Holding Ltd.
<b>4103</b> AFL	<b>4231</b> Mitsubishi Cable Industries, Ltd.	<b>4410</b> Exciton, Inc.	<b>4541</b> Silicon Sensor International AG
<b>4104</b> Germanium and Applications Ltd.	<b>4232</b> EXFO	<b>4411</b> Opto-Alignment Technology, Inc.	<b>4542</b> Pacer USA LLC
<b>4106</b> SmarAct GmbH	<b>4232</b> FiberLabs Inc.	<b>4413</b> LightComm Technology	<b>4601</b> IMM Photonics GmbH
<b>4108</b> Telesis Technologies, Inc.	<b>4232</b> Finisar Australia	<b>4413</b> Neptec Optical Solutions, Inc.	<b>4601</b> inno-spec GmbH
<b>4110</b> Makino	<b>4232</b> New Ridge Technologies	<b>4414</b> Nanoscribe GmbH	<b>4601</b> Advanced Software Laser Design (ASLD)
<b>4111</b> EIS Optics Ltd.	<b>4232</b> OgMentum Incorporated	<b>4416</b> Centronic LLC	<b>4601</b> Aixtooling GmbH
<b>4114</b> Raydiance, Inc.	<b>4234</b> Novotech, Inc.	<b>4417</b> Optotune	<b>4601</b> AMPHOS GmbH
<b>4116</b> Canalaser Technologies Co., Ltd.	<b>4238</b> EMCO High Voltage Corp.	<b>4418</b> Advanced Photonix, Inc.	<b>4601</b> Artifex Engineering e.K.
<b>4117</b> DongWoo Optron Co., Ltd.	<b>4240</b> Space Optics Research Labs, LLC	<b>4419</b> Infratec Infrared LLC	<b>4601</b> asphericon GmbH
<b>4118</b> StellarNet, Inc.	<b>4242</b> Hitachi Kokusai Electric America, Ltd.	<b>4421</b> Fraunhofer IPMS	<b>4601</b> Astro- und Feinwerktechnik Adlershof GmbH
<b>4119</b> GRI Pumps	<b>4300</b> Brush Ceramic Products	<b>4424</b> 4AD Enterprises, Inc.	<b>4601</b> Berlin Adlershof Science and Technology Park, WISTA-MANAGEMENT GmbH
<b>4121</b> Filmetrics, Inc.	<b>4300</b> Brush Wellman Inc.	<b>4424</b> AdvR, Inc.	<b>4601</b> Bte Bedampfungstechnik GmbH
<b>4124</b> AOFR	<b>4301</b> Axiom Optics	<b>4424</b> Fuzhou Alpha Optics Co., Ltd.	<b>4601</b> Carl Zeiss Jena
<b>4125</b> TLC International	<b>4301</b> Holland Pavilion	<b>4425</b> Rainbow Photonics AG	<b>4601</b> Crystal GmbH
<b>4126</b> Dowa Electronics Materials Co., Ltd.	<b>4301</b> Lambert Instruments Mts	<b>4426</b> Crystran Ltd.	<b>4601</b> Dausinger+Giesen GmbH
<b>4128</b> Deltronic Crystal/Isowave	<b>4301</b> NL Agency / IOP Photonic Devices	<b>4427</b> IKO International, Inc.	<b>4601</b> Fraunhofer Heinrich Hertz Institute
<b>4129</b> GigaMat Technologies, Inc.	<b>4301</b> Photonics Cluster Netherlands	<b>4428</b> Focal Point, Inc.	<b>4601</b> Fraunhofer ILT
<b>4131</b> Suruga Seiki Co., Ltd.	<b>4301</b> Quest Innovations B.V.	<b>4429</b> Kentek Corp	<b>4601</b> Fraunhofer Institute for Applied Optics and Precision Engineering IOF
<b>4133</b> A.T. Wall Company	<b>4301</b> RSP Technology BV	<b>4431</b> Fiber Optic Valley AB	<b>4601</b> Fraunhofer-Institut für Integrierte Schaltungen IIS
<b>4134</b> Advance Reproductions Corp.	<b>4301</b> Technobis Group	<b>4435</b> Fibertronix AB	<b>4601</b> Fraunhofer-Institut für Produktionstechnologie IPT
<b>4135</b> National Instruments	<b>4304</b> Inlight Precision Optics Co., Ltd.	<b>4435</b> MidDec Scandinavia AB	<b>4601</b> Fraunhofer-Institut für Silicatforschung
<b>4136</b> NTG Neue Technologien GmbH & Co. KG	<b>4306</b> Rising Electro-Optics Ltd.	<b>4435</b> Optoskand AB	<b>4601</b> Fresnel Optics GmbH
<b>4139</b> MolTech GmbH	<b>4307</b> Mightex Systems	<b>4435</b> RAYBIUM	<b>4601</b> GD Optical Competence GmbH
<b>4141</b> RDECOM-AMRDEC	<b>4308</b> TeraView Ltd.	<b>4441</b> TERMIONA LLC	<b>4601</b> German Pavilion
<b>4143</b> InSpec Global Technologies LLC	<b>4309</b> Konica Minolta Sensing Americas, Inc.	<b>4443</b> GratingWorks, USA	<b>4601</b> Harz University of Applied Sciences
<b>4145</b> AEP Technology, Inc.	<b>4310</b> Heidelberg Instruments Inc.	<b>4445</b> Univ. of Massachusetts - STL	<b>4601</b> J&M Analytik AG
<b>4200</b> Litron Lasers	<b>4311</b> OpTek Systems Inc.	<b>4500</b> Quantum Technology, Inc.	<b>4601</b> J. Hauser GmbH & Co. KG
<b>4201</b> TDK-Lambda Americas Inc.	<b>4313</b> Stanford Photonics Research Center	<b>4501</b> CVI Melles Griot	<b>4601</b> JCMwave GmbH
<b>4203</b> Fiberpro Inc.	<b>4314</b> Simphotek Inc.	<b>4502</b> Gulf Photonics	<b>4601</b> JenaBusiness
<b>4204</b> OptoTech Optical Machinery Inc.	<b>4315</b> XiO Photonics B.V.	<b>4504</b> Iris AO, Inc.	<b>4601</b> JenLab GmbH
<b>4205</b> SensL Technologies Ltd.	<b>4316</b> Evatec NA	<b>4506</b> Innovation Photonics	<b>4601</b> Laser Optics Berlin
<b>4206</b> Sperian Protection	<b>4317</b> Photodigm, Inc.	<b>4508</b> Satisloh North America Inc.	<b>4601</b> Laser Zentrum Hannover e.V.
<b>4209</b> ADE, Inc.	<b>4318</b> Naval Research Laboratory	<b>4509</b> Labsphere, Inc.	<b>4601</b> LEG Thüringen GmbH
<b>4211</b> Cascade Optical Coating	<b>4319</b> Cascade Laser Corp.	<b>4510</b> Techmetals, Inc.	<b>4601</b> Leica Microsystems GmbH
<b>4213</b> Amplification Technologies, Inc.	<b>4320</b> Applied Laser Engineering Ltd.	<b>4512</b> Sumitomo Electric Industries, Ltd.	<b>4601</b> LightTrans VirtualLab UG
<b>4215</b> Diamond USA Inc.	<b>4321</b> Huanic Corp.	<b>4513</b> The Optronics Co., Ltd.	<b>4601</b> Luphos GmbH
<b>4216</b> TECNISCO, LTD.	<b>4324</b> Remtec, Inc.	<b>4514</b> Nitto Optical Co., Ltd./ Saled Dept.	<b>4601</b> m2k-laser GmbH
<b>4217</b> Z-LASER Optoelektronik GmbH	<b>4325</b> Voltage Multipliers Inc.	<b>4515</b> OMRON Corp.	<b>4601</b> Messe München GmbH
<b>4218</b> Plasma Process Group	<b>4326</b> ASE Optics, Inc.	<b>4516</b> OptoCrystal Co., Ltd.	<b>4601</b> Moulded Optics GmbH
<b>4219</b> Opti Temp, Inc.	<b>4327</b> Wavelength References	<b>4517</b> Japan Cell Co., Ltd.	<b>4601</b> nanosystec GmbH
<b>4220</b> LightSmyth Technologies, Inc.	<b>4328</b> e2v	<b>4518</b> Spectronix Corp.	
<b>4221</b> BigC	<b>4329</b> IMPEX HighTech GmbH	<b>4519</b> National Institute of Advanced Industrial Science and Technology	
<b>4224</b> MOXTEK, Inc.	<b>4331</b> Salem Distributing Co.	<b>4520</b> Opto-Line, Inc.	
<b>4225</b> Union Optic, Inc.	<b>4401</b> Zeta Instruments	<b>4521</b> Toyo Glass Co., Ltd.	
<b>4226</b> Duma Optronics Ltd.	<b>4403</b> Roithner Lasertechnik GmbH	<b>4524</b> Olympus America Inc.	
<b>4227</b> MicroCare Corp.	<b>4405</b> Tianjin Tengteng Industrial and Trading Co., Ltd.	<b>4525</b> PhaseView	
	<b>4406</b> LaCroix Optical Co.	<b>4527</b> Specialised Imaging, Inc.	
		<b>4528</b> Laserod Inc.	
		<b>4529</b> SPECTRO Inc.	
		<b>4530</b> CI Systems, Inc.	
		<b>4531</b> CryLight Photonics, Inc.	

# SPIE Photonics West Sponsors

## Meter Boards



Booth #4300  
www.brushceramics.com



Booth #4501  
www.cvimellesgriot.com



Booth #312  
www.depsci.com



Booth #600  
www.frlaserco.com



Booth #1301  
www.newport.com



Booth #1001  
www.oclaro.com



Booth #5043  
www.opticsbalzers.com



Booth #200  
www.photonengr.com



Booth #5300  
www.pgo.com



Booth #1223  
www.princetoninstruments.com



Booth #1522  
www.qioptiq.com



Booth #5414  
www.thalesgroup.com

### Escalator Panels



Booth #1313  
sales.hamamatsu.com

### Exhibition/City Map Back Cover Sponsor



Booth #837  
www.multiwavephotonics.com

### General Refreshment Sponsors

- B&W Tek, Inc. Booth #801
- Collimated Holes, Inc. Booth #735
- Corning Inc. Booth #611
- Fiberguide Industries Inc. Booth #701
- Heraeus Booth #1800
- JENOPTIK Optical Systems GmbH Booth #1323
- OFS, Specialty Photonics Division Booth #2201
- Rainbow Research Optics, Inc. Booth #2400
- Rocky Mountain Instrument Booth #1515

### Promotional Partners

- Advanced Imaging Magazine · AT-Fachverlag GmbH
- Carl Hanser Verlag · China Optoelectronics · EDP Sciences
- Electro Optics Magazine · Industrial Laser Solutions Japan
- IOP Publishing · Journal of Laser Applications
- Laser Focus World · Laser Focus World Japan · LEDinside
- Optics.org · Opto Index · The Optronics Co., Ltd.
- Photonics Industry & Technology Development Association (PIDA)
- Photonics Media · Photonics Online · Photonics Tech Briefs
- Photonics.com/Photonics Directory · Physics Today
- PhysOrg.com · Spectroscopy · Vision Systems Design



# Exhibitor Booth Index

<b>4601</b> neoLASE GmbH	<b>4741</b> Valtech Corp.	<b>4925</b> DataRay, Inc.	<b>5027</b> Z&Z Optoelectronics Tech. Co., Ltd.
<b>4601</b> OptecNet Deutschland e.V.	<b>4742</b> Arden Photonics Ltd.	<b>4926</b> HEL Joint Technology Office	<b>5028</b> China Germanium Co., Ltd.
<b>4601</b> OPTEG GmbH	<b>4742</b> CIP Technologies	<b>4928</b> NANOBASE, Inc.	<b>5030</b> Excell Technology
<b>4601</b> Paul Pleiger Maschinenfabrik GmbH & Co. KG	<b>4742</b> Dexela Ltd.	<b>4929</b> Pacific Rim Optical	<b>5031</b> Proxitronic Industries AG
<b>4601</b> PRIMES GmbH	<b>4742</b> Electronics, Sensors and Photonics KTN	<b>4932</b> Unioriental Optics Co., Ltd.	<b>5032</b> EOTRON LLC
<b>4601</b> RAYLASE AG	<b>4742</b> Fiberlogix International Ltd.	<b>4933</b> Chang Shu JingBo Optical Technology Co., Ltd.	<b>5032</b> JP Innovations, LLC
<b>4601</b> RGB Lasersystems GmbH	<b>4742</b> IQE PLC	<b>4935</b> Beijing Guojing Infrared Optical Technology Co., Ltd.	<b>5033</b> LightVision Technologies, Corp.
<b>4601</b> Schmidt & Bender	<b>4742</b> Luceta Ltd.	<b>4937</b> Coresix Precision Glass, Inc.	<b>5034</b> Laser Materials Corp.
<b>4601</b> TEC Microsystems GmbH	<b>4801</b> OZ Optics Ltd.	<b>4939</b> Engineered Surface Finishes	<b>5034</b> Roditi International Corporation Ltd.
<b>4601</b> Technologiegesellschaft fuer Strahlwerkzeuge mbH (TGSW mbH)	<b>4807</b> PI (Physik Instrumente) LP	<b>4943</b> Raytheon ELCAN Optical Technologies	<b>5035</b> Sensofar-Tech, SL
<b>4601</b> TEM Messtechnik GmbH	<b>4813</b> Sacher Lasertechnik GmbH	<b>5001</b> Arbor Photonics, Inc.	<b>5036</b> Opto Precision Pte Ltd.
<b>4601</b> TransMIT GmbH/ Center of Fiber-optic and Industrial Laser Applications (CeFILA)	<b>4817</b> Metrology Concepts LLC	<b>5003</b> Atseva LLC	<b>5037</b> Cutting Edge Coatings GmbH
<b>4601</b> TSB Innovationsagentur Berlin GmbH	<b>4819</b> Access Laser Co.	<b>5005</b> VACCO Industries	<b>5037</b> Vacuum Process Technology LLC (VPT)
<b>4601</b> u2t Photonics AG	<b>4821</b> IMM Photonics GmbH	<b>5006</b> ACAMP (Alberta Centre for Advance MNT Products)	<b>5038</b> Applied Optics Group
<b>4601</b> VERTILAS GmbH	<b>4821</b> inno-spec GmbH	<b>5006</b> BMV Optical Technologies Inc.	<b>5041</b> Kaiser Optical Systems, Inc.
<b>4608</b> Sill Optics GmbH & Co., KG	<b>4821</b> Electro Optical Components Inc.	<b>5006</b> Canada Pavilion	<b>5043</b> Optics Balzers
<b>4612</b> MPA Crystal Corp.	<b>4821</b> FEMTO Messtechnik GmbH	<b>5006</b> Canadian Institute for Photonic Innovations-CIPI	<b>5100</b> AC Photonics, Inc.
<b>4616</b> Complete Hermetics	<b>4821</b> Genicom Co. Ltd.	<b>5006</b> Doric Lenses Inc.	<b>5101</b> PFG Precision Optics
<b>4618</b> Crystal Technology, Inc.	<b>4821</b> Gould Technology, LLC	<b>5006</b> Genia Photonics	<b>5102</b> HTA Photomask
<b>4619</b> Ocean Thin Films	<b>4821</b> Intex, Inc.	<b>5006</b> GiGa Concept Inc.	<b>5103</b> Biophotonic Solutions, Inc.
<b>4624</b> Umicore Optical Materials USA Inc.	<b>4821</b> Micro-Hybrid Electronic GmbH	<b>5006</b> IR Photonics	<b>5104</b> Interfiber Analysis
<b>4624</b> Umicore Thin Film Products	<b>4821</b> MY Polymers Ltd.	<b>5006</b> O-m6 Technologies Inc.	<b>5106</b> CEDRAT Technologies
<b>4625</b> 4D Technology Corp.	<b>4821</b> SDS Systems Development & Solutions	<b>5006</b> P&P Optica Inc.	<b>5107</b> Hardin Optical Company
<b>4628</b> Kugler of America LTD	<b>4824</b> APPLIED IMAGE Inc.	<b>5006</b> Quebec Photonic Network	<b>5108</b> Foctek Photonics, Inc.
<b>4629</b> Tempotec Optics Co., Ltd.	<b>4825</b> Ohara Corp.	<b>5006</b> QGLex Inc.	<b>5110</b> Sumitomo Metal Mining Co. Ltd.
<b>4630</b> Access Optics LLC	<b>4826</b> Hilger Crystals Ltd.	<b>5007</b> Electro Optical Industries, Inc.	<b>5111</b> Kohoku Kogyo Co., Ltd.
<b>4631</b> Lasever Inc.	<b>4828</b> GAM Laser Inc.	<b>5008</b> Fibertech Optica	<b>5112</b> National Instrument Technology Research Center
<b>4635</b> Modulight, Inc.	<b>4829</b> Micro Photon Devices	<b>5009</b> 3S PHOTONICS/Avensys/ITF Labs	<b>5113</b> Seiwa Optical America Inc.
<b>4635</b> Nanocomp Oy Ltd.	<b>4829</b> OptoElectronic Components	<b>5010</b> ITF Labs/Avensys/3S PHOTONICS	<b>5114</b> Mitsubishi Electric & Electronics USA, Inc.
<b>4635</b> Nanofoot Finland Oy	<b>4829</b> Photon Spot Inc.	<b>5012</b> Crosslight Software, Inc.	<b>5115</b> American Beryllia, Inc.
<b>4635</b> Specim, Spectral Imaging Ltd.	<b>4829</b> PicoQuant GmbH	<b>5013</b> Bo Xin Photoelectric Co., Ltd.	<b>5117</b> Zhejiang Quartz Crystal - Optech Co., Ltd.
<b>4635</b> VTT Technical Research Centre of Finland	<b>4830</b> Precision Photonics Corp.	<b>5014</b> Beamtech Optronics Co. Ltd.	<b>5118</b> Intlvac
<b>4641</b> Block Engineering/MEMS	<b>4832</b> Attodyne Inc.	<b>5014</b> DALSA	<b>5119</b> Lumera Laser GmbH
<b>4643</b> OEwaves, Inc.	<b>4832</b> Bright Solutions srl	<b>5015</b> Photon etc.	<b>5124</b> Fibercore Ltd.
<b>4645</b> Contour Fine Tooling	<b>4832</b> Concepts Research Corp.	<b>5016</b> NorPix, Inc.	<b>5125</b> MICOS USA, LLC
<b>4645</b> Technodiamant USA Inc.	<b>4832</b> IBL Innovative Berlin Laser GmbH	<b>5018</b> Firebird Technologies Inc.	<b>5128</b> optoSiC GmbH
<b>4719</b> High Q Laser (US), Inc.	<b>4832</b> MANLIGHT	<b>5018</b> ESI	<b>5129</b> IMEC
<b>4725</b> Fairchild Imaging	<b>4832</b> OXXIUS SA	<b>5018</b> ESI-PyroPhotonics Lasers Inc.	<b>5130</b> J.A. Woollam Co.
<b>4728</b> AZURE Photonics USA, Inc.	<b>4832</b> RPMC	<b>5019</b> Canadian Photonics Fabrication Centre (CPFC)	<b>5132</b> IRflex Corporation
<b>4729</b> Stron Optics Technical Co., Ltd.	<b>4837</b> Dilas Diode Laser, Inc.	<b>5021</b> World Star Technologies	<b>5133</b> METALLIFE, Inc.
<b>4731</b> Advanced Research Corp.	<b>4909</b> Gentec Electro-Optics Inc.	<b>5024</b> NuSil Technology	<b>5134</b> OWIS GmbH
<b>4733</b> Roth & Rau MicroSystems GmbH	<b>4912</b> Elliot Scientific Ltd.	<b>5025</b> MLD Technologies, LLC	<b>5134</b> Pacific Laser Equipment
<b>4735</b> Optiforms	<b>4914</b> Carl Zeiss MicroImaging, Inc.	<b>5026</b> Nextreme Thermal Solutions, Inc.	<b>5135</b> Chroma ATE, Inc.
<b>4739</b> Shin-Etsu Chemical	<b>4915</b> Applied Optronics		<b>5136</b> Orbits Lightwave, Inc.
<b>4740</b> Nature Publishing Group	<b>4916</b> Argus International, Ltd.		<b>5137</b> Coining, Inc.
	<b>4917</b> SRICO, Inc.		<b>5138</b> Nichia America Corp.
	<b>4918</b> FiberTech-RoMack		<b>5139</b> Photon Control Inc.
	<b>4919</b> Fiberoptics Technology Inc.		<b>5141</b> Advanced Thermal Sciences
	<b>4921</b> Arroyo Instruments, LLC		<b>5142</b> Kinetic Systems, Inc.
	<b>4924</b> Clemson University/ COMSET		<b>5143</b> 3SAE Technologies, Inc.

# Looking For High-Resolution Infrared? We've got you covered.



## New

### SC655 High-Resolution Infrared Camera

- High-resolution 640 × 480, 17-micron pixel, uncooled VOx detector
- The world's first high-res uncooled infrared camera with 16-bit data at up to 200 Hz windowed frame rate



## New

### SC8300 HD Infrared Camera

- High-definition 1344 × 784, 14-micron cooled InSb detector
- Over one million points of accurate temperature measurement per frame gives you true Megapixel infrared imagery
- Variable frame rates from full-frame 1344 × 784 14-bit data at 120 fps, to 64 × 64 at 2,530 fps



See us at SPIE Photonics West, Booth #1917



Visit [www.flir.com](http://www.flir.com) or call 800.464.6372 to schedule your free demo and find out why FLIR has been the most trusted name in thermal imaging for 45 years.

# Exhibitor Booth Index

<b>5200</b> Lumina Power, Inc.	<b>5312</b> Esterline CMC Electronics	<b>5425</b> Yunnan Lincang Xinyuan Germanium Industrial Co., Ltd.	<b>6016</b> Active Optics Night N Ltd.
<b>5201</b> Metrigraphics, LLC	<b>5313</b> NuPhoton Technologies, Inc.	<b>5426</b> Elite Optoelectronics Co., Ltd.	<b>6018</b> Aistana Inc.
<b>5202</b> Vixar	<b>5314</b> Hoya Corporation USA - Optics Div.	<b>5428</b> 3D-Micromac America Corp.	<b>6020</b> HangZhou HuiDA Electro Optics Co., Ltd.
<b>5203</b> Plasmaterials, Inc.	<b>5315</b> Applied Physics & Electronics, Inc.	<b>5430</b> Global Communication Semiconductors, Inc.	<b>6022</b> Lasys Trade Show - Messe Stuttgart
<b>5204</b> OptiSwitch Technology Corp.	<b>5318</b> DRS Technologies, Inc.	<b>5431</b> Yelo Ltd.	<b>6024</b> China International Optoelectronics Exposition
<b>5205</b> Optoelectronic Industry & Technology Development (OITDA)	<b>5319</b> Iridian Spectral Technologies Ltd.	<b>5433</b> CMOSIS	<b>6026</b> AT-Fachverlag GmbH
<b>5206</b> Advanced Optowave Corp.	<b>5321</b> Pacific Coast Optics	<b>5435</b> Spectral Systems	<b>6028</b> Lasence Inc.
<b>5207</b> North American Coating Laboratories	<b>5324</b> Cryslaser Inc.	<b>5437</b> IRD Glass	<b>6030</b> Nova-Write Inc.
<b>5209</b> KYLIA	<b>5325</b> Cal Sensors, Inc.	<b>5500</b> SemiNex Corp.	<b>6032</b> tousimis research corporation
<b>5210</b> Photon Systems, Inc.	<b>5326</b> Noren Products, Inc.	<b>5501, 5503</b> SPIE Student Services	<b>6040</b> EPIX, Inc.
<b>5211</b> Energetiq Technology, Inc.	<b>5328</b> Carr & Ferrell LLP	<b>5502</b> SPIE Digital Library	<b>6042</b> Semiconsoft, Inc.
<b>5212</b> Xinxiang Baihe O.E. Co., Ltd.	<b>5330</b> Clear Align	<b>5504</b> Baikowski International Corp.	<b>6044</b> Inspired Photonics Inc.
<b>5214</b> JPT Electronics Co., Ltd.	<b>5400</b> Accuratus Corp.	<b>5505</b> O/E Land Inc.	<b>6046</b> EDP Sciences
<b>5215</b> Bridger Photonics, Inc.	<b>5401</b> SSCP USA	<b>5506</b> Laser Safety Industries	<b>6050</b> Tempo Clean Room Foam
<b>5216</b> DELTA	<b>5402</b> Photonics Industry & Technology Development Association (PIDA)	<b>5507</b> Gamdan Optics Inc.	<b>6052</b> MeshTel - INTELITE, Inc.
<b>5217</b> VI Systems GmbH	<b>5403</b> Lawrence Livermore National Laboratory	<b>5509</b> Kaufman & Robinson, Inc.	<b>6060</b> Star Tech Instruments
<b>5219</b> Onefive GmbH	<b>5404</b> ASI/Applied Scientific Instrumentation Inc.	<b>5510</b> M&K Inc.	<b>6062</b> Optical Support, Inc.
<b>5225</b> Applied Thin-Film Products	<b>5406</b> General Photonics Corp.	<b>5511</b> Alpha Media Group (Physorg.com)	<b>6064</b> Applied Surface Technologies
<b>5227</b> Curamik Electronics Inc.	<b>5407</b> AMETEK	<b>5512</b> Advanced Optics Solutions (AOS) GmbH	<b>6066</b> Glass & Ceramic Engineered Solutions (GCES)
<b>5228</b> MIRTH Center	<b>5407</b> Vision Research, A Division of AMETEK	<b>5513</b> Sparkle Optics Corp.	<b>6068</b> Greenlight Optics, LLC
<b>5229</b> Vortran Laser Technology, Inc.	<b>5408</b> Servometer	<b>5515</b> Norsk Elektro Optikk AS	<b>6070</b> OptoIndex
<b>5230</b> PD-LD, Inc.	<b>5410</b> Bruno Laser	<b>5516</b> M3D Co.	<b>6072</b> L.A. Gauge Company
<b>5232</b> Princeton Optronics	<b>5411</b> New Infrared Technologies	<b>5518</b> Fotofab	<b>6074</b> ProSpect Photonics, Inc.
<b>5234</b> Empire West Inc.	<b>5412</b> Directed Light, Inc.	<b>5519</b> QD Laser, Inc.	<b>6076</b> Fairfield Crystal Technology, LLC
<b>5236</b> AKELA Laser Corp.	<b>5413</b> Point Grey Research Inc.	<b>5520</b> Fosta-Tek Optics	<b>6078</b> Arrow Thin Films, Inc.
<b>5238</b> Aperture Optical Sciences Inc.	<b>5414</b> PRP Optoelectronics Ltd.	<b>5521</b> Innovaciones Microelectronica S.L. (ANAFOCUS)	<b>6080</b> HemonTech
<b>5238</b> Flemming Tinker, LLC	<b>5414</b> Thales Optronique SA	<b>5523</b> Greenlee/A Textron Company	<b>6082</b> Laser SOS USA, Inc.
<b>5238</b> Okamoto Optics Works	<b>5417</b> Spectralus Corp.	<b>5525</b> Vision Components GmbH	<b>6084</b> VENTEON Laser Technologies GmbH
<b>5238</b> Plymouth Grating Laboratory	<b>5418</b> UC Instruments Corp.	<b>5529</b> Alphion Corp.	<b>6086</b> JD Photo-Tools
<b>5238</b> Savvy Optics Corp.	<b>5419</b> RGBLase LLC	<b>5530</b> Lumen Dynamics Group	<b>6088</b> Epitex Inc./Marubeni America Corporation
<b>5240</b> Exotic Electro-Optics	<b>5420</b> Multi IR Optoelectronics Co., Ltd.	<b>5531</b> JLL Technologies LLC	<b>6090</b> Quartus Engineering Incorporated
<b>5242</b> Springer	<b>5421</b> Agiltron, Inc.	<b>5532</b> Infrared Laboratories, Inc.	<b>6092</b> Shasta Crystals
<b>5300</b> Precision Glass & Optics	<b>5424</b> E.T. Precision Optics Inc.	<b>5533</b> LEDinside	<b>6094</b> Industrial Laser Solutions Japan
<b>5301</b> Toshiba America Information Systems	<b>5425</b> Beijing Leway International Fairs Co., Ltd.	<b>5537</b> Spartan Felt Company, Inc.	<b>6096</b> Laser Focus World Japan
<b>5302</b> optics.org	<b>5425</b> Huizhou Hi-purity Rare Earth Metal Material Co., Ltd.	<b>5539</b> COMMAX Co., Ltd.	<b>6098</b> StarOptix
<b>5303</b> Advanced Technical Ceramics Company (AdTech Ceramics)	<b>5425</b> Micro Electronic Technology Development Application Corp.	<b>5541</b> Nanogenesis, A Division of AEGIS Technologies	
<b>5304</b> Integrated Optical Services Corp.	<b>5425</b> Shenghe Mining Co., Ltd.	<b>5543</b> PriTel, Inc.	
<b>5305</b> DZ Laser Service, Inc.	<b>5425</b> Sino-Galvo (Beijing) Technology Co., Ltd.	<b>5545</b> Femtochrome Research, Inc.	
<b>5305</b> Modu-Laser, LLC	<b>5425</b> Wuhan Kirn Survey Instrument Co., Ltd.	<b>5547</b> Boston Applied Technologies, Inc.	
<b>5306</b> CQ Laser Technologies Co., Ltd.	<b>5425</b> Xinxin Opto-Electrical Science and Technology Co., Ltd.	<b>5549</b> UCLA California NanoSystems Institute	
<b>5307</b> Shanghai Jiujon Optics Co., Ltd.	<b>5425</b> Yongzhou Haozhi Rare Earth Co., Ltd.	<b>5600, 5601</b> SPIE Career Center	
<b>5308</b> Torrey Hills Technologies, LLC		<b>6006, 6008</b> JGR Services Inc.	
<b>5309</b> J.P. Sercel Associates, Inc. (JPSA)		<b>6006, 6008</b> Yenista Optics S.A.	
<b>5310</b> PLANSEE Thermal Management Solutions		<b>6010</b> Brockton Electro-Optics Corp.	
<b>5311</b> Termotek AG		<b>6012</b> CAEN Technologies, Inc.	
		<b>6014</b> Photonics-Sourcing	



# About LEDinside

LEDinside provides the best platform to promote your LED products & services.

## Quality Research Information on LED

LEDinside covers top quality research information on LED's technology development, market trend, and financial information on a regional and global basis.

## Premier Audience Base

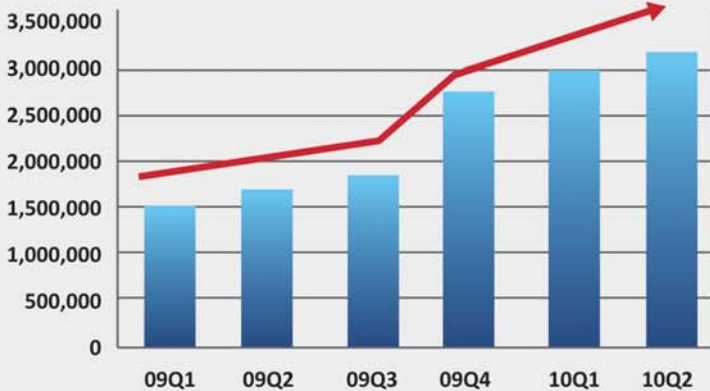
LEDinside attracts desirable buyers relevant to the LED market. Your ad on LEDinside.com puts you in touch with buyers who have the desire and means to purchase your products.

## Flexible Ad Programs

LEDinside.com can assist you in developing a customized advertising program to meet your objectives. Whether you want to increase the brand exposure or site traffic, we will carefully tailor a comprehensive plan to achieve your ultimate business goals.

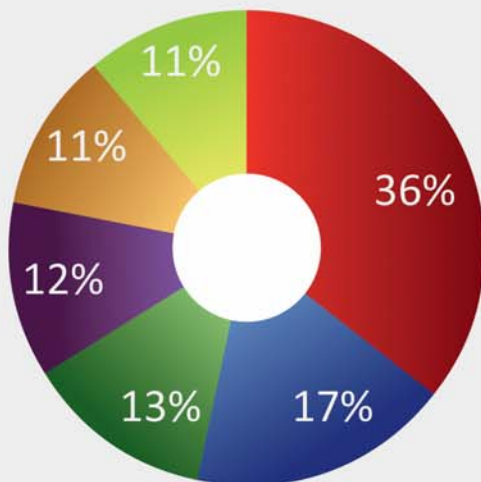


Pageviews Per Month



LEDinside was launched in July 2007 and has become one of the most popular and distinguished online news and information provider for the LED market.

LEDinside has 3 language sites namely Traditional Chinese, Simplified Chinese and English. On LEDinside, with an average of **3,200,000 page views** and an average of **200,000 unique visitors** each month (10Q2), you will find valuable vendor resources and product selection of the entire LED supply chain.



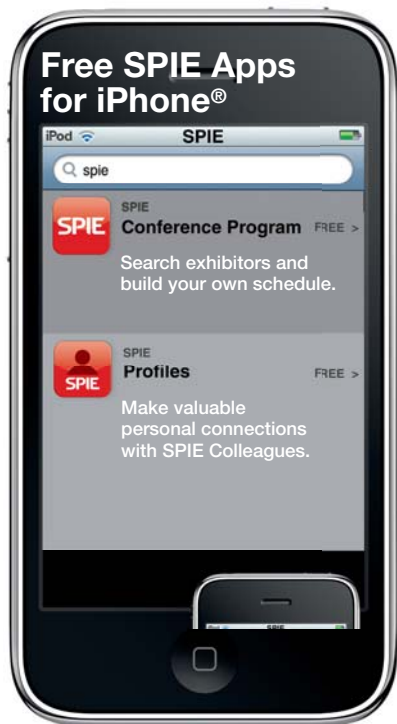
- ◆ Sales / Marketing, 36%
- ▲ Director / CEO / General Manager, 17%
- ▲ Engineer, 13%
- ▲ PM, 12%
- ▲ Analyst/Researcher, 11%
- ▲ Purchasing, 11%

## Job Position

77% of our audiences are at or above manager level. They are the IT decision makers and B2B influencers. 60% are in purchasing, sales, marketing and engineering – people whom you work closest to.

# Advertiser Index

Abrisa Industrial Glass, Inc./ ZC&R Coatings for Optics . . . 11	Deposition Sciences . . . . . 9	LEDinside . . . . . 95	Precision Glass & Optics . . . . . 17
Accuratus Corporation . . . . . 149	Edinburgh Instruments Ltd. . . . 39	Messe Berlin GmbH . . . . . 111	Rising Eletro-Optics Ltd. . . . . 101
AdValue Photonics . . . . . 15	Edmund Optics . . . . . Cover 4	MPB Communications Inc. . . . 179	RSoft Design Group . . . . . 239
Alpha Route des Lasers . . . . . 105, 135, 161	EKSMA OPTICS . . . . . 223	Netherlands Council for Trade Promotions (Holland Pavilion) . . . . . 195	Scanlab America, Inc. . . . . 235
Arizona Optics Industry Association (AOIA) . . . . . 27	Europa Science (Electro Optics Magazine). 217	OPCO Lab., Inc. . . . . 189	Scottish Development International . . . . . 261
Beijing Leway International Fairs Co., Ltd. . . . . 211	Evochem GmbH . . . . . 227	Optical Research Associates 229	StellarNet, Inc. . . . . 255
Canada Pavilion . . . . . 119	FLIR Systems, Inc. . . . . 93	Optics Balzers Jena GmbH. . . 49	Sutter Instrument Co. . . . . 115
China Germanium Co., Ltd. . . 206	Gooch & Housego. . . . . 31	Optics.org . . . . . 97	Thales Optronique. . . . . 21
China International Optoelectronic Exposition (CIOE) . . . . . 159	Goodrich ISR Systems (formerly Sensors Unlimited). 5	Opto Diode Corp. . . . . 7	The Optronics Co., Ltd . . . . 233
CIEC Overseas Exhibition Co., Ltd. . . . . 243	Hamamatsu Corp. . . . . Cover 3	Optronics Co. (Japan Pavilion). . . . . 265	Toshiba America Information Systems, Inc. . . . . 23
Colorado Photonics Industry Association (CPIA) . . . . . 251	IMAG GmbH c/o German Pavilion . . . . . 129	OSI Optoelectronics . . . . . 13	Trioptics GmbH . . . . . 3
CREOL, The College of Optics and Photonics, Univ. of Central Florida . . . . . 155	IMRA America, Inc. . . . . 19	Photon Engineering. . . . . 185	Trumpf . . . . . 65
	Infratec Infrared LLC . . . . . 245	Photonics Media/Laurin Publishing . . . . . Cover 2	UBIFrance (French Pavilion) . 247
	JGR Services Inc. . . . . 167	Photonics Online . . . . . 253	Voltage Multipliers Inc. . . . . 137
	Keting Optical Technology Inc. . . . . 249	PhysOrg.com . . . . . 257	Vortran Laser Technology Inc. . . . . 241
	Laser-Compact Co. Ltd. . . . . 173	PIDA-Opto Taiwan . . . . . 237	



**PLAN YOUR EXHIBITION**  
Use the SPIE My Schedule tool on the Photonics West site

- Add Exhibitors | Product Demonstrations | Workshops | Industry Sessions



Get the free mobile app at <http://gettag.mobi>

Open the tag reader app and hold your phone's camera over the tag. You'll go to the Photonics West exhibition page, where you can browse for exhibitors, product demos, and more.





discover  
**who's making  
all the noise**  
in the world of photonics

for the latest news, analysis, market intelligence and  
insight direct to your desktop or mobile device

**sign up today** to receive your  
**free** weekly email **Newsletter**

[optics.org/newsletter](http://optics.org/newsletter)

channelized content for  
key industry sectors

- industrial
- defense
- cleantech
- life science

additional features

- buyer's guide
- new products
- events calendar
- the latest jobs

the business of photonics  
**optics.org**





# SPIE Photonics West Exhibition Directory

SPIE Photonics West exhibitors are listed in alphabetical order with details about products or services each is exhibiting. Companies are additionally cross-indexed by technology areas. The address of each exhibitor is also listed, making this Exhibition Guide an excellent reference tool to take back to your office and share with your colleagues.

Exhibitor List as of 15 December 2010.

**3D-Micromac America Corp. #5428**  
1658 Chapman Ct, Saint Charles, MO, 63303  
+1 314 323 1819  
nickb@3dmicromac.com; www.3dmicromac.com/home.html

**3S PHOTONICS/Avensys/ITF Labs #5009**  
SPIE Corporate Member  
400 Blvd Montpellier, Montreal, QC, Canada, H4N 2G7  
+1 514 748 4848; fax +1 514 744 2080  
info@avensys.com; www.avensys.com

Combining leading-edge optoelectronic & fiber-based technologies, 3S PHOTONICS, Avensys Tech & ITF Labs design, manufacture, and market high reliability active & passive optical components and modules for the telecom, sensing & laser markets. They also spearhead the development of ultra-reliable fiber-optic systems including high-power fused components, optical sensors and fiber laser components. Contact: Christian Lafrance, Director - Business Development, clafrance@avensys.com; Nigel Holehouse, V.P. - R & D, nholehouse@avensys.com.

**3SAE Technologies, Inc. #5143**  
318 Seaboard In Ste 212, Franklin, TN, 37067  
+1 615 778 8812; fax +1 615 778 8816  
sales@3sae.com; www.3sae.com

**Featured Product: 3SAE's Large Diameter Splicing system creates tapers, end-caps, MFA's, combiners and more.**

3SAE Technologies Inc. is an industry leader developing new fiber optic tools and technologies for all applications of fiber preparation, fiber fusion splicing and glass processing. Our products include glass processing equipment, large diameter fusion splicers, large diameter fiber cleavers, high-strength thermal strippers & window strippers, ultrasonic fiber cleaners, and high strength PM fusion splicers. Many of our products utilize 3SAE's patented Burst™ and "Ring of Fire®" Technologies. Contact: sales@3sae.com.

**4AD Enterprises, Inc. #4424**  
SPIE Corporate Member  
19462 Jasper Hill Rd, Trabuco Canyon, CA, 92679  
+1 949 216 9012; fax +1 949 666 5837  
sales@4adinc.com; www.4adinc.com

**Featured Product: Wavelength tunable add-ons for Elforlight high rep rate DPSS lasers (SPOT & FQ).**

4AD specializes in the sale and service of high rep rate nanosecond and CW DPSS Elforlight lasers for challenging applications that require performance such as sideband-free, single longitudinal mode (SLM), short pulse durations, and 24/7 operation. The model UVFQ provide a replacement to nitrogen lasers for MALDI-TOF offering kHz rep rates, 100 μJ energy per pulse at 355 nm. Additional products include periodically poled and specialty NLO crystals. Contact: Bob Tamosaitis, Sales Manager, bob@4adinc.com.

**4D Technology Corp. #4625**  
SPIE Corporate Member  
3280 E Hemisphere Loop Ste 146, Tucson, AZ, 85706  
+1 520 294 5600; fax +1 520 294 5601  
info@4dtechnology.com; www.4dtechnology.com

**Featured Product: The PhaseCam Sq for vibration-insensitive, non-contact, 3D roughness measurement of large optics.**

4D Technology designs and manufactures dynamic laser interferometers for non-contact metrology of optical quality surfaces, even in the presence of vibration and turbulence. 4D systems provide high resolution acquisition of phase data in as little as 1microsec, at wavelengths from DUV through NIR. Applications include astronomy, aerospace, general optics, directed energy and more. Contact: Chip Ragan, Director of North American Sales, chip.ragan@4dtechnology.com; Steven L. Martinek, Director of Worldwide Sales, steve.martinek@4dtechnology.com.

## 89 North

SPIE Corporate Member

1 Mill St Unit 285, Burlington, VT, 05401  
+1 802 881 0302; fax +1 802 881 0308  
info@89north.com; www.89north.com

**Featured Product: The Heliophor is an ultrastable high-intensity light engine for quantitative fluorescence.**

89 North develops innovative products to improve fluorescent imaging for the life sciences. Applications for our light sources include fluorescence microscopy, automated DNA sequencing, HTS/HCS, qPCR and microarray analysis. Our light sources, including the Heliophor and Photofluor II, produce ultrastable, high-intensity output for reliable quantitative fluorescence. 89 North is a subsidiary of Chroma Technology Corp, a leader in the design and manufacture of precision optical components. Contact: Karoly Csatorday, Sales Manager, kcsatorday@89north.com; Chris Baumann, Director of Sales & Marketing, cbaumann@89north.com.

## A.J. Tuck Co.

SPIE Corporate Member

32 Tuck Rd, PO Box 215, Brookfield, CT, 06804  
+1 203 775 1234; fax +1 203 775 4705  
bboudreau@ajtuckco.com; www.ajtuckco.com

## A.T. Wall Company

55 Service Ave, Warwick, RI, 02886  
+1 401 739 0740; fax +1 401 732 5784  
sales@atwall.com; www.atwall.com

## AA OPTO-ELECTRONIC

18 Rue Nicolas Appert, Orsay Cedex, France, 91898  
+33 1 76 91 50 12; fax +33 1 76 91 50 31  
frank.darde@a-a.fr; www.aaoptoelectronic.com

ACOUSTO-OPTIC and RF drivers manufacturer. Part of AA Group, specialized in Opto-electronics and microwave technologies. Range of products include Modulators, frequency shifters, Deflectors, Polychromatic modulators, Tunable Filters, Q-switches, Fiber Pigtailed devices, Power amplifiers, fixed and variable frequency sources. Contact: Franck Darde, Sales Director, franck.darde@a-a.fr.

## AC Photonics, Inc.

2302 Walsh Ave, Santa Clara, CA, 95051  
+1 408 986 9838; fax +1 408 986 0188  
sales@acphotonics.com; www.acphotonics.com

**Featured Product: Micro lens, micro prisms, UV grade laser optics.**

AC Photonics is an OEM for optical, fiber optical components and integrated modules including: Optical lens, Prisms, Grin Lens, Switches, Photodiodes, DWDM, CWDM, MWDM, Hybrids, GFF, PM Products, Circulators, Isolators, Collimators, WDM, Couplers, Patchcords, and many other related products. Contact: George Gu, Components Mgr, sales@acphotonics.com; Steve Becker, Sales VP, sales@acphotonics.com.

## #411

## ACAMP (Alberta Centre for Advance MNT Products)

## #5006

1919 94th St NW, Edmonton, AB, Canada, T6N 1E6  
+1 780 468 2443; fax +1 780 628 0952  
info@acamp.ca; www.acamp.ca

ACAMP is a not for profit organization that provides specialized business services to micro nano & optics technology clients. Clients have access to world-class equipment, facilities, expertise and a network of organizations that support and develop micro and nano technology devices, advanced materials and manufacturing worldwide. ACAMP's services encompass key areas identified as critical for the commercialization of MNT products-Marketing & Business Development, Product Development, Packaging and Assembly, Test and Characterization.

## Access Laser Co.

SPIE Corporate Member

917 134th Street SW Ste A1, Everett, WA, 98204  
+1 425 582 8674; fax +1 425 582 8679  
access@accesslaserco.com; www.accesslaserco.com

**Featured Product: Tunable laser with intra-cavity gas cell for enhanced sensitivity of laser spectroscopy, 9.1-11 µm.**

Maker of small, stable, and tunable RF excited CO<sub>2</sub>/CO lasers. Wavelength range: 9-11 and 5.2-6 µm. Power 100 mw to 50 watts. Lasers include portable battery operated, power and frequency stabilized, wavelength tunable, isotopic fill, Q-switch, high speed modulated, super-pulsed. Flexible design enables rapid customization. Innovative products enabled new applications in laser-based techniques in environmental protection, medical diagnostics, national security, process monitoring, etc. Contact: Yong Zhang, Sales Manager, yzhang@accesslaser.com; Michael Adams, Sales Engineer, madams@accesslaserco.com.

## #210

## #4133

## #1123F

## Access Optics LLC

SPIE Corporate Member

2001 N Willow Ave, Broken Arrow, OK, 74012  
+1 918 294 1234; fax +1 918 294 1236  
info@accessoptics.com; www.accessoptics.com

## #4630

## AccuCoat, Inc.

111 Humboldt St Ste 8, Rochester, NY, 14609  
+1 585 288 2330; fax +1 585 288 2331  
alan@accucoatinc.com; www.accucoatinc.com

## #637

AccuCoat Inc. is a supplier of thin film coatings on plastic, metal, glass and a variety of other components. Producing a wide range of antireflective, beamsplitter, hot & cold mirror, ITO, filter, hydrophobic and metal coatings as well as custom coatings to meet your dynamic applications. Experienced in handling prototype thru OEM volumes. Coatings available from the UV to the NIR. Over 60 years combined engineering experience can provide custom designed solutions. Contact: Alan Parsons, Sales Manager, alan@accucoatinc.com.

## Accumold

1711 SE Oralabor Rd, Ankeny, IA, 50021  
+1 515 964 5741  
micromolding@accu-mold.com; www.accu-mold.com

## #238

**Featured Product: Micron Diameter Micro-Molded Lens Arrays.**

Accumold® is a high-tech manufacturer of precision micro, small and lead frame injection molded plastic components. Utilizing processes developed from our Micro-Mold® technology, we design, build and produce unique molds and parts efficiently for markets that include Micro Electronics, Medical, Micro Optics, Automotive, and Military Applications. Contact: Aaron Johnson, Sales, micromolding@accu-mold.com; Will Drewry, Bret Baumgarten.

Plan to Attend  
FREE Exhibitor Product  
Demonstrations

Refer to pages 62-64  
for complete times,  
schedules, and  
locations.



## Accurate Engineering Inc.

#2631

8710 Telfair Ave, Sun Valley, CA, 91352  
+1 818 768 3919; fax +1 818 768 2771  
accueng@aol.com; www.accueng.com

Accurate Engineering provides versatile and advanced PWB manufacturing for Professional, Consumer, and Military industries. We are unequivocally committed to providing excellent, fault-free, cutting edge PWBs, and our zero-tolerance manufacturing processes have earned us numerous awards for outstanding work. Our Clients include: JPL, Lockheed Martin, Litton Guidance & Control Systems, Northrop Grumman, Pacific Scientific, Teledyne Electronics, Teledyne Image Systems, and many more. Contact: Marvin "Butch" Brown, Technical Sales, butch@accueng.com; Rashesh Patel, President, accueng@aol.com.

## Accuratus Corp.

#5400

**SPIE** Corporate Member

35 Howard St, Phillipsburg, NJ, 08865  
+1 908 213 7070; fax +1 908 213 7069  
info@accuratus.com; www.accuratus.com

**Featured Product: Accuflect visible and infrared reflectors.**

Accuflect visible and infrared diffuse ceramic reflector supplier used in optically pumped lasers and infrared processing. Supply aluminum nitride, beryllium oxide and other thermally conductive ceramics for thermal management applications. Supply MACOR machinable glass-ceramics in standard sizes and as custom components. Precision machined fiber optic preforms especially PANDA designs. Custom precision fabrication of various ceramics and glasses. www.accuratus.com. Contact: Bruce Cunningham, Marketing Manager, bruce@accuratus.com.

## Active Optics Night N Ltd.

#6016

**SPIE** Corporate Member

Sudostroitel'naya Str 18, Bld. 5, Adaptive Optics Group,  
Moscow, Russia, 115407  
+7 499 6188171; fax +7 499 6188171  
adopt@nighn.ru; www.activeoptics.ru

**Featured Product: Multi-dither adaptive optical system based on Shack-Hartmann sensor.**

Active Optics NightN Ltd. mainly designs and produces complex adaptive systems to be used to control and shape high power laser beams and also in adaptive imaging systems. We are also applying our technique for the astronomical and medical purposes. The basements for the development of our adaptive optical systems are bimorph mirrors (water-cooled, non water-cooled) with electronic control block. Our products include Shack-Hartmann Wavefront Sensor, Fizeau Interferometer, and M2-Sensor. Contact: Alexis Kudryashov, Director on Science, kud@activeoptics.ru.

## Acton Optics & Coatings

#1223

**SPIE** Corporate Member

15 Discovery Way, Acton, MA, 01720  
+1 978 263 3584; fax +1 978 263 5086  
info@actonoptics.com; www.actonoptics.com

Acton Optics & Coatings will show high laser damage threshold excimer and UV laser optics, Al&MgF<sub>2</sub> broadband mirrors and coatings, VUV/UV optical filters, detector-enhanced coatings and assemblies. Acton has a stellar reputation spanning fifty years working with researchers and engineers in disciplines including aerospace, medical, analytical and semiconductor technologies.

## ADE, Inc.

#4209

1430 E 130th St, Chicago, IL, 60633  
+1 773 646 3400; fax +1 773 646 3919  
customerservice@ade-usa.com; www.ade-usa.com

## ADIT/Electron Tubes

#703

300 Crane St, Sweetwater, TX, 79556  
+1 800 399 4557; fax +1 325 235 2872  
paul@electron tubes.com; www.electrontubes.com

**Featured Product: We now offer the ADIT range of low cost photomultipliers for scintillation counting applications.**

ADIT/Electron Tubes designs and manufactures photomultiplier tubes, housings, voltage dividers and signal processing modules. Photomultipliers are available in diameters from 1/2" to 9". Special tubes are available for use at cryogenic temperatures and with ultra low radioactivity glass for HEP and cosmic ray physics experiments. Ruggedized tubes are available for oil well logging and space flight applications. We welcome your inquiry for special tubes for non-standard applications. Contact: Paul Davison, Sales Manager (USA), paul@electron tubes.com; Graham Sperrin, Sales Manager (Europe), graham.sperrin@et-enterprises.com.

## AdTech Optics, Inc.

#2532

**SPIE** Corporate Member

18007 Cortney Ct, City of Industry, CA, 91748  
+1 626 956 1000; fax +1 626 810 0292  
sales@atoptics.com; www.atoptics.com

**Featured Product: Our Lab Module for Quantum Cascade lasers is a flexible tabletop mid- or long-wave IR light source.**

AdTech Optics designs, engineers, and manufactures mid-IR semiconductor lasers based on Quantum Cascade technology. AdTech manufactures their products in a fully equipped state of the art fab, assuring maximum control and quality from concept to final product. AdTech Optics produces lasers over the whole mid-wave and long-wave infrared (MWIR & LWIR) spectral regions. Contact: Mariano Troccoli, Director, Product Development, sales@atoptics.com; Mary Fong, CEO, sales@atoptics.com.

## AdValue Photonics Inc.

#928

4585 S Palo Verde Rd Ste 405, Tucson, AZ, 85714  
+1 520 790 5468; fax +1 520 790 1158  
sales@advaluephotonics.com; www.advaluephotonics.com

**Featured Product: The world's first 2 micron pulsed fiber laser with pulse width 8-100 ns from AdValue Photonics.**

AdValue Photonics develops and manufactures high quality, innovative, fiber based lasers, light sources, and passive components. Our current products include fiber lasers, fiber amplifiers, and broadband ASE light sources in the 2 micron region, and optical fiber isolators in the 1 micron and 1.5 micron region. Our world-class expertise and in-house capabilities in specialty glasses, fibers, and fiber lasers set us apart from many other manufacturers. Contact: Katherine Liu, kliu@advaluephotonics.com; Shibin Jiang, sjiang@advaluephotonics.com.



**PROMOTIONAL PARTNER**

## Advanced Imaging Magazine/ Cygnus Business Media

#807

3030 Salt Creek Ln #200, Arlington Heights, IL, 60014  
+1 847 454 2707; fax +1 847 454 2759  
www.advanced-imagingpro.com

**Featured Product: AdvancedImagingPro.com website and online buyers' guide. AI PROducts magazine.**

Advanced Imaging serves users of imaging products equipment and systems in industrial and commercial firms as well as in security, government, military, and biomedical facilities. Contact: Jack Johnson, Associate Publisher, jack.johnson@cygnuspub.com; Barry Hochfelder, Chief Editor, barry.hochfelder@cygnuspub.com.



## Advanced Microoptic Systems GmbH #1034

SPIE Corporate Member

Lebacher Str 6a, Saarbruecken, Germany, 66113  
+49 681 400 0030; fax +49 681 400 0032  
leleko@amus.de; www.amus.de

**Featured Product: Chromium masked microlens array for Shack-Hartmann wavefront sensing devices.**

Design, development, fabrication of the refractive 1D- and 2D-microoptic components and microoptic based optical systems. Monolithic 1- and 2-side lenslets and lenslet arrays, lenslets, positive and negative, spherical and aspherical, hexagonal, square, circular, cylindrical, orthogonal shapes, in various materials. Contact: Vladimir Leleko, Sales Manager.

## Advanced Optics Solutions (AOS) GmbH #5512

Ammonstr 35, Dresden, Germany, 01067  
+49 351 4960193  
info@aos-fiber.com; www.aos-fiber.com

**Featured Product: Bragg gratings and related components for telecommunications, scientific apparatus, optical sensors.**

AOS is designer and manufacturer for Fiber Bragg Gratings and related products, such as tunable filter, DWDM filters, and fiber optical sensors for strain and temperature measurement. Contact: Torsten Thiel, info@aos-fiber.com; Johann Meissner, info@aos-fiber.com.

## Advanced Optowave Corp. #5206

SPIE Corporate Member

113 Comac St, Ronkonkoma, NY, 11779  
+1 631 750 6035; fax +1 631 803 4445  
jay@a-optowave.com; www.a-optowave.com

**Featured Product: 5W Q-Switched 266 nm Laser.**

Advanced Optowave Corp is one of leading high power TEM00 DPSS lasers providers, offer >100W/1064 nm, >70W/532nm, >30W/355 nm and >5W/266 nm lasers for industrial material processes. Contact: Jay Zhao, Jay@a-optowave.com.

## Advanced Photonix, Inc. #4418

1240 Avenida Acaso, Camarillo, CA, 93012  
+1 805 987 0146

**Featured Product: GaN UV Photodiode 220 - 280 nm in TO-46 Package.**

Advanced Photonix, Inc. is a leading supplier of opto-electronic solutions to a global OEM customer base. Our solutions are based on our patented Silicon Large area Avalanche Photodiode (LAAPD), PIN photodiode, FILTRODE® detector and LED assemblies. API designs and produces high performance standard & custom opto devices, x-ray detectors, UV & blue enhanced high speed low noise silicon PIN photodiode and includes single and multi-element arrays, bi-cell, quadrant & hybrids (Filter/Amplifier). Contact: Jean-Pierre Maufra, General Manager and Director of Sales, Sales@advancedphotonix.com; Bernd Tabbert, Director of Engineering, btabbert@advancedphotonix.com.

## Advance Reproductions Corp. #4134

100 Flagship Dr, North Andover, MA, 01845  
+1 978 685 2911; fax +1 978 685 1771  
drobinson@advancerepro.com; www.advancerepro.com

**RISING-EO**  
Rising Electro-Optics Ltd.

- Lenses, mirrors, beamsplitter, filters, windows, prisms etc.
- Optical banding and assembly
- UV to IR coating
- Custom design solutions
- Prototype to mass production

**Contact us!!**

A: 1F, Bldg 24#, No. 869, Pan Yu Road, Fuzhou, China  
T: +86-591-83349016 F: +86-591-83300646  
E: Marketing@rising-eo.com Sales@rising-eo.com

## Advanced Optics Solutions (AOS) GmbH #5512

Ammonstr 35, Dresden, Germany, 01067  
+49 351 4960193  
info@aos-fiber.com; www.aos-fiber.com

**Featured Product: Bragg gratings and related components for telecommunications, scientific apparatus, optical sensors.**

AOS is designer and manufacturer for Fiber Bragg Gratings and related products, such as tunable filter, DWDM filters, and fiber optical sensors for strain and temperature measurement. Contact: Torsten Thiel, info@aos-fiber.com; Johann Meissner, info@aos-fiber.com.

## Advanced Research Corp. #4731

SPIE Corporate Member

4459 White Bear Pkwy, White Bear Lake, MN, 55110  
+1 651 789 9000; fax +1 651 789 9199  
info@arcnano.com; www.arcnano.com

## Advanced Software Laser Design (ASLD) #4601

University Erlangen-Nürnberg, Erlangen Graduate School in Advanced Optical Technologies, Paul-Gordan-Str 6, Erlangen, Germany, 91052  
+49 9131 85 28692; fax +49 9131 85 28928  
www.asld.de

**Featured Product: Software for design and simulation of solid-state lasers.**

Advanced Software Laser Design is a new company, which is established by researches of the laser simulation group of Prof. Pflaum at the University Erlangen-Nuremberg. The research group has 10-year experience in design and simulation of diode-pumped solid-state lasers. The cooperation of the company with the research group at the University guarantees a high quality product and developing high standard simulation techniques for solid-state lasers. Contact: Christoph Pflaum, Professor of Computer Science, pflaum@asld.de; Zhabiz Rahimi, zhabiz@asld.de.

## Advanced Technical Ceramics Company (AdTech Ceramics) #5303

 SPIE Corporate Member

511 Manufacturers Rd, Chattanooga, TN, 37405  
+1 423 755 5510; fax +1 423 755 5438  
www.adtechceramics.com

**Featured Product: Multilayer AlN substrates and alumina microchannel ceramic coolers.**

AdTech Ceramics produces custom multilayer co-fire microelectronic ceramic and metal packaging utilizing HTCC and AlN. Developmental platinum co-fire products and ceramic injection molding process to meet complex shape requirements. Chemical milling and in Alloy 42 and Kovar including leads, stepped lids, seal rings and filters can be made to custom requirements. Full Microwave modeling and custom design center. US based company is ISO 9001:2000 certified. Contact: Brian Bukovitz, Sales Manager, brian.bukovitz@adtechceramics.com.

## Advanced Thermal Sciences #5141

3355 E LaPalma Ave, Anaheim, CA, 92806  
+1 408 458 6145  
jgentleman@atschiller.com; www.atschiller.com

## Advanced Thin Films #2139

5733 Central Ave, Boulder, CO, 80301  
+1 720 494 4194; fax +1 720 652 9948  
info@atfilms.com; www.atfilms.com

**Featured Product: Ultra-low loss, high laser damage IBS coatings at 1.4µm, 2.94µm, and other wavelengths.**

ATFilms specializes in high quality custom optics and ion beam sputtered optical coatings. Our products provide superb optical performance in the wavelength range of 240 nm to 5 microns. ATFilms' IBS coatings excel in difficult spectral and environmental applications, and we have collectively 100+ years of engineering experience to support our services. ATFilms would like to introduce Stable Laser Systems, a company that specializes in frequency stabilized laser systems and components. Contact: Rob Patterson, VP Technical Sales, rob@atfilms.com; Scot Davidson, Sales Manager, scot@atfilms.com.

## AdvR, Inc. #4424

2310 University Way Bldg 1-1, Bozeman, MT, 59715  
+1 406 522 0388; fax +1 406 522 0387  
sales@advr-inc.com; www.adv-r-inc.com

**Featured Product: Electro optical switch with 35 fiber output for up to watt level powers.**

Develops, fabricates, and sells engineered non linear crystals altered via poling, ion exchange and other methods to provide enabling performance characteristics, also lasers and devices incorporating these crystals. Products include single photon sources, EO switches, beam deflectors, waveguide and bulk wavelength converters, optical combs, phase and amplitude modulators. Unique wavelength outputs even at picoJoule and single mW levels. Doped and undoped versions of KTP, LiNbO<sub>3</sub>, and SLT. Contact: Bob Tamosaitis, Sales Manager, bob@advr-inc.com; info@advr-inc.com.

## AEP Technology, Inc. #4145

2338a Walsh Ave, Santa Clara, CA, 95051-1301  
+1 408 718 5547; fax +1 408 689 9638  
sales@aepotechnology.com; www.aepotechnology.com

**Featured Product: Optical/Contact Stylus Profilometer; Film Thickness/Stress Monitor.**

AEP Technology was founded by a group of Silicon Valley technology veterans with the mission of providing metrology solutions to the semiconductor and other industrial fields. The products family includes contact stylus profiler, dual mode (white light interferometry optical and contact stylus) 3D surface profiler, large area laser scanning profilometer, in-situ film thickness monitor and ex-situ stress mapping tool. Contact: Andrew Pei, Engineering Director, sales@aepotechnology.com; Lisa Liu, Manager, info@aepotechnology.com.

## Aerotech, Inc. #1701

 SPIE Corporate Member

101 Zeta Dr, Pittsburgh, PA, 15238  
+1 412 963 7470; fax +1 412 963 7459  
sales@aerotech.com; www.aerotech.com

**Featured Product: ANT95-R and ANT130-R rotary stages offer 0.005 arc sec in-position stability and 0.01 arc sec resolution.**

Aerotech manufactures automated alignment, positioning, and motion control systems and components. Our products include optical mounts and gimbals; a complete line of single- and multi-axis photonic/fiber optic direct-drive nanopositioners; gantry systems; goniometers; air-bearing and mechanical-bearing linear and rotary stages; lift stages; a full line of single- and multi-axis motion controllers; PWM and linear drives; linear and rotary brushless motors; and custom systems. Contact: Jim Johnston, Product Manager, Automation Systems Group, jjohnston@aerotech.com; Tom Markel, Product Manager, Precision Positioning Group, tmarkel@aerotech.com.

## AFL #4103

 SPIE Corporate Member

170 Ridgeview Center Dr, Duncan, SC, 29334  
+1 800 235 3423; fax +1 864 433 5363  
sales@aflglobal.com; www.aflglobal.com

**Featured Product: ARCMaster™ features patented split v-groove clamping system and improved loss estimation technology.**

AFL is an industry leader providing fiber optic products, engineering, and integrated services to various industries. AFL manufactures optical connectivity products, fusion splicers, test equipment, fiber optic cable and accessories. Visit our booth to see ARCMaster™, our newest splicing platform with its State of the ARC™ technology. The product features a patented "split v-groove" clamping system, new PM alignment technology, and improved loss estimation technology. Contact: Michael Hetrick, Account Manager, michael.hetrick@afltele.com.

## Agilent Technologies, CAG

SPIE Corporate Member

2700 Mitchell Dr, Walnut Creek, CA, 94598  
+1 800 926 3000  
www.agilent.com

#800

## Aixtooling GmbH

Steinbachstr 17, Aachen, Germany, 52074  
+49 241 8904 234; fax +49 241 8904 6234  
info@aixtooling.com; www.aixtooling.com

#4601

**Featured Product: Molds for Aspherical Lens Arrays for Freeform Optics Advanced Mold Materials and Coatings.**

Aixtooling GmbH was founded in 2005 as a spin-off company of the Fraunhofer Institute for Production Technology IPT in Aachen, Germany. The company covers the entire value chain for precision molding of optical glass lenses. Core competences of Aixtooling are the mold design, the process design and the manufacture of high-precision molding systems. In collaboration with the Fraunhofer IPT Aixtooling is also able to conduct feasibility studies and prototype series. Contact: Bernd Bresseler, Managing Partner, bernd.bresseler@aixtooling.de; Guido Pongs, Managing Partner, guido.pongs@aixtooling.de.

## Agilent Technologies, Inc.

5301 Stevens Creek Blvd, Santa Clara, CA, 95051  
www.agilent.com/find/optics

#2306

Agilent's Complex Monolithic Optical (CMO) assemblies enable scientists and engineers to spend more time doing research and less time maintaining their instruments. For nearly 40 years, Agilent has developed and manufactured CMO assemblies for the semiconductor, aerospace/defense, and life science markets. Experienced craftsmanship, deterministic manufacturing process control, design and fabrication, evaporated and sputtered coatings, and cutting-edge metrology supports volume production. Contact: Wayne Pantley, National Sales Manager, wayne\_pantley@agilent.com; Alan Graham, Business Development Manager, alan\_graham@agilent.com.

## Agiltron, Inc.

15 Cabot Rd, Woburn, MA, 01801  
+1 781 935 6500; fax +1 781 935 2040  
www.agiltron.com

#5421

## AGM Container Controls, Inc.

3526 E Fort Lowell Rd, Tucson, AZ, 85716  
+1 520 881 2130; fax +1 520 881 4983  
sales@agmcontainer.com; www.agmcontainer.com

#931

**Featured Product: NEPS Advantage provides dry gas purge equipment w/automatic operation & dewpoint temperature display.**

AGM Container Controls leads in the design and fabrication of products that control and monitor moisture (desiccators, humidity indicators), pressure and vacuum changes (breather valves) and shock and vibration (tie downs, shock overload indicators). These products are used for a variety of applications in defense and aerospace, electronic, electro-optical, industrial and commercial markets to protect and extend the life of critical equipment. Contact: Jim McCorry, Director of Business Development, mccorry@agmcontainer.com; Ron Corbin, Sales Manager, corbin@agmcontainer.com.

## Aistana Inc.

1549 Brookvale Dr Unit 3, San Jose, CA, 95129  
+1 408 329 7911; fax +1 866 628 8556  
szhong@aistana.com; www.aistana.com

#6018

**Featured Product: PM or Non-PM Tap/Isolator/Filter Wavelength Division Multiplexer Hybrid.**

Aistana specializes in high precision optical and fiber-optic components. From prototype and specialty quantities to large volume OEM production, our products are manufactured with strict attention to your specifications and delivery requirements: Non-PM & PM Isolator, Coupler, WDM, Circulator; High Power Isolator (Up to 20W); Hybrid Components; Windows/Optical Flats/Mirrors; Prisms/Light Pipes; Wedges; Filters/Beam splitters; Customer Optics.

## AKELA Laser Corp.

2031 US Hwy 130 Ste G, Monmouth Junction, NJ, 08852  
+1 732 305 7105  
info@akelalaser.com; www.akelalaser.com

#5236

AKELA Laser Corporation is a high power laser diode manufacturer specializing in custom laser assemblies that offer any desired combination of the light source, optics, cooling, and drivers in wavelengths ranging from 635nm to 2 microns. Founded in 2003, AKELA also provides custom laser drivers and laser systems as well as semiconductor lasers in standard diode packages in both free space and fiber-coupled configurations. Contact: Bob Sellers, President & CEO, bob.sellers@akelalaser.com.

## ALIO Industries

SPIE Corporate Member

11919 W I-70 Frontage Rd N Unit 119, Wheat Ridge, CO, 80033  
+1 303 339 7500; fax +1 303 339 7501  
sales@alioindustries.com; www.alioindustries.com

#2132

**Featured Product: ALIO is always innovating, stop by and ask for whats new.**

ALIO is a world leading motion system provider. Products include hexapods, tripods, linear and rotary stages. ALIO offers mechanical or air bearing solutions. ALIO offers NIST traceable proof of performance for our 6-D Nano Precision (TM) positioning stages and systems. Find out how ALIO can partner with your company to take your motion needs to the next level. Contact: Dan Crews, VP Sales Engineering, sales@alioindustries.com.

## Allied Laser Solutions, LLC

61 Union St, Westfield, MA, 01085  
+1 413 562 4040; fax +1 413 562 6167

#2625

Allied Laser Solutions is the exclusive distributor for Fine Adjustment, a German manufacturer of narrow line width pulsed dye lasers which can be pumped with excimer or pulsed Nd:YAG lasers. Typical tuning range: 400-900nm at up to 200 Hz with SHG options, line width of 0.03CM<sup>-1</sup>. Contact: Alain Bourdon, arb@alliedlasersolutions.com.

## Product Locator Kiosks

North Hall Concourse  
South Hall Concourse  
Find what you need, print out the results, and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches



## AllMotion

5501 Del Oro Ct, San Jose, CA, 95124  
+1 510 471 4000; fax +1 510 471 4003  
support@allmotion.com; www.allmotion.com

**Featured Product: The STEPPER-STICK is a full-featured Stepper Motor Controller + Drive built into a USB Stick.**

AllMotion manufactures Stepper Drives, Stepper Controllers, Servo Drives and Servo Controllers. These are the most compact Intelligent Stepper Motor Drives and Stepper Motor Controllers on the market today. Our Servo Motor Controllers and Brushless DC Motor Controllers feature quadrature encoder feedback and are also programmable to allow stand-alone operation. Contact: Arjuna Karunaratne, CTO, arjuna@allmotion.com; David Goodin, President, david@allmotion.com.

#306

## Altos Photonics, Inc.

SPIE Corporate Member

201 S Wallace Ste B2C, Bozeman, MT, 59715  
+1 866 658 5404; fax +1 866 658 7357  
sales@altosphotonics.com; www.altosphotonics.com

Altos Photonics offers femtosecond, mode locked, and Q-switched lasers and tunable systems for research and industrial customers. Additional products include non-linear crystals (BBO, KTP, ZGP, KYW, KGW, etc), optical mounts, USB-controlled stages, and other related products. Altos Photonics sells and services products from EKSPILA, EK SMA, Light Conversion & Standa. Contact: Lucian Hand, President, lucian@altosphotonics.com.

#2417

## ALPAO

2217 route de meylan, Biviers, France, 38330  
+33 4 76 63 55 05; fax +33 4 76 51 45 37  
gestion@alpao.fr; www.alpao.fr

**Featured Product: ALPAO Core Engine: get results easily thanks to this adaptive optics toolbox for Matlab.**

The company ALPAO designs and manufactures full Adaptive Optics Systems and deformable mirrors. Its unique patented technology satisfies the requirements of different applications such as: Astronomy, Vision science, Microscopy, Low power LASER. ALPAO is currently becoming one of the Adaptive Optics leader, thanks to its unique technology which offers many benefits such as very large strokes, high bandwidth and a large variety of deformable mirrors. Contact: Frederic Rooms, CEO, contact@alpao.fr.

#1023A

## American Beryllia, Inc.

16 First Ave, Haskell, NJ, 07420  
+1 973 248 8080; fax +1 973 248 8012  
info@americanberyllia.com; www.americanberyllia.com

American Beryllia is a leading worldwide manufacturer of Beryllium Oxide ceramic (BeO) heat sinks, crucibles, rods, washers, thermocouple tubing, and custom-made substrates for a diverse range of aerospace, defense, electronic and commercial applications. We welcome mass production, small quantities, and R&D projects. Stop by to discuss your application and thermal management needs or visit our website at www.americanberyllia.com for more information about our company and capabilities. Contact: Getzy Berger, Director of Marketing, info@americanberyllia.com.

#5115

## Alpha Media Group (Physorg.com)

Ravensteinerf 53, Tilburg, The Netherlands, 5035 EH  
+31 64 22 00 635; fax +1 815 642 0066  
feedback@physorg.com; www.physorg.com

**Featured Product: PhysOrg.com (www.physorg.com) website sponsorship is now available.**

PhysOrg.com (www.physorg.com) is a leading science, research and technology news website with visits from 2 million scientists, researchers and engineers every month. By extending advertisers' opportunities beyond the web and standard banners, PhysOrg reaches all major mobile platforms (Android, iPhone/iPad, Blackberry), audio, video, social media and e-newsletters. We treat each advertiser personally by offering customized ad solutions. With Physorg.com, your brand will get noticed. Contact: Andrew Zinin, Managing Editor, feedback@physorg.com.

#5511

## AMETEK

1100 Cassatt Rd, Berwyn, PA, 19312-1177  
+1 610 889 5278; fax +1 215 323 9304  
www.ametek.com

Taylor Hobson is your source for surface, roundness, cylindricity measurement to nano-scale dimensions. Contact: Phil Lockhart, GM, phil.lockhart@ametek.com; Jeff Brown, Western RSM, jeff.brown@ametek.com.

#5407

## AMO WaveFront Sciences, LLC

14820 Central Ave SE, Albuquerque, NM, 87123  
+1 505 275 4747; fax +1 505 275 4749  
info@amo.abbott.com; www.wavefrontsciences.com

**Featured Product: High speed wavefront metrology with AMO WaveFront Sciences' Smart Sensor.**

AMO WaveFront Sciences provides full-service design and manufacturing capabilities for micro-optics and wavefront sensor based instrumentation for lasers, optics, optometry, and ophthalmology. The CLAS-2D™ system offers a complete line of products for the analysis of visible, infra-red, continuous, and pulsed lasers. CLAS-2D™ also presents advantages to most optical test requirements traditionally addressed by interferometry. Contact: Hairong Lei, Sales Representative, hairong.lei@amo.abbott.com.

#1035

## Alphion Corp.

196 Princeton Hightstown Rd, Princeton Junction, NJ, 08550  
+1 609 936 9001; fax +1 609 936 9002  
soa@alphion.com; www.alphion.com

Alphion® develops, manufactures and markets integrated components, subsystems and systems for FTTx, medical imaging, test & measurement, fiber optic sensing and telecommunications markets. The QLight® product family consists of SOA-based WDM and extended PON amplifiers, broad-band sources, nanosecond photonic switches, gain elements for tunable lasers, and advanced integrated devices. Contact: Mario Pinto, Director, Sales, soa@alphion.com.

#5529

## AMPHOS GmbH

Steinbachstr 15, Aachen, Germany, 52074  
+49 241 8906 577; fax +49 241 8906 129  
info@amphos.de; www.amphos.de

**Featured Product: AMPHOS 200 flex – 200W average power, pulse width from 500fs to 2ns, rep. rate from 15kHz to 500MHz.**

AMPHOS is the leading manufacturer of extreme high-average power ultrafast laser systems for scientific and industrial applications. AMPHOS systems deliver pulses from 500fs to the ns regime with an average output power up to 1000W and peak power of several 100MW. Continuously setting of pulse width and variation of repetition rate as well as diffraction limited beam quality are outstanding characteristics of AMPHOS laser systems. Contact: Claus Schnitzler, Managing Partner, claus.schnitzler@amphos.de.

#4601

## Amplification Technologies, Inc.

#4213

SPIE Corporate Member

1400 Coney Island Ave, Brooklyn, NY, 11230  
+1 718 951 8021; fax +1 718 951 8030  
info@ampti.net; www.amplificationtechnologies.com

**Featured Product: DEM2NIRDAPD. TEC module for InGaAs self-quenched geiger mode APD. High gain low noise fast timing.**

Amplification Technologies seeks to transform the field of low-level signal detection. The company's patented semiconductor technology has the potential to offer unparalleled benefits to industries such as medical diagnostics, remote sensing, aerospace, scientific instrumentation and homeland security. The technology has been successfully used to develop extremely sensitive detectors of low levels of light. Detectors will be used in many existing applications as well as open up new markets. Contact: Wayne Seemungal, Business Development Manager, wayne@ampti.net; Krishna Linga, CTO, linga@ampti.net.

## Amplitude Systemes

#1431

6 allée du doyen Georges Brus, Pessac, France, 33600  
+33 5 56 46 40 60; fax +33 5 56 46 06 94  
www.amplitude-systemes.com

**Featured Product: Tangerine fs: Energy >100µJ, pulse duration <500fs; Mikan laser for MPE with AOM and fiber output.**

For 10 years, Amplitude Systemes is the specialist in ultrafast lasers and the only company offering both crystal based lasers and fiber based lasers for the industry. Our state of the art technology results in a range of reliable, easy to use, 24/7 operations ultrafast lasers, designed for industry and scientific applications. With an extensive research and development policy, Amplitude Systemes has launched high energy (>2mJ), ultrashort pulses (<50fs) and high average power lasers (>20W). Contact: Vincent Rouffiange, Sales & Marketing Manager, info@amplitude-systemes.com; Robert Braunschweig, US Sales Manager, info@amplitude-systemes.com.

## Amplitude Technologies

#1431

2/4 Rue du bois Chaland, CE 2926 Lisses, Evry, France, 91029  
+33 1 69 11 27 90; fax +33 1 64 97 58 17  
www.amplitude-technologies.com

## Analog Modules, Inc.

#2028

126 Baywood Ave, Longwood, FL, 32750  
+1 407 339 4355; fax +1 407 834 3806  
ami@analogmodules.com; www.analogmodules.com

**Featured Product: Model 762—OEM Seed Laser Diode Driver Assembly.**

Founded in 1979, Analog Modules is an ISO 9001 certified company where 67 full-time employees are involved in design, development, and manufacturing. AMI produces a wide range of stand-alone and OEM analog electronic products primarily for the laser and electro-optics industries. These products serve applications in medical, military, scientific, and industrial markets. Contact: Kelly Pacy, V.P. Sales, kpacey@analogmodules.com; Tim Cable, Product Support Engineer, tcable@analogmodules.com.



BORDEAUX  
Route des Lasers  
THE PLACE TO BE

The photonics competitiveness cluster in Aquitaine - France

Booth  
1123 G

Bordeaux  
Aquitaine region  
Southwest France

Meet Route des Lasers leaders  
in Laser/Photonics Industry

Azur Light Systems ..... 1123 I

→ Fiber lasers at novel infra-red and visible wavelengths

Amplitude Systèmes ..... 1431

→ Diode-pumped ultrafast solid-state lasers for scientific and industrial applications

Eolite Systems ..... 1123 K

→ High power (up to 300W) short pulsed (ns & ps) fiber lasers in IR, Green and UV

Imagine Optics ..... 1431

→ Wavefront sensing, adaptive optics and correction technologies

Innoptics ..... 1123 H

→ Packaging of optoelectronic components, mostly laser diodes

ISP System ..... 1123 J

→ High precision mechanical equipments and solutions for photonics applications

www.routedeslasers.com

alpha@2adi.aquitaine.fr

© ALPMA Route des Lasers 2010 - Photo credits: Chris James Hewitt / Digital Vision / Getty Images, CEA / Philippe Labeguerie



## Anchor Optics

101 E Gloucester Pike, Barrington, NJ, 08007  
+1 856 573 6865; fax +1 856 546 1965  
sales@anchoroptycs.com; www.anchoroptycs.com

**Featured Product: Anchor Optics newest and most popular commercial quality optics for a wide variety of applications.**

Anchor Optics, a division of Edmund Optics, is your complete source for commercial, low cost optics. With over 5,000 products and over 5 million in stock ready for immediate delivery, Anchor Optics can provide you the optics you need, when you need them and priced up to 35 percent less than most optical suppliers. From PCX lenses to prisms, mirrors and more, Anchor Optics is quickly becoming the preferred supplier for commercial quality optics. Contact: David Henz, Product Line Manager, sales@anchoroptycs.com; Frank Di Minno, Senior Advisor, FDMinno@anchoroptycs.com.

#1214

## Anteryon BV

SPIE Corporate Member

Bldg RAB, Zwaanstr 2a, Eindhoven, The Netherlands, 5651 CA  
+31 40 2561 500; fax +31 40 2561 518  
info@anteryon.com; www.anteryon.com

Anteryon provides high tech precision optical components and subassemblies. Anteryon is able to provide innovative product solutions in the product/market segments, including industrial optics, imaging, display, data communications and telecommunications. A team with manufacturing capabilities in low-scale and high volume create a shared strategy from conception to production. Contact: Ms. Julia Hew, Sales Manager, usa@anteryon.com; Mr. Peter Timmerman, Sales Manager, sales@anteryon.com.

#724

## Andor Technology

SPIE Corporate Member

425 Sullivan Ave Ste 3, South Windsor, CT, 06074  
+1 860 290 9211; fax +1 860 290 9566  
www.andor.com

Andor enables its customers to break new ground by performing light measurements previously considered impossible. With a portfolio spanning high-performance scientific digital cameras, spectrographs, and confocal microscopy systems, Andor is a world leader in scientific imaging, spectroscopy solutions and microscopy systems. More information about Andor Technology PLC (LSE: AND) is available at www.andor.com. Contact: Domenic Bucci, National Sales Mgr, Imaging Products, d.bucci@andor.com; David Hitrys, National Sales Manager, Microscopy Systems, d.hitrys@andor.com.

#417

## AOC Technologies, Inc.

6690 Amador Plaza Rd #110, Dublin, CA, 94568  
+1 925 875 0808  
sales@aocotech.com; www.aocotech.com

#1833

## AOFR

2 Faulding St, Symonston, ACT, Australia, 2609  
+61 2 6206 2222; fax +61 2 6280 6393  
sales@aofr.com; www.aofr.com

#4124

**Featured Product: High power laser combiners designed for 25W per port operation with a compact 5x5x50mm package.**

AOFR has been at the forefront of fiber optic component manufacturing for over 20 years. AOFR's fused taper technology and advanced production platform has been extended to high power laser combiners for the Fiber Laser market. AOFR's High Power Combiners enable high efficiency coupling for multiple high power lasers into a single fiber. All AOFR combiners conform to stringent environmental and mechanical standards to give high reliability and extended operating life for all field applications. Contact: Vinnie Rodino, Dir. of Sales, Aegis Lightwave and AOFR, vrodino@aegislighthouse.com; David Moser, Product Manager, david.moser@aofr.com.

## Andover Corp.

SPIE Corporate Member

4 Commercial Dr, Salem, NH, 03079-2800  
+1 603 893 6888; fax +1 603 893 6508  
info@andovercorp.com; www.andovercorp.com

Andover manufactures high-quality optical filters and coatings in the UV to Mid IR range. We specialize in narrowband, image-quality and space-qualified filters. We have over 1000 standard items in stock and can provide custom parts in as little as one week. We are ITAR and AS9100 registered. Contact: Phil Clark, Technical Sales, pclark@andovercorp.com; Rob Pursel, Sr. Optical Coating Engineer, rpursel@andovercorp.com.

#500

## Aperture Optical Sciences Inc.

27 Parson Ln Unit G, Durham, CT, 06422  
+1 860 316 2589; fax +1 860 301 2589  
sales@apertureos.com; www.apertureos.com

#5238

**Featured Product: Glass and SiC aspheric mirrors.**

Aperture Optical Sciences Inc. provides some of the most demanding custom precision optics and systems made in the world today. We develop and employ advanced technology for making aspheric mirrors and lenses, SiC optics, optics for high energy lasers and engage in developmental processes of advanced materials. We invite you to explore our standard product offerings as well as contact us for your custom optics requirements. Contact: Flemming Tinker, President, sales@ftoptics.com; Kai Xin PhD, VP Technology, kxin@apertureos.com.

## Anson Optical Products Co., Ltd.

Rm 605 Decca Industrial Centre, 12 Kut Shing St, Chaiwan, Hong Kong  
+852 27570168; fax +852 27962568  
info@ansonoptical.com.hk; www.ansonoptical.com.hk

Anson Optical Products Co Ltd., as one of the trusted name of optics and are specialized in plastic optical components from optics design, prototype making, tooling fabrication, precision molding to assembly. Our experienced work team features states-of-art molding technology and have capability for supplying custom-designed molded, aspherical, cylindrical, fresnel surfaces components, modules and mirrors.

#3034

## Apollo Instruments, Inc.

SPIE Corporate Member

55 Peters Canyon Rd, Irvine, CA, 92780  
+1 949 756 3111; fax +1 949 756 9166  
contact@apolloinstruments.com; www.apolloinstruments.com

#402

**Featured Product: High-Brightness Fiber-Couple/Collimated Laser Diode: 1kW, fiber laser pump source, single wavelength.**

Manufactures and supplies high-power, high brightness fiber-coupled or collimated laser diode systems (up to 10kW) and fiber lasers with superior beam quality for applications such as material processing and laser-pumping. Also specializes in research and development in areas including optical system design for industrial and medical applications.



## Apollo Optical Systems

#1933

925 John St, West Henrietta, NY, 14586-9780  
+1 585 272 6170; fax +1 585 272 6177  
info@apollooptics.com; www.ApolloOptical.com

Manufacturer of custom precision optical components specializing in Single Point Diamond Turning and injection molded polymer optics in prototype and production volumes. In-house capabilities include SPDT, extensive metrology, injection molding, optical/mechanical design and engineering. AOS specializes in design and manufacturing of diffractive and refractive optics. Contact: Daniel McGarry, President, McGarry@ApolloOptical.com; Claude Tribastone, President, Manufacturing, Tribastone@ApolloOptical.com.

## APPLIED IMAGE Inc.

#4824

**SPIE** Corporate Member

1653 E Main St, Rochester, NY, 14609  
+1 585 482 0300; fax +1 585 288 5989  
info@appliedimage.com; www.appliedimage.com

"Your Single Source Photonics Solution Provider" dedicated to innovative OPTO-IMAGING Products and Services. Providing custom and "off the shelf" linear scales, test targets, reticles, encoders, image analysis standards, sinusoidal arrays, photo masks, ronchi gratings and other imaged components on various substrate materials for today's complex photonics needs. Now offering Low Contrast USAF-1951 Resolution charts in single T-Contrast values. APPLIED IMAGE, where image concepts become reality. Contact: Luke Hobson, Sales & Marketing, Lhobson@appliedimage.com; Paul Anderson, Vice-President, Panderson@appliedimage.com.

## Applied Laser Engineering Ltd.

#4320

Molesey Business Center, Central Ave, West Molesey Surrey, United Kingdom, KT8 2QZ  
+44 20 8941 1101; fax +44 20 8783 1348  
sales@appliedlaser.co.uk; www.appliedlaser.co.uk

Applied Laser Engineering manufactures high resolution, direct laser engraving machinery utilizing multiple CO<sub>2</sub> and/or Yag laser beams. Machines range from 0.6m-6m roller length capability and up to 1m diameter. ALE's expertise lies in large format, high resolution, in the round engraving, marking, texturing or surface treatment machinery. Typical applications include printing, embossing, micro machining, coating and security applications. Contact: Ed Birch, Engineering Director, ed.birch@appliedlaser.co.uk; Alex Askari, Development/Sales Engineer, alex@appliedlaser.co.uk.

## Applied Optics Group

#5038

National University of Ireland, Galway, Galway, Ireland  
+353 91 495187; fax +353 91 495529  
una.murphy@nuigalway.ie; http://optics.nuigalway.ie

**Featured Product: High speed wavefront sensing, low cost adaptive optics, instrumentation for vision science.**

The Applied Optics Group carries out R&D in the fields of adaptive optics, vision science, optical design and metrology. We currently have 8 projects with industry and expect to spin out companies in 2011. We continually seek new projects that provide our partners with innovative solutions and always provide scientific and technical challenges to our young dynamic researchers. Contact: Una Murphy, Director of Industry Relations, una.murphy@nuigalway.ie; Prof Chris Dainty, Group Leader, c.dainty@nuigalway.ie.

## Applied Optronics

#4915

111 Corporate Blvd, South Plainsfield, NJ, 07080  
+1 908 753 6300; fax +1 908 753 4041  
www.applied-optronics.com

Custom manufacturer of high-powered pulsed and CW diode lasers, multi-element diode laser modules, bars and arrays from 630nm to 2.3 microns. Provides virtually any package configuration including custom sub-assemblies. Extensive experience in a broad spectrum of laser applications in military, medical, and industrial markets. Expertise in system level engineering, electronics, optical modeling and design. Founded in 1991, all manufacturing performed onsite in South Plainfield, NJ. Contact: Denis Tishinin, Denis.Tishinin@applied-optronics.com.

## Applied Photonics Inc.

#1334

4733 Torrance Blvd #743, Torrance, CA, 90503  
+1 310 434 9800; fax +1 310 784 8872  
contact@appliedphotonics.us;

**Featured Product: Simple heated holders for thin crystals for moisture protection.**

Non-linear optical crystals (BBO, LBO, KTP, CLBO, AGS etc.), heated holders, ovens and temp. controller. Passive optical components for fiber optics application.

## Applied Physics & Electronics, Inc.

#5315

**SPIE** Corporate Member

34252 Tempest Terrace, Fremont, CA, 94555-2607  
+1 510 378 9067  
info@ape-us.com; www.ape-us.com

**Featured Product: The picoEmerald is an integrated laser system, tailored to the needs of CARS- and RAMAN microscopy.**

Applied Physics & Electronics, Inc. - AP&E is associated with and represents Angewandte Physik & Elektronik GmbH - A P E (Berlin, Germany), a technology leading supplier of optical parametric oscillators, autocorrelators, SPIDER devices and other tools for ultra-short pulse management and diagnostic. AP&E is located in Fremont, CA. It is focused on building close relationships with existing and new customers in North America. Contact: Olaf Korth, Managing Director, olaf.korth@ape-us.com.

## Applied Surface Technologies

#6064

15 Hawthorne Dr, New Providence, NJ, 07974  
+1 908 464 6675; fax +1 908 464 7475  
co2clean@co2clean.com; www.co2clean.com

We demonstrate precision cleaning using the CO<sub>2</sub> Snow Jet, a safe & nondestructive process for removing contamination. The CO<sub>2</sub> Snow Jet cleaning process removes particles of all sizes, from visible to below 0.03 microns, and also hydrocarbon residues from surfaces. The process works well for many substrates, wafers, optical items, mirrors, laser parts, vacuum parts, analytical samples (AFM, XPS), fiber optics, and many other applications. Please bring a few samples for a demo. Contact: Robert Sherman, President, roberts@co2clean.com.

## Applied Thin-Film Products

#5225

3439 Edison Way, Fremont, CA, 94536  
+1 510 661 4287; fax +1 510 661 4250  
atp@thinfilm.com; www.thinfilm.com

Applied Thin-Film Products (ATP) is a leading ISO Certified thin film manufacturer for a wide range of materials and metallization schemes. Substrates are fabricated from Alumina, ALN, BEO, Fused Silica, Quartz, Ferrite's, and Hi-K Dielectrics. Metallizations range from standard Tan/TiW/Au, to Nickel, Palladium and Platinum. Circuit features can include laser diode submounts, edge defined wraps, conductors, integrated resistor, hollow plated vias, solid filled vias, and double-sided patterning. Contact: Franco Pietroforte, Vice President of Sales, franco@thinfilm.com.

# SPIE Photonics West Exhibitor Directory

## APS Optics

42257 Troyer Ave, Fremont, CA, 94539  
+1 510 656 9295; fax +1 510 353 1109  
apsoptics@usa.net; www.apsoptics.com

#3052

## Argus International, Ltd.

108 Whispering Pines Dr Ste 110, Scotts Valley, CA, 95066  
+1 831 461 4700; fax +1 831 461 4701  
sales@argusinternational.com; www.argusinternational.com  
Argus International, Ltd. is an experienced manufacturer of custom optics for industry, science, university, medical and government use. We have, over the years provided various precision optics for hundreds of aerospace and military projects, along with the development of custom projects in the private sector. Contact: Rex Tomissich, International Business Development Manager, rex@argusinternational.com; Pennie Smyth, Government Procurement Manager, pennie@argusinternational.com.

#4916

## Arbor Photonics, Inc.

251 Jackson Plaza Unit A1, Ann Arbor, MI, 48103  
+1 734 585 5266; fax +1 734 585 5266  
info@arborphotonics.com; www.arborphotonics.com

#5001

**Featured Product: HiPER-3C fiber allows unprecedented laser performance with high power, robustly single-mode output.**

Arbor Photonics provides high power laser solutions that increase productivity and enable new capabilities for advanced laser materials processing and defense applications. We offer fiber-based systems and subsystems featuring an unmatched combination of beam quality and optical power-breaking brightness barriers. Our Chirally-Coupled Core (3C) fiber platform technology enables dramatic improvements in throughput and processing speed in high-precision material processing applications. Contact: Michelle Stock, Director of Business Development, mstock@arborphotonics.com; Phillip Amaya, CEO, pamaya@arborphotonics.com.

## Argyle International Inc.

254 Wall St, Princeton, NJ, 08540  
+1 609 924 9484; fax +1 609 924 2679  
argyleint@aol.com; www.argyloptics.com

#805

## Archer OpTx, Inc.

**SPIE** Corporate Member

3402 Enterprise Dr, Rowlett, TX, 75088  
+1 972 463 8001; fax +1 972 463 8311  
sales@archeroptx.com; www.archeroptx.com

#3014

**Featured Product: MicroAsphere/MicroArray –ultra precision molded glass 0.25mm to 1.5mm OD using PerfectLens™ process.**

PerfectLens™ & MicroAsphere™ & MicroArray™ - ultra precision molded glass lenses from 0.5mm to 60mm - asphere or acylinder - BIG - SMALL- PRECISE - enhanced performance lenses with guaranteed 0.05 waves RMS wavefront error with production typically at 0.02 - 0.03 waves, best in the world, best surface roughness and lens-to-lens uniformity, 26 RoHS compliant low CTE glasses for custom designs, Archer OpTx design team at your assistance. Contact: Kevin Mitchell, Dir of Sales, kevin.mitchell@archeroptx.com; Colby Freeman, Inside Sales Manager, colbycfreeman@archeroptx.com.

## Arrow Thin Films, Inc.

465 West Main St Ste 2, Wyckoff, NJ, 07481  
+1 201 977 1073; fax +1 201 839 1007  
info@arrow-otf.com; www.arrow-otf.com

#6078

Providing solutions, hitting your targets...Arrow can provide solutions for demanding industry applications from the UV to the LWIR. Including, coatings for custom optics, laser crystals and non-linear optical materials. Contact: Jon Herringer, President, jon.herringer@arrow-otf.com.

## Arroyo Instruments, LLC

**SPIE** Corporate Member

624 Clarion Ct, San Luis Obispo, CA, 93401  
+1 805 543 1302; fax +1 805 543 1303  
sales@arroyoinstruments.com; www.arroyoinstruments.com

#4921

**Featured Product: The 6300 Series Laser Controller with up to 4A of laser current and 60W of temperature control.**

Arroyo Instruments' is a supplier of leading edge laser diode and LED drivers, temperature controllers, and fixtures for a wide variety of devices. Our drivers offer high stability and low noise performance, currents to 20 Amps, and unique features not found elsewhere. Our temperature controllers feature 0.004°C stability and up to 120W of power. Both products offer a bright VFD display, and RS232 and USB interfaces. A full line of products will be on display at the show. Contact: Paul Corr, President, sales@arroyoinstruments.com.

## Arden Photonics Ltd.

Royston House, 267 Cranmore Blvd, Solihull, United Kingdom, B90 4QT  
+44 121 733 7721; fax +44 121 733 7797  
sales@ardenphotonics.com; www.ardenphotonics.com

#4742

## ARGES GmbH

Werk 4, Wackersdorf, Germany, 92442  
+49 9431 7984 0; fax +49 9431 7984 300  
info@arges.de; www.arges.de

#2210

ARGES is a manufacturer for the OEM laser component market. We develop and produce innovative laser scanning systems as well as customer specific OEM subsystems for industry, medicine, science and research. Besides from the component business, ARGES also offers services in application and process development, job-shop, consulting, custom design, and training for ARGES products. Contact: Juliane Hoels, Sales & Marketing, info@arges.de.



**SPIE Career Center**  
**Job Fair**  
**Two Days Only**  
North Hall | Aisle 5600  
**Employers are coming together to interview and hire candidates at Photonics West!**  
Tuesday 25 January · 10:00 am to 5:00 pm  
Wednesday 26 January · 10:00 am to 5:00 pm  
[spie.org/careercenter](http://spie.org/careercenter) SPIE

**Artifex Engineering e.K.**

**#4601**

Dortmunder Str 16-18, Emden, Germany, 26725  
+49 4921 59808 0; fax +49 4921 58908 29  
www.artifex-engineering.com

**Featured Product: Adiabatic L-I-V-Test of high power laser diodes on the chip and bar level.**

Artifex Engineering designs and manufactures systems and subsystems for industrial and R&D metrological applications. As an OEM supplier, we consider our customer relationship to be a valuable asset. We understand that your application is not standard and so we offer customization of all of our products - even for single units. Contact: Thomas Berner, Sales Manager, thomas.berner@artifex-engineering.com; Rolf Jaspers, Sales Assistant, rolf.jaspers@artifex-engineering.com.

**ASE Optics, Inc.**

**#4326**

2489 Brighton Henrietta Townline Rd, Rochester, NY, 14623  
+1 585 303 1574  
chrisc@aseoptics.com; www.aseoptics.com

Faced with a challenging optical application? ASE Optics provides engineering talent for world-class optical systems. Whether you need to add specialized expertise to your engineering team, determine feasibility, or break through a design challenge, ASE Optics can help. Our highly skilled PhD, MS, and BS level engineers bring extensive experience and knowledge of both theoretical and applied systems. Our fixed price discovery service is a great way to define the problem or jumpstart development. Contact: Christopher Cotton, President, chrisc@aseoptics.com; Wade Cook, Optical Engineer, wadec@aseoptics.com.

**ASI/Applied Scientific Instrumentation Inc.**

**#5404**

29391 W Enid Rd, Eugene, OR, 97402  
+1 541 461 8181; fax +1 541 461 4018  
info@asiimaging.com; www.asiimaging.com

**ASML Optics**

**#501**

**SPIE** Corporate Member

Danbury Road 77, Wilton, CT, 06897  
+1 203 761 4000; fax +1 203 761 6307  
information@asml.com; www.asml.com

**Featured Product: ASML Optics manufacturers extreme precision optics systems using a broad range of optical materials.**

From design to fabrication to system integration, ASML Optics is your premier supply chain solution partner. They offer a full portfolio of technologies to enable faster time to market and greater ROI for your next-generation optical systems. ASML Optics is recognized as a technology leader, supplying optics solutions for commercial, medical, semiconductor and scientific applications worldwide. To bring your next generation optical system to light, partner with ASML Optics. Contact: Mark Bigelow, VP Sales, mark.bigelow@asml.com; Cynthia Houston, Sales Manager, cynthia.houston@asml.com.

**asphericon GmbH**

**#4601**

Wildenbruchstr 15, Jena, Germany, 07745  
+49 3641 675 600; fax +49 3641 675 606  
sales@asphericon.com; www.asphericon.de

**Featured Product: asphericon ION-Finish: ION-Beam Figuring for local correction and post-polishing.**

asphericon has become an acknowledged specialist for aspherical components. The company success is based on proprietary and patented technologies for manufacturing aspheres in various precision levels. These comprehensive state-of-the-art control technologies, in combination with advanced tactile and interferometric measurement systems, allow an extreme quality, flexible and cost effective production of aspheres in a large variety of shapes, sizes and materials. Contact: Stefan Klinzing, Sales Manager, s.klinzing@asphericon.com; Alexander W. Zschäbitz, CEO, sales@asphericon.com.

**Astro- und Feinwerktechnik Adlershof GmbH**

**#4601**

Albert-Einstein-Str 12, Berlin, Germany, 12489  
+49 30 6392 1000; fax +49 30 6392 1002  
info@astrofein.com; www.astrofein.com

**Featured Product: IR-Calibration Source 700K for mercury mission.**

From idea to product, Astro- und Feinwerktechnik Adlershof GmbH offers a complete system solution: Services from a single source for the creative implementation of innovative ideas into optimal solutions. We design and manufacture optical, optoelectronic and electromechanical units for vacuum and UHV-components and constructions that can be manufactured even under clean room conditions. Contact: Mr. Burckhard Plitzko, Sales and Marketing, b.plitzko@astrofein.com; Ms Stefanie Sahrawi, Sales and Marketing, info@astrofein.com.



**PROMOTIONAL PARTNER**

**AT-Fachverlag GmbH**

**#6026**

Saarlandstr 28, Fellbach, Germany, 70734  
+49 711 952 9510; fax +49 711 952 95199  
at@at-fachverlag.de;

**Atseva LLC**

**#5003**

950 52 Ave Ct T-4, Greeley, CO, 80634  
+1 970 396 6189; fax +1 877 656 6643  
sales@atseva.com; www.atseva.com

**Featured Product: New AA-M real-time autocorrelator for microscopy offers fs pulse measurement at sample position.**

Atseva LLC is a manufacturer of femtosecond lasers and measurement equipment. We offer Ti:S and Yb solid-state fs and CW lasers, Ti:S and Cr:F fs mJ-level amplifiers, fiber lasers (Er, Yb and frequency-doubled). The diagnostics include autocorrelators, cross-correlators, SPIDER. Additional components like pulse pickers, pulse compressors, attenuators and harmonic generators are also available. Contact: lurie Coneascenco, CEO, sales@atseva.com.



## Attodyne Inc.

#4832

60 St George St, Toronto, ON, Canada, M5S 1A7  
+1 416 840 9096; fax +1 416 946 0107  
sales@attodynelasers.com; www.attodynelasers.com

**Featured Product: Turn-key, compact and affordable APL series picosecond lasers for micromachining.**

Attodyne specializes in affordable and robust picosecond lasers for micromachining, dicing and other applications. The Attodyne product line focuses on high energy, short pulsed picosecond lasers that take advantage of superior laser designs. Attodyne offers 'turn-key' laser systems that resolve the cost, size and reliability constraints of ultrafast lasers. Attodyne's lasers enable customers to exploit the advantages of Cold Ablation with a simple, effective tool. Contact: Darren Kraemer, sales@attodynelasers.com; Michael Cowan, mcowan@attodynelasers.com.

## AUREA Technology

#1123A

18 Rue Alain Savary, Besancon, France, 25000  
+33 3 81 66 55 81  
info@aureatechnology.com; www.aureatechnology.com

**Featured Product: The first dual channel ultra low-noise Single Photon Counter with picosecond timing solution.**

AUREA Technology provides ultra low-noise and high QE single photon counters with high resolution timing that enable scientists and engineers to achieve outstanding results and remain at the cutting edge of their field. AUREA Technology works closely with its clients around the globe to meet the technical challenges of today and tomorrow in the biotechnology, nanotechnology, life sciences, telecommunications, medical and defense industries. Contact: Jerome Prieur, President, jerome.prieur@aureatechnology.com; Johann Cussey, CEO, johann.cussey@aureatechnology.com.

## Avantes, Inc.

#2131

**SPIE** Corporate Member

9769 W 119th Dr Ste 4, Broomfield, CO, 80021  
+1 303 410 8668; fax +1 303 410 8669  
info@avantes.com; www.avantes.com

**Featured Product: AvaSpec Sensline-High quantum efficiency backthinned CCD detector, Ultralow Straylight optical bench.**

Avantes, a leading company in the field of fiber optic spectroscopy, develops spectrometers, spectroradiometers, light sources, fiber optic cables/probes and sampling accessories. We offer laboratory and portable instruments for both end users and OEM customers. With 15 years of experience innovating solutions in spectroscopy, Avantes has experience working in a variety of industries including chemical, lighting, petroleum, agriculture, gemology, biomedical, semiconductor, and food processing. Contact: Damon Lenski, Sales Mgr, damonl@avantes.com.

## Avo Photonics, Inc.

#917

**SPIE** Corporate Member

700 Business Center Dr Ste 125, Horsham, PA, 19044  
+1 215 441 0107; fax +1 215 441 9219  
sales@avophotonics.com; www.avophotonics.com

Avo Photonics provides custom design and contract manufacturing of opto-electronic components and assemblies. Avo's unique pure service model supports customers in the military, medical, communication, and commercial markets. Contact: Neal Stoker, Vice President of Sales and Marketing, nstoker@avophotonics.com; Joseph Dallas, President, jdallas@avophotonics.com.

## Axcel Photonics Inc.

#2206

45 Bartlett St, Marlborough, MA, 01752  
+1 508 481 9200; fax +1 508 481 9261  
sales@axcelphotonics.com; www.axcelphotonics.com

**Featured Product: 4W, 90µm, 793nm; 8W, 90µm, 975nm; 10W, 200µm, 808nm; 35W, 600µm, 975nm.**

Manufactures single-mode and multi-mode high power laser diodes. Standard and custom products from 780nm to 1080nm with up to 35W output from a single chip. Available as chips, sub-mounts and modules with fiber or window output. Applications include DPSS, medical, printing, spectroscopy, telecoms, etc. Contact: sales@axcelphotonics.com.

## Axiom Optics

#4301

1 Broadway 14th Fl, Cambridge, MA, 02142  
+1 617 401 2198; fax +1 425 930 9818  
info@axiomoptics.com; www.axiomoptics.com

**Featured Product: CINCAM CCD and CMOS laser beam profilers, high-performance tools for laser beam analysis.**

Axiom Optics is a technical sales organization located at in Cambridge, MA. Axiom Optics offers optical instrumentation for laser characterization (wavefront sensors, beam profilers, goniometers, laser diode testing systems), biomedical imaging (fluorescence lifetime imaging, high speed intensified cameras, adaptive optics), optical metrology (surface, wavefront, MTF) and laser based non-destructive testing (TV-holography, shearography and laser ultrasound). Visit www.axiomoptics.com. Contact: Philippe Clemenceau, Division Manager, pclemenceau@axiomoptics.com.

## Axsun Technologies

#407

1 Fortune Dr, Billerica, MA, 01821  
+1 978 262 0049; fax +1 978 262 0035  
www.axsun.com

Axsun Technologies Inc. manufactures high-performance engine modules and data acquisition electronics for Optical Coherence Tomography (OCT) applications. Axsun's Swept Source OCT Engines, based on a patented MEMS external cavity tunable laser, enable real time, high resolution OCT imaging at ultra high speed in a compact, rugged OEM package. Contact: Bill Ahern, Director of Marketing, bahern@volcanocorp.com; Karen Scammell, Director of Global Sales, kscammell@volcanocorp.com.

## Axsys Technologies - General Dynamics Advanced Information Systems

#214

**SPIE** Corporate Member

24 Simon St, Nashua, NH, 03060  
+1 603 864 6400; fax +1 603 864 6450  
www.axsys.com

Axsys Technologies, a division of General Dynamics Advanced Information Systems, delivers high-performance optical solutions that provide superior thermal imaging for targeting, navigation and surveillance missions. We offer solutions and services for applications that demand the most stringent optical requirements including fast steering mirrors, precision machined products and integrated optical lens assemblies. Contact: Susan Benz, Business Development Sales Manager, sbenz@axsys.com; David B. Enos, V.P. Programs & Business Development, denos@axsys.com.

**AXT, Inc.**

**#2510**

4281 Technology Dr, Fremont, CA, 94538  
+1 510 438 4700; fax +1 510 353 0668  
sales@axt.com; www.axt.com

AXT manufactures and distributes high-performance compound and single element semiconductor substrates comprising gallium arsenide (GaAs), indium phosphide (InP) and germanium (Ge). Its vertical gradient freeze (VGF) technique for manufacturing semiconductor substrates provides significant benefits over other methods and enabled AXT to become a leading manufacturer of such substrates.

**Ayase America, Inc.**

**#1930**

**SPIE** Corporate Member

3080 Olcott St Ste 210D, Santa Clara, CA, 95054  
+1 408 988 5277; fax +1 408 988 5278  
tjang@ayaseamerica.com;  
www.ayasecorporation.com/america

**Featured Product: 635, 650, 660, 808, 780, 850nm LDs in 3.3 & 5.6mm TO-can, collimation, line generation, OEM modules.**

Ayase has 3 locations worldwide, in Japan, USA and Germany. Since 1999, we have been providing customers with high-quality laser diodes, laser modules, optics, motors and OEM optical sub-assemblies. We serve a wide range of customers in industries such as barcode scanner, gun sight, machine vision, biomedical, particle counter, laser leveler, optical sensor, etc. For more information, please stop by our booth. Contact: Neal R. Stoker, VP of Business Development, nstoker@ayaseamerica.com; Takako Jang, Operating Manager, tjang@ayaseamerica.com.

**Azur Light Systems**

**#11231**

351 cours de la Libération, Domaine du haut carre - BAT C5, Talence, France, 33405  
+33 6 86 57 75 34  
ntraynor@gmail.com; www.azurlight-systems.com

**Featured Product: The company will present two new lasers based on patented technology.**

Azur Light Systems manufactures fiber lasers at novel infra-red and visible wavelengths for OEM and laboratory applications. Azur Light Systems has developed new fiber laser technology at new wavelengths with applications in the fields of instrumentation for bio-photonics and industrial monitoring Contact: Nicholas Traynor, President, ntraynor@azurlight-systems.com.

**AZURE Photonics USA, Inc.**

**#4728**

**SPIE** Corporate Member

2010 Crow Canyon Pl Ste 100, San Ramon, CA, 94583  
+1 925 833 8288; fax +1 925 833 8708  
marketing@azurephotonicsusa.com; www.azurephotonicsus.com

**Featured Product: Mega-Pixel lenses.**

ISO9001:2000 certified, Azure Photonics designs and manufactures high precision optical and photoelectric components for a wide range of applications. Azure specializes in services such as custom optical design & fabrication, coating, cutting, polishing, manufacturing & assembling, high and low volume OEM & ODM. Its main products include: mega-pixel lenses for machine vision and security surveillance, precision prisms, filters, optical lenses, windows and mirrors. Contact: Fiorina Shen, CEO, marketing@azurephotonicsus.com; David Weng, sales@azurephotonicsus.com.

**LASER OPTICS BERLIN**  
International Trade Fair and Congress  
for Optical & Laser Technologies  
**19 – 21 March 2012**  
www.laser-optics-berlin.de

in collaboration with:

**microsysis berlin**  
Congress and Trade Fair for  
Micro-Optics and Micro-Optical Systems

**OSA**® Research in Optical Science:  
OSA Optics and Photonics Congress  
The Optical Society

**TSB** INNOVATIONSGENTUR BERLIN

**Messe Berlin**



**GENERAL REFRESHMENT SPONSOR**

**B&W Tek, Inc.**

**#801**

**SPIE** Corporate Member

19 Shea Way, Newark, DE, 19713  
+1 302 368 7824; fax +1 302 368 7830  
info@bwtek.com; www.bwtek.com

**Featured Product: The Compass X is a TE Cooled CCD array spectrometer that is high performance but low cost.**

B&W Tek, Inc. is an advanced instrumentation company producing optical spectroscopy, laser instrumentation and portable/lab grade Raman systems. We provide custom product design, development, and manufacturing for biomedical, physical, chemical, and research communities. Our commitment to innovating solutions makes B&W Tek, Inc. a leader in Raman Spectrometer sales worldwide. www.bwtek.com. Contact: Jason Hammock, Director of Sales, jasonh@bwtek.com.

## Baikowski International Corp.

#5504

6601 Northpark Blvd Ste H, Charlotte, NC, 28216  
+1 704 587 7100; fax +1 704 587 7106  
www.baikowski.com

**Featured Product: Polishing slurry for Sapphire and GaN substrate (Under development).**

Konoshima Chemical perfected Ceramic Laser Medium over the past 20 years using in-house developed high purity raw materials and a unique sintering process. It has been merged with Baikowski fabrication techniques and is ready for distribution through its worldwide sales network. Baikowski has two Alumina powders manufacturing sites in Annecy (France) and in TX, two polishing slurries formulation & application labs sites in NC and in Japan. Contact: Q.YUMINAMI, Sales Manager, qyuminami@baikowski.com.

## Barr Associate

#1600

*please refer to Williams Advanced Materials*

## BaySpec, Inc.

#513

**SPIE** Corporate Member

1101 McKay Rd, San Jose, CA, 95131  
+1 408 512 5928; fax +1 408 512 5929  
www.bayspec.com

**Featured Product: The Super Gamut UV-NIR Series has outstanding optical throughput and Fast milli-sec response time.**

BaySpec, Inc., founded in 1999 with 100% manufacturing in the USA (Fremont, CA), is a vertically integrated spectral sensing company. The company designs, manufactures and markets advanced spectral instruments, from UV-VIS spectrometers to handheld and portable NIR and Raman analyzers, for the biomedical, pharmaceuticals, chemical, food, semiconductor, homeland security, and the optical telecommunications industries. Contact: Eric Bergles, VP Sales & Marketing, ebergles@bayspec.com.

## Beamtech Optronics Co. Ltd.

#5013

**SPIE** Corporate Member

5320 Lackner Crescent, Richmond, BC, Canada, V7E 5Z9  
+1 604 725 1817; fax +1 604 277 9070  
beamtech@shaw.ca; www.beamtech-laser.com

**Featured Product: Beamtech 10Hz 6J two path SGR-60 for laser peening in 2010 at USA.**

Specializing in high energy solid-state laser technology, Beamtech offers from 6J to 200J laser systems for scientific research and industrial applications such as laser peening, pumping Ti: Sapphire and custom-built laser systems tailored to customer requirements. From 2005 to 2010, Beamtech has successfully installed more than 30 unit high energy laser systems worldwide. Contact: Feng Jiang, International Sales Manager, FrankJ@beamtech-laser.com; Fang Zhang, President, laser@beamtech-laser.com.

## Beijing Bodian Optical Technology Co., Ltd.

#1901Q

No 2 Tuanjiehu N Rd, Chaoyang District, Beijing, China, 100026  
+86 10 65823854; fax +86 10 65827907  
bdoptic@126.com; www.bd-optic.cn

**Featured Product: Deep blocking band pass filter in fluorescence system.**

Bodian Optical specialized in precision optical filters for more than 40 years. Contact: Lisa Liu, Engineer, lisa\_liu521@yahoo.com.cn; Jiayi Meng, Engineer, bdoptic@126.com.

## Beijing Century Sunny Technology Co., Ltd.

#2409

No 65 Jiancai W Rd, Xi Sanqi Haidian District, Beijing, China, 100096  
+86 10 8293 7456; fax +86 10 8293 0969  
info@century-sunny.com; www.century-sunny.com

**Featured Product: 3-axis scan head with motorized Z axis changing scan filed automatically.**

Contact: Amy Wei, Sales Assistant, info@century-sunny.com; Nina Yu, Sales Assistant, sales2@century-sunny.com.

## Beijing Glass Research Institute

#1901B

No 5 Xingguang 4 Ave, Opto-Mechatronics Industrial Park Zhongguancun Science Park, Tongzhou District Beijing, China, 101111  
+86 010 81508607; fax +86 010 81508607  
quot@bgri.biz; www.bgri.biz

Established in 1960, Beijing Glass Research Institute (BGRI) is one of the founders for China optical material R&D and fabrication. During the past 50years, BGRI has undertaken and completed abundant R&D, defense and military tasks. Now the advanced special services are: Optical crystal, Optical fiber, Sealed glass/Lubricant Glass, Optical thin film. Contact: Wang Wenbao, Marketing Dept. Business Manager, quot@bgri.biz; Song Mingyuan, Marketing Executive, optics@bgri.biz.

## Beijing Guojing Infrared Optical Technology Co., Ltd.

#4935

**SPIE** Corporate Member

2 Xin Jie Kou Wai St, Beijing, China, 100088  
+86 10 82240015; fax +86 10 82241053  
www.guojing-tech.com

**Featured Product: Laser Grade CVD ZnSe.**

Guojing is affiliated to the Beijing General Research Institute for Non-Ferrous Metals. It is specialized in the manufacturing of sophisticated photoelectric materials. Main products are Optical Grade Germanium, CVD ZnS, CVD ZnSe and Germanium Tetrachloride. Contact: Zhou Lin, Vice Sales Manager, zl@guojing-tech.com; Yi Jianwei, Sales, yi@guojing-tech.com.

## Beijing Leway International Fairs Co., Ltd. #5425

Rm 719 Ruichen International Center, No 13 Nongzhanguan S Rd, Chaoyang District Beijing, China, 100125  
+86 10 51295359; fax +86 10 51295379  
marketing@lewayfairs.com; www.lewayfairs.com

Established in 2002, Leway International Fairs has become one of the leading international exhibition agencies in China. Along with the several years development, Leway has already served around 2,000 Chinese companies to exhibit in over 30 countries and regions. Leway provides Industries comprehensive one-stop solution services for Chinese companies, including exhibitions services and targeted market researches to find the trade and investment opportunities for clients. Contact: Doris Gu, International Cooperation, dorisgu.leway@gmail.com.

Plan to Attend  
FREE Exhibitor Product  
Demonstrations

Refer to pages 62-64  
for complete times,  
schedules, and  
locations.



**Berlin Adlershof Science and Technology Park,  
WISTA-MANAGEMENT GmbH #4601**

Rudower Chaussee 17, Berlin, Germany, 12489  
+49 30 6392 2252; fax +49 30 6392 2204  
b.ludwig@wista.de; www.aclershof.de

WISTA-MG operates and develops the Berlin Adlershof science and technology park. On an area of 420 hectares, a modern city of science, technology and media has emerged, boasting more than 800 companies. Here, Photonic companies are maintained by special rental fees for Lab-, Hall, and office space either in our Incubator or in the 17.000 sqm specialised Centre for Photonics and Optics. As existing Centres have a high occupation rate, new Technology Centres are under construction. Contact: Bernd Ludwig, Centre Manager for Optical Technologies and Photonics, b.ludwig@wista.de; Helge Neumann, Executive Manager International Cooperation, helge@wista.de.

**Berliner Glas KGaA Herbert Kubatz  
GmbH & Co. #2211**

Waldkraiburgerstr 5, Berlin, Germany, 12347  
+49 30 609050; fax +49 30 60905 100  
photonics@berlinerklas.de; www.berlinerklas.com

The Berliner Glas Group is one of the leading European providers of optical key components, assemblies and systems as well as high-quality refined technical glass. With our understanding of optical systems and optical production techniques, we develop and integrate optics, mechanics and electronics into innovative system solutions. These solutions are applied worldwide across the whole spectrum of the light-using industry – from medicine to semiconductors, metrology and analysis to defense. Contact: Fred Doss, Sales Manager, fdoss@berlinerklas.com; Christiane Weiss, Sales Manager, weiss@berlinerklas.de.

**Bid Service #3030**

225 Willowbrook Rd, Freehold, NJ, 07728  
+1 732 863 9500; fax +1 732 863 1255  
bobm@bidservice.com; www.bidservice.com

**BigC #4221**

**SPIE** Corporate Member

20655 S Western Ave #116, Torrance, CA, 90501  
+1 310 618 9990; fax +1 310 618 9996  
sales@bigc.com; www.BigC.com

We offer the Dino-Lite Portable Digital Microscope that provides high-quality microscopy video interfacing to PC and MAC with clear and steady imaging and 10X-200X magnification. The included software "DinoCapture" makes it easy and convenient to take snapshots, record videos, manipulate images, and save and e-mail discoveries. A single lens device with diverse applications.

**Biophotonic Solutions, Inc. #5103**

1401 E Lansing Dr Ste 112, East Lansing, MI, 48823  
+1 517 580 4075  
info@biophotonicsolutions.com; www.biophotonicsolutions.com

**Featured Product: femtoJock provides automated and accurate phase measurement, pulse shaping and compression.**

BioPhotonic Solutions develops, manufactures and sells ultrafast laser pulse shaping equipment. Our line of products include MIIPS Box, femtoJock and femtoFit which utilize a patented and award-winning MIIPS technology that provides accurate and consistent ultrafast pulse measurement, compression and arbitrary shaping within one automated computer controlled device at the focal point of experiment. Our pulse shapers work with any ultrafast laser including the ultrafast supercontinuum sources. Contact: Igor Pastirk, CTO, info@biophotonicsolutions.com.

**Block Engineering/MEMS #4641**

377 Simarano Dr #130, Marlborough, MA, 01752  
+1 508 251 3100  
adam.erlich@blockeng.com; www.blocking.com

**Featured Product: LaserScan™ is a portable, standoff, mid-IR QCL absorption spectrometer.**

Block Engineering over many decades has pioneered revolutionary instruments that detect and identify gases, liquids, and solids. Block's recently introduced line of next generation mid-infrared spectrometers, based on Quantum Cascade Lasers (QCL), offer unparalleled sensitivity, speed, and versatility for applications ranging from standoff surface detection of explosives and chemical threats to powerful analysis of microscopic targets, such as biological cells or forensic samples. Contact: Adam Erlich, VP Marketing & Business Development, adam.erlich@blockeng.com; Erik Deutsch, VP Engineering, erik.deutsch@blockeng.com.

**Blue Ridge Optics LLC #2609**

118 Center St, Bedford, VA, 24523  
+1 540 586 8526; fax +1 540 586 8527  
www.blueridgeoptics.com

**Featured Product: Blue Ridge Optics now offers full crystal polishing and fabrication capabilities.**

Blue Ridge Optics specializes in the manufacturing of custom precision thin film coatings from the UV-MWIR. Additional services include polishing and fabrication of most crystals, laser gain materials, and other specialty glasses. Contact: Justin Siehien, Operations Manager, Justin@blueridgeoptics.com; Walter Siehien, President, Walter@blueridgeoptics.com.

**Blue Sky Research #2119**

1537 Centre Pointe Dr, Milpitas, CA, 95035  
+1 408 941 6068; fax +1 408 941 0406  
sales@blueskyresearch.com; www.blueskyresearch.com

**Featured Product: The FiberTecll 488 is the smallest fiber output laser available, single mode or PMF is available.**

Blue Sky Research is a volume manufacturer of fiber-coupled and free space, visible and IR laser systems and OEM laser components. The company crafts state of the art laser products using its' in-house expertise in micro-optics, laser diode manufacturing and optical/electrical engineering disciplines. Custom and application-specific solutions for high reliability and coupling of lasers to single mode fibers are enabled via patented technology, and telecommunications grade packaging capability. Contact: Charles Mackrodt, Sales, cmackrodt@blueskyresearch.com; Cara Prunty, Account Executive, cara@blueskyresearch.com.

**BMV Optical Technologies Inc. #5006**

26 Concourse Gate, Ottawa, ON, Canada, K2E 7T7  
+1 613 228 2442; fax +1 613 228 4003  
info@bmvoptical.com; www.bmvoptical.com

BMV Optical Technologies is a manufacturer of precision optics for R & D, telecom and laser based applications. Services include optical design, fabrication of spherical, cylindrical, and ultra flat surfaces as well as thin film coatings. Products include lenses and lens systems, precision flats, laser windows, wedges, etalons, waveplates, beam splitters and sapphire optics. BMV produces UV, VIS and IR coatings such as anti-reflection, beam splitting, beam combining, dielectric and metal films. Contact: Tom Millen, President, tmillen@bmvoptical.com; Terry Vineham, Vice-President, tvineham@bmvoptical.com.

## Bo Xin Photoelectric Co., Ltd.

#5012

76 Pettibone Sq, Toronto, ON, Canada, M1W 2J2  
+1 86 431 85963100; fax +1 86 431 85961722  
jack@bxoptic.com; www.bxoptic.com

**Featured Product: High precision optical components are made of optical glass and crystals. Coating and optical design.**

Bo Xin Photoelectric Co., Ltd. is dedicated to manufacture high precision optical products which relate to national defense, Spaceflight, Industry, Scientific research, Medical device. We specialize in manufacturing all shapes of lenses, filters, windows, prisms, aspherical, toroidal lens and IR lenses etc. Production materials include Optical glasses, Sapphire, CaF<sub>2</sub>, Ge, ZnSe, Si and other crystals. The surface quality can achieve 10-5. We also provide coating and optical design service. Contact: Magie Miao, Vice-President, magie@bxoptic.com; Jack Hu, President, jack@bxoptic.com.

## Boston Applied Technologies, Inc.

#5547

**SPIE** Corporate Member

6F Gill St, Woburn, MA, 01801  
+1 781 935 2800; fax +1 781 935 2860  
sales@bostonati.com; www.bostonati.com

## Boston Electronics Corp.

#330

**SPIE** Corporate Member

91 Boylston St, Brookline, MA, 02445  
+1 617 566 3821; fax +1 617 731 0935  
boselec@boselec.com; www.boselec.com

**Featured Product: Quantum Cascade Lasers in butterfly packages with TEC and collimation lens inside the package.**

Specialists in quantum cascade lasers and thermal IR sources. Specialists in photodetection for the UV, Visible and IR including photon counting. Signal processing electronics especially Time Correlated Single Photon Counting (TCSPC). Contact: Fred Perry, fsp@boselec.com.

## Boston Micromachines Corp.

#2234

**SPIE** Corporate Member

30 Spinelli Pl, Cambridge, MA, 02138  
+1 617 868 4178; fax +1 617 868 7996  
moreinfo@bostonmicromachines.com; www.bostonmicromachines.com

Boston Micromachines Corporation (BMC) is the leading provider of microelectromechanical systems (MEMS) mirror products for use in adaptive optics systems. By applying wavefront correction, BMC devices can be used to enhance images blurred by the earth's atmosphere and for imaging biological tissue. They are widely used in a variety of defense applications as well as laser beam shaping, microscopy, astronomy, and vision science. BMC also offers custom-designed manufacturing services. Contact: Michael Feinberg, Sales and Marketing Director, moreinfo@bostonmicromachines.com; focus@bostonmicromachines.com.

## Boulder Nonlinear Systems, Inc.

#2128

**SPIE** Corporate Member

450 Courtney Way, Lafayette, CO, 80026  
+1 303 604 0077; fax +1 303 604 0066  
sales@bnonlinear.com; www.bnonlinear.com

Boulder Nonlinear Systems, Inc. (BNS) designs, manufactures, and sells standard and custom light control solutions. Spatial Light Modulators, Polarization Rotators, and Optical Shutters are offered for beam forming, beam steering, biotechnology, microscopy, military/civil defense, phase/polarization control, pulse shaping, wavefront analysis/testing, and other applications. Contact: Kelly Gregorak, Director, Sales & Marketing, kelly@bnonlinear.com.

## Breault Research Organization

#923

**SPIE** Corporate Member

6400 E Grant Rd Ste 350, Tucson, AZ, 85715  
+1 520 721 0500; fax +1 520 721 9630  
info@breault.com; www.breault.com

**Featured Product: APEX 2010 - Optical software integrated in the industry-standard SolidWorks 3D-modeling environment.**

BRO is an optical engineering firm of global reach and reputation. BRO's APEX, ASAP, and ReflectorCAD optical software products help engineers turn creative visions into working prototypes, and the company's own engineers work on beyond-state-of-the-art projects for Fortune 500 companies, research institutions, and top government labs. In over three decades of innovation, BRO has contributed to the success of engineering projects for thousands of clients. Contact: Wayne Hall, COO, RE: BRO Software Inquiries, whall@breault.com; Michael Frate, Bus. Dev. Manager, RE: BRO Engineering Services Inquiries, mfrate@breault.com.

## Bretagne International

#1023C

16 C Rue due Jouanet - CS20834, Rennes Cedex 7, France, 35708  
+33 2 99 25 04 04; fax +33 2 99 25 04 00  
www.bretagne-international.com

Bretagne International is a non-profit association of private companies located in Western France. It has been commissioned by the Regional Government of Bretagne to assist Breton companies in their international development, to identify projects of investment in Bretagne and to support foreign companies planning to invest in Bretagne. Contact: Benoit Armenge, ICT Sector Manager, b.arnenge@bretagne-international.com.

## Bridger Photonics, Inc.

#5215

2310 University Way Bldg 4-4, Bozeman, MT, 59718  
+1 406 585 2774; fax +1 406 587 0808  
rossetti@bridgerphotonics.com; www.bridgerphotonics.com

**Featured Product: SLM Series Precision Absolute Distance Measurement Systems for both short and long ranges.**

Bridger Photonics provides the highest performance in precision length metrology and LADAR, compact and energetic pulsed mid-IR lasers, and advanced imaging. Contact: Cecelia Rossetti, rossetti@bridgerphotonics.com; sales@bridgerphotonics.com.

## Bright Solutions srl

#4832

Via Artigiani 27, Cura Carpignano, Italy, 27010  
+39 0382 583091; fax +39 0382 583690  
info@brightsolutions.it; www.brightsolutions.it

**Featured Product: New Wedge HF: 200uJ - 500ps - 400kW Peak Power - up to 100 kHz.**

Bright Solutions is a leading provider of innovative industrial laser solutions thanks to its ten years experience in development and manufacture of solid state lasers. We offer a range of state-of-the-art high brightness diode lasers and high peak power diode pumped solid state lasers for industrial, medical and scientific applications. Contact: Stefano Trevisan, Technical Sales Manager, s.trevisan@brightsolutions.it; Giuliano Piccinno, President and CEO, g.piccinno@brightsolutions.it.



# Precision Instrumentation for Science and Industry

Visit us at:  
BiOS Booth #8422  
Photonics West Booth #422

## OPTICAL PRODUCTS

We've expanded our line of optical products to include the **SmartShutter™**, a full-featured controllable shutter, and the **Lambda 10-3** controller, capable of commanding up to three filter wheels and two shutters. Other optical instruments include the **DG-4** high-speed wavelength switcher, **Lambda XL** 10,000 hour light source, and a full range of filter wheels. Robust, reliable, and versatile, our imaging hardware can be driven by most imaging software and adapted to any microscope.



## MICROMANIPULATION

Rock-solid precision and sub-micron accuracy. Our expertise in electromechanical engineering and stepper-motor control is evident in the sub-micron resolution of our highly stable motorized and mechanical micromanipulators, stages, and translation systems. Our high performance designs offer precision smooth, ergonomic, micro-movements adaptable to diverse system designs and platforms.



## DESIGN AND MANUFACTURING

We've combined extensive years of motor control experience and in-house precision CNC machined parts to create a line of versatile optical products to serve the tremendous growth in photonics, optical research, and imaging techniques. Our extensive engineering expertise and 50,000 square foot state-of-the-art manufacturing facility, allow us to rapidly fabricate custom imaging solutions at economical prices, making us a preferred OEM vendor for life sciences and industry.



## MICROPIPETTE FABRICATION

Sutter Instrument has been a recognized leader in micropipette fabrication technology for over 30 years. Our puller technology includes the **P-2000**, an advanced CO<sub>2</sub> laser-based micropipette puller, that has been critical in the development of near-field scanning optical microscopy, fabricating fused silica probes with tip diameters as small as 20 nanometers.



**SUTTER INSTRUMENT**

ONE DIGITAL DRIVE, NOVATO, CA. 94949 | PHONE: 415.883.0128 | FAX: 415.883.0572  
EMAIL: INFO@SUTTER.COM | WWW.SUTTER.COM



## Brimrose Corporation of America

#2422

19 Loveton Circle, Sparks, MD, 21152-9201  
+1 410 472 7070; fax +1 410 472 7960  
office@brimrose.com; www.brimrose.com

**Featured Product: AOTF Hyperspectral/Broadband Imagers.**

Broad selection of free space and/or fiber-pigtailed Acousto-Optic devices including AO Tunable Filters, Frequency Shifters, Modulators, Deflectors, Q-Switches, Mode-Lockers & Cavity Dumpers, Recirculating Loop Systems, Optical Switches, Fiber Collimators and Focusers. Our systems include AOTF Imaging Subsystems, Imaging & NIR Spectrometers. Contact: Dr. Jolanta I. Soos Rosemeier, CTO, jsoos@brimrose.com; Mr. Daniel Yang, Sales Manager, zyang@brimrose.com.

## Bristol Instruments, Inc.

#627

SPIE Corporate Member

7647 Main Street Fishers, Victor, NY, 14564  
+1 585 924 2620; fax +1 585 924 2623  
info@bristol-inst.com; www.bristol-inst.com

**Featured Product: 428 Multi-Wavelength Meter tests DWDM signals to an accuracy as high as  $\pm 0.3$  pm.**

Bristol Instruments offers a variety of wavelength meters and spectrum analyzers for characterization of CW and pulsed lasers that operate over the range of 375 nm to 12.0  $\mu$ m. Absolute laser wavelength is measured to an accuracy as high as  $\pm 0.2$  parts per million and a laser's spectrum is determined to a resolution as high as 2 GHz. Bristol Instruments also provides accessories, repair services, and FREE technical support for old Burleigh products such as the RC Fabry-Perot interferometer. Contact: Walter Hersom, North American Sales Manager, whersom@bristol-inst.com; Brian Samoriski, President, bsamoriski@bristol-inst.com.

## Brockton Electro-Optics Corp.

#6010

50 Central Square Ste 3, Bridgewater, MA, 02324  
+1 508 559 9958; fax +1 508 861 0214  
sales@brocktoneo.com; www.brocktoneo.com

Manufacturer of laser stabilizers/noise-eaters, power controllers and laser modulation systems for UV/VIS/NIR/IR, CW and pulsed lasers, using liquid crystal cells and other E-O modulators. Contact: John Lescinskas, President, sales@brocktoneo.com.

## Bruno Laser

#5410

SPIE Corporate Member

70325 Hwy 1077 Ste 101, Covington, LA, 70433  
+1 985 792 7110; fax +1 985 792 7154  
tbruno@brunolaser.com

**Featured Product: The GSS is a DPSS laser system operating at 532 nm with a footprint comparable to an index card.**

Located near New Orleans Louisiana. BrunoLaser is a firm which specializes in producing high end, energy efficient, and fully integrated laser systems. Contact: Tom Bruno, Owner, tbruno@brunolaser.com; Lesley Swisler, Operations Manager, lesleyswiss@gmail.com.



METER BOARD SPONSOR

## Brush Ceramic Products

#4300

6100 S Tucson Blvd, Tucson, AZ, 85706  
+1 520 746 0699; fax +1 520 573 9077  
bcpsales@brushceramics.com; www.brushceramics.com

**Featured Product: High Purity Alumina – 99.7 and 99.8%.**

Brush Ceramic Products is the leading manufacturer of Beryllium Oxide Ceramics. BeO ceramics in laser technology enables optoelectronics to operate at higher temperatures in small, highly reliable packages. BeO provides thermal conductivity second only to diamond among electrically insulating materials, dissipating nearly 300W/mK at room temperature. BeO's thermal conductivity is ten times greater than Al<sub>2</sub>O<sub>3</sub> ceramics and double AlN. Standard or custom configurations. Contact: Lee Vandermark, lee\_vandermark@brushceramics.com.

## Brush Wellman Inc.

#4300

14710 W Portage River S Rd, Elmore, OH, 43416  
+1 419 862 4173  
lee\_vandermark@brushwellman.com;  
www.berylliumproducts.com

**Featured Product: SupremEX, a non-beryllium metal composite that increases the pure aluminum's strength and stiffness.**

Brush Wellman Beryllium Products is the premier integrated global producer of beryllium-based metals and metal matrix composites. We provide high performance metals and metal-matrix composites for mission-critical commercial, aerospace, x-ray, acoustics, research and engineering applications that require the highest levels of performance. Contact: Lee Vandermark, Sales Manager, lee\_vandermark@brushwellman.com.

## Bte Bedampfungstechnik GmbH

#4601

Am Ganzacker 2, Elsoff, Germany, 56479  
+49 2664 996012; fax +49 2664 996060  
dr.urban@bte-born.de; www.bte-born.de

**Featured Product: ALD all side coating for highly curves lenses, spheres etc.**

Bte Bedampfungstechnik is a leading vacuum coating company in Europe. We produce AR coatings, filters, beam splitters, mirrors, ITO coatings and others. We coat on glass as well as on selected plastic materials. The company exists since 1992. We have 6000 sqm production area, 25 coating machines and 55 employees. A self developed patented ALD coating process enables us to coat spheres and other components with free forms. It works on glass as well as on plastics. Contact: Dr. Franz-Josef Urban, Sales Engineer, dr.urban@bte-born.de.

## BWT Beijing Ltd.

#905

SPIE Corporate Member

6 Fl No 4A Hangfeng Rd Fengtai District, Beijing, China, 100070  
+86 10 83681053; fax +86 10 83681077  
sales@bwt-bj.com; www.bwt-bj.com.cn

BWT Beijing Ltd., a leading manufacturer of specially dedicated diode lasers fiber coupling and packaging, provides a variety of products with wavelength from 405nm to 1550nm, output power from 1mW to 100W, and integrated functions like aiming beam, internal TEC, fiber detector, etc. Contact: BWT Beijing, sales@bwt-bj.com; Hellen Wang, Director Sales & Marketing, hellen@bwt-bj.com.

## Product Locator Kiosks

North Hall Concourse  
South Hall Concourse  
Find what you need, print out the results, and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches

## CAEN Technologies, Inc.

#6012

1140 Bay St Ste 2C, Staten Island, NY, 10305  
+1 718 981 0401; fax +1 718 556 9185  
info@caentech.com; www.caentech.com

**Featured Product: CAEN realized a modular development kit dedicated to Silicon Photomultipliers.**

CAEN is today worldwide recognized as one of the leading companies in the design and manufacture of sophisticated electronic instrumentation for low light sensors: Low & High Voltage Power Supply Systems, Signal Conditioning, Front-End, Trigger, DAQ (VME, NIM, CAMAC, cPCI, USB standard) and Powered Crates. To provide its customers with better assistance CAEN opened its new branch company in the United States (CAEN Technologies Inc., 2005). Contact: Giovanni Burgada, Business Development Manager, g.burgada@caen.it; Jacopo Givoletti, President, jacopo@caentech.com.

## Cal Sensors, Inc.

#5325

5460 Skylane Blvd, Santa Rosa, CA, 94503  
+1 707 545 4181; fax +1 707 545 5113  
renee@calsensors.com; www.calsensors.com

Cal Sensors is the leading manufacturer of lead selenide (PbSe) and lead sulfide (PbS) infrared detectors, arrays, and broadband emitters. With over 20 years of expertise, Cal Sensors detectors provide superior sensitivity over 1 to 5.5 micron wavelengths. The emitters support steady state or high pulse rates over the visible to mid infrared spectrum. Common Applications, imaging, medical gas detection, moisture analysis, and flame detection. Contact: Candy Racuya, Tradeshow Coordinator, candy@calsensors.com; Renee Dulfer, Sales Manager, renee@calsensors.com.

## Calmar Laser, Inc.

#529

SPIE Corporate Member

755 N Pastoria, Sunnyvale, CA, 94085  
+1 408 733 7800; fax +1 408 733 3800  
contacts@calmarlaser.com; www.calmarlaser.com

**Featured Product: 500mW High Power Mendocino 780nm Femtosecond Fiber Laser systems with ultra compact optical head.**

Leading manufacturer of ultrafast fiber laser system for 15 years; pulse energy >10µJ, average power >10W. 500mW 780nm femtosecond fiber laser with ultra compact laser head. OEM and desktop seed femtosecond fiber lasers at 1.5 µm/1 µm/0.78 µm, 10, and 40 GHz ps fiber laser, low dispersion high power EDFA for short pulses, bit rate multiplier. Applications: biomedical imaging and multi-photon microscopy, vision correctional surgery, defense, micro-machining, telecommunications, and measurement. Contact: Peter Hu, Sales Director, peter.h@calmarlaser.com; Claire Chen, VP, claire.c@calmarlaser.com.

## Cambridge Technology, Inc.

#1000

SPIE Corporate Member

25 Hartwell Ave, Lexington, MA, 02421  
+1 781 541 1600; fax +1 781 541 1601  
scanners@camtech.com; www.camtech.com

**Featured Product: High stability galvos, 2 & 3-axis scanning subsystems, ScanMaster Designer software, USB controllers.**

Cambridge Technology, Inc is the technology leader in closed-loop, galvanometer based optical scanning components, scan heads, subsystems, controlling hardware and software, and custom scanning solutions. Cambridge Technology beam-steering products excel in a variety of applications including laser marking, engraving, drilling, machining, cutting, biomedical, ophthalmology, DNA sequencing, confocal microscopy, laser projection, and any application where quality laser beam steering is required. Contact: David Freihofer, Director, Sales & Marketing, davidf@camtech.com; Mike Fitts, Director, Cambridge Technology Solution, mfitts@camtech.com.

## Canada Pavilion

#5006

1200 Montreal Rd M-50, Ottawa, ON, Canada, K1A 0R6  
+1 613 991 2060; fax +1 613 993 7250  
sadiq.hasnain@nrc-cnrc.gc.ca;

## Canadian Institute for Photonic Innovations-CIPI

#5006

2375 rue de la Terrasse, Université Laval (local 2115), Québec, QC, Canada, G1V 0A6  
+1 418 656 3084; fax +1 418 656 2995  
www.cipi.ulaval.ca

The Canadian Institute for Photonics Innovation is a Network of Centres of Excellence established by the Government of Canada, which brings together university researchers and public sector and industrial partners for the purpose of developing innovation, stimulating technology transfer and exploitation and training the next generation of young Canadian scientists in the field of photonics. Contact: Nathalie Kinnard, Communication Coordinator, nathalie.kinnard@cipi.ulaval.ca; Robert Corriveau, President & CEO, robert.corriveau@cipi.ulaval.ca.

## Canadian Photonics Fabrication Centre (CPFC)

#5019

1200 Montreal Rd Bldg M-50, Ottawa, ON, Canada, K1A 0R6  
+1 613 990 4624; fax +1 613 952 5710  
info@cpfc.ca; www.cpfc.ca

**Featured Product: FP, DFB and BH-DFB lasers, Quantum cascade lasers, Optical waveguides - III-V and Si based.**

CPFC is a unique facility, a commercial-grade pureplay III-V and silicon foundry with a comprehensive suite of services: Design, Epitaxy, Device fabrication, Testing, Pilot-product capabilities for silicon and III-V-based photonic devices. CPFC have the ability to deliver foundry solutions for early-stage prototyping and small-to-medium volume production runs of photonic devices and photonic integrated circuits in either III-V compound semiconductor or silicon-based materials. Contact: Andre Parent, Business Development Officer, andre.parent@nrc-cnrc.gc.ca; Frank Shepherd, Director CPFC, frank.shepherd@nrc-cnrc.gc.ca.

## Canalaser Technologies Co., Ltd.

#4116

10F Incubator Centre, Hangzhou Bay New Zone, Ningbo Zhejiang, China, 315336  
+86 574 63817785; fax +86 574 63803131  
info@canalaser.com; www.canalaser.com

**Featured Product: The main products of the company are focused on novel lasers and laser applications.**

Canalaser is an advanced laser company founded in 2010. The main business of the company is in development and manufacturing of advanced lasers, optoelectronic devices and subsystems, including tunable single-frequency lasers for telecommunications and optical precision measurements, industrial lasers for material processing and laser machining, medical lasers for diagnosis and therapy, compact solid-state lasers for laser display, optical fiber amplifiers, as well as fiber-optic sensors. Contact: Qing Zhao, CEO, qzhao@canalaser.com.

## Canon U.S.A.

#2529

One Canon Plaza, Lake Success, NY, 11042  
+1 516 328 4611; fax +1 516 328 4601  
rtravis@cusa.canon.com; www.usa.canon.com

**Featured Product: GM Series Digital Optical Scanners and Scan Heads.**

Canon USA is a provider of High Resolution Digital Optical Scanners, and Scan Head Devices, Rotary and Linear Encoders with other Encoder Components. The GM Series and Scan Head Devices are used for Laser Marking, Welding, Cutting, Medical and Rapid Prototyping applications. Canon's ongoing research and development programs have achieved outstanding control precision throughout the Canon's product line. Contact: Ron Travis, Sales Manager, rtravis@cusa.canon.com.



**PROMOTIONAL PARTNER**

## Carl Hanser Verlag GmbH & Co. KG

#3048

Kolbergerstr 22, Munich, Germany, 81679  
+49 89 99830 0; fax +49 89 984809  
info@hanser.de; www.hanser.de

**Featured Product: Magazine Laser+Photonics.**

Laser+Photonic targets developers of optical, optoelectronic and laser systems as well as decision-makers for equipment purchases in the target markets of photonics, telecommunications, laser-based production technology, medical technology, machine and device engineering and in the automotive. Contact: Gregory Flinn, Editor, flinn@hanser.de; Regine Schmidt, Advertising Manager, Regine.Schmidt@hanser.de.

## Carl Zeiss Jena

#4601

Carl Zeiss Strasse 22, Oberkochen, Germany, 73447  
+49 07364 20 8814  
www.zeiss.de/czjena

With its innovational capability, Carl Zeiss Jena GmbH is synonymous with transforming technological challenges into benefit-oriented solutions. Committed employees, ultra-modern technologies and a highly productive engineering capability are at your disposal. Carl Zeiss Jena is a widely established company with facilities in Germany and a low cost facility Minsk in Belarus - a flexible center of excellence for single components and for complex assemblies and modules. Contact: Dirk Schulze, Sales Manager, d.schulze@zeiss.de; Erik Linßner, Sales Manager, e.linssner@zeiss.de.

## Carl Zeiss Microlmaging, Inc.

#4914

One Zeiss Dr, Thornwood, NY, 10594  
+1 800 233 2343; fax +1 914 681 7446  
micro@zeiss.com; www.zeiss.com/materials

Carl Zeiss offers a full line of upright, inverted, stereo and confocal microscopes, image analysis systems and digital cameras for all materials applications including research, metallurgy, surface topography, particle analysis, metrology, quality assurance, and failure analysis. Carl Zeiss is also an excellent resource as an OEM/VAR Partner, whether for individual components or complete systems. Contact: Becky Hohman, Manager, OEM, bhohman@zeiss.com; Kenny Patterson, VP, Sales, kpatterson@zeiss.com.

## Carr & Ferrell LLP

#5328

120 Constitution Dr, Menlo Park, CA, 94025  
+1 650 812 3400; fax +1 650 812 3444  
www.carrferrell.com

Carr/Ferrell is a full service law firm dedicated to protecting and enhancing the ideas and innovations that drive business around the world. In today's marketplace it's not enough to simply file patent applications and hope for the best. To be successful you have to aggressively employ every strategic advantage patents offer. That is why Carr/Ferrell created Strategic IP. Strategic IP is a critical business tool that retains customers, drives sales, and completely redefines the competition.

## Cascade Laser Corp.

#4319

SPIE Corporate Member

101 N Elliot Rd, Newberg, OR, 97132  
+1 503 554 1926; fax +1 503 554 8285  
info@cascadelaser.com; www.cascadelaser.com

**Featured Product: We now offer repair and reconditioning of several diode pumped Nd:YAG laser systems.**

We provide components and service for solid state and diode pumped laser systems. We recondition laser diode rails and power supplies to original specifications and we service all wavelengths of Nd:YAG lasers, including 1064nm, 532nm, 355nm, and 266nm. Our laser components include laser rods, flow tubes, cavity reflectors, mirrors, laser lamps, and we refurbish laser rods to like new condition. We also provide many laser accessories, including laser eyewear, laser power meters, and IR Viewers. Contact: Doug Geier, dgeier@cascadelaser.com; Kelly Kirchner, Kkirchner@cascadelaser.com.

## Cascade Optical Coating

#4211

SPIE Corporate Member

1225 E Hunter Ave, Santa Ana, CA, 92705  
+1 714 543 9777; fax +1 714 543 4394  
vicki@c-optical.com; www.c-optical.com

## CASIX, Inc.

#831

20 Fuxing St, Fuxing Investment Zone, Fuzhou Fujian, China, 350014  
+86 591 8361 0148; fax +86 591 8362 1248  
marketing@casix.com; www.casix.com

**Featured Product: RGB combiners, which combines the three fundamental colors to produce the visible color output.**

Engaged in R&D, manufacturing excellence and quality improvement, CASIX focus on developing and manufacturing high quality crystal, precision optics components and optical sub-assemblies for different market application. Contact: marketing@casix.com.



**EXHIBITION MAP/ RESTAURANT GUIDE SPONSOR**

## CASTECH Inc.

#730

No 155 Yangqiao West Rd, Fuzhou Fujian, China, 350002  
+86 591 371 0533; fax +86 591 371 1593  
sales@castech.com; www.castech.com

## CASTON Inc.

#215

SPIE Corporate Member

71 Fuguang Rd, Jin'an District, Fuzhou Fujian, China, 350014  
+86 591 8399 5661; fax +86 591 8362 9871  
sales@fz-caston.com; www.fz-caston.com

**Featured Product: LBO BBO crystal is advanced for high power and uv DPSS laser.**

CASTON Inc. is a world leading manufacturer of LBO/BBO crystals. With 16 years' professional techniques on growth and fabrication of NLO crystals (especially BBO and LBO), CASTON is capable of supplying large quantities of BBO/LBO crystals with top quality, high damage threshold and competitive prices, for both OEM and R&D customers. Contact: Edmund Lu, CEO, edmund.lu@fz-caston.com; Jason Weng, Vice President, jason.weng@fz-caston.com.



# Northern Lights at Your Service

## *Photonics Industry & Technology in Canada*



Visit the Canada Pavilion at Photonics West and BiOS and meet great Canadian companies, regional clusters and the Canadian Photonics Fabrication Centre. Together they offer world class products prototyping services and leading technologies.

Members of the Canada Pavilion at Photonics West (booth #5006) are:

- Alberta Centre for Advanced Micro & Nano Technology Products
- BMV Optical Technologies Inc.
- Canadian Institute for Photonic Innovations
- Canadian Photonics Consortium
- Doric Lenses Inc.
- Genia Photonics
- GiGa Concept Inc.
- IRphotonics Inc.
- O-M6 Technologies Inc.
- Ontario Photonics Industry Network
- P&P Optica
- QGLex Inc.
- Quebec Photonic Network

Members of the Canada Pavilion at BiOS (booth #8309) are:

- Alberta Centre for Advanced Micro & Nano Technology Products
- Genia Photonics
- GiGa Concept Inc.
- P&P Optica
- Photon etc. Inc.
- Quebec Photonic Network

We also invite you to visit during the Photonics West exhibition the following companies that are part of the Canadian Cluster:

- Avensys Inc. - booth 5009
- Beamtech Optronics Co. Ltd. booth 5013
- Bo Xin Photoelectric Co., Ltd – booth 5012
- Canadian Photonics Fabrication Centre – booth 5019
- Crosslight Software Inc. – booth 5010
- DALSA – booth 5014
- ESI – Pyrophotonics Lasers Inc. – booth 5018
- Firebird Technologies Inc. – booth 5017
- NorPix Inc. – booth 5016
- OZ Optics Ltd. – booth 4801
- Photon etc. – booth 5015
- World Star Tech – booth 5021

CANADIAN PHOTONICS  
FABRICATION CENTRE

CENTRE CANADIEN DE  
FABRICATION DE  
DISPOSITIFS PHOTONIQUES



Canadian Photonics Consortium  
Consortium photonique du Canada  
[www.photonics.ca](http://www.photonics.ca)

## CEDRAT Technologies

#5106

15 chemin de Malacher Inovallée, Meylan, France, 38240  
+33 4 7690 5045; fax +33 4 5633 0830  
actuator@cedrat.com; www.cedrat.com

**Featured Product: Stepping Piezo Actuators (SPAs) are new long-stroke linear piezoelectric motors.**

CEDRAT TECHNOLOGIES is an internationally recognized mechatronics specialist and manufacturer of piezo and magnetic actuators. We offer a wide range of standard products: amplified (APA®), pre-stressed piezo actuators, XY piezo stages, stepping motors, shutters, magnetic actuators, the associated electronics and also customised products. We have a strong experience in developing solutions for the optronics and photonics fields for demanding clients (microscans, objective positioners...). Contact: Mr. Thomas MAILLARD, Mechatronic Sales Manager, actuator@cedrat.com.

## Centronic LLC

#4416

16203 Park Row Dr Ste 110, Houston, TX, 77084  
+1 281 578 7900  
info@centronic.us; www.centronic.us

## CeramOptec Industries, Inc.

#426

**SPIE** Corporate Member

515 Shaker Rd, East Longmeadow, MA, 01028  
+1 413 525 0600; fax +1 413 525 0611  
salesengineering@ceramoptec.com; www.ceramoptec.com

**Featured Product: Non-circular core optical fibers for applications including material processing and astronomy.**

Serving the scientific, medical, and industrial market with optical fiber, fiber bundles, assemblies & spectroscopic fiber accessories. CeramOptec produces stock and custom silica/silica, plastic-clad silica, hard polymer-clad silica, silver halide optical fibers, capillary tubing & low loss bundles/assemblies for UV, VIS, and IR transmission. Products for high (+380C) or low (-190C) temperature, low to high NA (0.12 to 0.53). We offer non circular silica fibers: square, rectangle and octagon cores. Contact: Kevin Bakhshpour, V.P. of Sales and Marketing, kb@ceramoptec.com; Cheryl Provost, Industrial Scientific Sales Engineer, chery.provost@ceramoptec.com.

## Chang Shu JingBo Optical Technology Co., Ltd.

#4933

No 2B Jin Hua Rd, Chang Shu High Tech Industrial Park, Chang Shu, China, 215500  
+86 512 5284 7656; fax +86 512 5284 7683  
www.jingbo-sh.com

**Featured Product: Touch Screen glass, Precise plate, auto-gravure components, prisms, lenses, cylindrical lenses.**

JingBo Optical Technology Co., Ltd was created in 2000. We're a worldwide leading company in both manufacturing and marketing of Touch Screen glass, Precision Optical Lens, CD Glass Substrates, Color Filters, Fused Silica Substrates and Optical Crystal Substrates. JingBo has the most advanced processing and inspection equipment and the most scientific management. JingBo has top class reputation in the market; most of our products are sold to USA, Japan, Switzerland, Canada, Korea and Taiwan. Contact: Sandy Pan, market development, sandy@jingbo-sh.com; Lin Chao, General Manager, double@jingbo-sh.com.

## Changchun New Industries Optoelectronics Technology Co., Ltd.

#1138

No 668 Chuangxin Rd, High-Tech Zone, Changchun, Jilin, China, 130012  
+86 431 85603799; fax +86 431 87025016  
sales@cnilaser.com; www.cnilaser.com

**Featured Product: Single longitudinal mode blue laser at 473nm, can be used in full-colour holography applications.**

Changchun New Industries (CNI) founded in 1996, is a leading manufacturer of solid-state and diode laser systems. Our products include infrared laser, Visible laser, UV laser, single longitudinal mode laser and Q-switched laser systems. CNI lasers are featured with high performance, low cost and excellent laser beam quality, which are specifically designed for OEM, scientific, industrial and instrumentation use. Contact: Lu Wang, Sales manager, amer@cnilaser.com; Ava Zheng, Salesman, sales@cnilaser.com.

## China Daheng Group Inc.

#2323

**SPIE** Corporate Member

#A9 Shangdi Xinxliu, Haidian District, Beijing, China, 100085  
+86 10 8278 2668; fax +86 10 8278 2669  
optics@cdhcorp.com.cn; www.cdhcorp.com

Daheng Optics, a wholly-owned subsidiary of China Daheng Group, Inc, specializes in optics. Since 1987, Daheng Optics has been successful in its business by offering a comprehensive catalogue, engaging in custom-designed optical systems, and providing professional solutions. It is capable in design, development and manufacture optical components, modules and systems. Closely-linked with academic partners, Daheng Optics continuously develops new products and is active in worldwide market.

## China Germanium Co., Ltd.

#5028

**SPIE** Corporate Member

718 Jiangjun Rd, Nanjing, China, 211165  
+86 2552759450; fax +86 255279380  
sun@nange.com; www.nange.com

China Germanium is the biggest germanium manufacture in China, and the leading supplier of germanium & silicon blanks, polished lenses, windows for infrared optics. We also provide recycling service for germanium, indium & rare earth metals. Contact: Sun, Jiening, sun@nange.com; Zhou, Mingzhong, chinagermanium@yahoo.com.cn.



**PROMOTIONAL PARTNER**

## China International Optoelectronics Exposition

#6024

Rm 607 E Block Coastal City, Haide 3rd Rd Nanshan District, Shenzhen Guangdong, China, 518059  
+86 755 8629 0901; fax +86 755 8629 0951  
cioe@cioe.cn; www.cioe.cn

The China International Optoelectronic Exposition (CIOE) is an annual event which is held on September 6-9 in Shenzhen. This event has been successfully held for the past twelve years. As the world's largest Optoelectronic expo, it is a member of UFI. The 13th CIOE (CIOE 2011) will occupy all exhibition halls of the Shenzhen Convention & Exhibition Center for the first time, with a total exhibition area of 10,000 sqm. The China Optoelectronic Seminar (COES) will be held concurrently. Contact: Shirly Yi, Project Manager, shirly@cioe.cn; Nicole Zhu, Business Executive, nicole@cioe.cn.

## Chroma ATE, Inc.

#5135

7 Chrysler, Irvine, CA, 92618-2009  
+1 949 421 0355

info@chromaus.com; www.chromaus.com

Chroma ATE is a Forbes Top 200 world leading own brand supplier in electronic test and measurement equipment. Founded in 1984, Chroma provides fully automated LED test solutions from wafer to final package. Chroma's US operations are located in Southern California, with worldwide engineering service offices in Taiwan, Europe, China, and Japan. For more information, visit Chroma's website at www.chromaus.com.

## Chroma Technology Corp.

#908

**SPIE** Corporate Member

10 Imtec Ln, Rockingham, VT, 05101  
+1 802 428 2500; fax +1 802 428 2525  
sales@chroma.com; www.chroma.com

Chroma is an employee-owned company specializing in the design and manufacture of precision optical filters. Our filters have been developed for wavelengths from ultraviolet to infrared. For each of these applications we provide the greatest accuracy in color separation, optical quality and signal purity. We provide application engineering support, many different coating techniques and are as comfortable designing and manufacturing custom filters as we are our catalog items. Contact: Chris Conca, OEM Sales, cconca@chroma.com; Kelly Stockwell, OEM Sales, kstockwell@chroma.com.

## CI Systems, Inc.

#4530

**SPIE** Corporate Member

759 Cochran St Ste A, Simi Valley, CA, 93065-6229  
+1 805 520 2233; fax +1 805 520 2234  
info@cisystemsinc.com; www.ci-systems.com

CI Systems' turnkey test stations leverage our expertise in infrared and visible sources, collimators, range simulators, laser measurement, motion control, software, and unit-under-test fixturing to deliver reliable, highly accurate systems that are backed by knowledgeable and responsive service professionals. Contact: Garrick Matheson, Director, gmatheson@cisystemsinc.com; Tim Owens, Sales, towens@cisystemsinc.com.

## CIEC Overseas Exhibition Co., Ltd.

#1901, 5212, 5214

No 6 E Beisanhuan Rd, Chaoyang District, Beijing, China, 100028  
+86 10 84600568; fax +86 10 84600753  
overseas@ciec.com.cn; www.ciec-expo.com

## Cimcoop Holding Ltd.

#4540

Buxton Blvd 40 Fl 6, Sofia, Bulgaria, 1618  
+359 295 59741; fax +359 2955 9941  
info@cimcoop.com; www.cimcoop.com

Cimcoop is a ISO 9001:2008 certified producer of custom made Silicon substrates and precision optical components in the VIS and UV spectrum based in Bulgaria (EU). For more info please visit www.cimcoop.com. Contact: Ognyan Barzakov, Project Manager, barzakov@cimcoop.com; Kalin Georgiev, Business Development Manager, kgeorgiev@cimcoop.com.

## CIP Technologies

#4742

B55 Adastral Park, Martlesham Heath, Ipswich, United Kingdom, IP5 3RE

+44 1473 663113; fax +44 1473 663295  
sales@ciphotonics.com; www.ciphotonics.com

CIP is an optical components and services company based in the UK. We design and manufacture a range of products based on IIV, silica on Silicon and photonic integration technologies, for both telecoms and sensing applications. Contact: Ray Taylor, Business Development Manager, ray.taylor@ciphotonics.com; Marcus Banham, Sales Executive, marcus.banham@ciphotonics.com.

## CLaser Photonics, Inc.

#4230

No 375 Yecheng Rd Jiading, Shanghai, China, 201822  
+86 21 39108810; fax +82 21 69528257

sales@claser-sh.com; www.claser-sh.com

**Featured Product: UV Polarizer, CO<sub>2</sub> laser components, Er:GLass, Nd:Glass.**

CLaser Photonics Inc is a leading company in supplying of crystals, optics and laser components; it was developed since 2005. We supply our high quality crystals and precision optics for global OEM and R & D user. Our crystal products include laser crystals, nonlinear crystals, Q-switch crystals, optical crystals for laser systems, optical instrument systems, and wide new applications. CLaser Photonics supply components for high power application by IBS or IAD coating. Contact: Philip Zheng, President, sales@claser-sh.com.

## Clear Align

#5330

**SPIE** Corporate Member

2550 Boulevard of the Generals Ste 280, Eagleville, PA, 19403  
+1 484 956 0510; fax +1 484 956 0511  
info@clearalign.com; www.clearalign.com

Clear Align delivers custom electro-optic systems and subsystems utilizing imaging, fiber-optic and laser technologies to serve the intelligence, surveillance and reconnaissance communities. Clear Align is a leading optical innovator providing high-performance design-to-manufacture solutions to mission critical defense and aerospace applications. More information is available at www.clearalign.com. Contact: David Huff, Vice President of Business Development, david.huff@clearalign.com; Lance Whalen, Director of Business Development, lance.whelen@clearalign.com.

## Clemson University/COMSET

#4924

91 Technology Rd, Anderson, SC, 29625  
+1 864 656 1660; fax +1 864 656 1099  
pfloy@clemson.edu; http://comset.clemson.edu/

The Center for Optical Materials Science and Engineering Technologies (COMSET) is an internationally recognized program at Clemson University focused on cutting edge research, education, and technology transfer on materials for optical fiber and related photonic technologies. COMSET is an academic resource for passive and active optical fiber materials research. COMSET operates a fully functional and readily reconfigurable Heathway fiber draw tower and an SG Controls MCVD lathe. Contact: Dr. Paul Foy, Director, Optical Fiber Fabrication Labs, pfloy@clemson.edu.



## CMOSIS

Coveliersstraat 15, Antwerpen, Belgium, 2600  
+32 3 260 17 30; fax +32 3 260 17 79  
info@cmosis.com; www.cmosis.com

**Featured Product: CLN1000 low noise, high linear dynamic range image sensor.**

CMOSIS offers CMOS image sensor products optimized for specific application fields. These products feature high-performance pixel architectures, high frame rates, on-chip ADC, high dynamic range operation modes and high-speed digital interfaces. Contact: Tim Baeyens, Founder, Director Business Development, tim.baeyens@cmosis.com.

#5433

## Coherent Inc.

SPIE Corporate Member

5100 Patrick Henry Dr, Santa Clara, CA, 95054  
+1 408 764 4000; fax +1 408 764 4825  
tech.sales@coherent.com; www.coherent.com

World's leading manufacturer of photonics-based products for a wide range of commercial and scientific applications. Industry's largest and most diverse selection of lasers and a wide range of laser test and measurement equipment. Highly reliable, high performance product lines include CO<sub>2</sub>, continuous-wave, diode, diode module, diode-pumped solid-state, optically pumped semiconductor lasers (OPSL), excimer, ion, tunable-dye, YAG, YLF, and ultrafast lasers.

#1015

## Coastal Connections

2368 Eastman Ave Ste 11, Ventura, CA, 93003  
+1 805 644 5051; fax +1 805 644 5355  
andy@coastalcon.com; www.coastalcon.com

**Featured Product: Fiber End-Caps for 405nm fibers to dramatically increase the life of 405nm cables.**

Coastal Connections is the leading provider of engineered fiber optic cables and terminations in the USA. Specializing in short (350-980nm) and long (2-9 $\mu$ m) wavelengths along with custom solutions for all environments including high temperature and cryogenic vacuum environments. Offering Fiber End-Caps for 405nm cables along with SM, PM, MM and high power cables. Serving the medical, military, and industrial markets. Contact our experienced staff to discuss your unique requirements. Contact: Andy Devine, President, andy@coastalcon.com; Ryan Laudato, Manufacturing Manager, ryan@coastalcon.com.

#825

## Coining, Inc.

15 Mercedes Dr, Montvale, NJ, 07645  
+1 201 791 4020; fax +1 201 791 1637  
sales@coininginc.com; www.coininginc.com

#5137

## Cobolt AB

Vretenvägen 13, Solna, Sweden, SE-171 54  
+46 8 545 912 30; fax +46 8 545 912 31  
info@cobolt.se; www.cobolt.se

Cobolt AB, Stockholm, Sweden, supplies diode-pumped solid-state lasers (DPSSLs) in the visible and near-infrared, for stand-alone use or OEM integration. Built on proprietary PPKTP technology, the Cobolt lasers combine high power and wavelength flexibility with low noise and compact size. Available wavelengths are 561, 491, 532 and 473 nm. The lasers are designed for use in demanding applications within bioanalysis, fluid dynamics, spectroscopy and holography. Contact: Phil Crowley, CEO, Market Tech Inc., phil@markettechinc.net.

#1331



GENERAL REFRESHMENT SPONSOR

## Collimated Holes, Inc.

460 Division St, Campbell, CA, 95008-6923  
+1 408 374 5080; fax +1 408 374 0670  
chi\_2000@pacbell.net; www.collimatedholes.com

Collimated Holes, Inc. produces unusual structures of glass for biotechnology, telecom, scientific, industrial and medical applications; fused fiber structures, single and multi-channel capillaries, drawn or etched holes, matrix arrays for coupling and isolation, fiber optic geometry converters, and fused fiber optic scintillating screens for x-ray detection. Contact: Matt Fate, Sales Engineer, chi\_2000@pacbell.net; Richard W. Mead, President, chi\_2000@pacbell.net.

#735

## CODIXX AG

9 River Rd, Hudson, NH, 03051  
+1 603 821 7040; fax +1 603 821 7041  
kking@laser-components.com; www.laser-components.com

**Featured Product: CODIXX colorPol® polarizers extended wavelength capability from 340nm to 5,000nm (IR) region.**

CODIXX produces dichroic glass polarizers for the UV, VIS and IR range (340nm up to 5,000nm), well known under the brand name colorPol®. The products have outstanding characteristics like high acceptance angle of 0°  $\pm$  20°, transmittance up to 98%, high contrast ratios of 70dB and a wide operating temperature range from  $<-50^{\circ}$ C to  $+400^{\circ}$ C; available with low wavefront distortion. Contact: Gary Hayes, General Manager, hayes@laser-components.com; Kevin King, Sales Engineer, kking@laser-components.com.

#2217

## Colorado Photonics Industry Association #2134

PO Box 700, Boulder, CO, 80306  
+1 303 834 1022  
www.coloradophotonics.org

The Colorado Photonics Industry Association is an association of Colorado Photonics Companies and associated supporting organizations whose mission is to provide opportunities to the members for business enhancement through quarterly and annual meetings, technical shows, networking and educational forums. Contact: David Giltner, President, president@coloradophotonics.org; Karen Eye, Administrator, exec@coloradophotonics.org.

## COMMAX Co., Ltd.

513-11 Sangdaewon-Dong, Jungwon-Gu, Sunghnam City  
Kyunggi-Do, Korea, 462-120  
+82 31 739 3681  
khkoo@commax.co.kr; www.commax.com

#5539

## Complete Hermetics

3300 A Westminster Ave, Santa Ana, CA, 92703  
+1 714 265 1238; fax +1 714 554 9935  
sales@CHerms.com; www.cherms.com

Complete Hermetic provides Hermetic Packaging, Seals & Feed-through and view ports manufacturer and Engineering services. Products include: 1) A full line of Hermetic Packages for RF, Fiber Optic, Microwave, Telecom, Power and Hybrid markets. 2) Thick Film Hybrid Printed Substrates Services. Prototype developments to Volume productions. Contact: Bob Liu, Account Director, bobliu@aegistech.net; Allan Esses, Marketing Director, allan.esses@aegistech.net.

#4616

**Compound Semiconductor Technologies**

**Global (CSTG) Ltd.**

**#2223**

4 Stanley Blvd, Hamilton Technology Park, Hamilton Scotland, United Kingdom, G72 0BN

+44 1698 722072; fax +44 1698 821101

salesinfo@compoundsemi.co.uk; www.compoundsemi.co.uk

CSTG is the original "pure play" III-V semiconductor foundry specializing in the design, development, and manufacture of custom discrete and integrated opto-electronic devices. We offer services from customization of devices & processes to a fully outsourced foundry model with ISO9001-2000 accreditation. CST has a unique library of leading edge processes allowing rapid prototyping of new device platforms - reducing time to market, cost of manufacture and increasing reliability. Contact: Dr Wyn Meredith, Commercial Director, salesinfo@compoundsemi.co.uk.

**Computer Optics Inc.**

**#639**

120 Derry Rd, Hudson, NH, 03051

+1 603 889 2116; fax +1 603 889 2393

info@irzoom.com; www.computeroptics.com

**COMSOL, Inc.**

**#507**

1 New England Executive Park Ste 350, Burlington, MA, 01803

+1 781 273 3322; fax +1 781 273 6603

info@comsol.com; www.comsol.com

COMSOL Multiphysics is a software environment for the modeling and simulation of any physics-based system. A particular strength is its ability to account for multiphysics phenomena. Optional modules add discipline-specific tools for acoustics, batteries & fuel cells, chemical reaction engineering, earth science, electromagnetics, fluid dynamics, heat transfer, MEMS, plasma, and structural analysis. Contact: info@comsol.com.

**Concepts Research Corp.**

**#4832**

930 W Silver Beach Rd, Belgium, WI, 53004

+1 262 285 4300; fax +1 262 285 7007

sales@conceptsresearch.com; www.conceptsresearch.com

**Featured Product: Concepts Research Corporation offers a line of passively Q-switched microchip laser devices.**

Concepts Research Corporation is a technology based company specializing in the areas of systems engineering and laser technologies. We provide engineering assistance for system integration and development of custom products from our product offerings which include diode pumped lasers and laser control systems. The staff at Concepts Research Corporation has experience taking ideas from concept through to production. Contact: Steve Hansen, shansen@conceptsresearch.com; Brian Peterson, bpeterson@conceptsresearch.com.

**Conex Systems Technology, Inc.**

**#1833**

2880 Zanker Rd #203, San Jose, CA, 95134

+1 408 954 7329; fax +1 408 954 7330

crystals@castech-us.com; www.castech-us.com

**Featured Product: Supplier of LBO, BBO crystal and KTP, KDP, YVO<sub>4</sub>, Nd:YVO<sub>4</sub>, Nd:YAG, LiNbO<sub>3</sub>, LiTaO<sub>3</sub> and other crystals.**

Conex supplies nonlinear optic (NLO) crystals and other optical materials. It is one the most reliable source for LBO, BBO crystals and low cost, high quality wedges, KTP, KDP, YVO<sub>4</sub>, Nd:YVO<sub>4</sub>, Nd:YAG, LiNbO<sub>3</sub>, LiTaO<sub>3</sub> and other optic crystals. Conex offers technical services and satisfaction guarantee for crystal products. Please contact Ken Zhang or Julia Kanki at crystals@castech-us.com.



**SPIE Membership**  
**A long-term investment that pays off**

---

**3-Year and Lifetime Memberships**  
1-year- \$105 | 3-year- \$297 | Lifetime- \$995

**Join or renew your SPIE Membership and receive 10 SPIE Digital Library downloads, and 1 complimentary online course.**

---

- ▶ Networking and access to information
- ▶ Discounts on events, courses, and publications
- ▶ Career advancement and peer recognition
- ▶ Complimentary online SPIE journal

Make SPIE your resource.  
Join or renew online today.

[spie.org/membership](http://spie.org/membership)  
customerservice@spie.org  
+1 360 676 3290  
Fax: +1 360 647 1445



## Continuum

SPIE Corporate Member

3150 Central Expy, Santa Clara, CA, 95051  
+1 408 727 3240; fax +1 408 727 3550  
info@continuumlasers.com; www.continuumlasers.com

Continuum is a global leader in high energy YAG lasers, OPOs, and dye lasers for scientific, OEM and industrial applications. Standard and custom Nd:YAG lasers range from 25mJ/pulse to 7J/pulse; tunable accessories range from 205nm to 2650nm. Variable pulsewidth systems include 50ns to 50µs outputs. Large glass lasers (>50J) are also available. Contact: Curt Frederickson, VP of Sales and Marketing, c.frederickson@continuumlasers.com.

#1723

## Coresix Precision Glass, Inc.

#4937

1737 Endeavor Dr, Williamsburg, VA, 23185  
+1 757 888 1361; fax +1 757 888 1366  
ralston@coresix.com; www.coresix.com

**Featured Product: Coresix has developed a Super Polish process for ultra-smooth surface with minimal polish structure.**

Coresix is an industry leader in the development, manufacturing and fabrication of precision glass components for markets including photonics, display, biotech, imaging, opto-electronics, sensor and semiconductor. From R&D to full production, our products are made to exacting dimensional and spectral tolerances using virtually any glass material available. We specialize in providing flat glass substrates to the highest levels of quality and cleanliness. Contact: Al Ralston, Sales Manager, ralston@coresix.com; Justin Lawson, Sales Representative, lawson@coresix.com.

## Contour Fine Tooling

#4645

143 Jaffrey Rd, Marlborough, NH, 03455  
+1 603 876 4908; fax +1 603 876 4911  
Dennis@contour-diamonds.us; www.contour-diamonds.com

Contour Fine Tooling supplies Natural & Synthetic single crystal diamond tools for 2-axis and Freeform, technologies for manufacturing I/R, transmissive and reflective optics for Aero-Space/Defense, Consumer electro-optics and Ultra-precision mechanical components. Along with our sister company Technodiamant we have 6 global manufacturing locations. Diamond tools can be supplied with edge waviness to 50 nm P-V & <1 micron tip radius. Contour Fine Tooling also supplies diamond micro-mills. Contact: Dennis Keating, VP Sales and Marketing, Dennis@contour-diamonds.us; Jeff Tomlin, VP & General Manager, Jeff@contour-diamonds.us.

## The Cooke Corp.

#1707

SPIE Corporate Member

6930 Metroplex Dr, Romulus, MI, 48174  
+1 248 276 8820; fax +1 248 276 8825  
info@cookecorp.com; www.cookecorp.com

**Featured Product: Model pco.edge low light high speed scientific sCMOS based camera system.**

Cooke offers High Speed and High Performance CCD, scientific sCMOS & ICCD camera systems to the scientific, industrial and military markets. Including the pco.dimax high speed 12bit camera gives 1279fps at 2016 x 2016; the pco.edge sCMOS camera: intensified camera systems and specialized cameras featuring double shutter useful in PIV and fuel spray imaging. Imaging related products include pulsed high intensity lighting and sequencer systems designed for use in dynamic Schlieren applications. Contact: Murad Karmali, Vice President, Sales, murad.karmali@cookecorp.com; Steve Daicos, President, steved@cookecorp.com.

## CorActive High-Tech, Inc.

#2403

SPIE Corporate Member

2700 Jean-Perrin Ste 121, Quebec, QC, Canada, G2C 1S9  
+1 418 845 2466; fax +1 418 845 2609  
sales@coractive.com; www.coractive.com

CorActive is a well financed independent developer and manufacturer of advanced Specialty Optical Fiber (SOF) products for OEM customers serving the LASER, telecommunications, sensor, defense, and aerospace industries. CorActive uniquely offers a full line of standard SOF products, including Double Clad, erbium doped, mid-IR transmission, ultra violet sensitive and attenuating optical fiber, plus custom fiber development services for specific applications. Contact: Jean Dube, V.P. Sales, sales@coractive.com; Steven St-Pierre, Sales Manager, sales@coractive.com.



GENERAL REFRESHMENT SPONSOR

## Corning Incorporated

#611

SPIE Corporate Member

One Riverfront Plz, Corning, NY, 14831  
+1 607 974 9000; fax +1 607 974 8177  
www.corning.com

Corning is a world leader in delivering advanced optical solutions for a broad array of commercial and industrial markets. Corning Specialty Materials provides glass, glass ceramics and fluoride crystal materials, optical components, and imaging systems for the world's leading equipment manufacturers in display, telecommunications, semiconductor, astronomy, aerospace, security defense. Contact: Dave Young, Marketing Communications, youngdj@corning.com.

## Covesion Ltd.

#2611

Unit A7 The Premier Center, Premier Way, Romsey Hampshire, United Kingdom, SO51 9AQ  
+44 1794 521638; fax +44 8709 289714  
sales@covesion.com; www.covesion.com

**Featured Product: MgO:PPLN crystals for efficient wavelength conversion across many visible and mid-IR applications.**

A rapidly growing UK manufacturer of MgO:PPLN, supporting a wide range of applications: Projector Displays (green lasers), Bio-medical (flow-cytometry), Terahertz Imaging, Spectroscopy, Sensing, and many more. Our unique production process ensures the highest conversion efficiencies (uniform domains in x, y & z), enhancing both performance and ease-of-use. Coupled with our large manufacturing capacity, we are now able to offer these key components in high volumes and at a market-enabling price. Contact: Mark Middleton, Managing Director, mark.middleton@covesion.com; Christian Rahlff, Chief Operations Officer, christian.rahlff@covesion.com.

## CQ Laser Technologies Co., Ltd.

#5306

58 Hengjing Rd, Nanjing Jiangsu, China, 210046  
+86 25 85800333  
sales@cqlasertech.com; www.cqlasertech.com

**Featured Product: Nonlinear optical chips based on MgO doped periodically poled lithium niobate (MgO:PPLN).**

CQ Laser Technologies is specialized in designing and manufacturing MgO doped periodically poled lithium niobate (MgO:PPLN) chips. For the first time, our proprietary crystal poling technology enables us to make low cost and high quality MgO:PPLN chips on large substrates with high yield. PPLN chips are disruptive in a wide range of applications including laser displays and bio-medical instrumentation. Contact: Ye Hu, sales@cqlasertech.com.



## CRC Press - Taylor and Francis Group LLC

#2032

6000 Broken Sound Pkwy NW Ste 300, Boca Raton, FL, 33487  
+1 561 994 0555; fax +1 561 361 6018  
orders@crcpress.com; www.crcpress.com

**Featured Product: Polarized Light, Third Edition - NEW! By Dennis H. Goldstein, 12/2010; Cat. No. K11493.**

CRC Press - Taylor & Francis is a premier publisher in optical sciences and engineering textbooks, professional manuals, reference works, journals, and electronic databases. Please visit our booth to review new and bestselling publications including the new editions of Polarized Light and Infrared Detectors, and preview the forthcoming Handbook of Biomedical Optics. Receive a 15%-25% discount and pick up complimentary copies of our journals. Contact: Maikala del Castillo, Marketing Manager, Maikala.delCastillo@taylorandfrancis.com; Ashley Gasque, Editor, Ashley.Gasque@taylorandfrancis.com.

## CREOL, The College of Optics & Photonics, UCF

#2034

SPIE Corporate Member

PO Box 162700, 4000 Central Florida Blvd Bldg 53, Orlando, FL, 32816-2700  
+1 407 823 6800; fax +1 407 823 6880  
info@creol.ucf.edu; www.optics.ucf.edu

**Featured Product: New BSEE-Photonics degree at UCF in addition to CREOL's MS & PhD degrees.**

CREOL, The College of Optics & Photonics at the University of Central Florida is an internationally recognized academic and research institution, offering MS and PhD degrees in Optics, and serves as a scientific and technical resource to industry. The College has research programs covering all aspects of optics, lasers, and photonics and their many applications. The College works in partnership with the Florida High Tech Corridor Council and several Florida economic development organizations. Contact: Bahaa Saleh, Dean & Director, besaleh@creol.ucf.edu; Denise Whiteside, Asst to the Dean, dwhites@creol.ucf.edu.

## CRI

#901

SPIE Corporate Member

35 B Cabot Rd, Woburn, MA, 01801  
+1 781 935 9099; fax +1 781 935 3388  
sales@cri-inc.com; www.cri-inc.com

CRI has been providing innovative optical imaging solutions for over 20 years. Our multidisciplinary team has over 80 patents pending and issued. Our innovations enable breakthroughs in research, health and medicine. We offer an array of tunable, solid-state components and turnkey systems for use in wavelength selection and light modulation. CRI services a global network of distributors and partners and through strategic alliances as an OEM supplier. Contact: sales@cri-inc.com.

## Cristal Laser SA

#1431

SPIE Corporate Member

32 Rue Robert Schumann, Parc d'Activités du Breuil, Messein, France, 54850  
+33 3 83 47 01 01; fax +33 3 83 44 92 72  
mail@cristal-laser.fr; www.cristal-laser.fr

We are a privately owned, independent business, located near Nancy, France and specialized in crystal growth and processing for applications in non linear and laser optics: frequency-doubling, OPO's, frequency-mixing and electro-optics (Pockels cells). Our production range includes KTP LBO, RTP, KTP.fr, KTA and BBO. These crystals are widely used in many applications, covering areas from laser surgery to life sciences, security and defense, as well as material processing. Contact: Hervé ALBRECHT, Sales Manager, herve@cristal-laser.fr; Marc-André HERRMANN, General Manager, ma.herrmann@cristal-laser.fr.

## Critical Link LLC

#4229

6712 Brooklawn Pkwy, Syracuse, NY, 13211  
+1 315 425 4045; fax +1 315 425 4048  
info@criticallink.com; www.criticallink.com

## Crosslight Software, Inc.

#5010

202-3989 Henning Dr, Burnaby, BC, Canada, V5C 6P8  
+1 604 320 1704; fax +1 604 320 1734  
info@crosslight.com; www.crosslight.com

Crosslight Software Inc. is an industry leader in TCAD simulation tools. Crosslight is now an international company headquartered in greater Vancouver, Canada, which for over a decade has been dedicated to providing state-of-the-art TCAD tools for simulation of semiconductor devices and processes. Crosslight Software was the first commercial company to provide TCAD software for electrical and optical modeling of quantum well laser diodes. Contact: Z.Q. Leo Li, VP of Engineering, zqli@crosslight.com; Michel Lestrade, Technical Sales Manager, michel.lestrade@crosslight.com.

## CryLaS GmbH

#1331

Ostendstr 25 Haus 4, Berlin, Germany, 12459  
+49 30 5304 2400; fax +49 30 5304 2444  
info@crylas.de; www.crylas.de

CryLaS GmbH, is a supplier of advanced photonics technologies to customers in the scientific research, defense/security, life sciences and precision industrial manufacturing markets. CryLaS's innovative products include solid-state lasers for manufacturing, engineering and research applications. Contact: Phil Crowley, CEO, Market Tech Inc., phil@markettechinc.net.

## CryLight Photonics, Inc.

#4531

No 5 Dongling Rd, Jinshan Fuwan Industrial Park, Fuzhou Fujian, China, 350026  
+86 591 8377 2101; fax +86 591 8377 2103  
sales@crylight.com; www.crylight.com

Plan to Attend  
FREE Exhibitor Product  
Demonstrations

Refer to pages 62-64 for complete times, schedules, and locations.

## Cryslaser Inc.

#5324

B1 No199 Xiqu Ave, High-Tech District Western Zone, Chengdu Sichuan, China, 611731  
+86 28 66348331; fax +86 28 87988682  
sales@cryslaser.com; www.cryslaser.com

Cryslaser Inc., the leading company of laser crystal supplier in China, have been involved in crystal growth, fabrication and coating for more than 40 years. Cryslaser grows large diameter YAG crystals using the Czochralski technique, including Nd:YAG; Nd:Ce:YAG; Cr<sup>4+</sup>:YAG; Er:YAG and Undoped YAG. Be an ISO 9001 registered Company, we are always keeping to international quality standard: we have professional on site quality control during every work flow. Contact: Abby, Sales Manager, ayang@cryslaser.com; Frank, President, fwang@cryslaser.com.

## Crystal GmbH

#4601

Ostendstr 25, Berlin, Germany, 12459  
+49 30 5304 2500; fax +49 30 5304 2525  
www.crystal-gmbh.com

**Featured Product: Diffusion bonded laser crystals, laser components, optical assemblies.**

CRYSTAL GmbH is a company committed to highly developed technologies and products with and related to crystals such like CaF<sub>2</sub>, BaF<sub>2</sub>, Zinc Sulfide, Silicon, Nd:YAG, ND:YVO<sub>4</sub> etc. Proven production technology and comprehensive measuring and testing procedures guarantee our exceptional standard of quality. We apply our extensive experience in the field of crystal technology to processing specialized materials. Our expertise covers the spectrum from individual elements to large-scale order. Contact: Ulrich Krzenziessa, Sales Engineer, ulrich.krzenziessa@crystal-gmbh.com; Susanne Brandt, Sales Engineer, Susanne.brandt@crystal-gmbh.com.

## Crystal Technology, Inc.

#4618

1040 E Meadow Cr, Palo Alto, CA, 94303  
+1 650 856 7916; fax +1 650 354 0173  
crystal-sales.pa@epcos.com; www.crystaltechnology.com

Crystal Technology is the leading manufacturer of lithium niobate and acousto-optic components. Our products include lithium niobate wafers for surface acoustic wave (SAW) applications and optical applications including wave guides, low pass filters, isolators and periodically poled lithium niobate (PPLN). We offer a full range of acousto-optic devices including modulators, deflectors, tunable filters and multi-channel modulators, as well as RF drive electronics and electro-optic q-switches. Contact: George Sadilek, Senior Sales Representative, george.sadilek@epcos.com.

## CrystaLaser

SPIE Corporate Member

#1830

4750 Longley Ln #205, Reno, NV, 89502  
+1 775 348 4820; fax +1 775 348 7047  
office@crystalaser.com; www.crystalaser.com

## CRYTECH Inc.

#1834

177 Zhuzhou Rd, Qingdao Shandong, China, 266101  
+86 532 88703717; fax +86 532 88701077  
sales@crystech.com; www.crystech.com

**Featured Product: Largest size KTP crystals; High quality HGTR-KTP crystals; Excellent thin film polarizers.**

CRYTECH is the world's leading manufacturer for crystals and optics. Main products include KTP, HGTR-KTP, BBO, Nd:YVO<sub>4</sub>, Nd:YAG, Polarizers, Waveplates, Pockel Cell, etc. CRYSTECH would like to provide high quality products with good price and excellent service to all the customers. Contact: Pikey Huang, Sales Engineer, sales@crystech.com; Franco Lin, Sales Engineer, sales@crystech.com.

## Crystran Ltd.

#4427

1 Broom Rd, Business Park, Poole Dorset, United Kingdom, BH12 4PA  
+44 1202 307650; fax +44 1202 307651  
sales@crystran.co.uk; www.crystran.co.uk

Crystran Ltd. is a manufacturer of high quality optical components based in England. We specialize in IR and UV materials and manufacture windows, lenses, prisms and specialist optics as both standard products and to designs of our customers. We have established a reputation for customer service and on-time deliveries working in a broad range of materials including Calcium Fluoride, Magnesium Fluoride, Barium Fluoride, Zinc Selenide, Zinc Sulfide, Germanium and many more exotic materials. Contact: Rachael Bayliss, Marketing Executive, rachael@crystran.co.uk; Alaina Wright, Key Accounts Manager, alaina@crystran.co.uk.

## Curamik Electronics Inc.

#5227

3770 Arapaho Rd, Addison, TX, 75001-4311  
+1 214 615 1533; fax +1 214 615 1540  
ggriffin@curamikusa.com; www.curamikusa.com

## Cutting Edge Coatings GmbH

#5037

Hollerithallee 8, Hannover, Germany, 30419  
+49 511 2877 244; fax +49 511 2788 100  
sales@vptec.com; www.cutting-edge-coatings.com

Cutting Edge Coatings GmbH provides the new and innovative Navigator series of Ion Beam Sputtering Optical Coating Systems. CEC GmbH is exclusively represented in North America by Vacuum Process Technology LLC (VPT). CEC is a spin off of the Laser Zentrum Hannover. The system includes a broad band optical monitor and fully automated to produce optics for high power laser applications as well as rugate and complex filters and coatings. Contact: Mark Dykstra, VP of Sales and Marketing, sales@vptec.com; Dr. Kai Starke, General Manager, starke@cutting-edge-coatings.com.



⚡ **METER BOARD, BANNER, EXHIBITION MAP/ RESTAURANT GUIDE, AND CONFERENCE BAG INSERT SPONSOR**

## CVI Melles Griot

#4501

SPIE Corporate Member

200 Dorado Pl SE, Albuquerque, NM, 87123  
+1 505 296 9541; fax +1 505 298 9908  
optics@cvimellesgriot.com; www.cvimellesgriot.com

At CVI Melles Griot, your success is our success. Our engineers and technical staff have years of product, application and process experience. Solving problems and making products better is how we've built this business. We are here to extend your capabilities.

## DAC International, Inc.

#305

6390 Rose Ln, Carpinteria, CA, 93013  
+1 805 684 8307; fax +1 805 566 2196  
www.dac-intl.com

DAC International manufactures high precision CNC Lathes and Mills for machining plastics and non-ferrous materials. We have several standard platforms that can be customized for a variety of applications. The DAC ultra-precision lathes are used for single-point diamond turning of optics and all plastics and polymers. DAC equipment is designed and manufactured in the USA, backed by experienced, worldwide technical support. Contact: Chip Heavican, Executive Vice President, cheavican@dac-intl.com; Chris Pantle, Sales Manager, cpantle@dac-intl.com.

## DALSA

SPIE Corporate Member

605 McMurray Rd, Waterloo, ON, Canada, N2V 2E9  
+1 519 886 6000; fax +1 519 886 2317  
www.dalsa.com

DALSA is an international leader in high performance digital imaging and semiconductors with approximately 1000 employees worldwide. Established in 1980, the Company designs, develops, manufactures and markets digital imaging products and solutions, in addition to providing semiconductor products and services. DALSA's core competencies are in specialized integrated circuit and electronics technology, software and highly engineered semiconductor wafer processing. Contact: David Cochrane, Director of Marketing, david.cochrane@dalsa.com; brad.finnery@dalsa.com; philip.colet@dalsa.com.

#5014

## Dayoptics, Inc.

#1901F

20 Baihua Zhou Rd, Jinshan Pushang Industrial Park, Fuzhou Fujian, China, 350002  
+86 591 83215681; fax +86 591 83215359  
sales@dayoptics.com; www.dayoptics.com

**Featured Product: High Power Polarization Beam splitter and waveplate, >15J/cm<sup>2</sup> @ 20ns 20Hz 1064nm.**

Dayoptics emphasizes on high precision polishing, high quality coating and optical bonding technology which enable us to produce with good products: such as high power polarization beam splitter, waveplate, lenses, crystals, etc. benefit from occupied with different advanced inspection instrument. Products including: Crystals: birefringent; laser; NLO; passive; E-O Q; optical, Optical Component: optical glass, color glass, wave plate, polarizer, PBS, lens, prism, optical windows, EO Q-switch. Contact: Daisy Wu, Manager, daisy.wu@dayoptics.com; Stephen Wan, VP, stephen.wan@dayoptics.com.

## DataRay, Inc.

SPIE Corporate Member

14505 Seaman Gulch Rd, Bella Vista, CA, 96008  
+1 203 210 5065; fax +1 203 762 0551  
jwilson@dataray.com; www.dataray.com

**Featured Product: High Resolution beam profiler 190 nm to 1.3 μm, 4.4 μm<sup>2</sup> pixel, 7.1 x 5.4 mm area, 16 bit ADC USB2.0**

Manufacturer of Laser Profilers for lasers, laser assemblies, fiber optic, telecom and imaging to ISO 11146 standards. Sub-micron, UV- 16 microns, cameras, slit scanners knife edge beam profiling. Focused beam-waist, alignment, Beam position, stability, M2, MTF, Wave-Front, Collimation and many other test parameters. Custom and stock systems and PC - based software. Contact: John Wilson, Sales and Marketing, jwilson@dataray.com; amacgregor@dataray.com, VP Engineering, amacgregor@dataray.com.

#4925

## DCM-Tech, Inc.

#423

4455 Theurer Blvd, Winona, MN, 55987  
+1 507 452 4043; fax +1 507 452 7970  
skipgreen@dcm-tech.com; www.dcm-tech.com

## DELTA

#5216

Venlighedsvej 4, Hørsholm, Denmark, 2970  
+45 72 19 4000; fax +45 72 19 4001  
filters@delta.dk; www.madebydelta.com

DELTA can produce some of the most advanced optical filters in its field. Specialized in filters operating in the visible window, with high demanding optical characteristics, DELTA have something unique to offer that you cannot get elsewhere. By working together with our customers, we can combine our optical knowledge with our customer system knowledge to get solutions that secures both technical and economical success. DELTA supplies the world leading OEMs with first class optical filters. Contact: Kaj Kulstad, Market Manager, kku@delta.dk.

## Dausinger+Giesen GmbH

#4601

Rotebülstr 87, Stuttgart, Germany, 70178  
+49 711 90 70 60 550; fax +49 711 90 70 60 99  
dausinger@dausinger-giesen.de; www.dausinger-giesen.de

The mission of the startup company Dausinger + Giesen GmbH (D+G) is to promote the disk laser technology. D+G possesses proprietary know-how in contacting laser disks to heat sinks for efficient and homogeneous cooling, has developed disk modules allowing efficient use of pump laser light and complex special lasers like a 50 W femtosecond system. Contact: Dr. Mikhail Larionov, larionov@dausinger-giesen.de.

## Davidson Optronics, Inc.

#2317

2223 W San Bernandino Rd, West Covina, CA, 91790  
+1 626 962 5181; fax +1 626 962 5188  
sales@davidsonoptronics.com; www.davidsonoptronics.com

## Daylight Solutions

SPIE Corporate Member

13029 Danielson St Ste 130, Poway, CA, 92064  
+1 858 391 1010; fax +1 858 679 9470  
carmacost@daylightsolutions.com; www.daylightsolutions.com

**Featured Product: Uber Tuner tunable pulsed mid-IR lasers offer coverage from 4-12 microns with fewest laser heads.**

Daylight Solutions is the world leader in Quantum Cascade Laser based molecular detection and imaging systems. We pioneered the commercialization of QCLs by combining QC gain media with our patented External Cavity Laser (ECqCL™) technology. The result was a robust, broadly tunable mid-infrared laser source. Daylight Solutions is the premiere manufacturer of components, subsystems, and systems for sensors and high power illuminators in the mid-IR. Contact: Chris Armacost, Director of Sales, carmacost@daylightsolutions.com; Michael Radunsky, Product Marketing Manager, mradunsky@daylightsolutions.com.

#2504

## Deltronic Crystal/Isowave

#4128

SPIE Corporate Member  
60 Harding Ave, Dover, NJ, 07801  
+1 973 361 2222; fax +1 973 361 0722  
info@deltroniccrystal.com; www.deltroniccrystal.com

**Featured Product: NEW: 2mm Thick Periodically-Poled Wavelength Conversion Chips. NEW: Expanded SLT capability.**

Deltronic Crystal/Isowave is a prime USA grower of high quality photonic-grade single crystals and manufacturer of high-performance optical isolators. Periodically-Poled Wavelength Conversion Chips are available for use from the blue through the mid-IR. Vertically-integrated from growth through coatings and packaging, we welcome the opportunity to work with customers to provide the highest value attainable. Contact: Frank Stallone, Sales Engineer, fstallone@deltroniccrystal.com; Dimitar Shumov, Chief Scientist, DShumov@deltroniccrystal.com.

## DenseLight Semiconductors Pte Ltd.

#502

6 Changi North St 2, Singapore, Singapore, 498831  
+65 6415 7989; fax +65 6415 4414  
info@denselight.com; www.denselight.com

DenseLight Semiconductors designs, fabricates and manufactures Infrared Optoelectronics Light Sources, including Superluminescent LEDs, Broadband Light Sources, Single-Frequency Lasers and High Power Pulsed Lasers (form factors: chip, TO-can, BTF/DIL, module and benchtop) for applications in Sensing (Fiber-optics gyroscopes, gas/chemical sensing, FBG sensors, Brillouin OTDR, laser ranging), Medical healthcare (OCT imaging, non-invasive body-sensing) & communications (WDM-PON, network testers) Contact: HT Wong, VP (Marketing & Sales), htwong@denselight.com; Haiqun Zheng, Director, Marketing & Sales, hqzheng@denselight.com.





METER BOARD SPONSOR

## Deposition Sciences, Inc

#312

SPIE Corporate Member

3300 Coffey Ln, Santa Rosa, CA, 95403  
+1 707 573 6700; fax +1 707 573 6748  
solutions@depsci.com; www.depsci.com

Since 1985, Deposition Sciences, Inc. (DSI) has produced the most durable optical thin film filter coatings in the industry. DSI's coating capability ranges from the ultraviolet (UV), through the visible, to near-infrared, midwave-infrared (MWIR), and out to the longwave infrared (LWIR) region. DSI's technology is based on its proprietary MicroDYN<sup>®</sup> reactive sputtering deposition process that enables superior, multilayer thin film coatings for precision optics and other thin film technologies. Contact: Tatiana Goobanoff, Customer Service Supervisor, goobanofft@depsci.com.

## Dexela Ltd.

#4742

Wenlock Business Centre, 50-52 Wharf Rd, London, United Kingdom, N1 7EU

+44 207 148 3107; fax +44 207 148 3107  
sales@dexela.com; www.dexela.com

**Featured Product: Flat panel CMOS X-ray detectors that offer unprecedented speed and superior image quality.**

Dexela's innovative flat panel CMOS X-ray detectors provide a new level of performance and reliability for OEMs in medical, dental and industrial X-ray markets. The fast, high resolution detectors are suitable for a range of applications including mammography, breast tomosynthesis, dental cone beam CT, fluoroscopy, cardiology, small animal imaging and non-destructive testing. Dexela also offers advanced image processing software for mammography, breast tomosynthesis, CT and radiography. Contact: Ed Bullard, CEO, ed.bullard@dexela.com; Greg Paul, VP Sales and Business Development, greg.paul@dexela.com.

## Diamond USA Inc.

#4215

27 Industrial Ave, Chelmsford, MA, 01824  
+1 978 256 6544  
dhardy@diausa.com; www.diausa.com

**Featured Product: IP65 rated E2000 connectors, ideal for Medical Applications. Mini-Avim, designed for aerospace.**

Diamond USA is a respected manufacturer of high performance fiber optic connectors and connectorized assemblies. We provide products ideally suited for medical, aerospace, and industrial applications. We will work with you to develop a customer solution. Diamond USA has the capability to terminate a wide variety of specialized fibers, and offers direct termination services for your optical devices. Contact: David Hardy, National Sales/Business Development Manager, dhardy@diausa.com.

## DiCon Fiberoptics, Inc.

#403

SPIE Corporate Member

1689 Regatta Blvd, Richmond, CA, 94804  
+1 510 620 5000; fax +1 510 620 4100  
www.diconfiberoptics.com

**Featured Product: MEMS Multi-Mode 1x16 Optical Switch Module for Military Applications.**

Manufacturer of MEMS Fiber Optic Switches, MEMS Tunable Filters and High Brightness LED Lighting products. Founded in 1986, DiCon Fiberoptics is an established leader in high quality solutions for Military, Biomedical, Telecommunications, Sensing and other applications. Contact: sales@diconfiberoptics.com.

## Diemat, Inc.

#4409

SPIE Corporate Member

19 Central St, Byfield, MA, 01922  
+1 978 499 0900; fax +1 978 499 8484  
info@diemat.com; www.diemat.com

Diemat produces high-performance materials for packaging semiconductors and photonics, replacing solder in many applications. Our adhesives offer unmatched thermal conductivity, up to 75 W/m-K, for semiconductor die attachment and heat sink bonding. Low-temperature sealing glasses (as low as 320 °C) hermetically seal optical fibers, lids, windows, and lenses to packages, and are used in wafer-level packaging. Diemat is ISO 9001 registered and has a worldwide sales network. Contact: Kevin A. McLaughlin, Manager, Sales and Marketing, k-mclaughlin@diemat.com.

## Diffraction Optics Ltd.

#930

Unit 531 Enterprise Place, Hong Kong Science Park 5 Science Park W Ave, Shatin, Hong Kong China  
+852 2793 5976; fax +852 2793 1696  
sales@diffraction-optics.com; www.diffraction-optics.com/asp/content.asp

**Featured Product: Reflective Microscope Objective is specially designed for Bio-Medical Fluorescence Microscopy.**

Diffraction Optics Ltd. has professional engineering team that adopts the latest technologies to support our manufacturing capabilities such as: 1) Metal optics by 5-axis ultra-precision diamond machining with angstrom-level surface finishing and sub-lambda surface accuracy. Electroforming is available for economical replica mirrors. 2) Ion-assisted multi-layer optical coatings and metallization in protected gold, silver, chromium and aluminum on various substrate. Contact: Leung Kin Pak, Engineering Manager, kpleung@diffraction-optics.com; Susan Cui, Sales Executive, susan@diffraction-optics.com.



LANYARD SPONSOR

## Dilas Diode Laser, Inc.

#4837

SPIE Corporate Member

9070 S Rita Rd Ste 1500, Tucson, AZ, 85747  
+1 520 232 3480; fax +1 520 232 3499  
sales@dilas-inc.com; www.dilas.com

DILAS delivers the most innovative technologies and advanced product solutions in the industry. DILAS designs, develops and manufactures high power, high brightness semiconductor laser components, modules and systems, including fiber-coupled products for worldwide distribution to commercial and industrial applications. Contact: Steve Patterson, Director of Technology, s.patterson@dilas-inc.com.

## Directed Light, Inc.

#5412

SPIE Corporate Member

633 Riber Oaks Pkwy, San Jose, CA, 95134  
+1 408 321 8500; fax +1 408 321 8466  
info@directedlight.com; www.directedlight.com

**Featured Product: Laser Flash & Arc Lamps.**

Distributes laser flashlamps, optics, and consumable components worldwide, providing parts and services for all brands and types of lasers in the industrial, medical and scientific industries. Our contract manufacturing division can laser process a wide variety of materials with a diverse selection of lasers from UV to Far IR. Services include laser welding, plus hermetic sealing, cutting, drilling, marking and ablation for customers in the North America, South America, Asia, and Europe. Contact: Neil S. Ball, President, neil.ball@directedlight.com; Karen Croom, Customer Service Manager, karen@directedlight.com.



# Optical Technologies

made  
in  
Germany

## GERMAN PAVILION

Photonics West 2011

25 to 27 January, 2011, San Francisco, California

Moscone Center, North Hall, Booth 4601

EXHIBITORS: AIXTOOLING GmbH, Aachen ■ AMPHOS GmbH, Aachen ■ Artifex Engineering e.K., Emden ■ asphericon GmbH, Jena ■ Astro- und Feinwerktechnik Adlershof GmbH, Berlin ■ Bte Bedampfungstechnik GmbH, Elsoff ■ Carl Zeiss Jena GmbH, Jena ■ CRYSTAL GmbH, Berlin ■ Dausinger + Giesen GmbH, Stuttgart ■ Fraunhofer HHI, Berlin ■ Fraunhofer IIS, Erlangen ■ Fraunhofer ILT, Aachen ■ Fraunhofer IOF, Jena ■ Fraunhofer IPT, Aachen ■ Fraunhofer ISC, Würzburg ■ Fresnel Optics GmbH, Apolda ■ FUTURELED GmbH, Berlin ■ GD Optical Competence GmbH, Sinn ■ J. Hauser GmbH & Co. KG, Solms ■ Hochschule Harz, Wernigerode ■ IMM Photonics GmbH, Unterschleißheim ■ inno-spec GmbH, Nürnberg ■ J&M Analytik AG, Essingen ■ JCMwave GmbH, Berlin ■ JenLab GmbH, Jena ■ Laser Zentrum Hannover e.V., Hannover ■ LEG Thüringen mbH, Erfurt ■ Leica Microsystems CMS GmbH, Wetzlar ■ LightTrans VirtualLab UG, Jena ■ Lumphos GmbH, Darmstadt ■ Messe Berlin GmbH, Berlin ■ Messe München GmbH, München ■ Moulded Optics GmbH, Schoeffengrund ■ m2k-laser GmbH, Freiburg ■ nanosystec GmbH, Groß-Umstadt ■ neoLASE GmbH, Hannover ■ Paul Pleiger Maschinenfabrik GmbH & Co. KG, Witten ■ Primes GmbH, Pfungstadt ■ RAYLASE AG, Weßling ■ RGB Laser Systeme GmbH, Kelheim ■ Schmidt & Bender GmbH & Co. KG, Biebertal ■ TEC Microsystems GmbH, Berlin-Adlershof ■ TEM Messtechnik GmbH, Hannover ■ TransMIT Gesellschaft für Technologietransfer mbH, Gießen ■ Universität Erlangen-Nürnberg, Lehrstuhl für Strömungsmechanik, Erlangen ■ u2t Photonics AG, Berlin ■ VERTILAS GmbH, Garching ■ Wirtschaftsförderungsgesellschaft Jena mbH, Jena ■ WISTA-MANAGEMENT GmbH, Berlin

## Docter Optics, Inc.

SPIE Corporate Member

1425 West Elliot Rd Ste A-105, Gilbert, AZ, 85233  
+1 480 844 7585; fax +1 480 844 7826  
doi@docteroptics.com; www.docteroptics.com

**Featured Product: Customized: Optical glass concentrators for CPV, optoelectronic/optomechanic subassemblies.**

Docter Optics GmbH, an ISO 9001:2008 and ITAR registered global OEM optics supplier, will be displaying molded optical glass components, in sizes from 5mm to 165mm, e.g. light pipes, aspheres, free-forms, lens arrays, spheres, aspheric and free-form mirrors and prisms, UV to IR coated, for Illumination and CPV; customized optoelectronic and optomechanic subassemblies, Tevidon® CCD/CCTV lenses; Auto-Tessar® HDR lenses; Stilar® lens, for biometrics, security/surveillance and medical applications. Contact: Bruce Nielsen, Executive Manager and Vice President, doi@docteroptics.com; Frank Müller, Sales Manager, frank.mueller@docteroptics.com.

## Dominar, Inc.

734 Aldo Ave, Santa Clara, CA, 95054  
+1 408 496 0508; fax +1 408 496 0910  
dominfo@dominar-inc.com; www.dominar-inc.com

**Featured Product: Wide band anti-reflection coating for sapphire substrates.**

Dominar, Inc. specializes in the design and manufacture of optical thin film coatings. We coat crystals, AMTIR, and semiconductors, as well as most glasses and silica, from UV to IR. We offer anti-reflection, high-reflection dielectric, LWP, SWP and bandpass filters. Solderable metal, and most metal reflectors are offered. We quote on prototype or production quantities. Dominar also offers expertise for fiber optic light guides and imaging, optical design, testing, and illumination engineering. Contact: John Ellis, President, jellis@dominar-inc.com; Claudia Campos, Office Manager, dominfo@dominar-inc.com.

## DongWoo Optron Co., Ltd.

611-5 Maesan-ri, Opo-Eup, Gwangju-si, Gyeonggi-do, Korea, 464-893  
+82 31 765 0300; fax +82 31 765 0222  
dos@optron.co.kr; www.optron.co.kr

**Featured Product: 1. Micro PL/Raman measurement system. 2. High speed PL mapping system. 3. Monochromator.**

DongWoo Optron is a technology company specialized in the field of spectroscopy. We are committed to build state-of-art optical products that customers really need. Making a perfect product takes two way communication. We will always listen to our customers' voice whether the needs are for high-tech R&D or for high precision nano-scale production lines. Creating solutions that are tailored to best suit your developments and production requirements is our mission. Contact: Gibson Ahn, Manager of Marketing & Sales, dos@optron.co.kr; Ian Jung, Director/Optical Department, optron@optron.co.kr.

## Doric Lenses Inc.

357 Frangnet, Québec, QC, Canada, G1P 4N7  
+1 418 877 5600; fax +1 418 877 1008  
www.doriclenses.com

The company is a manufacturer of high quality photonic components, like the world renowned doric™ gradient-index cylindrical lenses, rods, cut rods, a family of acylindric lenses, axicons, custom optics etc. In addition to a large portfolio of photonics components, Doric Lenses inc. provides photonics contract manufacturing services photonics assemblies and full photonics supply chain management. Contact: Branka Prijovic, VP Sales, branka@doriclenses.com; Kemal Trtak, Sales representative, kemal@doriclenses.com.

#1940

## Dowa Electronics Materials Co., Ltd.

#4126

4-14-1 Sotokanda, Chiyoda-ku, Tokyo, Japan, 101-0021  
+81 3 6847 1253; fax +81 3 6847 1260  
yuasaa@dowa.co.jp; www.ultraviolet-led.com/index\_en.html

**Featured Product: Deep UV LED (less than 340nm) and High Power Infrared/Red LEDs.**

We are a Japanese manufacturer of Deep UV LEDs (340nm, 330nm, 325nm and less) and High Power Infrared/Red LEDs (above 660nm). Our Deep UV LED achieves higher power output and robust reliability and will be more efficient light source for deep ultraviolet wavelength in many fields. Contact: Akihisa Yamaguchi, Marketing Manager, akihisa@dicny.com.

## DPSS Lasers Inc.

#1841

2525 Walsh Ave, Santa Clara, CA, 95051  
+1 408 988 4300; fax +1 408 988 4305  
alaymon@dpss-lasers.com; www.dpss-lasers.com

**Featured Product: DPSS Lasers Inc. introduces the New Samurai UV Marking System utilizing DPSS' 355 nm laser technology.**

DPSS Lasers Inc. specializes in low cost, DPSS UV, "quasi CW" lasers, 0.1 to 5+ watts, 355 nm with high peak powers and high rep rates that are ideal for marking and engraving materials such as glass, plastic and metals. Applications using our UV "Cold Laser" are Product Coding, Micromachining, Marking, Sapphire Scribing, ITO Removal, Semiconductor and Medical Packaging. Also available is a new Infinity True CW 355 nm laser at up to 200 mW. Contact: Alex Laymon, President, alaymon@dpss-lasers.com; Randy Kimball, V.P. Business Development, rkimball@dpss-lasers.com.

## DRS Technologies, Inc.

#5318

SPIE Corporate Member

3520 U.S. Hwy 1, Palm Bay, FL, 32905  
+1 321 308 4804; fax +1 321 956 0126  
mmello@drs-rsta.com; www.drs.com

DRS Technologies, headquartered in Parsippany, New Jersey, U.S.A., is a leading supplier of integrated products, services and support to military forces, intelligence agencies and prime contractors worldwide. Focused on defense technology, the Company develops, manufactures and supports a broad range of systems for mission critical and military sustainment requirements, as well as homeland security. Contact: Maggie Mello, Mgr, Trade Shows, mmello@drs-rsta.com.

## Duma Optronics Ltd.

#4226

PO Box 3370, 1 Hazait St, Nesher, Israel, 20306  
+972 4 8200577; fax +972 4 8204190  
sales@duma.co.il; www.duma.co.il

**Featured Product: Electronic Autocollimator: a precise USB2.0 device combining the collimator and alignment telescope.**

Duma Optronics specializes in photonics instrumentation. Main product lines include beam profiling and analysis systems, beam positioning and alignment, advanced video microscope and electronic autocollimator. Tailor made innovative solutions for instrumentation needs with universal applications. Contact: Judith Aharon, Project Manager, judith@duma.co.il; Oren Aharon, Director, oren@duma.co.il.



## Dyna Technologies, Inc.

#3044

1670 Tropic Park Dr, Sanford, FL, 32773-6335  
+1 407 330 6423  
information@dti-fla.com; www.dti-fla.com

**Featured Product: The GP-10000HT is a compact press for high temperature, compression molding of precision lenses.**

Dyna Technologies, Inc (DTI) is a manufacturer of a precision glass molding press for production of optical elements such as aspheric lenses. The press features a fully enclosed design for vacuum and inert gas purging operation. Programmable feedback controls provide high precision position, force, heating and cooling profiles throughout the molding process. DTI also provides prototype and low volume services for optical elements and aspheric lenses. Contact: Howard Painter, President, HPainter@dti-fla.com; Brandon Dubas, Engineering Project Manager, BDubas@dti-fla.com.

## Dynasil Corporation of America

#623

**SPIE** Corporate Member

239 Cherry St, Ithaca, NY, 14850  
+1 607 272 3320; fax +1 607 272 3340  
www.dynasilcorp.com

Authorized distributor of Corning 7980 HPFS Fused Silica (including excimer grades) and ULE in precision machined blank or partial boule/ingot forms. Fused quartz, and Nikon NIFS-S fused silica also available. Contact: Bruce Leonetti, VP of Sales and Marketing, sales@dynasil.com.

## DZ Laser Service, Inc.

#5305

1252 West 50 South, Centerville, UT, 84014  
+1 801 296 2612; fax +1 801 296 2910  
jeff@dzlaser.com; www.dzlaser.com

We specialize in the repair and replacement of a variety of argon and krypton ion lasers used in Raman Spectroscopy, Confocal Microscopy, Metrology, Semiconductor Inspection, DNA Sequencing, Flow Cytometry, Photo Imaging, etc. We are dedicated to providing superior customer service, competitive pricing and rapid turn-around. Contact: Jeff Argyle, VP Sales, jeff@dzlaser.com; Mark Leloudis, VP Production, mark@dzlaser.com.

## E.T. Precision Optics Inc.

#5424

**SPIE** Corporate Member

33 Curlew St, Rochester, NY, 14606  
+1 585 254 2560; fax +1 585 254 2966  
info@etprecision.com; www.etprecision.com

## e2v

#4328

**SPIE** Corporate Member

106 Waterhouse Ln, Chelmsford, United Kingdom, CM1 2QU  
+44 1245 493 493; fax +44 1245 492 492  
www.e2v.com

e2v provides high performance imaging solutions for programmes requiring CCD & CMOS sensors and cameras for; space and earth observation imaging, science and life science imaging, machine vision, ophthalmology and dental x-ray systems. Contact: Ivan Noy, Marketing Manager - Scientific Imaging, ivan.noy@e2v.com.



**CONFERENCE BAG INSERT SPONSOR**

## Eagleyard Photonics GmbH

#1331

Rudower Chaussee 29, Berlin, Germany, 12489  
+49 30 6392 4520; fax +49 30 6392 4529  
info@eagleyard.com; www.eagleyard.com

Eagleyard Photonics is a leading provider of high-power laser diodes with wavelengths ranging from 650 nm to 1,120 nm. With our competence and know-how we close the gap between research and industry, and link both worlds together. In turning technology into mature and reliable products we enable new applications for such laser diodes and help our customers to develop new markets. Contact: Phil Crowley, CEO, Market Tech Inc., phil@markettechinc.net.

## Edinburgh Instruments Ltd

#2612

2 Bain Sq, Kirkton Campus, Livingston, United Kingdom, EH54 7DQ  
+44 1506 425300; fax +44 1506 425320  
sales@edinst.com; www.edinst.com

**Featured Product: Picosecond Pulsed UV-LEDs with on-board controller. Compact system with wavelengths from 250-380nm.**

World-Leader of advanced, research-grade, modular fluorescence spectrometers and infrared gas lasers, Edinburgh Instruments has been custom manufacturing for 40 years. With a tradition of superior design and innovation, our products have achieved a global presence within academia and industry. Our fluorescence spectrometer range enables combined steady state and lifetime measurements with ultra high sensitivity. Also on offer are pulsed picosecond diode lasers and laser flash photolysis systems. Contact: Robbie Thomas, Senior Sales Manager, robbie.thomas@edinst.com; Nicholas Leeson, Sales Engineer, Nicholas.Leeson@edinst.com.



**CONFERENCE BAG SPONSOR**

## Edmund Optics

#1214

**SPIE** Corporate Member

101 E Gloucester Pike, Barrington, NJ, 08007  
+1 856 547 3488; fax +1 856 573 6233  
sales@edmundoptics.com; www.edmundoptics.com

**Featured Product: Edmund Optics' filters, aspheres & optical components for biotech, imaging & infrared applications.**

Edmund Optics is a leading producer of optics, imaging and photonics technology. Supporting the R&D, electronics, semiconductor, biotech, and defense markets around the globe; EO products are used in a variety of applications ranging from DNA sequencing to retinal eye scanning to high-speed factory automation. EO's manufacturing capabilities combined with its global distribution network has earned it the position of the world's largest supplier of off-the-shelf optical components. Contact: Anthony Artigliere, Sales Manager, sales@edmundoptics.com; Marisa Edmund, VP of Marketing and Communications, MEdmund@edmundoptics.com.



**PROMOTIONAL PARTNER**

## EDP Sciences

#6046

17 Ave du Hoggar, Courtaboeu Les Ulis Cedex, France, 91940  
+33 1 69 18 75 75; fax +33 1 69 86 07 65  
edps@edpsciences.org; www.edpsciences.org

## EIS Optics Ltd.

11 Strand, London, United Kingdom, WC2N 5HR  
+44 20 7389 1540  
eisoptics@eisoptics.com; www.eisoptics.com

**Featured Product: We provide the most advanced optical solutions to high volume consumer industries.**

With over 60 years experience, EIS Optics possesses comprehensive know-how in optical thin films, glass processing, lithography and the production of optical subassemblies. Contact: Brian Sjogren, Sales Manager USA, brian.sjogren@eisoptics.com; James Lim, Head of Sales & Marketing, james.lim@eisoptics.com.

## EKSMA Optics

Optolita UAB, Mokslininku str 11, Vilnius, Lithuania, 08412  
+370 5 2729900; fax +370 5 2729299  
info@eksmaoptics.com; www.eksmaoptics.com

EKSMA OPTICS is a manufacturer and global supplier of precision optical components including optical elements and nonlinear crystals for lasers and laser systems. Our wide range of catalog products are available for fast off-the-shelf deliveries, and custom inquiries are welcome. EKSMA OPTICS quality control labs and polishing facilities specialize in processing BK7/FS flat optics and nonlinear LBO, K\*DP, ZnGeP2 crystals. Contact: Lucian Hand, President of Altos Photonics, lucian@altosphotonics.com.

## EKSPLA UAB

Savanoriu Av 231, Vilnius, Lithuania, 02300  
+370 5 2649629; fax +370 5 2641809  
sales@ekspla.com; www.ekspla.com

**Featured Product: NT200 series laser with wavelength tuning from 210 to 12000 nm and up to 2.5 kHz repetition rate.**

Manufacturer of solid state pulsed lasers, laser systems, DPSS lasers, optoelectronics and power supplies for basic research and industrial applications. Products include mode-locked, q-switched, custom-designed lasers, OPG/OPA/OPO systems and complete solutions for spectroscopy, material research as well as industrial diode pumped solid state lasers for material processing. Design and manufacturing of optoelectronics components and flash-lamp drivers for OEM customers. Contact: Lucian Hand, Representative, Lucian@altosphotonics.com; Jonas Mikaluskas, Area sales manager, j.mikaluskas@ekspla.com.

## Electro Optical Components Inc.

SPIE Corporate Member

5460 Skylane Blvd, Santa Rosa, CA, 95403  
+1 707 568 1642; fax +1 707 568 1652  
info@eoc-inc.com; www.eoc-inc.com

**Featured Product: MY Polymers Low Refractive Index Coatings; Genicom GaN UV Detectors; Micro-Hybrid MEMS PZT Pyros.**

Electro Optical Components (EOC) provides technologically advanced components for laser and optoelectronic systems from the UV to the far IR. Our products include signal recovery amplifiers and photoreceivers; thermopile, pyroelectric, UV and diamond detectors and arrays; IR and visible laser diodes and modules; optics and coatings (including CO<sub>2</sub>); low refractive index coatings; interference filters (IR to UV); E-O modulators; beam shapers and many other key E-O components. Contact: Bill Bolster, Sales, billbolster@eoc-inc.com.

#4111

## Electro Optical Industries, Inc.

SPIE Corporate Member

859 Ward Dr, Santa Barbara, CA, 93111  
+1 805 964 6701

eoi@electro-optical.com; www.electro-optical.com

**Featured Product: FTS200 Series – Fused Extended Area Infrared and Visible radiation source for multi-spectral testing.**

Electro Optical Industries has been the world leader in advanced infrared and visible light spectrum test and calibration equipment since 1964. EOI solves customers' optical test challenges by providing best value solutions with proven equipment. EOI provides the world's best performance in Primary Triple Point Radiance Stds with the industry's longest freeze times, highest temp/emissivity & smallest & largest diameter blackbody cavities; as well as the highest temp/emissivity source plates. Contact: Brent Lindstrom, Sales Director, lindstrom@electro-optical.com; Stephen Scopatz, President, sscopatz@electro-optical.com.



PROMOTIONAL PARTNER

## Electro Optics Magazine

#732

The Spectrum Building, The Michael Young Centre, Purbeck Rd, Cambridge, United Kingdom, CB2 8PD  
+44 1223 211170; fax +44 1223 211107

sales.electro@europascience.com; www.electrooptics.com

**Featured Product: Electro Optics is now available as a digital edition, available worldwide.**

*Electro Optics* is the leading European publication for the photonics industry. It focuses on the business of photonics, and how optical technologies can be applied in multiple industries for profit. Supported by a website, www.electrooptics.com, and regular email newsletters, EONewsline and EOProductline, *Electro Optics* provides multiple routes to reach engineers and entrepreneurs in the photonics industry. Contact: Jon Hunt, Advertising Sales Manager, jon.hunt@europascience.com; Warren Clark, Publishing Director, warren.clark@europascience.com.

## Electronics, Sensors and Photonics KTN #4742

Bletchley Park Science and Innovation Centre, Sherwood Dr, Milton Keynes Buckinghamshire, United Kingdom, MK3 6EB  
+44 1908 276655  
info.ppe@espkn.org; www.espkn.org

ESP KTN sponsored by the Technology Strategy Board, stimulates innovation in the UK's electronics, sensors and photonics communities by promoting collaboration, best practice and knowledge sharing. The ESP KTN is a powerhouse of interacting networks of businesses and academic groups generating new 'enabling' technologies and successfully applying them to the challenges facing society today. Visit us and join the ESP KTN network. Contact: Paul Smith, Manager, paul.smith@espkn.org; Alastair Wilson, Director, alastair.wilson@espkn.org.

## Electro-Optical Products Corp.

#2537

PO Box 650441, Fresh Meadows, NY, 11365  
+1 718 456 6000; fax +1 718 456 6050  
techelp@eopc.com; www.eopc.com

**Featured Product: Low Variable Frequency Optical Modulator/ Shutter/Chopper(DC to 50 Hz).**

Electro-Optical Products Corp. manufactures and supplies standard, custom and OEM components and sub-systems with drive electronics for light, plasma, X-ray and laser light, for VIS, IR, UV, high temp, vacuum and cryogenic use in industrial, scientific, medical, aerospace and military applications worldwide. Contact: sales@eopc.com.

**Electro-Optics Technology, Inc.**

**#913**

5835 Shugart Ln, Traverse City, MI, 49684  
+1 231 935 4044; fax +1 231 935 4046  
sales@eotech.com; www.eotech.com

EOT is a leading producer of Faraday rotators/optical isolator for high power and ultra fast fiber lasers and solid-state lasers and for high power and single frequency laser diodes, offering both fiber coupled and free space devices. EOT produces fiber collimators and ferrules for beam delivery applications where high levels of reverse power are present and Photodetectors for time domain and frequency response measurements. Contact: Mike Torrance, VP Business Development, mtorrance@eotech.com.

**Element Six**

**#206**

35 W 45th St, New York, NY, 10036  
+1 212 869 3037; fax +1 212 302 5757  
www.e6.com

**Featured Product: CVD single crystalline diamond w/ultra-low birefringence for intra laser cavity cooling and Raman.**

Element Six fabricates and sells precision industrial diamond products from engineered synthetic poly and mono crystalline diamond. Products include high-power laser optics: exit windows, output couplers, beam splitters and novel Yag cooling. Other applications include IR spectroscopy, thermal management, high energy particle detection and scientific applications. Standard and custom engineered configurations are available to meet your requirements. Contact: Brian Rossi, Business Development Manager, brian.rossi@e6.com; Peter Santini, Sales Manager, peter.santini@e6.com.

**Elforlight Ltd.**

**#4424**

4B Brunel Close, Daventry Northants,  
United Kingdom, NN11 8RB  
+44 1327 300069; fax +44 1327 300076  
sales@elforlight.com; www.elforlight.com

**Featured Product: Tunable visible convertors for nanosecond kHz SPOT (Short Pulse Optical Technology) lasers.**

Elforlight manufactures a range of leading edge Diode Pumped Solid State lasers, CW and q-switched, IR, visible and UV. SPOT lasers offer short q-switched pulses (<2ns), with low jitter, at up to 50kHz, now with higher energies, and are rapidly gaining acceptance for photoacoustic microscopy and MALDI imaging. Other applications include spectroscopy, FLIM, LIDAR, holography, flow visualization, micromachining (including solar cell processing), and rapid prototyping. Contact: Keith Oakes, Director, koakes@elforlight.com.

**Elite Optoelectronics Co., Ltd.**

**#5426**

22 Kejiwu Rd, Hi-Tech Zone, Xi'an, China, 710065  
+86 29 8845 3363; fax +86 29 8845 3480  
sales@s-laser.com; www.s-laser.com

**Featured Product: Mini Red laser module with 4mm(diameter) x10mm(length); Wide temperature range green laser module.**

Elite Optoelectronics Co. is a leading designer and manufacturer of laser diode modules and laser instruments for OEM and research applications. It's the professional company to develop and manufacture semiconductor diode lasers and optoelectronic products. Our products have been successfully used in a wide range of diversified applications from machine vision, alignment, process control to medical technology, instruments, laser sight, tools. Contact: Yanlin Wu, Vice President, woo@s-laser.com; Lining You, Preisident Assistant, yln108@hotmail.com.

**Elliot Scientific Ltd.**

**#4912**

**SPIE** Corporate Member

3 Allied Business Ctr, Coldharbour La, Harpenden, United Kingdom, AL5 4UT  
+44 1582 766 300; fax +44 1582 766 340  
sales@elliotscientific.com; www.elliotscientific.com

Leading UK manufacturer and distributor of precision alignment and opto-mechanical equipment including manual and automated optimized alignment solutions for optical devices and fiber optics, Optical Tweezer/Optical Force Microscopes, opto-mechanical components and custom systems/assemblies. Contact: Colin Freeland, Product Manager, Colin.Freeland@elliotscientific.com.

**EM4, Inc.**

**#503**

**SPIE** Corporate Member

7 Oak Park, Bedford, MA, 01730  
+1 781 275 7501; fax +1 781 275 7569  
www.em4inc.com

**Featured Product: The EM600 integrated high power DFB module.**

Manufacturer of high reliability, hermetically packaged, fiber pigtailed and free space optoelectronic components and subsystems for harsh environments: terrestrial, marine and aerospace. Featuring: 100 mW DFB lasers (C and L band, 5 GHz direct mod); 10W multimode pump s(780nm-980nm); 800mW SM pumps (915nm-1064nm); < 10 ns rise/fall time AOM's (530nm, 1060nm & 1550nm); 20 GHz detectors; HP fiber coupled isolators. Contact: Winn Gatewood, CSR, wgatewood@em4inc.com; Basil Garabet, CEO, bgarabet@em4inc.com.

**EMCO High Voltage Corp.**

**#4238**

70 Forest Products Rd, Sutter Creek, CA, 95685  
+1 209 304 9919  
sales@emcohighvoltage.com; www.emcohighvoltage.com

**Featured Product: The EMCO A Series offers a very low 1/4" profile in less than 1/10" cubic inch package.**

Since 1968 EMCO High Voltage Corporation has led the industry in designing and manufacturing high voltage power supplies for original equipment manufacturers, research laboratories and educational institutions worldwide. Contact: sales@emcohighvoltage.com; kimbailey@emcohighvoltage.com.

**EMD Chemicals Inc.**

**#829**

**SPIE** Corporate Member

480 S Democrat Rd, Gibbstown, NJ, 08080  
+1 856 423 6300  
www.emdchemicals.com

We are an experienced manufacturer of high purity materials. We have developed Patinal® evaporants, with chemical, optical, electrical and mechanical properties suitable for evaporation. They are supplied as granules, tablets, discs or powders, to best suit the application. Contact: George Zeiter, Sales Manager, george.zeiter@emdchemicals.com; Elaine Hauss, Product Manager, LSS-Cosmetics Actives & Optics, elaine.hauss@emdchemicals.com.



## Empire West Inc.

PO Box 511, 9270 Graton Rd, Graton, CA, 95444  
+1 707 823 1190; fax +1 707 823 8531  
ed@empirewest.com; www.empirewest.com

Thousands of standard sizes for packaging precision, high value optics. Non-outgassing material, packaging never comes in contact with sensitive optical surfaces. Samples available upon request. Contact: Sonya Yonash, Customer Service Manager, sonya@empirewest.com; Rachel Larman, Customer Service, rachel@empirewest.com.

#5234

## Epitex Inc./Marubeni America Corporation

3945 Freedom Circle Ste 1000, Santa Clara, CA, 95054-1274  
+1 408 330 0650; fax +1 408 330 0655  
info@tech-led.com; www.tech-led.com

**Featured Product: Epitex SMB, a new high power IR SMD, outputs 2200 mW and 4500 mW/sr.**

Epitex Inc./Marubeni America Corporation is a quality supplier of UV, IR, and NIR LEDs of more than 50 wavelengths between 365 and 1600 nm in SMD, thru-hole packages, multi-chip arrays and chips. We also offer bi-color and multi-wavelength LEDs, custom LEDs, and chip-on-board solutions. Epitex High Power Illuminator, the most powerful LED currently available in the world, can be driven up to 5A pulse and outputs 9000 mW. Contact: Kumiko Quanrud, Assistant Sales Manager, Quanrud-K@marubeni.com; Tomoko Rubin, Administration & Logistics coordinator, Rubin-T@marubeni.com.

#6088

## Energetiq Technology, Inc.

**SPIE** Corporate Member

7 Constitution Way, Woburn, MA, 01801  
+1 781 939 0763  
www.energetiq.com

Energetiq Technology, Inc. is a developer and manufacturer of ultrahigh-brightness light sources for use in analytical instrumentation. Energetiq's unique Laser-Driven Light Source (LDLS™) technology features broadband output from 170nm in the deep UV, through visible and into the infrared. The LDLS products offer higher reliability, more than 10X brightness, and better than 10X lifetime of conventional Xenon arc and Deuterium lamps. For more information, visit www.energetiq.com. Contact: Peter Dwyer, Global Sales Director, pdwyer@energetiq.com.

#5211

## EpiWorks, Inc.

1606 Rion Dr, Champaign, IL, 61822  
+1 217 373 1590; fax +1 217 373 1591  
sales@epiworks.com; www.epiworks.com

EpiWorks is the leading developer and manufacturer of III-V epitaxial wafers for lasers, photodetectors, solar cells, HBT, BiFET and pHEMTs. Our products include high-power AlGaAs/GaAs and Al-free edge-emitting and VCSEL laser wafers (635nm – 11xxnm) and InP-based laser wafers (1200nm – 1900nm). In addition to high-quality manufacturing, EpiWorks' provides high-level customer interaction and co-development to rapidly advance our customers' technology capability and product development. Contact: Hari Balasubramaniam, Sales Manager, sales@epiworks.com.

#2110

## Engineered Surface Finishes

870 N Commons Dr, Aurora, IL, 60504  
+1 630 375 6674; fax +1 630 375 5594  
engineering@ensurfin.com; www.ensurfin.com

#4939

## EOLITE SYSTEMS

11 Avenue Canteranne, Pessac, France, 33600  
+33 5 56 46 45 50; fax +33 5 56 46 24 35  
philippe.metivier@eolite.com; www.eolite.com

**Featured Product: EOLITE introduces its new picosecond fiber laser: HEGO A 10UV over 10W of 30 ps-343 nm at 2Mhz.**

EOLITE Systems develops and manufactures high power (up to 300W) short pulsed (ns & ps) fiber lasers in IR, Green and UV for a wide range of micromachining applications, including cutting, engraving, ablation, patterning, in different industries such as Photovoltaic, Semiconductor, LED, FPD, Metal & Organic material processing. Contact: Philippe Metivier, philippe.metivier@eolite.com.

#1123K

## EPIX, Inc.

**SPIE** Corporate Member

381 Lexington Dr, Buffalo Grove, IL, 60089-6934  
+1 847 465 1818; fax +1 847 465 1919  
epix@epixinc.com; www.epixinc.com

**Featured Product: PIXCI SV7 low profile frame grabber captures from 2 cameras via PCI express bus to computer memory.**

Manufacturer of cameras, frame grabbers, image processing and capture software, computer image capture systems, and customization for OEM applications. Systems with 3rd party cameras also are available. Contact: Charlie Dijk, Sales, cad@epixinc.com; Chuck Petersen, Engineer, acp@epixinc.com.

#6040

## EOTRON LLC

1644 Ord Way, Oceanside, CA, 92056  
+1 760 429 7117; fax +1 760 429 7118  
geraldkim@eotron.com; www.eotron.com

**Featured Product: EOTRON introduces new passive and active 10 bar laser diode stack with ultra-low 'smile' effect.**

EOTRON is a California-based manufacturer of cooling components and laser diode stacks for the photonics industry developing a novel cooling structural technology based on a silicon MEMS process. The resulting cooling efficiency exceeds that of copper-based cooling structures and the ability to lower the manufacturing cost. The company intends to enhance the cooling performance of the industrial laser market as well as VCSEL array, LED, RF Radar, solar cell and semiconductor chips. Contact: Gerald Kim, President, geraldkim@eotron.com; Donna Kim, Office Manager, donnakim@eotron.com.

#5032

## Epner Technology, Inc.

**SPIE** Corporate Member

78 Kingsland Ave, Brooklyn, NY, 11222  
+1 718 782 5948; fax +1 718 963 2930  
info@epner.com; www.epner.com

A comprehensive array of electroplating, coating and optical fabrication technologies-NIST Infrared standard, proprietary Laser Gold® and "light swallowing" Laser Black® processes; electroformed cold shields, custom-designed light waveguides, laser pump cavity reflectors and thermal barrier foil-serving laser, optics and photonics, semi-conductor, automobile, medical, aerospace and military markets. Contact: David Epner, President, david@epner.com; Paul J. Brancato, V.P. & General Manager, paul@epner.com.

#3026

## ER Precision Optical Corp.

#2011

SPIE Corporate Member

505 W Robinson St, Orlando, FL, 32801  
+1 407 292 5395; fax +1 407 292 7984  
kward@eroptics.com; www.eroptics.com

E.R. Precision Optical Corporation, a SBIR/HUBZone company in Orlando, FL produces IR windows, lenses, filters, prisms & other custom optics. Our new expansion has added Si, & soon Ge, crystal growth to support US defense and ITAR programs as well as all other markets. New state-of-the-art machining centers will complete our vertically integrated company which is growing to support your high quality, fast delivery & low cost requirements. Visit us at Booth #2011. Contact: Jason Hess, Vice President, jhess@eroptics.com; Kevin Ward, Sr Director of Global Sales & New Business Ventures, kward@eroptics.com.

## ESDI (Engineering Synthesis Design, Inc.) #413

SPIE Corporate Member

310 S Williams Blvd Ste 210, Tucson, AZ, 85711  
+1 520 296 3068; fax +1 520 296 2897  
info@engsynthesis.com; www.engsynthesis.com

ESDI is a globally recognized leader in providing innovative surface & wave front metrology solutions for astronomical, aerospace, bio-medical, optical fabrication, data storage & production metrology applications. ESDI products include Fizeau, Shearing, Point-Diffraction, sub-Nyquist and "Real Time" vibration insensitive interferometers; the world-renowned IntelliWave™ software; Interferometer Accessories & Upgrades; and Custom Metrology Solutions. Contact: Don Pearson, Director, Sales and Marketing, don.p@engsynthesis.com.

## ESI

#5018

13900 NW Science Park Dr, Portland, OR, 97225  
+1 503 641 4141; fax +1 503 671 5551  
www.esi.com

**Featured Product: ESI delivers high performance lasers that provide flexible and cost effective solutions for a wide variety of scientific and industrial applications.**

ESI is a leading supplier of laser-based manufacturing solutions for the microtechnology industry. Lasers offered by ESI's NWR division enable a wide range of industrial and scientific applications, including flat panel display repair, failure analysis, mapping of fluid dynamics with PIV, micromachining, design verification and high energy laser spectroscopy. Founded in 1944, ESI is headquartered in Portland, Ore, with global operations. More information: www.esi.com, Contact: Debbie Caldwell, Marketing Communications Manager, caldwelld@esi.com.

## ESI-PyroPhotonics Lasers Inc.

#5018

275 Kesmark, Dollard-des-Ormeaux, QC, Canada, H9B 3J1  
+1 514 904 9000; fax +1 514 684 0400  
sales@pyrophotonics.com; www.pyrophotonics.com

PyroPhotonics offers a unique flexible industrial laser platform, PyroFlex™. Its unmatched capabilities enable you to tailor the precise laser pulse parameters and optimize them for every individual application. PyroFlex™ is not designed for one application - it is designed for every application. PyroPhotonics is now a subsidiary of Electro Scientific Industries, Inc. ESI is a leading supplier of innovative laser-based manufacturing solutions for the microtechnology industry. Contact: Richard Murison, CTO, Director of Technology, rmurison@esi.com; Tullio Panarello, General Manager, tpanarello@esi.com.



BORDEAUX  
Route des Lasers  
THE PLACE TO BE

The photonics competitiveness cluster in Aquitaine - France

Booth  
1123 G

Bordeaux  
Aquitaine region  
Southwest France

Meet Route des Lasers leaders  
in Laser/Photonics Industry

Azur Light Systems ..... 1123 I

→ Fiber lasers at novel infra-red and visible wavelengths

Amplitude Systèmes ..... 1431

→ Diode-pumped ultrafast solid-state lasers for scientific and industrial applications

Eolite Systems ..... 1123 K

→ High power (up to 300W) short pulsed (ns & ps) fiber lasers in IR, Green and UV

Imagine Optics ..... 1431

→ Wavefront sensing, adaptive optics and correction technologies

Innoptics ..... 1123 H

→ Packaging of optoelectronic components, mostly laser diodes

ISP System ..... 1123 J

→ High precision mechanical equipments and solutions for photonics applications

www.routedeslasers.com

alpha@2adi.aquitaine.fr

© ALPMA Route des Lasers 2010 - Photo credits: Chris James Hewitt / Digital Vision / Getty Images, CEA / Philippe Laboguere



## Esterline CMC Electronics

#5312

600 Dr Frederick Philips Blvd, Ville Saint-Laurent, QC, Canada, H4M 2S9  
+1 514 743 3000; fax +1 514 748 3100  
www.cmcelectronics.ca

Esterline CMC Electronics' Custom Electronics business designs and manufactures electronic components for the military and commercial aerospace markets as well as the military ground vehicle and manpack communications market. Its main product lines include custom displays, edgelit panels, integrated keyboards, junction boxes, and hybrid microelectronics, including laser warning systems, electro-optics and fibre-optic transceivers. Contact: Andrew Krilick, Marketing Director, andrew.krilick@cmcelectronics.ca; Bruno Dion, Engineering, bruno.dion@cmcelectronics.ca.

## Evans Analytical Group

#606

810 Kifer Rd, Sunnyvale, CA, 94086  
+1 408 530 3500; fax +1 408 530 3501  
info@eaglabs.com; www.eaglabs.com

Evans Analytical Group (EAG) is the leading provider of surface analysis, materials characterization and FA services to the optics and optoelectronics industry. We specialize in providing the widest range of characterization techniques available, such as GDMS, SIMS, SEM, TEM, Auger, XPS and FTIR, via our network of labs in North America, Asia and Europe. We aim to provide the most reliable, highest quality data as quickly as possible, to enable our customers to efficiently meet their goals. Contact: Ian Mowat, Director, Sales and Customer Service, imowat@eaglabs.com; Gary Mount, Technical Specialist, gmount@eaglabs.com.

## Evaporated Coatings, Inc.

#902

**SPIE** Corporate Member

2365 Maryland Rd, Willow Grove, PA, 19090  
+1 215 659 3080; fax +1 215 659 1275  
sales@evapcoat.com; www.evaporatedcoatings.com

**Featured Product: Triband Filters, Coatings for Crystals and High Power Applications. Coatings on Fiberends.**

ECI is a custom manufacturer of vacuum-deposited thin films including metal and dielectric mirrors, high power anti-reflection, low polarizing beamsplitters, solderable films, custom matched ITO, LWP/SWP, bandpass, tri-band filters with extended blocking. Wide experience coating high index glasses, polymers, metals, micro optics, fibers, BaF<sub>2</sub>, CaF<sub>2</sub>, Ge, Si, ZnSe, ZnS, LBO, KTP, BBO, GaAs & InP. Custom fixturing for full aperture, IBS, APS and IAD deposition. 200nm to 20 microns. Contact: Patrick Wenrich, Sales Engineer, sales@evapcoat.com; Karen Farrell, Sales Engineer, sales@evapcoat.com.

## Evaporated Metal Films Corporation

#623

239 Cherry St, Ithaca, NY, 14850  
+1 607 272 3320; fax +1 607 272 3340  
www.emf-corp.com

**Featured Product: EMF's Ultima Ag99 - Designed to optimize reflectance thru the VIS and the NIR. R>98%avg 400-2000nm.**

Manufacturer of optical, thin-film coatings. Capabilities include mirrors, anti-reflection coatings, beamsplitters, neutral-density filters & rhodium dental mirrors. Additional products include gold & copper slides & quartz monitoring crystals. Program management for large optics up to 2.3 meters. Contact: Joseph Howe, Sales Manager, joe@emf-corp.com; Paul Schulz, President, paul@emf-corp.com.

## Evatec NA

#4316

150 Dow St, Manchester, NH, 03101  
+1 603 669 9656; fax +1 603 606 7043  
www.evatec.us

Home of the Balzers BAK760, Evatec builds box coaters from 0.5 to 1.4m for precision optics, optoelectronics and semiconductors. New plasma source technologies for enhanced evaporation plus dedicated batch and cluster tools offering sputter, PEVCD and ICP enable ultrastable coatings for applications including laser, sensor, LEDs, PV and 3D technologies. Contact: Dan Pace, Director Sales, North America, dan.pace@evatec.us; Tony Sisca, Account Manager, Western Region, tony.sisca@evatec.us.

## EXALOS AG

**SPIE** Corporate Member

Wagistr 21, Schlieren, Switzerland, 8952  
+41 43 444 60 90; fax +41 43 444 60 99  
info@exalos.com; www.exalos.com

**Featured Product: SweptSource External Cavity Tunable Laser Superluminescent LEDs in the visible spectral range.**

EXALOS is a privately held, technology driven company, which focuses on the design, development and sales of advanced broadband light sources. The solutions are based on semiconductor optoelectronic devices and tailored for scientific and industrial applications. The company is the leading supplier of Superluminescent Light-Emitting Diodes (SLEDs) and your partner for custom OEM solutions where SLEDs are combined with driver electronics and optical peripherals. EXALOS is ISO 9001:2008 certified. Contact: Uwe Achatz, VP Marketing, achatz@exalos.com; Gene Covell, VP Sales, covell@exalos.com.

## Excelitas Technologies Corp.

#2301

35 Congress St, Salem, MA, 01970  
+1 978 224 4100  
www.excelitas.com

Formerly the Illumination and Detection Solutions business unit of PerkinElmer, Excelitas Technologies is a global technology leader focused on delivering innovative, customized solutions to meet the illumination, detection and other high-performance technology needs of OEM customers. From medical lighting to analytical instrumentation, industrial, safety and security, and aerospace and defense applications, we are committed to enabling our customers' success in their specialty end-markets. Contact: generalinquiries@excelitas.com; customersupport@excelitas.com.

## Excell Technology

#5030

**SPIE** Corporate Member

1001 Varian St, San Carlos, CA, 94070  
+1 650 592 6224; fax +1 650 592 6684  
val@excelltechnology.com; www.excelltechnology.com

Excell is an industry leader in selling new, used, rebuilt double side and single side grinders, lappers, polishers, grinders, machine tools, saws, testing equipment. Excell has excellent 30 year track record of providing all top brand equipment. Process Engineering also available. Located near SF international airport, please visit us. www.excelltechnology.com. Contact: Valerie DeFigueiredo, Administration, val@excelltechnology.com; David Hodges, President, dhodges@excelltechnology.com.





EXHIBITION MAP/ RESTAURANT GUIDE SPONSOR

### Exciton, Inc.

#4410

SPIE Corporate Member

PO Box 31126, Dayton, OH, 45437  
+1 937 252 2989; fax +1 937 258 3937  
info@exciton.com; www.exciton.com

#### Featured Product: Selective visible and infrared absorbing dyes.

As Exciton celebrates 37 years in the Laser Dye industry, we continue to offer the highest quality of laser dyes, including ultraviolet, visible and near-infrared dyes. For flat panel displays, projectors, laser filters, and laser eye protection, we offer unique, narrow band absorbers for wavelength selective filters at both visible and infrared wavelengths. Exciton offers sensitizers for photoresists, lithography, and recordable media, and toll manufactures such dyes to support our customers. Contact: Richard N. Steppel, President, richard@exciton.com.

### EXFO

#4232

400 Godin Ave, Quebec, QC, Canada, G1M 2K2  
+1 418 683 0211; fax +1 418 683 2170  
info@exfo.com; www.exfo.com

EXFO, a leading provider of next-generation test and service assurance solutions for wireless and wireline network operators and equipment manufacturers, offers innovative solutions for the development, installation, management and maintenance of converged, IP fixed and mobile networks. Key technologies supported include 3G, 4G/LTE, IMS, Ethernet, OTN, and FTTx. Contact: Chris Ewing, Director of Sales - Americas, chris.ewing@NetHawk.EXFO.com.

### ExoTec Precision

#1000

Lisieux Way, Taunton Somerset, United Kingdom, TA1 2JZ  
+44 1823 340482; fax +44 1823 340489  
exotecsales@gsig.com; www.exotecprecision.com

ExoTec Precision has been producing precision Beryllium mirrors and structures for over a decade. We process a variety of Brush Wellman Beryllium and Beryllium composites such as AlBeMet 162. We also process silicon carbide, aluminium silicon and aluminium silicon carbide. Our state of the art facility is ISO9001:2008 certified. ExoTec Precision is staffed with experienced Engineers, many with over 30 years experience in the industry. We look forward to providing solutions to your requirements. Contact: Peter Nation, Business Development Manager, pnation@gsig.com.

### Exotic Electro-Optics

#5240

36570 Briggs Rd, Murrieta, CA, 92563  
+1 951 926 2994; fax +1 951 926 1984  
sales@exotic-eo.com; www.exotic-eo.com

### Fairchild Imaging

#4725

SPIE Corporate Member

1801 McCarthy Blvd, Milpitas, CA, 95035  
+1 408 433 2500; fax +1 408 435 7352  
sales@fcimg.com; www.fairchildimaging.com

#### Featured Product: 5.5MP SciMOS camera: extreme sensitivity, high data outputs up to 100 FPS readout at 16 bits.

Fairchild Imaging, a manufacturer of scientific CCD and CMOS image sensors and cameras, provides high-performance detectors for visible, UV and x-ray imaging. Specialties include wafer-scale back-illuminated CCDs for the UV and soft x-ray and large fiber optic taper cameras up to 200-mm in aperture. Visit <http://www.fairchildimaging.com> for more information on these cooled, multiport cameras. Contact: Colin Earle, VP Sales & Marketing, colin.earle@fcimg.com; Kevin Heher, Sales Manager, kevin.heher@fcimg.com.

# Yes! High Voltage! VMI CalRamic

## Diodes



## Power Supplies



## Opto-couplers



## Multipliers



**VMI** Voltage Multipliers, Inc.  
559.651.1402  
[www.VoltageMultipliers.com](http://www.VoltageMultipliers.com)

## Booth 4325

## Capacitors



**CALRAMIC**  
TECHNOLOGIES LLC

[www.CalRamic.com](http://www.CalRamic.com)  
775.851.3580

## Fairfield Crystal Technology, LLC

#6076

SPIE Corporate Member

8 S End Plz, New Milford, CT, 06776  
+1 860 354 2111; fax +1 860 354 3093  
atimmerman@fairfieldcrystal.com; www.fairfieldcrystal.com

**Featured Product: Precision component manufacturing includes our crystals and more. CaF<sub>2</sub>, MgF<sub>2</sub>, KTP, BaF<sub>2</sub>, ZnS, LiF.**

Fairfield Crystal Technology develops and manufactures advanced crystal materials for precision optics and semiconductor devices used in diverse applications: Solid-state Lighting, Excimer and High Power Lasers, Microlithography, Optical Storage, Thermal and Medical Imaging, Wireless Communications and more. Our high purity crystal technology enables customers to capitalize on the unique material properties to make their products better. Contact: Andy Timmerman, Director of Sales, atimmerman@fairfieldcrystal.com; Chris Snyder, Administrator, csnyder@fairfieldcrystal.com.

## FASTLITE

#1431

45 rue Croulebarbe, Paris, France, 75013  
+33 1 45 301296; fax +33 1 45 301297  
info@fastlite.com; www.fastlite.com

**Featured Product: Wizzler is a new tool for ultrafast pulse measurement based on XPW effect. Available from UV to NIR.**

FASTLITE provides innovative products and solutions to the ultrafast laser users community. FASTLITE products include the DAZZLER ultra compact pulse shaping device, and the new high dynamic spectral phase measurement system: the WIZZLER. FASTLITE also offers the best of both techniques with the DAZZLER/WIZZLER feedback loop for automated pulse compression optimization, and the PHAZZLER, the pulse shaper-based pulse characterization system. Contact: Herve Jousselein, Sales and Marketing Manager, herve.jousselein@fastlite.com; Pascal Tournois, Sales and Marketing Manager, pascal.tournois@fastlite.com.

## FEMTO Messtechnik GmbH

#4821

Paul-Lincke-Ufer 34, Berlin, Germany, 10999  
+49 30 446 9386; fax +49 30 446 9388  
info@femto.de; www.femto.de

**Featured Product: New digital USB interface with software for remote control of all FEMTO modules.**

FEMTO manufacturers low noise amplifier modules and photoreceivers for sensitive measurement of small signals. The product range includes transimpedance, voltage, logarithmic, lock-in and GHz amplifiers, as well as amplified photodiodes, balanced photoreceivers, APD detectors and fiber optic sensors. Typical applications include spectroscopy, surface analysis, beam monitoring, process control, as well as laser and particle physics.

## Femtochrome Research, Inc.

#5545

SPIE Corporate Member

2123 4th St, Berkeley, CA, 94710  
+1 510 644 1869; fax +1 510 644 0118  
tech@femtochrome.com; www.femtochrome.com

**Featured Product: SHG version of our very compact FR-103MC. New FR-103TPM (100ps) for Two-Photon-Microscopy.**

FEMTOCHROME manufactures state-of-the-art instruments for the characterization of ultrashort laser pulses. Our current FR-103 Autocorrelators/Crosscorrelators are unmatched in sensitivity, resolution and overall versatility. Providing the utmost in technical performance, the reasonably priced FR-103 series offers excellent performance/price ratio. Contact: Zafer A. Yasa, Research Director, tech@femtochrome.com; Thomas Kirkpatrick, Engineer, sales@femtochrome.com.

## FEMTOLASERS, Inc.

#517

SPIE Corporate Member

1 Mifflin Place, 119 Mount Auburn St Ste 400, Cambridge, MA, 02138  
+1 971 456 9920; fax +1 971 456 9922  
infofli@femtolasers.com; www.femtolasers.com

**Featured Product: FEMTOPOWER™ V ultrafast 2-stage Ti:Sa mJ amplifier system incl. FEMTOSOURCE™ ultrafast oscillator.**

FEMTOLASERS is the premier manufacturer of ultrafast laser oscillator and amplifier solutions, offering laser pulses down to sub-7 fs at MHz and multi-kHz repetition rates up to multi-mJ energies. FEMTOOPTICS™ features a patented optics line with ultra-broadband dispersive/non-dispersive components and custom solutions. Applications include ultrafast spectroscopy, OCT, THz-generation, MP-microscopy, micromachining, and Attoscience. Contact: Catalin Neacsu, Sales Manager, infofli@femtolasers.com.

## Ferrotec (USA) Corp.

#609

33 Constitution Dr, Bedford, NH, 03110  
+1 603 472 6402; fax +1 603 472 2320  
jdeichler@ferrotec.com; www.ferrotec.com

Ferrotec designs and manufactures precision Peltier coolers for heat-pumping, thermal cycling and precise temperature control. Custom thermoelectric modules optimized for the performance requirements of OEMs are our specialty. We supply Telecom, Biomedical, Industrial, Instrumentation, Analytical, Automotive, and Consumer manufacturers. Our standard TEC line feature products optimized for optical, photonics, and laser applications including mini and micro TECs. Visit www.ferrotec.com. Contact: Ferrotec Thermal Solutions Sales, info@ferrotec.com.

## Ferson Technologies, Inc.

#1008

5801 Gulf Tech Dr, Ocean Springs, MS, 39568  
+1 228 875 8146; fax +1 228 875 5946  
www.ferson.com

## Fianium Inc.

#2501

SPIE Corporate Member

858 W Park St, Eugene, OR, 97401  
+1 541 343 6767; fax +1 541 343 1838  
sales@fianium.com; www.fianium.com

Fianium is a leading manufacturer of optical supercontinuum lasers, operating across 400-2400 nm spectral range and delivering up to 6 W of power in a collimated laser beam. These unique laser sources enable multiple applications in BioSciences and imaging instruments. Other high power and high energy, picoseconds and femtosecond, fiber lasers enable applications in Metrology and Materials processing. Contact: Ted Naugler, Sales Manager, ted.naugler@fianium.com; Ross Hodder, European Sales Manager, ross.hodder@fianium.com.

## Fiber Optic Center, Inc.

23 Centre St, New Bedford, MA, 02740-6322  
+1 508 992 6464; fax +1 508 991 8876  
sales@focenter.com; www.focenter.com

**Featured Product: AngstromPol Bare Fiber Profiling System for 80-250um fiber range and flat perp-45 polishing range.**

Worldwide supplier premium ÅngströmLap® lapping film & ÅngströmBond® adhesives. Distributing production polishing machines, automatic stripping, epoxy dispensing, crimping, test equipment, fusion-splicers, & term tools, cables, ferrules, attenuators & cleaning supplies. Custom drill out & std connectors stock. On-site technical support & consulting for complete assembly production. Complete fiber manufacturing systems: MCVD gas-delivery, lathes, draw-towers, rotary seals research/production. Contact: David Sylvia, Sales Manager, dsylvia@focenter.com; Ben Waite, Executive Vice President, bwaite@focenter.com.

## Fiber Optic Valley AB

SPIE Corporate Member

Stationsgatan 7, Hudiksvall, Sweden, 824 43  
www.fiberopticvalley.com

Our core business is to assist the growth of global and local companies. This is achieved through our unique support in the form of research, training, financing, contacts and business development combined with an equally unique environment for technical tests and behavioral science studies. Contact: Magnus Engholm, R&D Manager, magnus.engholm@fiberopticvalley.com; Magnus Burvall, CEO, magnus.burvall@fiberopticvalley.com.

## Fibercore Ltd.

Fibercore House University Parkway, Southampton Science Park, Chilworth Southampton Hampshire, United Kingdom, SO16 7QQ  
+44 23 8076 9893; fax +44 23 8076 9895  
info@fibercore.com; www.fibercore.com

With almost 30 years exclusively dedicated to the design, manufacture and commercialization of specialty optical fibers, Fibercore Ltd's portfolio continues to expand with the addition of polarizing fibers to its HiBi PM fiber range and all-silica fibers to its specialty singlemode fiber range. Other ranges offer Rare-Earth Doped and Photosensitive fibers, and commitment continues with the development of new dual-clad fibers to expand the Cladding-pump range. Visit our Booth to find out more. Contact: Wendy Stewart, Sales Administrator, stewarw@cisco.com.

## Fibercryst

Boulevard Latarjet - BAT L'Atrium, Villeurbanne, France, 69616  
+33 4 26 23 71 21; fax +33 4 26 68 98 74  
jm.fourmigue@fibercryst.com; www.fibercryst.com

**Featured Product: TARANIS: a solid-state laser gain module for high peak power (MW) and high power lasers (100 W).**

Fibercryst produces single crystal fibers for laser applications. Those innovative gain media combine high energy (mJ) and high peak power (MW) pulses of bulk crystals with the high average powers (>100W) of fiber lasers. The TARANIS gain module enables easy integration of the single crystal fiber technology in industrial lasers, including its cooling system. Different versions are available, including Nd:YAG, Yb:YAG or Er:YAG fibers, with diameter from 400 µm to 2 mm and length up to 100 mm. Contact: Julien Didierjean, Optical Division Manager, j.didierjean@fibercryst.com; Jean-Marie Fourmigué, CEO, jm.fourmigue@fibercryst.com.

#2606



GENERAL REFRESHMENT SPONSOR

## Fiberguide Industries, Inc.

SPIE Corporate Member

1 Bay St, Stirling, NJ, 07980  
+1 908 647 6601; fax +1 908 647 8464  
info@fiberguide.com; www.fiberguide.com

**Featured Product: Standard Line of Single Fiber Cable Assemblies.**

Multimode, single mode and graded index optical fibers from DUV-NIR/temperatures -269°C to +700°C. Design/engineer assemblies with widest range of endfittings/connectors and outer jackets to tailor product to technical requisites; 2D, V-Groove arrays; standard high power laser delivery cables, collimators, vacuum feedthroughs; reflection/backscattering probes for measuring specular or diffuse reflection from a surface. ISO9001:2008 certified and FDA QSR registered as Contract Manufacturer. Contact: Frank Pensa, Eastern Region Business Development Manager, fpensa@fiberguide.com; Andy Strickland, No. CA Business Development Business Manager, astrickland@fiberguide.com.

#701

#4435

## FiberLabs Inc.

2-1-15 Ohara, Kamifukuoka, Saitama, Japan, 356-003  
+81 49 278 7829; fax +81 49 263 9328  
info@fiberlabs.co.jp; www.fiberlabs-inc.com

Supplier of optical amplifiers, ASE sources, Fiber Lasers, LEDs, and Specialty Fiber covering the widest wavelength ranges available. Amplifiers and ASE sources in O, S, C, and L-Bands plus 1µm, 2µm, and 850nm in bench-top, module, or rack-mount configurations. Fiber lasers in 1 and 2µm bands. LEDs from 455nm to 625nm. Custom and standard SMF and MMF. Located in Japan, and formerly part of KDDi Labs, FiberLabs has been manufacturing high performance, high quality, optical products for 10 years. Contact: Masayoshi Horita, Director, R&D, horita@fiberlabs.co.jp.

#4232

#5124

## Fiberlogix International Ltd.

The Birches, 20 Heatside Rd Moorpark, Borthwood, United Kingdom, HA6 2EF  
+44 1923 777766; fax +44 1923 777100  
sales@fiberlogix.com; www.fiberlogix.com

**Featured Product: Focus on "Specialty Fibers" and "Passive Devices". Solutions range for -40 to 750 Degree C.**

Specialty Fibers: High NA, SM and MM fibers with Polyimide Coating. Also bend insensitive Reduced Clad 80µm Fibers, High Temperature Acrylate Coated SM & MM fibers, Photosensitive and PEEK coated fibers. All types of Metal Coatings. Carbon and GOLD Coatings. DCF and DCM. Passive devices: All Fiber Polarizers, Depolarizers, PM Couplers, Mini Couplers, Electronic Polarization Controller, FBGs and FBG filters, Beam Combiner, All-In Line Power Monitors, High Power Isolators and Circulators. Contact: Mr. Amin Maan, Business Development Manager, amin@fiberlogix.com; Mr. Shafiq Parwaz, Director Technical Applications, shafiq@fiberlogix.com.

#4742

#1023B

## Product Locator Kiosks

North Hall Concourse  
South Hall Concourse  
Find what you need, print out the results, and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches



## Fiberoptic Systems, Inc.

#304

60 Moreland Rd Unit A, Simi Valley, CA, 93065  
+1 805 583 2088; fax +1 805 583 4018  
sales@fiberopticsystems.com; www.fiberopticsystems.com

**Featured Product: Announcing the development of a MicroFiberScope, the smallest in the world, with an OD < 1/2mm.**

Fiber optic Systems, Inc. offers custom and standard fiber optic bundles and patch cords for the medical, semiconductor, entertainment, spectroscopy, microscopy, and machine vision markets. In over 25 years of business we have worked with borosilicate, fused silica (quartz), fluoride, chalcogenide, and plastic optical fibers. From prototype to production, UV to IR, cryogenic to high temperature, short to long, we will help design a solution to fit your budgetary, timing, and quality requirements. Contact: Todd Johnson, VP Engineering, todd@fiberopticsystems.com; Sandy Stark, President, sandy@fiberopticsystems.com

## Fiberoptics Technology Inc.

#4919

1 Quassett Rd, Pomfret, CT, 06258  
+1 860 928 0443; fax +1 860 928 7664  
www.fiberoptix.com

**Featured Product: LED lightsource, brighter than a 150W EKE halogen lamp. Ethernet comm, full features.**

FTI designs and manufactures fiber optic components, including light sources and fixturing, for front, back, and oblique lighting applications, signal transmission, and general photonic applications, typically required in Medical, industrial, and commercial lighting applications. The company distributes standard products thru traditional distribution channels, while working directly with integrators and OEMs for custom designed solutions. Contact: Walt Seagrave, Sales Engineer, Wseagrave@fiberoptix.com; Tim Beeman, Sales Manager, TBeeman@Fiberoptix.com.

## Fiberpro Inc.

#4203


59-4 Jang-Dong, Yuseong-Gu, Daejeon, South Korea, 305-343  
+82 42 360 0036; fax +82 42 360 0040  
sales@fiberpro.com; www.fiberpro.com

**Featured Product: OTMS provides higher resolution metrology for thickness of thin film, FPD, wafer etc.**

FIBERPRO, INC., an innovative fiber optics solution provider supplies the most efficient and reliable solutions with unique technologies, including Optical Thickness Measurement System, Low Birefringence Analyzer, Acoustic Optical Cable Identifier, FBG interrogation system, PMD Emulator, Passive Component Analyzer, Polarization Scrambler, PDL meter, PER meter, Polarization Controller, and Tunable Coupler, etc. Contact: Richard Ryu, Sales Engineer, sales@fiberpro.com.

## Fibertech Optica

#5008

 330 Gage Ave Ste 1, Kitchener, ON, Canada, N2M 5C6  
+1 519 745 2763; fax +1 519 342 0128  
info@fto.ca; www.fto.ca

Designer and manufacturer of specialty fiber patchcords, pigtailed, spot-to-line converters, bundles, reflectance probes, linear and spaced v-groove arrays, vacuum feedthrough and high power laser cables. Spectral bands coverage from deep UV to MIR. Distributor of specialty multimode all-silica, HCS, PCS, Hard Clad all-silica fibers. Core diameters from 10µm to 2000µm. Contact: Jeff Dupuis, Sales & Marketing Manager, jeffdup@fto.ca.

## FiberTech USA, Inc., Div. of Leoni Fiber Optics

#4535



5070 S Gilbert Rd Ste 100, Chandler, AZ, 85249  
+1 480 993 2143; fax +1 480 892 4538  
info@us-fibertech.com; www.us-fibertech.com

Optical technologies and LEONI, The Fiber Optics business unit of the LEONI Group is one of the leading providers of optical fibers for communication as well for special applications in industry, sensor technology, analytics, in science and laser medicine. LEONI is offering a unique product range at every stage along the value chain: from the preform, to the fibers, up to fiber optic cables and complete fiber optic systems. Our product families: FiberTech®, FiberConnect®, FiberSplit®, FiberSwitch®. Contact: Armin Kaus, President, info@us-fibertech.com.

## FiberTech-RoMack

#4918



PO Box 615, Lightfoot, VA, 23090  
+1 757 258 4805; fax +1 757 258 4694  
contact@romackfiberoptics.com; www.romackfiberoptics.com

We will be exhibiting our line of fiberoptic dip probes, and will also have on display other types of fiberoptic assemblies and components specifically tailored for spectroscopic applications. Products include: probes, fiberoptics, connectors, adapters, patchcords, bundles, arrays, collimators, couplers, tapers and filter packages. We create solutions for the most difficult problems. Contact: Lisa Young, Sales & Marketing Manager, contact@romackfiberoptics.com.

## Fibertronix AB

#4435

Håstaholmen 4, Hudiksvall, Sweden, SE-82412  
+46 650 36618  
info@fibertronix.com; www.fibertronix.com

**Featured Product: Fibertronix will be introducing a range of Hermetic fibers for harsh environment applications.**

Fibertronix provides a range of specialty optical fibers to your industry. We leverage 10 years of research and development experience at Acreo Fiberlab to provide reliable and well proven fiber optics solutions. The product portfolio includes a wide range of special fibers such as specialty multi-mode and single mode, polyimide coated, high temp acrylate and hermetic Carbon coated as well as pure-core, high NA, large core, rare-earth doped, micro-structure, custom fibers and preforms. Contact: Saeed Rehman, VP Business Development, saeed@fibertronix.com.

## ficonTEC Corporation

#1934

27926 Muirfield, Mission Viejo, CA, 92692  
+1 949 916 0200; fax +1 949 916 0201  
jang@ficontec.com; www.ficontec.com

ficonTEC is a premier supplier of semi- and fully-automated optical device assembly and testing systems for the optical industry, including HPLD manufacturing, fiber-optics and opto-electronics, medical technology, security and military applications, R&D, telecommunications, and others. ficonTEC's automation solutions are based on its expertise in process technology and systems engineering where each solution is appropriately customized from a proven line of system platforms. Contact: Soon Jang, President/CEO, ficonTEC USA, for your application needs.

## Filmetrics, Inc.

3560 Dunhill St, Ste. 100, San Diego, CA, 92121  
+1 858 573 9300; fax +1 858 573 9400  
info@filmetrics.com; www.filmetrics.com

**Featured Product: FM's F10-nkd combines R&T measurements for easy determination of film thickness & refractive index.**

Filmetrics manufactures thin-film measurement systems capable of measuring thickness from 1nm to 1mm. Contact: Michael Klayman, Technical Sales Manager, klayman@filmetrics.com.

#4121

## Firebird Technologies Inc.

**SPIE** Corporate Member  
2950 Highway Dr, Trail, BC, Canada, V1R 2V6  
+1 250 364 5605; fax +1 250 364 5643  
www.firebird.bc.ca

**Featured Product: New Optical Grade Germanium products; recycle, zoner bar, crystal, and rough generated lenses.**

Firebird Technologies Inc., a subsidiary of 5N Plus, specializes in the production of the semiconductors Indium Antimonide, Gallium Antimonide, and Germanium along with the high purity metals; Antimony, Indium, Gallium, and Tin. Production processes include electro-refining, zone-refining, crystal growth (Czochralski method), fabrication, and EPI ready polishing finish. Firebird just finished building and is now operating in a new 40,000 sq ft facility in Trail, BC, Canada. Contact: Paul McKay, Manager, Sales and Production, paul@firebird.bc.ca.

#5017

## Filtech Photonics Co., Ltd.

1Fl Bldg 3 Longcheng Industrial Park, West Central Town, Longgang Shenzhen, China, 518172  
+86 755 28597682; fax +86 755 28957369  
sales@filtech-filters.com; www.filtech-filters.com

**Featured Product: Raman Filters, Laser Filters, Fluorescence Filters, Dichroic Filters, Emission Filters.**

Filtech Photonics Co., Ltd. is a leading manufacturer of optical thin film filters and precision optical coating in China. For more information please visit our web-sites: www.filtech-filters.com. Contact: Sean Cai, Ph.D General Manager, seancai107@yahoo.com; SZ Sun, Marketing Manager, szeng@filtech-filters.com.

#1901E

## Fisba Optik AG

Rorschacher Str 268, St. Gallen, Switzerland, 9016  
+41 71 262 31 31; fax +41 71 262 31 30  
opticalsolutions@fisba.ch; www.fisba.ch

FISBA OPTIK designs and produces advanced optical components which are fine-tuned to your specific requirements, even in the smallest dimensions. Our optical components are designed to optimize the performance of your application, regardless of whether you require precision molded small optics, conventional micro-optics, micro-optics for laser beam shaping such as fast axis collimation lenses (FAC), FISBA Beam Twister™ (FBT), slow axis collimation lenses (SAC) or other micro-optical arrays. Contact: Dzelal Kura, Senior Account Manager, dzelal.kura@fisba.ch; Hansjörg Lipp, Head Optical Solutions, hansjoerg.lipp@fisba.ch.

#1836

## Finetech

8380 S Kyrene Ste 110, Tempe, AZ, 85284  
+1 480 893 1630; fax +1 480 893 1632  
sales@finetechusa.com; www.finetechusa.com

**Featured Product: FINEPLACER® matrix die bonder combines new ergonomic design with large working area & high accuracy.**

Precision bonders with placement accuracy down to ± 0.5 micron in manual, semi-automatic and automatic models. Machine modularity enables a full spectrum of bonding processes within one platform thermo-compression, thermo-sonic, eutectic, epoxy, ACF and Indium bonding, and sensitive materials such as GaAs/GaP. The bonders support the highest-accuracy applications: MEMs, sensors, laser bars & diodes, photonics packaging, VCSELs, flip chips. Contact: Robert Avila, Western Region Sales Manager, robert@finetechusa.com.

#2204

## FJW Optical Systems, Inc.

**SPIE** Corporate Member  
322 N Woodwork Ln, Palatine, IL, 60067  
+1 847 358 2500; fax +1 847 358 2533  
irsales@findscope.com; www.findscope.com

FJW Optical Systems, world-leading manufacturer of self-contained, high-res. Find-R-Scope® Infrared Viewers, Ultraviolet Viewers, Infrared Viewers/Cameras and Radiometric Thermal Imagers. IR Viewers sensitive from 350-1550nm. UV Viewer from 180-1550nm. Vidicon NIR/SWIR/ Camera sensitive 400-2200nm. Thermal Viewer 8-14 m. Great for inspecting IR diodes, aligning/profiling laser systems, research, biotech, forensics and document analysis. Contact: Mary Scarlata, Inside Sales/ Customer Service, irsales@findscope.com; Barry Durr, Director of Sales & Marketing, bdurr@findscope.com.

#201

## Finisar Australia

244 Young St, Waterloo, NSW, Australia, 2017  
+61 2 9581 1500; fax +61 2 9310 7174  
sales@finisar.com; www.finisar.com

**Featured Product: WaveShaper (Programmable Optical Processor).**

Finisar Corporation is a global technology leader of fiber optic subsystems and components that enable high-speed communications for networking, storage, wireless, and cable TV applications. For more than 20 years, Finisar has provided critical optics technologies to system manufacturers to meet the increasing demands for network bandwidth and storage. Contact: Ralf Stolte, Sales and Marketing Manager, ralf.stolte@finisar.com.

#4232

## Flemming Tinker, LLC

23 Soobitsky Rd, Higganum, CT, 06441  
+1 860 301 2372; fax +1 860 760 6564  
sales@ftoptics.com; www.ftoptics.com

**Featured Product: Aspheric precision optics up to 20 inches in diameter. Materials includes SiC and glass.**

Flemming Tinker LLC, now Aperture Optical Sciences Inc., provides some of the most demanding custom precision optics and systems made in the world today. We develop and employ advanced technology for making aspheric mirrors and lenses, SiC optics, optics for high energy lasers and engage in developmental processes of advanced materials. We invite you to explore our standard product offerings as well as contact us for your custom optics requirements. Contact: Flemming Tinker, President, sales@ftoptics.com; Kai Xin, PhD, VP Technology, kxin@apertureos.com.

#5238

## FLIR Precision Optics

SPIE Corporate Member

27700 Parkway Ave, Wilsonville, OR, 97070  
+1 503 498 3547  
www.flir.com/gs

FLIR Precision Optics designs & manufactures optical components and assemblies. Capabilities include; optics fabrication, thin-film design and deposition, edge metallization, reticles and patterned optics, and Surface Quality inspection standards. FLIR dielectric and metal films covering 180nm – 25µm enable a wide variety of components including; antireflection (AR), bandpass and bandstop filters, dichroics, dark mirrors, and high-durability diamond-like-Carbon (DLC) coatings. Contact: Kipnix@flir.com.

#605

## Focal Point, Inc.

#4429

3130 Victory View Dr, Boise, ID, 83709  
+1 208 362 6142; fax +1 208 362 6143  
dan.marshall@focal-pt.com; www.focal-pt.com

**Featured Product: FocusStat.**

Focal Point, Inc. is a manufacturer of precision autofocus systems for microscopy. Contact: Dan Marshall, Sr. Engineer/CTO, dan.marshall@focal-pt.com; Steve Tubbs, Manufacturing Manager, steve.tubbs@focal-pt.com.

## FLIR Systems, Inc.

SPIE Corporate Member

25 Esquire Rd, N. Billerica, MA, 01862  
+1 978 901 8000; fax +1 978 901 8532  
info@flir.com

FLIR is the world leader in the design and manufacture of infrared cameras. FLIR infrared cameras are used for R&D, product/process testing, micro-electronics, and target heat signatures, where accuracy and reliability are important. FLIR's SC-Series IR cameras capture and record thermal distribution and variations in real time, allowing engineers to see and accurately measure heat patterns, dissipation, leakage, and other temperature factors in equipment, products, and processes. Contact: Steve Chisholm, Inside Sales Manager, steve.chisholm@flir.com.

#1917

## Foctek Photonics, Inc.

#5108

SPIE Corporate Member

No 8 the 7th Rd, Phase II of Minghou Tieling Industrial Zone, Fuzhou Fujian, China, 350100  
+86 591 38266618; fax +86 591 38266619  
sales@foctek.com; www.foctek.com

**Featured Product: Precision Optical Assemblies, Lenses assemblies, Mechanical assemblies.**

Foctek is a professional manufacturer of Optical and Crystal components. Founded in 2001; 250 employees, 30 optical and mechanical engineers. Foctek's new factory owns 13000 sqm land area. Advanced production facilities and Metrology Instrument CNC Grinding and Profile Grinding Machine, Trioptics Lens and Prism Measurement System, Zygo GPI Interferometer, 3D Digital Profile Measuring System etc. Cooperate with local university and research center. ISO9001:2008 certified by SGS. Contact: Steve Huang, President, steve.huang@foctek.com; Yuco Lin, Sales Manager, yuco.lin@foctek.com.

## Florida Photonics Cluster

#2034

12424 Research Pkwy Ste 100, Orlando, FL, 32826-3257  
+1 407 882 2104; fax +1 407 386 3426  
jpearson@creol.ucf.edu; www.floridaphotonicscluster.com

The Florida Photonics Cluster (FPC) supports the growth and profitability of the Florida photonics industry through the strength of a unified voice, by enhancing the overall photonics industry through mutually beneficial collaborations, and by making Florida the place to go for photonics solutions. FPC membership is available to all organizations that provide optics and photonics products or services, and also to non-photonics companies who provide services and products to photonics companies. Contact: James Pearson, Executive Director, jpearson@creol.ucf.edu; Alex Fong, President, afong@goochandhousego.com.

## Foreal Spectrum, Inc.

#510

SPIE Corporate Member

2370-A Qume Dr, San Jose, CA, 95131  
+1 408 436 5558; fax +1 408 436 5557  
sales@forealspectrum.com; www.forealspectrum.com

**Featured Product: High power, high brightness LED light sources in white, red, green and blue.**

Foreal is a supplier of optical coatings, optical modules, and LED light sources and projection engines. Our custom coatings include X-cubes, polarization beam splitters, polarization management coatings, AR coating, wideband and narrowband filters and notch filters, manufactured using our custom Ion Beam Sputtering process. Our LED light sources, and Stereo and Mini-projectors are designed for optimum brightness/cost/compactness, leveraging our optics design and manufacturing expertise. Contact: Claire Nippres, clairen@forealspectrum.com; James Kiss, jimk@forealspectrum.com.

## Forth Dimension Displays Ltd.

#2223

7 St. David's Dr, St. David's Business Park, Dalgety Bay Scotland, United Kingdom, KY11 9NB  
+44 1383 827950; fax +44 1383 827951  
sales@forthdd.com; www.forthdd.com

**Featured Product: SXGA-R5: The World's smallest, highest resolution, full color microdisplay system with no sub-pixels.**

Forth Dimension Displays is the World's leading high-resolution near-to-eye (NTE) microdisplay supplier. We provide a wide range of microdisplay solutions optimized for the best performance in demanding NTE applications. Our microdisplay products contain proprietary, high speed, liquid crystal on silicon Time Domain Imaging (TDI™) technology. Our fast, all digital, software configured, technology delivers high quality, full colour, images on a single high resolution microdisplay. Contact: Robert Hoffman, Sales Director, rhoffman@forthdd.com; David Vettese, European Sales Manager, dvettese@forthdd.com.

**SPIE Career Center**  
**Job Fair**  
**Two Days Only**  
North Hall | Aisle 5600

**Employers are coming together to interview and hire candidates at Photonics West!**

Tuesday 25 January · 10:00 am to 5:00 pm  
Wednesday 26 January · 10:00 am to 5:00 pm

[spie.org/careercenter](http://spie.org/careercenter)



**Fosta-Tek Optics**
**#5520**

 320 Hamilton St, Leominster, MA, 01453  
 +1 978 534 6511; fax +1 978 537 2168  
 www.fosta-tek.com

Fosta-Tek Optics is your one-stop resource for polymer based optical components. The company offers high performance and thin film coatings, precision molded optics, and optical filters for electronics. Products include laser protective eyewear lenses, night-vision optics, ADC scanner windows, lenses for sighting systems, and mirrored reflectors. Contact: Thomas Long, National Account Sales Rep, tlong@fosta-tek.com; David Moriarty, National Account Sales Rep, dmoriarty@fosta-tek.com.

**Fotofab**
**#2106, 5518**

 3758 W Belmont Ave, Chicago, IL, 60618  
 +1 773 463 6211  
 sales@fotofab.com; www.fotofab.com

**Featured Product: Fotofab makes custom precision metal parts in as little as one day!**

Fotofab manufactures precision, thin metal parts to customer specifications. Common applications include RF shields, step lids, screens, apertures, leadframes, enclosures, connector housings, and deposition masks. Using their process of Photochemical Machining, Fotofab can achieve lower tooling costs and a quicker turnaround than traditional methods of manufacturing. Standard delivery is one week with 24 hour delivery options available. Contact: Dan Sima, Marketing Manager, dsima@fotofab.com; James Tankersley, Technical Sales Supervisor, sales@fotofab.com.


**EXHIBITION MAP/RESTAURANT GUIDE AND METER BOARD SPONSOR**
**Frankfurt Laser Co.**
**#600**

SPIE Corporate Member

 An den 30 Morgen 13, Friedrichsdorf, Germany, 61381  
 +49 6172 27978 0; fax +49 6172 27978 10  
 sales@frlaserco.com; www.frlaserco.com

**Featured Product: High Brightness 9XXnm 50W Fiber Coupled Pump Laser Diode.**

FLC supplies CW single mode, DFB, DBR and broad area laser diodes and Quantum Cascade Lasers (370nm to 12µm with 5mW-15W), pulse IR laser diodes, superluminescent diodes in 680nm - 2300nm range in free space and fiber-coupled packages, high-power laser diode arrays with fiber output (2W-750W) CW and QCW, laser diode modules with high-quality glass optic, red, orange, yellow, green, blue and violet DPSS lasers, laser diode collimating and focusing optic, mid-IR 1.7µm-4.3µm LED. Contact: Vsevolod Mazo, Sales Director, dr.v.mazo@frlaserco.com; Scott Harvey, Sales Manager, scott.harvey@frlaserco.com.

**Fraunhofer Heinrich Hertz Institute**
**#4601**

 Einsteinufer 37, Berlin, Germany, 10587  
 +49 30 31002 519; fax +49 30 31002 551  
 wolfgang.schlaak@hhi.fraunhofer.de; www.hhi.fraunhofer.de

**Featured Product: HHI announces their new generations of Terahertz Photomixers and Terahertz Photoconductive Antennas.**

From optical sensing to information technology – this is the range of applications developed at the HHI. This includes the development and production of innovative, miniaturized fiber optic sensors and sensor networks for applications in process control, in safety engineering, and intelligent sensors in offshore wind energy plants and power cables. The scope of Photonic components include LEDs, Lasers, fast photodiodes, novel InP based THz device for simpler solutions for the THz technology. Contact: Wolfgang Schlaak, Head of Business Development, wolfgang.schlaak@hhi.fraunhofer.de; Prof. Dr. Wolfgang Schade, Head of Department Fibre Optical Sensor Systems, wolfgang.schade@hhi.fraunhofer.de.

**Fraunhofer ILT**
**#4601**

 Steinbachstr 15, Aachen, Germany, 52074  
 +49 241 8906 0; fax +49 241 8960 121  
 info@ilt.fraunhofer.de; www.ilt.fraunhofer.de

The Fraunhofer ILT is worldwide one of the most important development and contract research institutes of its specific field. The activities cover a wide range of areas such as the development of new laser beam sources, components and industrial laser processes. This includes laser cutting, drilling, welding as well as surface treatment, micro processing and rapid prototyping. Furthermore, the Fraunhofer ILT is engaged in process control, modeling as well as in the entire system technology. Contact: Mr. Michael Leers, Group Manager Packaging, PHOTONICS-WEST@ilt.fraunhofer.de.

**Fraunhofer Institute for Applied Optics and Precision Engineering IOF**
**#4601**

 Albert-Einstein-Str 7, Jena, Germany, 07745  
 +49 3641 807 0; fax +49 3641 807 600  
 info@iof.fraunhofer.de; www.iof.fraunhofer.de

Fraunhofer IOF carries out research and development in the field of optical systems technology: opto-mechanical design, multi-functional optical coatings, solid state based light sources, high power fiber lasers and amplifiers, micro- and nano-optics, packaging and joining technologies, metal optics, plastic optics, measurement and testing technologies, opto-mechanical precision systems. Contact: Dr. Brigitte Weber, Strategy Marketing Coordination, brigitte.weber@iof.fraunhofer.de.

**Fraunhofer IPMS**
**#4421**

 Maria-Reiche-Str 2, Dresden, Germany, 01109  
 +49 351 8823 0; fax +49 351 8823 266  
 info@ipms.fraunhofer.de; www.ipms.fraunhofer.de

**Featured Product: Microscope head based on two-dimensional scanning mirror for imaging and a diameter of only 8 mm.**

Fraunhofer IPMS carries out customer specific developments in fields of microelectronic and micro systems technology. Fraunhofer IPMS develops and fabricates modern MEMS and OLED devices in its own clean room facilities. In addition to R&D services it offers ramp-up within a pilot production. The range of projects and expertise covers sensor and actuator systems, microscanner, spatial light modulators, lifetronics as well as organic materials and systems. Contact: Ines Schedwill, Marketing/PR, Ines.Schedwill@ipms.fraunhofer.de.

**Fraunhofer-Institut für Integrierte Schaltungen IIS**
**#4601**

 Am Wolfsmantel 33, Erlangen, Germany, 91058  
 +49 9131 776 9210; fax +49 9131 776 4499  
 www.iis.fraunhofer.de

**Featured Product: Arbitrary Colour and Polarization Sensors fabricated in low-cost CMOS technology.**

The Fraunhofer Gesellschaft is the leading organization for applied research in Europe, undertaking contract research on behalf of industry. Its Institute for Integrated Circuits (IIS) has been designing integrated circuits in silicon CMOS technologies for manufacturing via cooperation partners. Fraunhofer IIS has been working on colour and polarization sensors using plasmonic effects and the small structure sizes of CMOS technology in the subwavelength range for fabrication in high volume. Contact: Dr. Norbert Weber, Group Manager, norbert.weber@iis.fraunhofer.de; Dr. Stephan Junger, stephan.junger@iis.fraunhofer.de.

## Fraunhofer-Institut für Produktionstechnologie IPT #4601

Steinbachstr 17, Aachen, Germany, 52074  
+49 241 8904 0; fax +49 241 8904 198  
info@ipt.fraunhofer.de; www.ipt.fraunhofer.de

### Featured Product: Replication and Direct Manufacture of Precision and Ultra Precision Optical Components, R&D Services.

The aim of the Fraunhofer IPT is to develop new and optimize existing solutions through practice-oriented research and development for clients in modern production industries. Our clients come from a wide range of industries – automotive industries and its suppliers, especially tool and die making, as well as fine-mechanics and optical industries, aerospace industries and machine tool manufacturers. Contact: Dr.-Ing. Olaf Dambon, Chief Engineer, info@ipt.fraunhofer.de; Dr.-Ing. Christian Wenzel, Chief Engineer, info@ipt.fraunhofer.de.

## Fraunhofer-Institut für Silicatiforschung #4601

Neunerplatz 2, Würzburg, Germany, 97082  
+49 931 4100 0; fax +49 931 4100 199  
info@isc.fraunhofer.de; www.isc.fraunhofer.de

### Featured Product: Contractual material R&D; Process consulting/development; Special patterning equipment.

The Fraunhofer ISC's expert team "Hybrid Polymers for Microsystems and Micromedicine" performs contractual R&D for the industry. It focuses on custom-designed inorganic-organic hybrid polymers for optical, opto-electrical, micro-/polymer electronic applications and packaging and for life sciences. Materials feature low absorption losses, adjusted refractive indices over a wide range, and can be processed by different technologies compatible to semiconductor processing on various substrates. Contact: Ruth Houbertz, Competence Team Manager, houbertz@isc.fraunhofer.de; Marie-Luise Righi, Marketing and Communications, righi@isc.fraunhofer.de.

## French Pavilion – UBIFRANCE #1123B

77 boulevard Saint Jacques, Paris, France, 75014  
+33 1 40 73 30 00  
www.ubifrance.fr

UBIFRANCE, the French agency for international business development, offers a range of products and services aimed at accompanying French-based companies in their international development: knowledge-based products and services, from business information to consultancy and monitoring services, in order to help companies elaborate a strategy for international expansion; promotional operations in order to foster partnerships with companies outside France. Contact: Rym KROURI, Project Manager IT, rym.krouri@ubifrance.fr; Claire LOUVEAU, Assistant IT, claire.louveau@ubifrance.fr.

## Fresnel Optics GmbH #4601

Flurstedter Marktweg 13, Apolda, Germany, 99510  
+49 3644 5011 64; fax +49 3644 5011 50  
info@fresnel-optics.de; www.fresnel-optics.de

Fresnel Optics is the European member of the Reflexite Energy solution Div. Based on a complete chain of optical design, tool fabrication, precision polymer replication, and custom finishing, we offer custom fabrication of plastic micro- and nanostructured optical components. Our optical components are used in the markets Display, Lighting, Solar, Optical measurement & Machine Vision and Optical Sensors. Fresnel optics is certified according DIN/ISO 9001. Contact: Ina Zeidler, Sales Manager OSB, Ina.Zeidler@fresnel-optics.com.

## Fresnel Technologies Inc. #300

101 W Morningside Dr, Fort Worth, TX, 76110  
+1 817 926 7474; fax +1 817 926 7146  
lclaytor@fresneltech.com; www.fresneltech.com

## Frontier Optics Inc. #211

16618 Honeybee Dr, Tustin, CA, 92782  
+1 949 786 1919; fax +1 949 786 1907  
sales@frontier-optics.com; www.frontier-optics.com

Manufacturer of stock and custom precision optics including spherical, cylindrical and achromatic lenses; prisms, windows, mirrors, filters, beamsplitters, and lens assemblies. Prototype development and high volume production. Materials include UV, VIS, and IR. Coating of optics available. Contact: Lee Shaw, President, sales@frontier-optics.com.

## Fuzhou Alpha Optics Co., Ltd. #4425

**SPIE** Corporate Member

Bldg 14 Gulou Industrial Park, Jinshan Juyuanzhou, Fuzhou Fujian, China, 350009  
+86 591 83841095; fax +86 591 83841097  
dustinmao@alphaoptics.com.cn; www.alphaoptics.com

### Featured Product: Spherical & Aspherical lens, Ball lens, IR lens, Cylindrical lens, Rod lens, Windows, Mirror, Prism.

Alpha Optics is an ISO certified OEM manufacturer proficient in producing high precision standard or customized optics components since 1991, including Spherical & Aspherical lens, Micro lens, Ball lens, Infrared lens, Cylindrical lens, Rod lens, Windows, Mirror, Prisms and Coated parts. We are dedicated to continuous innovation and focus on benefiting customers by reliable quality, in-time delivery and good service. Our well experience and special expertise enable us to be your good partner. Contact: Dustin Mao, President, dustinmao@alphaoptics.com.cn.

## Fuzhou USTRON Optoelectronic Materials Co., Ltd. #1901K

No 168 Taipingli, Qinjinag Village, Hangcheng Town, Changle, Fuzhou, Fujian, China, 350200  
+86 591 28673333; fax +86 591 28798333  
sales@ustron.com.cn; www.ustron.com.cn

Fuzhou Ustron Optoelectronic Materials provides high quality evaporation materials and sputtering target for the world. The product portfolio covers a wide range of high quality evaporation materials and sputtering targets for all current PVD processes. USTRON's high quality standard for its entire product range ensures that every batch is behaving reproducibly in your evaporation process. Contact Chen Qinzong, General Manager, sales@ustron.com.cn.

## GAM Laser Inc. #4828

6901 TPC Dr Ste 300, Orlando, FL, 32822  
+1 407 851 8999; fax +1 407 850 0700  
www.gamlaser.com

### Featured Product: EX5/500; Industrial laser. High reliability industrial grade mini excimer laser.

GAM Laser, Inc. manufactures the longest gas lifetime excimer lasers. Applications include interferometry, micromachining, mask inspection, LIDAR, FBG, etc. Key benefits: High Reliability, Soft Corona preionization, high pointing stability, low trigger jitter, longest gas life, higher energy density, all metallic/ceramics design, internal. Vacuum pump & halogen filter, internal energy monitor, computer controlled. Wavelengths (nm): 157, 193, 248, 308, 337, 351. Output: 2 – 250 mJ. 60 – 750 Hz.

## Gamdan Optics Inc.

#5507

2380 Qume Dr Ste F, San Jose, CA, 95131  
+1 408 316 7813; fax +1 408 519 3760  
contact@gamdan.com; www.gamdan.com

**Featured Product: US grown nonlinear Optical Crystals, complete Fabrication and rework facility in the Silicon Valley.**

GAMDAN Optics pioneers growth technology for various nonlinear optical material such as LBO, BBO and Lithium Niobate. We also provide full fabrication and rework service for various optical materials for fast turn around in the Silicon Valley. Contact: Hanna Cai, Business Development, hanna.cai@gamdan.com; Lucas Tan, VP of Sales and Marketing, lucas@gamdan.com.

## Gavish, Inc.

#2601

360 Route 101 Ste 1, Bedford, NH, 03110  
+1 603 472 5900; fax +1 603 472 8333  
info@gavish.com; www.gavish.com

Sapphire optics from Gavish include windows, viewports, imaging arrays, optical lightpipes, lenses, and a range of skin cooling optics for cosmetic surgical lasers. Optics are produced to end user specifications for finish and flatness with full service support including AR filters and other specialty coatings and metallization. Final assembly of glued, soldered, and brazed multi-element assemblies are also available. Gavish is also a fully integrated ISO 9001 approved supplier. Contact: Jeremiah Fitzgibbon, National Sales and Marketing Manager, jfitzgibbon@gavish.com; Cathy Schult, Account Manager, cschult@gavish.com.

## GD Optical Competence GmbH

#4601

Herborner Str 7-9i, Sinn, Germany, 35764  
+49 2772 5744 0; fax +49 2772 5744 165  
info@gdoptics.com; www.gdoptics.de

**Featured Product: Solar concentrators and light pipes made of glass-resistant, long-lasting, high-power.**

GD Optics offers high-precision molded aspherical, spherical, acylindrical, cylindrical, torical lenses and molded optical components – prism elements, arrays, segmented lenses in glass with a size/diameter range of 0.8 to 30 mm. Hardcoatings are offered as required. Contact: Carl Gaebe, Ph.D., C.Gaebe@gdoptics.de; Katrin Dross, BE, K.Dross@gdoptics.de.

## GEL-PAK

#940

31398 Huntwood Ave, Hayward, CA, 94544  
+1 510 576 2220; fax +1 510 576 2282  
www.gelpak.com

**Featured Product: Stop by Gel-Pak's booth 940 to see our new selection of Membrane Boxes.**

Gel-Pak manufactures a line of gel-coated boxes, trays, slides and films designed to keep valuable devices in place during shipping, handling, and processing. Ideal for handling optoelectronic devices, Gel-Pak products can be customized to meet the specific needs of your application. Contact: Darby Davis, Director of Sales, darby@gelpak.com; Jeanne Beacham, President, jeanne@delphon.com.

## General Photonics Corp.

#5406

5228 Edison Ave, Chino, CA, 91710  
+1 919 590 5473; fax +1 919 902 5536  
info@generalphotonics.com; www.generalphotonics.com

**Featured Product: PMDPro™ - a fast polarization optimized polarization mode dispersion (PMD) source.**

General Photonics is the leading supplier of polarization and timing products to the telecommunications, photonics, fiber sensor, and medical imaging markets. General Photonics offers a full line of components, modules and instruments that manage and measure polarized light. Specialized products include a suite of products for polarization related development and testing of coherent detection systems. Contact: Febian Bahari, Sales, fbahari@generalphotonics.com.

## Genia Photonics

#5006

1111 Lapierre St, LaSalle, QC, Canada, H8N 2J4  
+1 514 364 0343  
www.geniaphotonics.com

**Featured Product: Picosecond synchronized programmable laser system.**

Genia Photonics develops and manufactures a series of fiber based components and laser systems that will significantly change the way certain procedures and functions are performed in the medical, industrial, and military communities. A combination of optical, electrical, and mechanical expertise has led to a series of patented design breakthroughs that are at the core of their lasers systems, offering capabilities that are unique as the design. Contact: Antoine Kasprzak, Sales Director, antoine.kasprzak@geniaphotonics.com; Joseph Salhany, VP R&D and Product Management, joseph.salhany@geniaphotonics.com.

## Genicom Co. Ltd.

#4821

5F Daehan Bldg #1018 Dundan-dong Seo-gu, Daejeon, Korea, 302-120  
+82 42 862 3982; fax +82 42 862 2982  
uvsensor@geni-uv.com; www.geni-uv.com

## Gentec Electro-Optics Inc.

#4909

**SPIE** Corporate Member  
445 St-Jean-Baptiste Ste 160, Quebec, QC, Canada, G2E 4N7  
+1 418 651 8003; fax +1 418 651 1174  
info@gentec-eo.com; www.gentec-eo.com

**Featured Product: New this year is our first Touchscreen, color display monitor for power and energy measurement.**

Gentec-EO has over 35 years of experience in the laser measurement field. Our product line includes a complete range of laser power and energy meters, optical detectors, OEM detectors, beam diagnostics and diffractive optics. New this year is the acquisition of Spectrum Detector, which added THz detectors, ultra-fast pyro detectors that measure pulse-to-pulse energy up to 130 kHz, optical TRAP detectors, position sensing systems, ultra-sensitive fJ optical detectors and more. Contact: Nathalie Becotte, Sales Director, Major Accounts, nbecotte@gentec-eo.com; Charles Vo, Sales Engineer, cvo@gentec-eo.com.

## Gentex Corp.

#2429

324 Main St, Simpson, PA, 18407  
+1 570 282 8435; fax +1 570 282 8555  
tcost@gentexcorp.com; www.gentexcorp.com



## German Pavilion

#4601

IMAG-Internationaler Messe- und Ausstellungsdienst GmbH, Am Messensee 2, München, Germany, 81829 +49 89 949 22 0; fax +49 89 949 22 350 [imag@imag.de](mailto:imag@imag.de); [www.imag.de](http://www.imag.de)

Federal Ministry of Economics and Technology ([info@bmwi.bund.de](mailto:info@bmwi.bund.de), [www.bmwi.bund.de](http://www.bmwi.bund.de)) is the sponsor of the official joint companies exhibition in cooperation with the Association of the German Trade Fair Industry (AUMA) ([info@auma.de](mailto:info@auma.de), [www.auma-fairs.com](http://www.auma-fairs.com)); Supported by SPECTARIS, German Industry Association for Optical, Medical and Mechatronical Technologies ([info@spectaris.de](mailto:info@spectaris.de), [www.spectaris.de](http://www.spectaris.de)) and OptecNet Deutschland e.V., German Competence Networks for Optical Technologies ([optecnet@optecnet.de](mailto:optecnet@optecnet.de), [www.optecnet.de](http://www.optecnet.de)); Organized by IMAG – Internationaler Messe- und Ausstellungsdienst GmbH.

## Germanium and Applications Ltd.

#4104

2/4 Luzhnetskaya quay Bld 64, Moscow, Russia, 119270 +7 495 926 5174; fax +7 495 639 9352 [v.vitkov@geapplic.ru](mailto:v.vitkov@geapplic.ru); [www.geapplic.ru](http://www.geapplic.ru)

**Featured Product: Germanium and Zinc Selenide blanks; [www.GeApplic.ru](http://www.GeApplic.ru).**

Germanium and Applications Ltd. works on the market of materials and chemical products, used in high-technology applications in optics, electronics, chemistry, aerospace equipment, in telecommunications and solar power engineering. Being the biggest Russian producer and exporter of Germanium blanks for optics and electronics, company is one of the leading world producers of Germanium. Contact: Dr. Vladimir Vitkov, General Director (CEO), [V.Vitkov@GeApplic.ru](mailto:V.Vitkov@GeApplic.ru); [Ge@GeApplic.ru](http://Ge@GeApplic.ru).

## GiGa Concept Inc.

#5006

11811 Suzor-Cote, Montreal, QC, Canada, H3M 2H8 +1 514 745 8877; fax +1 514 626 6784 [www.gigaconcept.com](http://www.gigaconcept.com)

**Featured Product: All Fiber polarization control technology deterministic semi-static. Operating from 600nm to 1550nm.**

Patent pending all fiber Polarization Control technology featuring extremely low PMD. Deterministic control and high stability. Options include resolution and speed, state of polarization lock at power loss. Full wavelength range coverage from 600nm to 1550nm and beyond. Available as OEM module, reference design or fully integrated USB control. Also see our design engineering services to photonics industries such as Optical Coherence Tomography, FBG manufacturing, Test and Measurement. Contact: Eric Girard, President, [egirard@gigaconcept.com](mailto:egirard@gigaconcept.com).

## GigaMat Technologies, Inc.

#4129

1765 S Main St Ste 121, Milpitas, CA, 95035 +1 408 719 2434 [sales@gigamat.com](mailto:sales@gigamat.com); [www.gigamat.com](http://www.gigamat.com)

**Featured Product: Polisher and sorter for processing 2"-12" Sapphire, Silicon carbide and PV wafers.**

GigaMat Technologies, Inc. manufactures sells polisher and sorter. Polisher with waxless mount carrier templates, waxed mount carrier. Wafer polisher for processing 2"-12" Sapphire, germanium, silicon carbide, lithium niobate, PV, silicon, GaAs, reclaim and other materials. GigaMat produces wafer sorter for sorting 2"-12" wafers for thickness, TTV, Bow/Warp, OCR, resistivity and type for Sapphire, germanium, silicon carbide, lithium niobate, PV, silicon, GaAs, reclaim and other materials. Contact: Edmond Abrahamians, President, [sales@gigamat.com](mailto:sales@gigamat.com).

## Gilden Photonics Ltd

#2223

Unit 13 Telford Ct, 9 South Ave Clydebank Business Park, Glasgow Scotland, United Kingdom, G81 2NR +44 141 952 9475; fax +44 141 952 9400 [sales@gildenphotonics.com](mailto:sales@gildenphotonics.com); [www.gildenphotonics.com](http://www.gildenphotonics.com)

## GL Events Exhibition

#10231

38-40 avenue de New York, Paris, France, 75016 +33 1 44 31 83 31; fax +33 1 44 31 83 42 [martine.renoul@gl-events.com](mailto:martine.renoul@gl-events.com)

MESUREXPOVISION OPTO ESPACE LASER; October 4-5-6, 2011 - Paris, FRANCE, Paris Expo Porte de Versailles - Hall 7.3. MESUREXPOVISION; The Research, Testing and Industrial Instrumentation Exhibition. OPTO; The European Exhibition dedicated to optical. ESPACE LASER PARIS; The exhibition dedicated to laser equipment and techniques for the industry. [www.mesuroptovision.com](http://www.mesuroptovision.com). Contact: Martine Renoul, Sales & Strategy Director, [martine.renoul@gl-events.com](mailto:martine.renoul@gl-events.com).

## Glass & Ceramic Engineered Solutions (GCESS)

#6066

PO Box 68, Tenafly, NJ, 07670 +1 201 569 8695; fax +1 201 568 8179 [gcessales@verizon.net](mailto:gcessales@verizon.net)

GCESS is a manufacturer's representative for wide range of material suppliers that include glass, fused quartz, ceramics and Teflon materials. Forms of supply can range from raw materials to finished components. Material selection and design consultation services are available. Areas of expertise include laser optics, fiber optics, light sources, medical devices, analytical components and industrial processing. Contact: [gcessales@verizon.net](mailto:gcessales@verizon.net).

## Glass Fab Inc.

#1140

 SPIE Corporate Member

257 Ormond St, Rochester, NY, 14605 +1 585 262 4000; fax +1 585 454 4305 [info@glassfab.com](mailto:info@glassfab.com); [www.glassfab.com](http://www.glassfab.com)

Manufacturer of customer blanks. Products include fused quartz, fused silica, optical glasses, filter glasses, and low/ultralow expansion glasses. Capabilities include annealing, slumping, sawing, grinding, edging, drilling, water jet cutting, CNC shaping and CNC generating. Contact: Daniel Saltzman, President, [d\\_saltzman@glassfab.com](mailto:d_saltzman@glassfab.com); Wayne Leon, Sales Manager, [w\\_leon@glassfab.com](mailto:w_leon@glassfab.com).

## Global Communication Semiconductors, Inc.

#5430

23155 Kashiwa Ct, Torrance, CA, 90505 +1 310 530 7274; fax +1 310 517 8200 [info@gcsincorp.com](mailto:info@gcsincorp.com); [www.gcsincorp.com](http://www.gcsincorp.com)

**Featured Product: 10G GaAs 1x4, 1x8 and 1x12 PD Array for active optical cable.**

GCS a premier III-V compound semiconductor wafer foundry service provider with a broad capabilities to manufacture optoelectronics devices including Laser, VCSEL, LED, modulator, SOA and photonic integration devices. Contact: Simon Yu, VP, Worldwide Sales & Marketing and Foundry Services, [syu@gcsincorp.com](mailto:syu@gcsincorp.com).

## Gold Dragon Optics Electronic Technology Co., Ltd.

**#1901C**

No 286 Torch Rd, Changchun Jilin, China, 130012  
 +86 431 85353336; fax +86 431 85353338  
 info@golddragonoptics.com; www.golddragonoptics.com

**Featured Product: Telecentric lens, Beam expander lens alignment, optical design and produce.**

Our company is professional manufacturer of optical components, lens, coating service. Provide the support for the commercial and marketplace refer to laser, medicine, military, semiconductor and telecommunication application areas. There are some components off the shelf and we can also produce custom design. Contact: Chunsheng Wang, General Manager, cswang@golddragonoptics.com; Hannah Yao, Sales Manager, hannah@golddragonoptics.com.

## Gooch & Housego

**#1107**

SPIE Corporate Member

Dowlish Ford, Ilminster Somerset, United Kingdom, TA19 0PF  
 +44 1460 256440; fax +44 1460 256441  
 sales@goochandhousego.com; www.goochandhousego.com

Gooch & Housego is a leading global optical manufacturer providing innovative products, systems and solutions to the aerospace & defense, biomedical & life sciences and industrial & research markets worldwide, 'enabling optical technologies for you'. Contact: Paul Morris, SVP Sales, pmorris@goochandhousego.com; Jim Dooley, Americas Sales Director, jdooley@goochandhousego.com.

## Gould Technology, LLC

**#4821**

1121 Benfield Blvd, Millersville, MD, 21108  
 +1 410 987 5600; fax +1 410 987 1201  
 sales@gouldfo.com; www.gouldfo.com

**Featured Product: Planar splitters, Fused single mode & PM splitters, RGB & Pump combiners, Military grade assemblies.**

Since 1986 Gould Fiber Optics remains as a leading worldwide manufacturer and supplier of premium passive fiber optic components and specializes in fully tested integrated solutions. Our components can be found on the ocean floor, in space, and around the house. Gould Fiber Optic U.S Build couplers make various applications more reliable because they perform very well in all kinds of conditions. ISO 9001-2008 and ITAR Compliance. Contact: Lisa Royal, Senior Inside Sales Specialist, lroyal@gouldfo.com; Linda O'Dea, Sales Specialist, lodea@gouldfo.com.

## GPD Optoelectronics Corp.

**#2511**

7 Manor Pkwy, Salem, NH, 03079  
 +1 603 894 6865; fax +1 603 894 6866  
 sales@gpd-ir.com; www.gpd-ir.com

GPD Optoelectronics Corp. designs and manufactures germanium PN, PIN APD, and InGaAs PIN large-area and extended-wavelength (to 2.2 microns) photodetectors. We also offer InGaAs APDs and Si/Ge or Si/InGaAs two-color detectors. Detectors are available as die, TO-can, SMT, or on ceramic substrate. Fiber pigtailling and connectors are available. Custom designs are a GPD specialty, including optics and filters. GPD can offer you a photodetector that meets your technical and cost requirements. Contact: Dan Lapointe, Sales Manager, dlapointe@gpd-ir.com; Rufus Ward, VP Engineering, rward@gpd-ir.com.

## GratingWorks, USA

**#4443**

42 Quarry Rd, Acton, MA, 01720-5817  
 +1 978 266 1871; fax +1 978 266 1871  
 www.gratingworks.com

**Featured Product: Spectrometers and modules with spectral images close to diffraction limitation at NA=0.22 or higher.**

Design and fabricate concave, planar blazed and holographic gratings, new generation spectrometers and spectrograph modules. These spectrometer and modules have aberration corrected concave grating and additional aberration corrector, so that their spectral images are closed to diffraction limitation at NA=0.22 or higher. When NA=0.22, slit width is 25µ, spectrometer HR02 provides 1.0nm spectral resolution in a wavelength range from 200nm to 1100nm. Be capable for large volume OEM fabrication. Contact: Lian Xiang, President, lian@gratingworks.com.

## Greenlee/A Textron Company

**#5523**

4455 Boeing Dr, Rockford, IL, 61109-2932  
 +1 815 397 7070

support@greenlee.textron.com; www.greenlee.com

For almost 150 years, Greenlee, A Textron Company, has provided quality tools and test equipment for the fiber, data communications and electrical markets. Visit us at booth #5523 to learn more about our fiber connections capabilities. Contact: Thieu Do, Fiber Connections Manager, tdo@greenlee.textron.com; Rebecca Neys, Channel Manager, bneys@greenlee.textron.com.

## Greenlight Optics, LLC

**#6068**

SPIE Corporate Member

11235 Williamson Rd, Cincinnati, OH, 45241  
 +1 513 247 9777; fax +1 513 297 7919  
 info@greenlightoptics.com; www.greenlightoptics.com

Greenlight Optics is an optical engineering and manufacturing services company specializing in projection displays, LED illumination, plastic optics, and the integration of optics with electrical and mechanical systems. Contact: Mike O'Keefe, Managing Partner, mokeefe@greenlightoptics.com; info@greenlightoptics.com.

## GRI Pumps

**#4119**

180 Hines Ave, Bellville, OH, 44813-1234  
 +1 419 886 3001  
 grisales@gripumps.com; www.gripumps.com

**Featured Product: GRI's New Recirculation Pumps: Fewer parts, longer life, quiet operation, lower power consumption.**

Since 1953, OEMs in a wide range of industries have trusted GRI for pumps and equipment used in highly diverse fluid pumping applications. GRI's reputation and success have been built on innovative designs, customer service, and providing products to meet the exact specifications of their customers. GRI's focus has always been on meeting the needs of a single customer by offering innovative solutions that will positively impact the customer's design, device function, and product life. Contact: John Hoffner, Medical OEM Sales Manager, jhoffner@gripumps.com; Michael Hill, Vice President/General Manager, mhill@gripumps.com.

## Grintech GmbH

**#814**

SPIE Corporate Member

Schillerstr 1, Jena, Germany, 07745  
 +49 3641 2276 0; fax +49 3641 2276 11  
 info@grintech.de; www.grintech.de

GRINTECH manufactures gradient index (GRIN) lenses and lens systems for applications in sensor technology, fiber optics, biophotonics, medical imaging, telecommunication and laser diode beam shaping Contact: Herbert Stuermer, Product Manager, info@grintech.de.

## G-S PLASTIC OPTICS

SPIE Corporate Member

408 St Paul St, Rochester, NY, 14605  
+1 585 295 0200; fax +1 585 232 2314  
info@gsoptics.com; www.gsoptics.com

**Featured Product: Continually improving core competencies for polymer optics, including micro optics molding.**

G-S PLASTIC OPTICS manufactures precision polymer optics for imaging, scanning, detection, and illumination applications worldwide. In addition to an extensive catalog offering of precision polymer optics, the company has in-house capability to provide custom designed diamond turned and injection molded prototypes, production injection molding of optics, thin film and reflective coatings, and integrated solutions for a wide range of military, medical, commercial, and consumer markets. Contact: Will Beich, Director of New Business Development, wbeich@gsoptics.com.

## GT Crystal Systems

#307

27 Congress St, Salem, MA, 01970  
+1 978 745 0088; fax +1 978 744 5059  
sales@crystalsystems.com; www.crystalsystems.com

Manufacturer of Sapphire and Ti:Sapphire for optics, IR applications, windows, domes, laser rods, lenses, prisms, filters, substrates and for other optical and non-optical applications. We can provide a wide range of material grades to meet customers' requirements for demanding applications in defense, laser technology, electronics, life sciences and research. Contact: William Ripley, Sr. Sales Engineer, bill@crystalsystems.com; Scott Cohen, Sales Engineer, scott@crystalsystems.com.

## Guild Optical Associates, Inc.

#3004

11 Columbia Dr, Amherst, NH, 03031  
+1 603 889 6247; fax +1 603 889 8361  
info@guildoptics.com; www.guildoptics.com

Guild Optical Associates, Inc. is a widely recognized leader in the fabrication of custom Sapphire Optical components. Our products include windows, lenses, special shapes and metalized optics. We serve many industries including the Aerospace, Automotive, Medical and Process monitoring industries. Sapphire is our specialty and we also do extensive work in many of the common glass materials. Contact: Anthony DeFeo, Vice President, info@guildoptics.com.

## Gulf Photonics

SPIE Corporate Member

448 Commerce Blvd, Oldsmar, FL, 34677  
+1 813 855 6618; fax +1 813 855 6627  
photonics@gulffiberoptics.com;  
www.gulffiberoptics.com/photonics

**Featured Product: Custom fibers - as hot & fresh as your morning coffee. Come meet your personal fiber barista!**

Gulf Photonics is a supplier of high quality, quick turn fiber optic assemblies for research and OEM use. We work with fused silica fiber and borosilicate fiber drawn in-house, offering a line of standard patch and bifurcated cables, reflection probes, and accessories, as well as a wide array of options for custom assemblies. Contact: The Fiber Barista, custom fiber assembly specialist, photonics@gulffiberoptics.com.

#1828

## Gurley Precision Instruments, Inc.

#630

514 Fulton St, Troy, NY, 12180  
+1 518 266 7719; fax +1 518 274 0336  
info@gurley.com; www.gurley.com

GPI manufactures high-end optical encoders, components and assemblies to the optics, medical, aerospace and defense industries. From design phase to volume runs, we manufacture custom and catalogued components designed to meet your specific requirements. Our product line includes; linear and rotary encoders, lenses, windows, mirrors, prisms, reticles, and full coating services for most types of substrates. For more information go to www.gurley.com. Contact: Brian Sebastian, Director of Optic Sales, b.sebastian@gurley.com.

## Hagitec Co., Ltd.

#224

390 N Sepulveda Blvd Ste 300, El Segundo, CA, 90245  
+1 310 524 1021; fax +1 310 524 1090  
info@hagitec.com; www.hagitec.com

**Featured Product: Double-layered Gooseneck Tube. Successfully passed dending tests of over 230,000 repetitions.**

Hagitec is a leading manufacturer of flexible metal conduits and resin tubing products. Our business philosophy has always been based on quality products, innovative solutions, and service beyond our customers' expectations. Contact: Tark Inukai, Senior Manager, t.inukai@jaluxam.com; Keita Suzuki, Sales, suzuki@hagitec.co.jp.



ESCALATOR PANELS AND COFFEE BREAK SPONSOR



## Hamamatsu Corp.

#1313

SPIE Corporate Member

360 Foothill Rd, Bridgewater, NJ, 08807  
+1 908 231 0960; fax +1 908 231 1539  
usa@hamamatsu.com; www.sales.hamamatsu.com

Hamamatsu Corporation is the North American subsidiary of Hamamatsu Photonics K.K. (Japan), a leading manufacturer of devices for the generation and measurement of infrared, visible, UV light and x-rays. These devices include photomultiplier tubes, photodiodes, image sensors, scientific cameras, and light sources. Hamamatsu Photonics also offers specialized systems for semiconductor inspection, NDT, and drug discovery. We are dedicated to the advancement of photonics through extensive research. Contact: John Gilmore, jgilmore@hamamatsu.com.

#4502

## HangZhou HuiDA Electro Optics Co., Ltd.

#6020

No 396 Shi Xiang Rd, Hangzhou Zhejiang, China, 310015  
+86 571 88172260; fax +86 571 88171928  
huidaoptics@gmail.com; www.huidaoptics.com

**Featured Product: Light pipes with solar energy application, Micro-lens and Contact Image Sensor (CIS).**

We have proudly served North American and European customers in the past few decades using MIL specs and the ISO standard. Huida Electro-Optics is an ISO9001: 2000 certified company. We have Zygo, Phase-Shift, Perkin-Elmer, HP, Shimadzu and Leica testing equipment that is used to ensure the quality of our product. Meeting the schedule of our customers is also a goal that we pursue constantly - in order to ensure on-time and reliable delivery, we ship worldwide using FedEx within two to three days. Contact: AN SHENTU, Product Manager, huidaoptics@gmail.com; Li Ning, Product Manager, hdlining@163.com.



## Hardin Optical Company

#5107

SPIE Corporate Member

PO Box 219, Bandon, OR, 97411

+1 541 347 9467; fax +1 541 347 8176

optics@hardinoptical.com; www.hardinoptical.com

Hardin Optical Co. manufactures precision optical components for commercial and defense applications. We fabricate custom optical elements used in UV, Visible, and IR applications. Our manufacturing facility includes conventional grinding and polishing, diamond turning, and thin film coating capabilities. We take pride in our record of on-time delivery of quality products. Hardin Optical Company was founded in 1976 and employs over 90 people. Contact: Robert Bush, rbush@hardinoptical.com; Bob Schalck, bschalck@hardinoptical.com.

## Harold Johnson Optical Labs.

#3022

1826 W 169th St, Gardena, CA, 90247

+1 310 327 3051; fax +1 310 327 6179

hj@hjol.com; www.hjol.com

Custom manufacturer of cylindrical and spherical lenses, domes, achromats, prisms, mirrors, flats and multi-element assemblies in prototype and volume quantities for industrial, medical, research, commercial and Mil-Spec applications. Contact: Hal Johnson, President, hj@hjol.com; Tasha Pollard, Tasha@hjol.com.

## Harz University of Applied Sciences

#4601

Friedrichstr 57-59, Wernigerode, Germany, 38855

+49 3943 659 368; fax +49 3943 659 5368

mhaupt@hs-harz.de; www.hs-harz.de

**Featured Product: Wavelength multiplexing for polymer optical fibers to raise data rate by the factor of 10.**

Hochschule Harz proudly looks back upon its rapid development since being founded in October 1991. We are a small and manageable University of Applied Sciences with an excellent national and international reputation. We can truly say that our size is our strength. No educational mass production, but studying in small, manageable groups, easily accessible teaching staff and short distances between different locations on and off campus. Contact: Matthias Haupt, Senior Project Manager, mhaupt@hs-harz.de; Ulrich Fischer-Hirchert, Prof. Dr., ufischerhirchert@hs-harz.de.

## HB Optical Technology Co., Ltd.

#1901A

No 242 Beihai St, Dadong District, Shenyang, China, 110043

+86 24 88710538; fax +86 24 88722312

info@hb-optical.com; www.hb-optical.com

**Featured Product: Fluorescence Filters, Digital Projector Reflectors.**

HB Optical specializes in the design and manufacture of precision optical filters and reflectors. We have more than 30 years of experience in manufacturing high quality interference bandpass filters and focusing cold reflectors for industrial and scientific applications, including biomedical instrumentation, fluorescence studies, machine vision, analytical chemistry instruments, cinematograph, projector, lighting and many others. Contact: Linlin Gao, Director of International Business Department, gaolinlin@hb-optical.com; Yue Zhang, International Business Sales, zhangyue@hb-optical.com.

ACCUFLECT  
Diffuse Reflectors

BETTER Reflectance

BETTER Efficiency

BETTER Price

BETTER See Us

North Hall Booth 5204

Accuratus Corporation

35 Howard Street  
Phillipsburg, NJ 08865

908-213-7070

www accuratus.com

## HC Photonics Corp.

SPIE Corporate Member

F4 No 2 Technology Rd V, Hsinchu Science Park, Hsinchu, Taiwan, 300  
+886 3 666 2123; fax +886 3 666 2124  
service@hcphotonics.com; www.hcphotonics.com

**Featured Product: PPXX Mixer – Wavelength Conversion Module to cover wavelength from UV to IR with fiber delivery.**

HCP develops and manufactures optical wavelength converters based on Periodically Poled Nonlinear Materials-MgO:PPLN & MgO:PPLST Bulk and Waveguide. With SHG/SFG/DFG/OPG/OPA/OPO configurations to cover wavelength from UV to IR 350nm-5500nm for full spectrum applications - RGB Display, Bio-photonics, Scientific and other applications. HCP PPXX Mixer (Bulk and WG) – a compact and high efficiency (up to 50%) wavelength conversion module with fiber delivery to generate desired wavelength and power. Contact: Susan Soon, Sales & Marketing Section Manager, susan\_soon@hcphotonics.com; Karin Wu, Sales & Marketing Director, karin@hcphotonics.com.

## Headwall Photonics, Inc.

SPIE Corporate Member

601 River St, Fitchburg, MA, 01748  
+1 978 353 4010; fax +1 978 348 1864  
information@headwallphotonics.com;  
www.headwallphotonics.com

Manufacturer of imaging spectrometers and spectroscopy instruments for OEMs and end-users. Complete systems for field, factory, military, and laboratory environments. Spectral ranges of products - UV, Vis, VNIR, NIR and SWIR. Core technology: high performance spectral instruments characterized by high signal-to-noise and high dynamic range. Products: In-line inspection sensors, hyperspectral imagers, Raman spectrometers, single and dual-beam spectrometers, original holographic gratings for OEMs. Contact: David Bannon, Sales & Marketing, information@headwallphotonics.com; Jay Zakrzewski, Business Development, information@headwallphotonics.com.

## Heidelberg Instruments Inc.

SPIE Corporate Member

2807 Oregon Ct Unit E-2, Torrance, CA, 90503  
+1 310 212 5071; fax +1 310 212 5254  
www.himt.de

**Featured Product: The SMiLE is a modular lithography system, designed for integration into a standard microscope.**

Founded in 1984, Heidelberg Instruments is today a global leader in design, development and manufacturing of complex laser based maskless lithography systems. These systems are critical to fabrication of advanced photomasks and direct write solutions in the areas of Advanced Electronic Packaging, Flat Panel Display, MEMS, Integrated Optics and other micro and nano based applications. Contact: Matt Price, Manager, Marketing and Technical Sales, sales@heidelberg-instruments.com; Janette La Bella, Sales Associate, jlb@himt.us.

## HEL Joint Technology Office

801 University Blvd SE Ste 209, Albuquerque, NM, 87106  
+1 505 248 8200; fax +1 505 245 2195  
hel-jto@jto.hpc.mil

#509

## Helia Photonics Ltd.

Rosebank Park, Livingston Scotland, United Kingdom, EH54 7EJ  
+44 1506 414800  
info@helia-photonics.com; www.helia-photonics.com

**Featured Product: High-power laser diode facet coatings.**

Helia Photonics Ltd. specializes in optical coatings and back-end processing for semiconductor optoelectronic components. The company also has scribe-and-break facilities and automatic laser characterization and die sorting. Helia specializes in facet coatings for high damage threshold lasers and ultra-low anti-reflection coatings. The company also has precision coating processes for infrared quantum cascade lasers, infrared optical components, metallic coatings and coatings on optical fibers. Contact: Euan McBrearty, Senior Optical Engineer, euan.mcbrearty@helia-photonics.com; Caspar Clark, Chief Technical Officer, caspar.clark@helia-photonics.com.

#2223

## Helioworks, Inc.

1275 4th St Ste 614, Santa Rosa, CA, 95404  
+1 707 578 7200; fax +1 707 578 7200  
info@helioworks.com; www.helioworks.com

**Featured Product: A pulsable broadband infrared (IR) emitter at a peak temperature of 700C in a standard TO-8 package.**

HelioWorks, Inc. manufactures a wide range of infrared sources. Products include pulsable sources utilizing tungsten and Nichrome (NiCr) and steady state sources utilizing Kanthal and NiCr filaments. All are constructed in industry standard TO-8 packages with gold plated reflectors to enhance output in the near infrared. Our products are used in near infrared (NIR) spectroscopy, non-dispersive infrared (NDIR) gas detectors, thermal beacons, etc. We welcome requests with specialized requirements. Contact: Don Wood, CEO, info@helioworks.com.

#330

## Hellma Materials GmbH & Co. KG

Moritz-von-Rohr-Str 1, Jena, Germany, 07745  
+49 3641 2877 234; fax +49 3641 2877 203  
daniel.hahn@hellma.com; www.hellma-materials.com

**Featured Product: High quality CaF<sub>2</sub> crystals for a broad spectrum of applications from deep UV to IR.**

Hellma Materials represents high-tech materials for various applications in Microlithography, Excimer Laser, analytical instrumentation, astronomy, defense. Optical Components made from calcium fluoride provide highest optical quality and Laser durability and are used in demanding applications like Excimer Laser optics and microlithography for the semiconductor industry. Contact: Daniel Hahn, Area Sales Manager, daniel.hahn@hellma.com; Dawn Jennings, US Sales Representative, dawn@siliconsense.com.

#716

## Hellma USA

SPIE Corporate Member

80 Skyline Dr, Plainview, NY, 11803  
+1 516 939 0888; fax +1 516 939 0555  
info@hellmausa.com; www.hellmausa.com

**Featured Product: High-quality CaF<sub>2</sub> crystals grown from purest (synthetic) raw material-formerly by Schott Lithotec.**

Manufacturer of Hellma Optics, Photometer Cells, Fiber Optic Immersion Probes, Photometric Calibration Standards, Quartz Microplates. Cylindrical/Flat Optics, Beam Splitters and Mirrors for Laser and other applications. Supplier of Heraeus Light Sources including D2, HCL, PID, Spectral Line; Zeiss MMS/MCS Monolithic Miniature Spectrometer modules covering 190-2200nm in combination (16 bit S/N); Custom designs of all products. Contact: Ed Roth, Sales Engineer, eroth@hellmausa.com; Eugene Friedmann, efriedmann@hellmausa.com.

#716

## Hemontech

#6080

ul. Srebrna 16, Warsaw, Poland, 08-810  
+48 22 382 1440; fax +48 22 382 1441  
info@hemontech.com; www.hemontech.com

**Featured Product: Low temp. glass, hermetically glass to metal sealing, melting temp. 315C-330C. Induction heating.**

Hemontech is one of most innovative companies in the low temperature hermetically sealing glass market. We have more than 10 years of experience in all aspects of production of materials for electronics industry, especially in glass composition processing, property modification, and adhesion and sealing. Contact: Jan Prokopoiuk, Sales Manager, janp@hemontech.com.



GENERAL REFRESHMENT SPONSOR

## Heraeus

#1800

SPIE Corporate Member

100 Heraeus Blvd, Buford, GA, 30518  
+1 678 714 4350; fax +1 678 714 4355  
sales.hqa-optics@heraeus.com; www.heraeus.com

**Featured Product: Spectrosil synthetic fused silica for deep UV applications. TSC-3 plate material.**

Heraeus is a leader in the manufacturing of high purity quartz materials and components, and produces various types of high purity fused silica for use in semiconductor manufacturing, telecommunications, optical, chemical, lamps and a variety of other advanced applications. Contact: Michele Follmar, Quartz Customer Service/Sales, Michele.follmar@heraeus.com; Robert Sawyer, Account Representative, Robert.sawyer@heraeus.com.

## Heriot-Watt University

#2634

Technology & Research Services, Edinburgh Scotland,  
United Kingdom, EH14 4AS  
+44 0131 451 3070; fax +44 0131 451 3193  
www.hw.ac.uk

Heriot-Watt University is a major player in addressing the needs of industry. Our research is driving the science, engineering & technology based economy. The photonics research groups in the department of Physics at Heriot-Watt are internationally renowned, & have many links with industrial & university groups around the world. Major activities are based around optoelectronics, laser development, semiconductor physics, materials technology, ultra-fast phenomena, modern optics & instrumentation. Contact: Dr Ian Brotherston, Business Development Manager, i.d.brotherston@hw.ac.uk; Dr Iain McEwan, Business Development Executive, e.mcewan@hw.ac.uk.



COFFEE BREAK AND FLOOR GRAPHIC SPONSOR

## High Q Laser (US), Inc.

#4719

SPIE Corporate Member

118 Waltham St, Watertown, MA, 02472  
+1 617 924 1441; fax +1 617 924 5554  
office@highq-us.com; www.highq-us.com

High Q Laser is a leading specialist for industrial and scientific ultrafast lasers. Products are designed to withstand tough industrial environments and are tested for thermal and mechanical stability. All lasers are based on direct diode-pumping and semiconductor saturable absorber mirror (SESAM) modelocking. The set-up of High Q Laser systems is compact and modular - operation and installation is easy. Sealed-off technology guarantees long lifetime and reliability. Contact: Alex Lang, Sales Manager & Technical Support, alex.lang@highq-us.com.

## High Tech Photonics

#804

316 Harlequin Ct, Oviedo, FL, 32765  
+1 800 335 5582; fax +1 253 663 2608  
jim@jtingram.com; www.jtingram.com

Manufacturers of Mid Infrared, NIR, VIS and UV fiber optics including probes for FTIR, raman, reflection/transmission, ATR, High Temperature, etc. Manufacturers of fiber optic assemblies including arrays, bundles, and spot to slit converters as well as accessories including couplers, collimators, focus optics, etc. New products include fiber coupled QCLs, LEDs, High Power Beam Expanders. Contact: Jim Ingram, Jim@jtingram.com.

## Hilger Crystals Ltd.

#4826

Westwood Industrial Estate, Westwood, Margate Kent,  
United Kingdom, CT9 4JL  
+44 1843 231 166; fax +44 1843 290 310  
sales@hilger-crystals.co.uk; www.hilger-crystals.co.uk

Hilger Crystals produces a range of high quality synthetic crystals. Materials such as NaI(Tl), CsI(Tl), CsI(Na), BGO, CdWO<sub>4</sub>, ZnWO<sub>4</sub>, LSO, LYSO etc for use as scintillation crystals for x-ray and gamma ray detection. These can be fabricated to provide pixellated detector arrays for imaging applications, manufactured for particle physics experiments or constructed for routine monitoring applications.

## Hinds Instruments, Inc.

#1030

SPIE Corporate Member

7245 NW Evergreen Pkwy, Hillsboro, OR, 97124  
+1 503 690 2000; fax +1 503 690 3000  
sales@hindsinstruments.com; www.hindsinstruments.com

Hinds product line includes Stokes polarimeters (for fiber, free space, astronomical light), Exicor<sup>®</sup> birefringence measurement tools (for research and process control), and an automated Polarization Extinction Ratio (PER) and Extinction Ratio (ER) system. A complete line of polarization components for researchers and OEMs includes optical choppers (20-84kHz), photoelastic modulators (for MOKE, ellipsometry, RAS, and fluorescence), detectors, lock-in amplifiers, and a Pulse Delay Generator. Contact: Connie Wimmer, Technical Sales, sales@hindsinstruments.com.

## Hitachi High Technologies America

#2402

SPIE Corporate Member

5100 Franklin Dr, Pleasanton, CA, 94588  
+1 800 548 9001; fax +1 925 218 2900  
Sales-LS@hitachi-hta.com; www.hitachi-hta.com

**Featured Product: Solar Cell Evaluation System with the Hitachi U-4100 UV-Vis-NIR Spectrophotometer.**

Hitachi offers a wide variety of high-quality UV-Vis/NIR and Fluorescence spectroscopy systems designed for various applications from simple, routine analyses to leading edge research-grade experiments. Hitachi's Model U-4100 UV-Vis-NIR Spectrophotometer provides an optimal system for the measurement of the transmittance and reflectance of various materials that compose solar cells. A wide range of accessories are available to configure a system best-suited for your application. Contact: Luis Moreno, Product Manager - Spectroscopy Products, sales-ls@hitachi-hta.com.



## **Hitachi Kokusai Electric America, Ltd. #4242**

150 Crossways Park Dr, Woodbury, NY, 11797  
+1 516 682 4404  
www.hitachikokusai.com

**Featured Product: 3 CCD 1/2" format remote head high definition camera with 1080i or 720P HDSDI and HDMI outputs.**

Hitachi Kokusai Electric manufactures a wide range of high quality television cameras for use in the broadcast, industrial, medical, scientific, and telecommunications markets. Headquartered in Woodbury NY, Hitachi Kokusai Electric America has been providing innovative and new technologies to the market since 1963. Contact: Neil Enright, Western Regional Sales Manager, neil.enright@hitachikokusai.com; Richard C. Erickson, Senior Product Manager, richard.erickson@hitachikokusai.com.

## **Holland Pavilion #4301**

PO Box 10, The Hague, The Netherlands, 2501 CA  
+31 70 344 1544; fax +31 70 347 5071  
info@nchnl.nl; www.handelsbevoeding.nl

The Holland Pavilion is organized by the Netherlands Council for Trade Promotion. NCH is one of the leading Dutch trade promotion organizations, founded in 1946 by private industry people and since operates as an independent private foundation. Main objective: promoting and stimulating bilateral trade between the Netherlands and foreign countries. In order to do so NCH operates as an umbrella organization for more than 35 business councils, and has a special fairs and exhibitions department. Contact: Akie W. Plomp, Director Fairs and Exhibitions, aplomp@nchnl.nl.

## **HOLOEYE Photonics AG #1239**

**SPIE** Corporate Member

Albert-Einstein-Str 14, Berlin, Germany, 12489  
+49 30 6392 3660; fax +49 30 6392 3662  
contact@holoeye.com; www.holoeye.com

HOLOEYE Photonics AG and its US-subsiary, HOLOEYE Corp, are providing services and products in the fields of diffractive optics (DOE), spatial light modulation (SLM), and LCOS microdisplay components. HOLOEYE offers design and production services of diffractive micro-optical elements, Spatial Light Modulators (SLM) which are based on high-resolution translucent or reflective microdisplays, and a great variety of LCOS microdisplay types and products as OEM solution in higher quantities. Contact: Klaus von Guenner, contact@holoeye.com.

## **Holo-Or Ltd. #2615**

PO Box 1051, Rehovot, Israel, 76110  
+972 8 9409687; fax +972 8 9409606  
www.holoor.co.il

**Featured Product: Elliptical Diffusers which transform a rectangular Excimer laser beam to a nice uniform round spot.**

HOLO/OR is a high-tech company, dedicated to the design, manufacturing and commercialization of new products based on diffractive optical elements (DOEs). In the past 20 years we developed and manufactured a variety of diffractive optical elements for high power lasers that accomplish difficult tasks, conventional optics fails to address effectively. Using our in house software and algorithms our designs reach top quality in means of efficiency, uniformity and other required parameters. Contact: Michal Shechter, Administrative Manager, holoor@holoor.co.il.

## **HORIBA Scientific #1201**

3880 Park Ave, Edison, NJ, 08820  
+1 732 494 8660; fax +1 732 549 3791  
andrea.witter@horiba.com; www.horiba.com/scientific

## **Hoya Corporation USA - Optics Div. #5314**

3285 Scott Blvd, Santa Clara, CA, 95054  
+1 408 654 2272; fax +1 408 654 2270  
bau@hoyaoptics.com; www.hoyaoptics.com

## **HTA Photomask #5102**

1605 Remuda Ln, San Jose, CA, 95112  
+1 408 452 5500; fax +1 408 452 5505  
sales@htaphotomask.com; www.htaphotomask.com

**Featured Product: Grey scale masks and patterning on non planar surfaces will be available on our New laser writer.**

HTA manufactures photomasks, optical components, laser masks, scales, apodizer filters, greyscale devices and many unique custom optical parts. We are engineering oriented and will look at all new applications and opportunities to make high quality masks or optical parts. We make mask copies or original tooling on glass as large as 15" and as small as we can cut them. Our resolution goes below one micron on many of our systems. Contact: Mykola Kulishov, VP Operations & Marketing, sales@htaphotomask.com; Kenneth Caple, President, sales@htaphotomask.com.

## **Huanic Corp. #4321**

**SPIE** Corporate Member

Hi-tech Zone, No 67 Jinye Rd, Xi'an Shaanxi, China, 710077  
+86 29 81881001; fax +86 29 81881011  
www.huanic.com

**Featured Product: Laser modules, Laser aiming devices and core components for laser instrument, etc.**

Huanic Corporation is specialized in R&D, manufacturing industrial Laser products. The company is also an OEM manufacturer. We offer customized specific designs and products to provide you with optimal laser system solution. Contact: Yang Hui, Sales Manager, sales@huanic.com; Bao Yanling, Sales Manager, sales@huanic.com.

## **Huizhou Hi-purity Rare Earth Metal Material Co., Ltd. #5425**

National New & Hi-Tech Industrial Development Zone, No 75 Zhongkai, Huizhou Guiangdong Province, China, 516006  
+86 752 2609999; fax +86 752 2609998  
www.rareearthmetal.com

Huizhou Hi-purity Rare Earth Metal Material Co., Ltd is specialize in high quality for various Industrial pure metals, alloy, high purity metal, alloy, sputtering targets, rare earth metal, functional materials, as well as pottery and porcelain targets with several advanced production lines in domestic. Contact: He Wu Lin, General Manager, hewulin@rareearthmetal.com.

## **HVM Technology Inc. #2638**

360 McKenna Ave, New Braunfels, TX, 78130  
+1 830 626 5552; fax +1 830 626 5474  
rsaldana@hvmtech.com; www.hvmtech.com

**Featured Product: HVM introduces a new line of ultra-miniature high performance high voltage dc/dc converters.**

We are a designer and manufacturer of miniature high voltage products. Our focus is to serve the growth industries where high voltage technology needs to be taken to the "next smaller level". Experience in military night vision has led HVM to be the premier source for higher quality, better performing miniaturized HV devices. Contact: Rob Saldana, Business Development Director, rsaldana@hvmtech.com; Mike Saldana, President, msaldana@hvmtech.com.

## IBL Innovative Berlin Laser GmbH

#4832

Am Schlangengraben 16, Berlin, Germany, 13597  
+49 30 337744 0; fax +49 30 337744 77  
contact@ib-laser.com; www.ib-laser.de

**Featured Product: TITAN-Series: Q-switched DPSSL Nd:YAG with energies up to 800 mJ, repetition rates up to 1000 Hz.**

IB Laser based in Berlin, Germany, has more than thirty years experience in the field of DPSS lasers. IB Laser guarantees reliable products with high efficiency and low cost of ownership. IB Laser's product range covers continuously pumped and pulse-pumped DPSS YAG- and YVO-lasers emitting in TEM00 mode or in Multimode with different classes of output power and output energy. Contact: Karl-Heinz Baldau, Business Development Manager, k.baldau@ib-laser.com; Anja Fluck, Assistant Marketing & Sales, a.fluck@ib-laser.com.

## Ibsen Photonics

#741

Ryttermarken 17, Farum, Denmark, 3520  
+45 4434 7000; fax +45 4434 7001  
inquiry@ibsen.dk; www.ibsenphotonics.com

**Featured Product: Ibsen will be showing our new ROCK series of OEM integration friendly spectrometers.**

Ibsen Photonics is a global leader in holographic, fused silica transmission gratings, Interrogation monitors, and spectrometer modules. Contact: Thomas Rasmussen, VP Business Development, Sales, and Marketing, tpr@ibsen.dk; Kristian Buchwald, VP Grating Business Unit, kjb@ibsen.dk.

## ICA Corporation

#827

12130 Brockton Ln, Minneapolis, MN, 55369  
+1 800 345 2801; fax +1 763 428 4230  
sgoran@icacorp.com; www.icacorp.com

ICA is an ISO 9001:2008 contract manufacturer providing build-to-print metal component parts and assemblies to scientific instrumentation, medical, aerospace, and electronics industries. Capabilities include close tolerance CNC machining, opto-mechanical component machining, custom enclosures, and sheet metal fabrication. Learn why industry-leading OEMs cite our service and support to be as important as our quality and performance. Contact: Susan Goran, National Sales Manager, sgoran@icacorp.com; Kevin Schmuhl, Operations Manager, Machining Division, kevin@icacorp.com.

## ID Quantique SA

#330

Chemin de la Marbrerie 3, Carouge/Geneva, Switzerland, 1277  
+41 22 301 83 71; fax +41 22 301 83 79  
info@idquantique.com; www.idquantique.com

**Featured Product: A dual channel electronic module for superconducting detectors is now available.**

ID Quantique will be showing a range of photon counters. The id100, based on a Si diode for VIS wavelength. It has the world shortest jitter of 40 ps and noise down to less than 2Hz. The id201 is optimized for telecom wavelength, and the id400 is optimized for photon detection at 1064nm with adjustable quantum efficiency up to 30%. The id300 is a short pulse laser source at 1310 or 1550nm. New is our dual channel electronic module for superconducting detectors. Contact: Leonard Widmer, VP Sales, leonard.widmer@idquantique.com.

## II-VI Infrared

#537

375 Saxonburg Blvd, Saxonburg, PA, 16056  
+1 724 352 1504; fax +1 724 352 4980  
info@iiviinfrared.com; www.iiviinfrared.com

## IKO International, Inc.

#4428

20170 S Western Ave, Torrance, CA, 90501  
+1 310 609 3988; fax +1 310 609 3916  
wco@ikonet.co.jp; www.ikont.com

**Featured Product: Maintenance-free Linear Motion Guides MX, Very Small 17mm-wide positioning table TM.**

IKO International offers ISO 9001 bearings, linear motion guides, and positioning table systems. Products include new long-term, maintenance-free ball and roller-type linear motion guide ML and MX; anti-creep cage Cross Roller Way CRWG; extremely thin Crossed Roller Bearing CRBT; tiny ball screw positioning table TM; maintenance-free Cam Followers and lubricating unit; and precision ground and rolled ball screws. Contact: West Coast Operation, Sales, wco@ikonet.co.jp.

## ILX Lightwave Corp.

#2500

31950 E Frontage Rd, Bozeman, MT, 59715  
+1 406 586 1244; fax +1 406 586 9405  
sales@ilxlightwave.com; www.ilxlightwave.com

ILX Lightwave is a market and technology leader in laser diode instrumentation and test systems for research, development, and manufacturing. As an industry leader for 25 years, ILX products offer customers the highest levels of performance and reliability. ILX products are backed by over 60 application and technical notes and an extensive on-line knowledge base. ILX is headquartered in Bozeman, MT. Contact: Drew Ruderman, Sales Engineer, sales@ilxlightwave.com; Steve Gwinner, VP of Sales, sales@ilxlightwave.com.

## Imagine Optic

#1431

**SPIE Corporate Member**  
18 rue Charles De Gaulle, Orsay, France, 91400  
+33 1 648 61560; fax +33 1 648 61561  
contact@imagine-optic.com; www.imagine-optic.com

**Featured Product: HASO R-Flex is the ultimate solution for the alignment and characterization of optical systems.**

Imagine Optic is the world's leading providers of Shack-Hartmann wavefront sensing hardware and software, adaptive optics technologies and professional services in applied optics. From X-EUV, through the visible light spectrum and on to NIR (near infra-red), we develop, manufacture, distribute and support the largest range of wavefront measurement and correction technologies available. Contact: Jerome Ballesta, US Sales Manager, jballesta@imagine-optic.com; Philippe Clemenceau, Division Manager, pclemenceau@imagine-optic.com.

## Imaging Solutions Group

#634

**SPIE Corporate Member**  
1387 Fairport Rd Ste 890, Fairport, NY, 14450  
+1 585 388 5220; fax +1 585 388 5223  
sales@isgchips.com; www.isgchips.com

**Featured Product: LightWise™ PLUS Smart Camera Family. An integrated imaging system for OEM customers.**

ISG is a contract engineering services firm in the field of digital imaging and we provide OEM product delivery. In essence, we design custom digital cameras and video systems for OEM customers. ISG LightWise OEM smart cameras are low-cost and highly functional. ISG offers both Line Scan and Area cameras. Contact: Kerry Van Iseghem, Founder, kerry@isgchips.com.

## IMEC

Kapeldreef 75, Leuven, Belgium, 3001  
+32 16 28 1211; fax +32 16 22 9400  
info@imec.be; www.imec.be

### Featured Product: Technology development and prototypes in adaptive optics, silicon photonics and hyperspectral imaging.

Imec performs worldleading nanoelectronics research. Imec leverages its scientific knowledge with the innovative power of global partnerships in ICT, healthcare and energy. Imec delivers industry relevant technology solutions. In a unique hightech environment its international top talent is committed to providing the building blocks for a better life in a sustainable society. Its staff of more than 1,750 includes 550 industrial residents and guest researchers. In 2009 Imec's revenue was 275M euro. Contact: Maarten Willems, CMORE Business Director, Maarten.Willems@imec.be; Francesco Pessolano, Manager NVision Program, Francesco.Pessolano@imec.be.

## IMM Photonics GmbH

#4601, 4821

Ohmstrasse 4, Unterschleissheim, Germany, 85716  
+49 89 3214120; fax +49 89 32141211  
sales@imm-photonics.de; www.imm-photonics.de

### Featured Product: Spectrometer with Exchangeable Light Source Modules.

IMM Photonics GmbH-Competence in Laser Technology, Optoelectronic and Fiberoptic - is one of the leading supplier with own development and production department. Products: Spectrometer with Exchangeable Light Source Modules, Laser Diode Modules in high quality, Laser Diode Collimators, Solid-State Laser DPSS, LED Pointlight Collimators, Laser Diode, Driver-IC's, Aspherical Precision Glasoptics, LED optics, Video Inspector for fiber optic connectors, Fibertester FIBERPOINT®, Fiber Optic Components. Contact: Sales, sales@imm-photonics.de.

## IMPEX HighTech GmbH

#4329

Hovesaatstr 6, Rheine, Germany, 48432  
+49 5971 981650; fax +49 5971 981659  
sales@impex-hightech.de; www.impex-hightech.de

### Featured Product: Large sapphire windows different complex forms with high surface polishing quality and high flatness.

IMPEX HighTech is manufacturer of laser, custom optics and optical crystals. Core business is sapphire crystal growth and laser crystal. Since several years Impex HighTech also produces its own real monolithic, passive q-switched lasers (Nd:YAG/Cr<sup>4+</sup>:YAG) at 1064 nm and 532 nm with >250 µJ at 0-4 kHz repetition rate and <8 ns pulse width. To complete the product range Impex offers also continuous wave (CW) lasers (Longitudinal multimode or single frequency) at 1064 nm and 532 nm. Contact: Norbert Munser, Managing Director, munser@impex-hightech.de.

## IMRA America, Inc.

#418

SPIE Corporate Member

1044 Woodridge Ave, Ann Arbor, MI, 48105  
+1 734 930 2560; fax +1 734 930 9957  
lasers@imra.com; www.imra.com

IMRA America's femtosecond fiber lasers set the standard for quality and reliability. Products include the compact Femtolite Ultra series, the higher-power Femtolite FX-100, and the high energy, high rep rate FCPA µJewel series. IMRA's lasers are designed for 24 hour, maintenance-free operation in scientific, industrial and OEM applications such as multiphoton microscopy, terahertz generation, PLD, waveguide writing, processing of transparent material, medical imaging and refractive surgery. Contact: Leah Clemens, Sales Engineer, lclemens@imra.com; Otho Ulrich, Service Manager, lasers@imra.com.

#5129

## IMT North America Inc.

#409

11 Bridge St, West Wyoming, PA, 18644  
+1 570 954 0933; fax +1 570 693 3631  
rtrottini@imtmask.com; www.imtag.ch

Supplying your needs for structured coatings, reticles, calibration plates for machine vision, encoder disks and electrically conductive layers, IMT is a world leader in coating technology and microlithography. With over 50 years experience and highly automated processes, high quality and repeatability are guaranteed. We truly are "Precision on Glass". Come and see what we can do for you. Contact: Robert Trottini, Sales Manager, rtrottini@imtmask.com.

## Incom, Inc.

#1022

SPIE Corporate Member

294 Southbridge Rd, Charlton, MA, 01507  
+1 508 765 9154; fax +1 508 765 0041  
www.incomusa.com

Manufacturer of fused fiberoptic faceplates, tapers and light conduits. These products have made critical contributions to genetic, medical, dental, drug research, military and homeland security. Incom has participated in the design and development of large format tapers for X-ray crystallography, microwell arrays for genome sequencing, tapers and faceplates for medical and dental X-ray, microcapillary arrays for homeland security filtration systems, and inverters for military night vision. Contact: Jeff Solari, New Product Development/Sales Manager, jbs@incomusa.com.

## INDATECH

#1023G

385 Avenue des Baronnes, Prades Le Lez, France, 34730  
+33 4 67 67 97 87  
www.indatech.eu

### Featured Product: Innovative spectroscopic probes compatible with existing spectrometers.

INDATECH aims at going beyond classical VIS-NIR spectroscopy. The company has developed several innovative sensors for physical and chemical characterization of complex products. INDATECH supplies Lab and online measuring systems for homogeneity, particle size, density, chemical concentration, turbidity. INDATECH has also a strong Research activity in non-invasive medical device based on spatially resolved spectroscopy.



PROMOTIONAL PARTNER

## Industrial Laser Solutions Japan

#6094

1-15-18 Sarugakacho, Chiyoda-ku Tokyo, Japan, 101-8449  
+81 3 3219 3641; fax +81 3 3219 3628  
ilsj@ics-inc.co.jp; www.ils-japan.jp

Industrial Laser Solutions Japan reaches 8,000 industrial leaders in Japan - one of the biggest markets for industrial lasers. Contact: Manami Konishi, Publisher, lfwj@ics-inc.co.jp; Maiko Kobayashi, Sales, kobayashi-maiko@ics-inc.co.jp.

## Infinite Graphics

#236

4611 East Lake St, Minneapolis, MN, 55406  
+1 612 721 6283; fax +1 612 721 3802  
sales@igi.com; www.igi.com

### Featured Product: 3D Imaging, Shims, Molds, Extended Life Photomasks, Phototooling Software.

Infinite Graphics is a precision imaging services and software company. We provide imaging services of custom substrates and coatings, thick substrates, and 3D sculptured photoresist, shims and molds for lens array mfg. Spherical and hexagonal lenses; other patterns are possible. IGI's Phototooling Toolbox is a hierarchical editor/translator supporting many formats. WYSIWYG photomask display. Contact: Pete Maitland, Sales Manager, pmaitland@igi.com; Cliff Stritch, CEO, cstritch@igi.com.



"Secret capital of small business"  
—Fortune Magazine

"Ranked as one of the top places to live"  
—CNN Money



# F L O R I D A

# INNOVATION HUB OF THE AMERICAS

Visit the Florida Cluster: 2000 aisle in South Hall, booths 2028-2039

UCF, one of the most dynamic universities in the USA, offers 225 degree programs through 12 colleges including CREOL, The College of Optics and Photonics. CREOL provides exceptional education for MS and PhD degrees in Optics, and partners effectively with the Florida High Tech Corridor Council and other industry, government, and university organizations to provide innovative R&D collaborations for optics and photonics.

- Aggressive support system for technology commercialization
- State-supported financial advantages and incentives
- Booming high-tech sectors
- Exceptionally strong optics and photonics knowledge and industry base
- Nationally-ranked pro-business climate



## Infinite Optics Inc.

SPIE Corporate Member

1712-F Newport Circle, Santa Ana, CA, 92705  
+1 714 557 2299; fax +1 714 557 2170  
info@infiniteoptics.com; www.infiniteoptics.com

Infinite Optics specializes in optical thin-film coatings ranging from 193nm's to 20 microns. We support astronomical, industrial, medical and military markets by fabricating and coating optics required for telescopes, lasers and optoelectronic devices. Our services include special applications, development, production runs and quality control. We are DDTC registered and ITAR compliant. Contact: Stan King, stan@infiniteoptics.com; Geza Keller, geza@infiniteoptics.com.

#217

## Inlight Precision Optics Co., Ltd.

#4304

Rm 2314 Wellborne Commercial Centre, 8 Java Rd North Point, Hong Kong, Hong Kong  
+852 2887 6018; fax +852 2887 6301  
mos@inlightcn.com; www.inlightcn.com

**Featured Product: UV-VIS-IR optics, F-theta, balls, hemispheres, toric, cylindrical lenses, opto-mechanical assembly.**

Inlight is a precision optics and machinery manufacturer for UV-VIS-IR optics. We manufacture precision custom lenses (cylindrical, paraboloid, toroidal), micro-lenses, domes, rods, Ge, Si lenses etc. We keep inventory for a variety of standard optics, reference spheres and precision flats. We provide thin film coatings and carry out opto-mechanical assembly at our clean rooms (class 5000). We are flexible and quick responding to demands of prototypes or medium batch to volume quantities. Contact: Mos Yip, Business Development Manager, inlight@inlightcn.com.

## Infrared Laboratories, Inc.

#5532

1808 E 17th St, Tucson, AZ, 85719-6560  
+1 520 622 7074; fax +1 520 623 0765  
infrared@irlabs.com; www.infraredlaboratories.com

Infrared Laboratories designs & manufactures infrared imaging & detection systems from 900nm to 5mm. Offers a variety of IR Image Sensors & Cameras, infrared detectors including high SNR Bolometer Systems, customized cold & warm optics, & other cryogenic lab systems including cryo-vacuum compatible instruments & mechanisms, including automated, turn-key systems. Specialized Image Sensor design services. Highly integrated SNR emission microscope systems for semiconductor failure analysis. Contact: Steve Zoltowski, Director of Sales, stevez@irlabs.com; Bob Hand, Technical Sales Manager, rhand@irlabs.com.

## Infratec Infrared LLC

#4419

SPIE Corporate Member

1111 S Main St Ste 122, Grapevine, TX, 76051  
+1 877 797 6748; fax +1 877 389 2668  
info@infratec-infrared.com; www.infratec-infrared.com

**Featured Product: Tunable Fabry-Perot detector, single-source low power detectors, and PIA directional fire detector.**

Since 1991 InfraTec has designed and manufactured high quality detectors in the 2-25µm infrared market. Headquartered in Dresden Germany, InfraTec has over 160 professionals supporting subsidiaries in the UK and North America. The Sensor Division brings a family of standard and custom detectors to market that range from single to quad channel devices with integrated OpAmps and optional temperature compensation. Contact: Roy Goodloe, North American Sales Manager, r.goodloe@infratec.de.

## INGENERIC GmbH

#1238

SPIE Corporate Member

Dennewartstr 25-27, Aachen, Germany, 52068  
+49 241 9631340; fax +49 241 9631349  
contact@ingeneric.com; www.ingeneric.com

**Featured Product: Micro-aspheres with short EFL; lens arrays for collimation of VCSEL and beam homogenization.**

INGENERIC develops and manufactures micro-optics, beam shaping modules and OEM laser systems for high-end applications. The range of optical elements comprises FAC, SAC, beam transformation optics and customized aspheres. Optical modules are offered for efficient fiber coupling of mm- and sm-diode lasers as well as OEM laser systems for distinct intensity distributions (line, square, circle, rectangle). Standard and customized designs are offered. Visit INGENERIC at booth #1238 in South Hall. Contact: Stefan Hambuecker, Managing Partner, hambuecker@ingeneric.com; Volker Sinhoff, Managing Partner, sinhoff@ingeneric.com.

## Innolume GmbH

#308

Konrad-Adenauer-Allee 11, Dortmund, Germany, 44263  
+49 231 47730 200; fax +49 231 47730 250  
info@innolume.com; www.innolume.com

**Featured Product: Innolume launched the LD-12xx-series diode laser platform enabling low cost GPON Reach Extension.**

Innolume, the leading provider of Quantum Dot (QD) diode lasers covering the 1064 nm to 1320 nm spectrum.

## Innoptics

#1123H

Domaine du Haut Carré - Bât C5, 351 Cours de la Liberation, Talence, France, 33405  
+33 6 71 26 31 78  
sdenet@innoptics.com; www.innoptics.com

INNOPTICS is a young company started in 2009, specialized in the packaging of optoelectronic components, mostly laser diodes. Based on the 15-year background of the two founders in the industry of laser diodes for various applications, INNOPTICS offers products and services based on innovative packaging solutions in multiple fields. Contact: Stéphane Denet, President, sdenet@innoptics.com.

## inno-spec GmbH

#4601, 4821

Sigmundstr 220/ B7, Nürnberg, Germany, 90431  
+49 911 3766910; fax +49 911 37669110  
inno@inno-spec.de; www.inno-spec.de

**Featured Product: RedEye 17/22 fast NIR-spectral imaging system with FPGA technology up to 1.7µm/2.2µm preliminary.**

The company concentrates on the market of multichannel spectrometer technology and spectral imaging with the diversity of its products. The building blocks of this technology are coupled with the corresponding multichannel photo sensors and sensor electronics. These assemblies defined as spectrometer modules are implemented for applications from UV to NIR 190 to 2500 nm. We also offer a broad range of individual parts and components for realising proprietary measurement systems to OEM customers. Contact: Oliver Grass, CEO, oliver.grass@inno-spec.de; Frank Zoller, Technical Sales, frank.zoller@inno-spec.de.

## Innovaciones Microelectronica S.L. (ANAFOCUS)

#5521

Av. Isaac Newton No. 4, Pabellon de Italia 7a planta PTC Cartuja, Seville, Spain, 41092  
+34 954 08 12 73; fax +34 954 08 12 42  
rafael.romay@anafocus.com; www.anafocus.com

## Innovation Photonics

#4506

62 Depot St, Verona, NJ, 07006  
+1 973 857 8380; fax +1 973 857 8381  
info@innpho.com; www.innpho.com

**Featured Product: Mid-IR Focusing Objectives; Mid-IR Polarizers; Non-Absorbing Apodizers.**

Innovation Photonics is engaged in development and manufacturing of specialized optical components heretofore not often available, with emphasis on the Mid-IR. Also, for VIS and NIR, long working distance, high NA focusing objectives, and a non-absorbing apodizer. Contact: Don Wilson, donw@innpho.com.

## Innovations In Optics, Inc.

#2111

**SPIE** Corporate Member

82 Cummings Park, Woburn, MA, 01801  
+1 781 933 4477; fax +1 781 933 0007  
info@innovationsinoptics.com; www.innovationsinoptics.com

**Featured Product: New UV Line of Products; Projection Systems.**

Innovations In Optics is a provider of high brightness LED solutions; offering standard products, as well as design and production capability for custom OEM applications. IOI will be exhibiting a line of HB-LED light engines and illumination system products. Contact: Margaret Johnson, Sr. Administrator, margaretj@innovationsinoptics.com; Thomas Brukilacchio, President, thomasb@innovationsinoptics.com.

## Innovative Photonic Solutions

#704

**SPIE** Corporate Member

4250 US Hwy 1 Ste 1, Monmouth Junction, NJ, 08852  
+1 732 355 9300; fax +1 732 355 9302  
srudder@innovativephotronics.com;  
www.innovativephotronics.com

**Featured Product: IPS Raman sources offer >100 mW of spectrum stabilized single frequency output @ 780, 785 & 830 nm.**

IPS specializes in the manufacture of high performance spectrum stabilized lasers for use in Raman spectroscopy, fiber laser pumping & seeding, & remote sensing applications. Our technology enables us to lock the laser to any wavelength without complex feedback mechanisms. Products include multi-mode and single frequency lasers & span the 532 nm – 2400 nm wavelength range. Lasers are available in 14-Pin BF packages or in turn-key modules with integral laser and temperature control electronics. Contact: Scott Rudder, V.P. Marketing & Sales, srudder@innovativephotronics.com.

## INO

#812

2740 rue Einstein, Sainte Foy, QC, Canada, G1P 4S4  
+1 418 657 7006; fax +1 418 657 7009  
info@ino.ca; www.ino.ca

INO is a world-class technology developer and provider, using its core expertise in optics and photonics to bring to the industry custom solutions that enable more competitive products and production processes. INO produces in-house prototypes and short run products tailored to the needs of partners & clients. INO designs and produces specialty fibers, fiber lasers, and graded reflectivity mirrors. INO also has expertise in biophotonics, micro-optics, and micro-packaging. Contact: Pierre Talbot, Business Development Manager, pierre.talbot@ino.ca.

## InPhenix Inc.

#2202

**SPIE** Corporate Member

250 N Mines Rd, Livermore, CA, 94551  
+1 925 606 8809; fax +1 775 628 4967  
www.inphenix.com

**Featured Product: SOA 1050, 1310, 1150nm High-Speed, High-Power Optical Amplifiers for telecom and sensor applications.**

InPhenix, a privately held company headquartered in Livermore, CA, designs and manufactures active optoelectronic components and modules. Our facility includes a state-of-the-art wafer fab, a production area with complete packaging capabilities and a test area capable of testing products from chip-level to module-level. Our products include Semiconductor Optical Amplifiers (SOAs), Superluminescent Light Emitting Diodes (SLEDs), Gain Chips, Photodetectors and Fabry-Perot Lasers. Contact: Rodrick Cross, Sales Director, rcross@inphenix.com; Steve Vitkovsky, Sales Manager, svitkovsky@inphenix.com.

## Inrad, a PPGI Company

#1729

**SPIE** Corporate Member

181 Legrand Ave, Northvale, NJ, 07647  
+1 201 767 1910; fax +1 201 767 9644  
sales@inrad.com; www.ppgioptics.com

INRAD grows crystals with important non-linear, electro-optic & optical properties, including BBO, KDP, & ZnGeP2. Our crystal handling expertise is reflected in a product line that includes electro-optic Q-switches, autocorrelators & harmonic generation. Contact: Tom Pelnar, Director, International Sales & Business Development, tpelnar@ppgioptics.com; George Murray, West Coast Sales Manager, gmurray@ppgioptics.com.

## Insaco, Inc.

#235

1365 Canary Rd, Quakertown, PA, 18951  
+1 215 536 3500; fax +1 215 536 7750  
sales@insaco.com; www.insaco.com

## InSpec Global Technologies LLC

#4143

PO Box 286, Deerfield, IL, 60015  
+1 708 878 1994; fax +1 847 735 8551  
sales@inspecglobal.com; www.inspecglobal.com

## Inspired Photonics Inc.

#6044

16 Harrison Garden Blvd #802, Toronto, ON, Canada, M2N 7J6  
info@inspiredphotonics.com; www.inspiredphotonics.com

**Featured Product: Photonics Workbench - Innovative optical simulation software specializing in fiber system design.**

Founded in 2007, Inspired Photonics Inc. offers software technology in the optics and electronics fields. Our knowledge and experience as well as dedication in delivery of quality software to our customers, result in turnkey solutions, precision in calculations and exceptional service. Our patented technology gives us the leading edge in the field of fiber amplifier system modeling. Inspired Photonics - Software Solutions today for those who can make a difference tomorrow. Contact: Igor Kopylev, COO, ikopylev@inspiredphotonics.com.

## Integrated Optical Services Corp.

#5304

**SPIE** Corporate Member

3150 Molinaro St, Santa Clara, CA, 95054  
+1 408 982 9510  
info@ioscorp.net; www.ioscorp.com



## Intellemetrics Global Ltd. #2223

Suite 1014 Mile End Mill Seedhill Rd, Paisley Scotland, United Kingdom, PA1 1JS  
+44 141 889 0700; fax +44 141 889 0707  
sales@intellemetrics.com; www.intellemetrics.com

### Featured Product: Optical monitors for in-situ control of optical coatings and etch depth monitors.

Intellemetrics designs and manufactures a range of optical monitors for controlling the growth of high precision optical coatings. Intellemetrics also supplies etch depth monitors for plasma etching applications. Contact: Simon Hicks, Managing Director, simon.hicks@intellemetrics.com; Mike Biagi, Director, mike.biagi@intellemetrics.com.

## Intense #1339

1200-A Airport Rd, North Brunswick, NJ, 08902  
+1 732 249 2228; fax +1 732 249 8139  
sales@intenseco.com; www.hpdlinc.com

## Interfiber Analysis #5104

26 Ridgewood Dr, Livingston, NJ, 07039  
+1 973 992 5148  
info@interfiberanalysis.com; www.interfiberanalysis.com

### Featured Product: IFA-100 Optical Fiber Analyzer measures a fiber's refractive index at anywhere from 460nm to 1000nm.


Interfiber Analysis offers the world's most advanced technology for measuring optical fiber refractive index profiles. At Photonics West 2011 we will demonstrate the new IFA-100 Optical Fiber Analyzer instrument featuring multi-wavelength capability. In addition to manufacturing the IFA-100, we also provide an optical fiber measurement service. Contact: Andrew D. Yablon, Ph.D., President, andrew\_yablon@interfiberanalysis.com; Barry P. Payne, Senior Associate, barry\_payne@interfiberanalysis.com.

## International Light Technologies #2507

10 Technology Dr, Peabody, MA, 01960  
+1 978 818 6180; fax +1 978 818 6181  
ilsales@intl-lighttech.com; www.intl-light.com

Since 1965, International Light Technologies, within our Sources Division, has been providing customers with off-the-shelf and customized solutions across a full spectrum of light sources including high power LEDs and modules, UV-Visible-IR lamps and specialized replacement lamps. Through our Systems Division, we have been solving the inherent difficulties in light measurement through the design and manufacture of a wide range of highly accurate light measuring instruments. Contact: Jill Fowler, Sales Manager, ilsales@intl-lighttech.com; Thomas Connolly, President, ilsales@intl-lighttech.com.

## International Radiation Detectors, Inc. #535

 SPIE Corporate Member  
2527 W 237th St Unit A, Torrance, CA, 90505-5243  
+1 310 534 3661; fax +1 310 534 3665  
irdinc@earthlink.net; www.ird-inc.com

### Featured Product: Silicon AXUV detectors responsive to 40 eV electrons.

Manufacture of stable UV, VUV, EUV and soft x-ray photon and low energy electron and ion detectors. Contact: Dr. Raj Korde, President, irdinc@earthlink.net.

## Intex, Inc. #4821

7080 N Cathedral Rock Pl, Tucson, AZ, 85718  
+1 520 349 7686; fax +1 520 844 8255  
sales@intexworld.com; www.intexworld.com

## Intlvac #5118

247 Armstrong Ave, Georgetown, ON, Canada, L7G 4X6  
+1 905 873 0166; fax +1 905 873 0168  
sales@intlvac.com; www.intlvac.com

Coatings for Optical Fibers, IR Optics, General Optics: band pass and edge filters, dielectric and dichroic, cold, and hot mirrors, broadband and ultra-broadband AR, bare and protected metal coatings such as Gold, Platinum, Silver, Aluminum, transparent conductive films, and Diamond like Carbon. Coatings are produced on a variety of tools by: Ion Beam Sputtering, Reactive Magnetron Sputtering, PECVD, Ion Assisted electron beam and thermal evaporation. We also supply systems with turnkey processes. Contact: Dino, President, dino@intlvac.com; Greg, Sales, gdawn@intlvac.com.

## IntraAction Corp. #2214

3719 Warren Ave, Bellwood, IL, 60104-2055  
+1 708 547 6644; fax +1 708 547 0687  
ji@intraaction.com; www.intraaction.com



PROMOTIONAL PARTNER

## IOP Publishing Ltd. #3020

Dirac House, Temple Back, Bristol, United Kingdom, BS1 6BE  
+44 1179 297481; fax +44 1179 301178  
custserv@iop.org; www.iop.org

IOP Publishing, a not for profit company wholly owned by the Institute of Physics, is one of the largest and most dynamic publishers of physics information in the world. Our publishing activity, which dates back to 1874, includes a wide range of journals, magazines and community websites. We partner more than a dozen international organizations and have a global network of offices located in Bristol, Philadelphia, Washington DC, Munich, St Petersburg, Moscow, Beijing and Tokyo. Contact: Edward Jost, Group Advertising Manager, edward.jost@iop.org; Claire Bedrock, Senior Publisher, claire.bedrock@iop.org.

## IPG Photonics Corp. #1207

 SPIE Corporate Member

50 Old Webster Rd, Oxford, MA, 01540  
+1 508 373 1100; fax +1 508 373 1103  
sales.us@ipgphotonics.com; www.ipgphotonics.com

IPG Photonics manufactures active fiber lasers, direct diodes and amplifiers operating at 0.7 – 2 microns for applications in Materials Processing, Telecommunications, and Scientific Research. Industrial lasers operating at 1 micron are available from 10 watts to greater than 50 kilowatts. These devices feature low divergence, air cooling, high electrical efficiency and unparallelled diode life. Contact: Diana Ferreira, Account Manager, Scientific, sales.us@ipgphotonics.com.

## IQE PLC #4742

Pascal Close, Cardiff, United Kingdom, CF3 0LW  
+44 29 2083 9400  
sales@iqep.com; www.iqep.com

### Featured Product: Epitaxial wafers for lasers, VCSELs and detectors.

IQE is the leading global supplier of advanced semiconductor wafers with products that cover a diverse range of applications for optoelectronic, wireless, electronic and solar CPV applications. The Group has 7 manufacturing locations worldwide in Europe, Asia and the USA. www.iqep.com. Contact: Andrew Joel, Product Director, ajoel@iqep.com; Brian Van Orsdel, VP North America Sales (Opto), bvanorsdel@iqep.com

# CIOE

Ufi  
Approved  
Event

# THE 13<sup>TH</sup> CHINA INTERNATIONAL OPTOELECTRONIC EXPO

**SEPTEMBER 6-9, 2011**

**SHENZHEN CONVENTION & EXHIBITION CENTER • CHINA**

■ WWW.CIOE.CN ■ WWW.OPTOCHINA.NET



**OPTICAL COMMUNICATIONS EXPO**



**LASERS & INFRARED APPLICATIONS EXPO**



**PRECISION OPTICS EXPO**

**CONCURRENT FORUM**



**2011 CHINA  
OPTOELECTRONIC  
SEMINAR**



**LED EXPO**



global sources  
**Electronics &  
Components**  
China Sourcing Fair

## CIOE

**CHINA INTERNATIONAL OPTOELECTRONIC EXPOSITION**

Add: Room 607, East Block, Coastal Building, Haide 3rd Road,  
Nanshan District, Shenzhen, Guangdong, 518059, China

Tel: +86 755 8629 0901 Fax: +86 755 8629 0951

E-mail: cioe@cioe.cn

## IR Photonics

#5006

627 McCaffrey, St. Laurent, QC, Canada, H4T 1N3  
+1 514 814 8928; fax +1 514 227 5210  
www.irphotonics.com

**Featured Product: The iCure P200 Power Meter is an accurate tool for measuring optical power from thermal spot.**

Winner of the 2010 Prism Award for Photonic Innovation. IRphotonics is a manufacturer of technologically sophisticated infrared fibers and systems that are used for the transmission of infrared light and for assembly operations requiring high intensity infrared heat. The company leverages its unique and in depth expertise of infrared light and material to offer innovative products ranging from specialty fibers and light guides to its revolutionary thermal spot curing system. www.irphotonics.com. Contact: Ruben Burga, VP Sales, sales@irphotonics.com; Simon Pageau, Technical Sales, sales@irphotonics.com.

## IRD Glass

SPIE Corporate Member

#5437

810 E St Paul St, Litchfield, MN, 55355  
+1 320 693 7217; fax +1 320 693 7216  
ird@irdglass.com; www.irdglass.com

**Featured Product: Waterjet machining of glass, precision dicing & sawing of glass and ceramics.**

IRD Glass specializes in manufacturing custom precision components from glass, ceramic, Spinel, stainless steel or other composites. IRD manufactures precision tubes, spacers and pedestals for the sensor, transducer and defense industry. Precision laser mirrors and reflectors are another specialty of IRD. Using Zygo laser Interferometers guarantees that critical flatness and roll off specs are met. IRD's proprietary polishing process gives you precision components at catalog pricing Contact: Dave Thomas, Sales, dave@irdglass.com; Todd Anderson, VP Sales and Marketing, todd@irdglass.com.

## IRflex Corporation

SPIE Corporate Member

#5132

300 Ringgold Industrial Pkwy, Danville, VA, 24540-5548  
+1 434 483 4304; fax +1 434 793 9200  
irflex@irflex.com; www.irflex.com

**Featured Product: Nonlinear mid-IR fiber to generate and guide mid-IR source, transmission cable, switch, attenuator.**

IRflex produces leading-edge fiber-optic devices that perform key functions in the mid-infrared (2-10 micron): transmission cable, fiber switch, attenuator and source. Our innovative nonlinear mid-infrared fiber is specifically designed and manufactured to generate and guide mid-infrared sources over long distances with minimum loss and very high power damage threshold for aircraft missile defense, chemical sensing, biomedical and environmental applications. Contact: Helen Gu, Sales Manager, helen.gu@irflex.com.

## Iridian Spectral Technologies Ltd.

#5319

1200 Montreal Rd, Ottawa, ON, Canada, K1A 0R6  
+1 613 741 4513  
sales@iridian.ca; www.iridian.ca

## Iris AO, Inc.

#4504

2680 Bancroft Way, Berkeley, CA, 94704  
+1 510 849 2375; fax +1 510 217 9646  
info@irisao.com; www.irisao.com

**Featured Product: PTT111 AO Engine: Turn-key adaptive optics system with an intuitive GUI.**

Iris AO, Inc. manufactures small scale, micro-electro-mechanical (MEMS) based adaptive optics (AO) systems that offer radical advantages in cost, size, power consumption, durability and flexibility. Iris AO systems make AO practical for a host of new applications, including retinal and biomedical imaging, portable laser communications and horizontal imaging. Contact: Michael Helmbrecht, CEO & President, michael.helmbrecht@irisao.com; Carl Kempf, Sr. Systems Engineer, carl.kempf@irisao.com.

## Isomet Corp.

SPIE Corporate Member

#2236

5263 Port Royal Rd, Springfield, VA, 22151  
+1 703 321 8301; fax +1 703 321 8546  
isomet@isomet.com; www.isomet.com

Isomet manufactures standard and custom acousto-optic Bragg cells for UV, VIS, NIR and IR wavelengths. TeO<sub>2</sub>, PbMoO<sub>4</sub> and LiNbO<sub>3</sub> crystal materials grown in-house. Provider of optical fabrication services and AR coatings on most optical surfaces. Products include modulators, deflectors, fiber-coupled frequency shifters, Q-switches, AO tunable filters and a full range of RF drive electronics. Custom design and manufacture of laser-based systems and sub-systems. Contact: Everett Taylor, VP Sls & Mktg, etaylor@isomet.com; Roman Yasinsky, Dir. Sls & Mktg, ryaninsky@isomet.com.

## ISP Optics Corporation

#2240

1 Bridge St Ste 205, Irvington, NY, 10533  
+1 914 591 3070; fax +1 914 591 3715  
vbaker@isoptics.com; www.isoptics.com

**Featured Product: FALCON, F/0.9, 19mm a-thermal lens assembly for un-cooled LWIR camera, designed for DVE applications, -40 to +62degC.**

All in-house solutions at ISP Optics: Design, manufacture, coating and metrology. We offer quality engineering expertise in high precision IR optics, design services, and optical assemblies. Infrared Catalog & custom optics, standard and custom IR assemblies are available. IR high performance zoom lens sub-assemblies are designed for cooled and un-cooled cameras. For design and manufacturing expertise, partner with ISP Corporation for optimal solutions from prototypes to volume production. Contact: Virginia Baker, Office Manager, vbaker@isoptics.com; Devaunshi Sampat, VP Sales & Marketing, dsampat@isoptics.com.

## ISP System

#1123J

ZI de la Hernay - BP 10047, Vic En Bigorre, France, 65501  
+33 5 62 33 44 44; fax +33 5 62 33 44 45  
contact@isp-system.fr; www.isp-system.fr

We design and manufacture customized high precision mechanical equipment and provide solutions to multiple marketplaces including optics and photonics applications. Our products: Actuators, positioning stages and opto-mechanical equipment with patented technologies enabling precise displacements at micrometric and nanometric scales; Mechanical deformable mirrors for laser wavefront correction and synchrotron UVX beam; High precision dedicated stations for specific process. Contact: Paul Sauvageot, CEO, paul.sauvageot@isp-system.fr; Anthony Locatelli, Sales Engineer, anthony.locatelli@isp-system.fr.



## Isuzu Glass Inc.

#806

SPIE Corporate Member

23505 Crenshaw Blvd Ste 130, Torrance, CA, 90505  
+1 310 517 1866; fax +1 310 517 1869  
sales@isuzuglass.com; www.isuzuglass.com

Manufacturer of molded glass optical components and optical filter glass. Optical components include lenses, lens arrays, flyeye lenses, CPC's, CPV secondary concentrators, aspheres. Filter glass includes heat/IR absorbing, cut on and cut off, contrast enhancing, color correction, UV transmitting and IR transmitting. Contact: Mike Preston, Sales Manager, sales@isuzuglass.com; Hiro Yokoi, Vice President, sales@isuzuglass.com.

## ITF Labs/Avensys/3S PHOTONICS

#5009

SPIE Corporate Member

400 Montpellier Blvd, Saint-Laurent, QC, Canada, H4N 2G7  
+1 514 748 4848; fax +1 514 744 2080  
info@avensys.com; www.avensys.com

Combining leading-edge optoelectronic & fiber-based technologies, 3S PHOTONICS, Avensys Tech & ITF Labs design, manufacture, and market high reliability active & passive optical components and modules for the telecom, sensing & laser markets. They also spearhead the development of ultra-reliable fiber-optic systems including high-power fused components, optical sensors and fiber laser components. Contact: Christian Lafrance, Director - Business Development, clafrance@avensys.com; Nigel Holehouse, V.P. - R & D, nholehouse@avensys.com.

## iXFiber SAS

#1023K

Rue Paul Sabatier, Lannion, France, 22300  
+33 2 96 04 10 50; fax +33 2 96 04 10 60  
patrice.crochet@ixfiber.com; www.ixfiber.com

**Featured Product: - PM Tm Doped Double Clad fiber for 2  $\mu$ m Fiber Laser - Small Cladding Diameter PM fiber for FOG.**

iXFiber is a leading independent manufacturer of active and passive specialty optical fibers, components based on Fiber Bragg Gratings (FBG) technology, and subassemblies modules for a diverse range of industries: Telecom, Sensing, Defense, Space, Fiber Laser, Harsh Environment. Contact: Patrice CROCHET, Sales Director, patrice.crochet@iXFiber.com.

## J&M Analytik AG

#4601

Willy-Messerschmitt-Str 8, Essingen, Germany, 73457  
+49 7361 92810; fax +49 7361 928112  
info@j-m.de; www.j-m.de

**Featured Product: TIDAS E/Diode array based spectrometer with internal cuvette.**

We offer our customers reliable products and systems worldwide together with innovative ideas and services in UV/VIS/NIR spectroscopy. Our products and services have been developed based on over 22 years' experience in the design of analytical systems for research and industry. Contact: Kathrin Grau, Sales Manager, grau@j-m.de; Dag Kubin, CEO, kubin@j-m.de.

Plan to Attend  
FREE Exhibitor Product  
Demonstrations

Refer to pages 62-64  
for complete times,  
schedules, and  
locations.



BORDEAUX  
Route des Lasers  
THE PLACE TO BE

The photonics competitiveness cluster in Aquitaine - France

Booth  
1123 G

Bordeaux  
Aquitaine region  
Southwest France

Meet Route des Lasers leaders  
in Laser/Photonics Industry

**Azur Light Systems** ..... 1123 I

→ Fiber lasers at novel infra-red and visible wavelengths

**Amplitude Systèmes** ..... 1431

→ Diode-pumped ultrafast solid-state lasers for scientific and industrial applications

**Eolite Systems** ..... 1123 K

→ High power (up to 300W) short pulsed (ns & ps) fiber lasers in IR, Green and UV

**Imagine Optics** ..... 1431

→ Wavefront sensing, adaptive optics and correction technologies

**Innoptics** ..... 1123 H

→ Packaging of optoelectronic components, mostly laser diodes

**ISP System** ..... 1123 J

→ High precision mechanical equipments and solutions for photonics applications

[www.routedeslasers.com](http://www.routedeslasers.com)

alpha@2adi.aquitaine.fr

© ALPMA Route des Lasers 2010 - Photo credits: Chris James Hewitt / Digital Vision / Getty Images, CEA / Philippe Labeguerie



## J. Hauser GmbH & Co. KG

#4601

Steinstr 4a, Solms Hessen, Germany, 35606  
+49 6442 938830; fax +49 6442 93883 10  
info@hauser-optik.de; www.hauser-optik.de

**Featured Product: Drum lenses manufactured from precision balls made from all types of optical glass.**

Company J. Hauser is producer of optical components. We produce aspherical, spherical and torical lenses single side pressed, as well as spherical and cylindrical lenses in high optical quality. We also produce precision balls and half-balls as well as balls segments in the diameter range less than 0.5 mm up to 120 mm of all optical materials as well as silicon, germanium and steel. Contact: Stefan Hauser, CEO, s.hauser@hauser-optik.de; Wolfgang Hauser, CEO, info@hauser-optik.de.

## J.A. Woollam Co.

#5130

645 M St Ste 102, Lincoln, NE, 68508  
+1 402 477 7501; fax +1 402 477 8214  
sales@jawoollam.com; www.jawoollam.com

J.A. Woollam Company offers a wide range of spectroscopic ellipsometers for nondestructive materials characterization, including thin film thickness (single and multilayer), optical constants, composition, growth/etch rates, and more. Instruments available for research and manufacturing metrology covering spectral ranges from vacuum ultra-violet to far infrared. Offering table-top, in-line, and in-situ models. Contact: Sales Department, sales@jawoollam.com.

## J.P. Sercel Associates, Inc. (JPSA)

#5309

220 Hackett Hill Rd, Manchester, NH, 03102  
+1 603 518 3200; fax +1 603 518 3298  
jstearns@jpsalaser.com; www.jpsalaser.com

**Featured Product: The IAP provides automated laser processing for high volume production for LED manufacturers.**

JP Sercel Associates, Inc., (JPSA) provides advanced laser micromachining systems and services to customers worldwide in the solar, LED, semiconductor, MEMS, and biomedical industries. JPSA designs and builds fully integrated, industrial systems for 24/7 high-volume production, and flexible R&D systems for Universities and research facilities. JPSA's high precision laser job shop and fully equipped applications laboratories utilize innovative UV Excimer, DPSS and Ultrafast laser technology. Contact: Bill Kallgren, Sales Manager, bkallgren@jpsalaser.com; Joshua Stearns, Sales & Marketing Coordinator, jstearns@jpsalaser.com.

## Janos Technology, Inc.

#228

55 Black Brook Dr, Keene, NH, 03431  
+1 603 757 0070; fax +1 603 757 0069  
contact@janostech.com; www.janostech.com

## Japan Cell Co., Ltd.

#4517

Machida Technopark, 2-2-5-11 Oyamagaoka, Machida-shi Tokyo, Japan, 194-0215  
+81 42 798 4621; fax +81 42 798 4679  
jpcell\_photonicswest11@jpcell.co.jp; www.jpccell.co.jp

**Featured Product: Quartz/Sapphire Cells for spectroscopy analysis, Flyeye Lenses/Drum Lenses.**

We fabricate and supply various types of Optical quartz/glass/sapphire cells, as Flow cells and vacuum cells for analysis/research. Also we supply Drum Lenses and Fly-eye Lenses for exposure systems used in world's leading semiconductor and FPD manufacturers. Contact: K.Tsukamoto, Business Administration Manager, jpcell\_photonicswest11@jpcell.co.jp.

## JCMwave GmbH

#4601

Bolivarallee 22, Berlin, Germany, 14050  
+49 30 84185 480; fax +49 89 2555 132 369  
info@jcmwave.com; www.jcmwave.com

**Featured Product: JCMsuite 2.4 - Finite Element Solvers for Accurate and Fast Simulations in Nano-Optics.**

JCMwave offers software and support for precise optics simulations. Application areas include photonic crystal fibers, plasmonics, Silicon optics, metamaterials, light trapping in solar cells, lithography, resonators, and others. In simulation benchmarks with competing methods JCMwave's products are superior in accuracy and speed by several orders of magnitude. JCMwave is a spin-off company from Zuse Institute Berlin, a leading research institute for applied mathematics. Contact: Sven Burger, Director Marketing and Research, info@jcmwave.com.

## JD Photo-Tools

#6086

Meridian Centre, King Street, Oldham, Lancashire, United Kingdom, OL8 1EZ  
+44 0161 408 3099  
sales@jdphoto.co.uk; www.jdphoto.co.uk

**Featured Product: Now available: Emulsion on Glass photomasks!**

JD Photo-Tools is a business built on service, developed from providing a plotting service for PCB's, to providing chrome photo-masks on glass with features smaller than 2µm. Our photo-mask production service is unique in the world – with same day turnaround times never seen in the industry before, whilst maintaining low cost principals. With regular on-time deliveries, highly skilled technical support, and motivated staff, our customer loyalty confirms that "it's all about service". Contact: John Dingley, Business Development Manager, john.dingley@jdphoto.co.uk; Glenn Swanton, Managing Director, glenn.swanton@jdphoto.co.uk.

## JDSU

SPIE Corporate Member

#1615

430 N McCarthy Blvd, Milpitas, CA, 95035  
+1 408 546 5000; fax +1 408 546 4300  
info@jdsu.com; www.jdsu.com

JDSU is one of the largest producers of lasers and thin-film coatings. The Lasers group provides reliable diode-pumped and fiber-based lasers to OEM customers enabling new processes, improved productivity and lower cost of ownership. The Custom Optics Products group advances coating innovation through technological leadership, state-of-the-art facilities and full-service customer care. Our solutions support the semiconductor, microelectronics, biotech, display, and brand-authentication markets. Contact: Ms. Kim Shinmoto, Laser Marketing Manager, kim.shinmoto@jdsu.com; Mr. Chris Vomvolakis, Custom Optics Marketing Manager, chris.vomvolakis@jdsu.com.

## JenaBusiness

#4601

Markt 16, Jena, Germany, 07743  
+49 3641 8730030; fax +49 3641 8730059  
jenawirtschaft@jena.de; www.jena-business.com

**Featured Product: New technologies, skilled personnel and a perfect infrastructure: Invest in the German city of Jena!**

JenaBusiness is the contact point for enterprises and research institutions interested in the technology region Jena. We provide individual and competent information and accompany all aspects of your establishment and investment projects here. Jena hosts many Global Players of the Optics/Photonics Industry, being famous for transforming the latest research results into marketable products. JenaBusiness gladly supplies you with the proper contacts and infrastructure for your new business ideas. Contact: Wilfried Roepke, CEO, wilfried.roepke@jena.de; JenaWirtschaft, Staff, jenawirtschaft@jena.de.

**JenLab GmbH**

**#4601**

Schillerstr 1, Jena, Germany, 07745  
+49 3641 470 504; fax +49 3641 470 543  
info@jenlab.de; www.jenlab.de

**Featured Product: Multiphoton femtosecond laser tomograph MPTflex to detect skin cancer and intratissue cosmetics.**

JenLab focuses on femtosecond laser technology in medicine, biotechnology and material nanoprocessing. Portfolio: clinical multiphoton tomographs, compact two-photon microscopes, fluorescence lifetime imaging, cryomicroscopy, 10fs-laser microscopes for transfection of stem cells, nanomachining, lithography. JenLab performs clinical studies for cosmetic/pharmaceutical companies and animal studies for intraocular imaging/nanoprocessing. Contact: Prof. Karsten Koenig, CEO, info@jenlab.de; Marcel Kellner-Hoefer, Product Manager, hoefer@jenlab.de.

**JENOPTIK I Lasers & Material Processing**

**#1323**

**SPIE** Corporate Member

Goeschwitzer Strasse 29, Jena, Germany, 07745  
+49 3641 65 4300; fax +49 3641 65 4399  
info.lm@jenoptik.com; www.jenoptik.com/lm

**Featured Product: High-brightness diode laser modules and new infrared disk laser JenLas® disk IR70.**

The Jenoptik Lasers & Material Processing division has control of the entire value-added chain of laser material processing – from laser sources through to complete laser processing systems. In the area of laser they have specialized in semiconductor materials, diode lasers and solid-state lasers. In the area of laser processing systems they develop systems that enable the customers to work with plastics, metals, glass, semiconductor materials and solar cells (in thin-film and wafer technology). Contact: Dr. Detlev Wolff, Head of Sales OEM Lasers, detlev.wolff@jenoptik.com; Fred Kallweit, Head of Sales Medical Lasers, fred.kallweit@jenoptik.com.

»» **GENERAL REFRESHMENT SPONSOR**

**JENOPTIK I Optical Systems**

**#1323**

**SPIE** Corporate Member

Goeschwitzer Strasse 25, Jena, Germany, 07745  
+49 3641 65 2276; fax +49 3641 65 3658  
info.os@jenoptik.com; www.jenoptik.com/os

With its Optical Systems division, the Jenoptik Group is one of the few manufacturers in the world to produce precision optics and systems designed to meet the highest quality standards. Besides optomechanical and optoelectronic systems, modules and assemblies, the Optical Systems division is a development and production partner for optical, micro-optical and coated optical components - made of optical glasses, IR materials as well as polymers. It possesses outstanding expertise in the development and manufacture of optics and micro-optics for beam shaping used in the semiconductor industry and laser material processing. The product portfolio also includes systems and components for life sciences as well as lighting & energy applications, modules and system solutions for digital image capture and processing as well as cameras for digital microscopy. Contact: Markus Besenbeck, Director Marketing & Business Development, markus.besenbeck@jenoptik.com; Ray Malcom, Vice President, Marketing & Sales, Ray.malcom@jenoptik-inc.com.

**JENOPTIK I Optical Systems**

**#1323**

**SPIE** Corporate Member

16490 Innovation Drive, Jupiter, FL, 33478-6428  
+1 561 881 7400; fax +1 561 881 1947  
sales@jenoptik-inc.com; http://jenoptik-inc.com

**Featured Product: Diamond turning capabilities extended to Jenoptik's Jupiter, FL facility.**

JENOPTIK Optical Systems, Inc. delivers a unique range of custom optical solutions with expertise ranging from precision assemblies to precision components and from waferscale microoptics to large aspheres in materials ranging from glasses, to crystals and polymers. We join precision optical design and engineering with high quality volume manufacture at US manufacturing locations in Massachusetts, Florida, and Huntsville along with Global sites in Germany and Israel. Contact: Ray Malcom, Vice President, Marketing & Sales, Ray.malcom@jenoptik-inc.com.

**j-fiber GmbH**

**#2530**

Im Semmicht 1, Jena, Germany, 07751  
+49 3641 352 100; fax +49 3641 352 101  
info@j-fiber.com; www.j-fiber.com

j-fiber, a leading optical fiber and preform specialist, presents innovative specialty fibers, custom preforms, and fused silica materials: j-Ultrason solarisation resistant Multimode fiber with highest transmission stability for <400nm wavelength applications; j-NCS non circular shape step index Multimode fibers with a variety of custom fiber core and cladding shape designs; HPSC laser imaging fibers; UV, VIS/NIR, IR fluorine-doped step index preforms; fluorine- and boron-doped silica rods. Contact: Peggy Baerenklau, Head of Marketing & Sales, peggy.baerenklau@j-fiber.com; Armin Landers, Head of Quality Assurance, armin.landere@j-fiber.com.

**JGR Services Inc.**

**#6006, 6008**

160 Michael Cowpland Dr, Ottawa, ON, Canada, K2M 1P6  
+1 613 599 1000; fax +1 613 599 1099  
www.jgrservices.com

JGR Services Inc. is a trusted provider of fiberoptic test and measurement, designing instruments such as optical backreflection meters, optical switches, matrix optical switches, modular system testing platform, attenuators, tunable lasers, tunable filters and single and multimode multi channel loss meters that conform to the new IEC 61240-4-1 multimode standard. All our calibrations are N.I.S.T traceable and ISO17025:2005 certified.

**JJL Technologies LLC**

**#5531**

8121 Austin Ave, Morton Grove, IL, 60053  
+1 847 470 8915  
info@jjitech.com; www.jjitech.com

**JML Optical Industries Inc.**

**#628**

820 Linden Ave, Rochester, NY, 14625  
+1 585 248 8900; fax +1 585 248 8924  
martyr@jmloptical.com; www.jmloptical.com

**Featured Product: Updated website with thousands of stock components and lens assemblies.**

Precision Optical designer, manufacturer and coater of complex lens assemblies as well as components including cylinders, prisms, mirrors, achromats, for IR and Visible. ITAR registered and ISO 9001-2008 certified. Contact: Marty Roberts, Director of Sales, martyr@jmloptical.com; Gregg Sadwick, Senior Vice President, greggs@jmloptical.com.



## JP Innovations, LLC

101 E Main St Ste 207, Monroe, WA, 98272  
+1 360 805 3124; fax +1 360 805 3126  
sales@jpinnovations.com; www.jpinnovations.com

**Featured Product: Model DP 5120 20 mJ 1064 nm laser.**

JP Innovations, LLC manufactures solid-state diode pumped lasers (DPSS), eye safe lasers, compact high pulse energy lasers, high peak power 2 ns lasers, optical parametric oscillators, and other non-linear optical systems that can be used for laser induced breakdown spectroscopy (LIBS), remote optical sensing systems such as LIDAR, medical, bathymetry, designator, illuminator, and other industrial or military applications. Contact: Jeffrey W. Pierce, President, jpierce@jpinnovations.com.

#5032

## Kaiser Systems, Inc.

126 Sohler Rd, Beverly, MA, 01915  
+1 978 922 9300; fax +1 978 922 8374  
ebouchard@kaisersystems.com; www.kaisersystems.com

Founded in 1980, Kaiser Systems designs and manufactures high voltage power supplies for the medical, industrial, security and semiconductor markets as well custom systems for research facilities. We specialize in OEM Capacitor Chargers used in laser and pulsed power applications; X-ray generators for medical, industrial and security applications; electron beam power supplies, and HVDC & pulsed power systems. Contact: Steve Klibansky, Business Development and Accounts Manager, sklibansky@kaisersystems.com; Elise Bouchard, Customer Service Manager, ebouchard@kaisersystems.com.

#906

## JPT Electronics Co., Ltd.

Hi-tech Industrial Area, 3/F Tellhow Industrial Park Guanlan Town, Shenzhen, China, 518110  
+86 755 29528181; fax +86 755 29528185  
sales@jptelectronics.com; www.jptelectronics.com

**Featured Product: High Power Fiber Lasers.**

JPT Electronics Co., Ltd is a high-technology enterprise integrated with R&D, production and sales and with its own independent intellectual property rights. The main products include High-power Fiber Laser, High-power EDFA, Super Continuum Source, Advanced Fiber Connector, Outdoor Connector, Optical Distribution Products, Integrate Single-molecular Detecting System and Polarization Measuring System, etc. Contact: Jessica, Sales Engineer, Jessica@jptelectronics.com.

#5214

## Kaleido Technology

SPIE Corporate Member

Ryttermarken 15-21, Farum, Denmark, 3520  
+45 44 34 70 40; fax +45 44 34 70 41  
contact@kaleido-technology.com; www.kaleido-technology.com

A leading manufacturer of tailored high-precision replication masters and optical components for application in Imaging Optics, Mobile Phones, Optical Connectors, Optical Sensors, Head-Up Displays, Solar Energy Optics and Medical Devices. Specializing in aspheric and free-form surfaces we are experts in Diamond turning, milling and grinding of polymer, glass, metallic and ceramic materials for lenses, mirrors, glass molding dies and injection molding inserts. Contact: Jens E. Schroeder, Chief Sales Officer, contact@kaleido-technology.com.

#504

## JT Ingram

23 Alafaya Woods Blvd, Oviedo, FL, 32765  
+1 800 335 5582  
jim@jtingram.com; www.jtingram.com

Manufacturers of Mid Infrared, NIR, VIS and UV fiber optics including probes for FTIR, raman, reflection/transmission, ATR, High Temperature, etc. Manufacturers of fiber optic assemblies including arrays, bundles, and spot to slit converters as well as accessories including couplers, collimators, focus optics, etc. New products include fiber coupled QCLs, LEDs, High Power Beam Expanders. Contact: Jim Ingram, Jim@jtingram.com.

#804

## Kapteyn-Murnane Labs. Inc. (KMLabs)

SPIE Corporate Member

1855 S 57th Ct, Boulder, CO, 80301  
+1 303 544 9068; fax +1 303 821 2284  
sales@kmlabs.com; www.kmlabs.com

**Featured Product: Newest products: Robust Sealed-box Swift oscillator and XUUS (eXtreme Ultraviolet Ultrafast Source).**

KMLabs (Kapteyn-Murnane Laboratories, Inc.) is a pioneer and leading manufacturer of high-performance, ultrafast, fs laser systems spanning the mid-infrared, near-infrared, visible, UV, VUV, and EUV regions. Oscillators include the new, robust, sealed-box Swift series. Amplifiers include the Wyvern series single-box regenerative amplifiers, capable of pulse repetition rates up to 1MHz or pulse energy up to 5mJ, and the <25fs Dragon series. Multi-stage amplifier systems can attain >30W or 30mJ. Contact: Robert F. Johnson, Sales & Marketing, rjohnson@kmlabs.com.

#2135

## Kaiser Optical Systems, Inc.

371 Parkland Plaza, Ann Arbor, MI, 48103  
+1 734 665 8083; fax +1 734 665 8199  
www.kosi.com

**Featured Product: New large-format, mosaic VPH transmission gratings now available for astronomical spectroscopy.**

Kaiser Optical Systems, a world-recognized leader in the production of instruments, devices, and displays based on holographic optical elements, with over 30 years' experience designing and building head-up display combiners for military fighter aircraft, has leveraged its volume phase holographic technology to produce state-of-the-art VPH notch filters and diffraction gratings. Contact: James Arns, Senior Optical Systems Engineer, gratings@kosi.com; James Tedesco, Senior Staff Engineer, tedesco@kosi.com.

#5041

## Kaufman & Robinson, Inc.

1306 Blue Spruce Dr, Fort Collins, CO, 80524  
+1 970 495 0187  
info@ionsources.com; www.ionsources.com

Kaufman & Robinson can assist you with your film depositions, etching processes, and material modifications. We manufacture a wide range of ion/plasma sources, electron neutralizers and power supply controllers. KRI's product technology includes high current gridless plasma sources, filamentless RFICP gridded sources, low energy electron sources and automated power supply controllers. Over 30 years of experience, makes us the source you can trust. Contact: Kent Rennie, Sales, rennie@ionsources.com; Chris Griffith, Sales, griffith@ionsources.com.

#5509

**KELK Ltd.**

**#2426**

3-25-1 Shinomiya, Hiratsuka Kanagawa, Japan, 254-8543  
+81 463 23 3697; fax +81 463 24 6749  
sales@kelktech.komatsu.co.jp; www.kelk.co.jp

**Featured Product: Micro Thermo-module, Multi Stage TEC, Thermo Generation Module, Temperature Control Equipment.**

KELK intends to concentrate on providing highest performance thermoelectric module and temperature control equipment under Komatsu brand. KELK is a fully-integrated manufacturer for temperature control products. By upholding "Quality and Reliability" as the most important management policy, KELK is resolutely committed to providing innovative products and services that best meet the needs and expectations of its customers around the world. Contact: Takahiro Murase, General Manager, Sales, sales@kelktech.komatsu.co.jp.



**CONFERENCE BAG INSERT SPONSOR**

**Kentek Corp**

**#4431**

SPIE Corporate Member

1 Elm St, Pittsfield, NH, 03263  
+1 603 223 4900; fax +1 603 435 7441  
info@kenteklaserstore.com; www.kenteklaserstore.com

**Featured Product: Pilot Goggle wraps your face in laser safety and extraordinary comfort.**

Laser Smart Products® manufactured by Kentek include laser eye protection, laser barriers, site audits, and laser safety training. Our laser safety products are supplemented by a range of beam viewing and beam measurement tools to complete the LSOs toolkit. For the laser technician, we refurbish crystals, custom build laser pump chambers, design and manufacture optics, and supply flashlamps and flowtubes. We are "Laser People Helping Laser People"™ serving the laser world since 1983. Contact: www.kenteklaserstore.com.



**BANNER SPONSOR**

**Keopsys Inc.**

**#2114**

1195 Pennsylvania Ave, Bethlehem, PA, 18018-8428  
+1 610 758 8428; fax +1 610 758 8426  
websales@keopsys.com; www.keopsys.com

**Featured Product: KULT: The Keopsys Ultra-compact Laser Transmitter now available at 1995nm, 1550nm, 1064nm and 532nm.**

Keopsys manufactures a large range of standard and custom-designed optical fiber amplifiers and lasers for fiber and free space optical communication systems, CATV, component testing, remote sensing, spectroscopy, material processing, military and research applications. High output powers are achieved through the use of double cladding fibers pumped by broad stripe diodes. A variety of pumping techniques are utilized, each optimized for a specific application. Contact: Yves Deiss, Regional Sales Director - West, ydeiss@keopsys.com; Alexandre Amavigan, Regional Sales Director - East, aamavigan@keopsys.com.

**Keopsys SA**

**#1023D**

21 Rue Louis de Broglie, Lannion, France, 22300  
+33 2 96 05 08 00; fax +33 2 96 05 08 01  
www.keopsys.com

Keopsys manufactures a large range of standard and custom-designed optical fiber amplifiers and lasers for fiber and free space optical communication systems, CATV, component testing, remote sensing, spectroscopy, material processing, military and research applications. High output powers are achieved through the use of double cladding fibers pumped by broad stripe diodes. A variety of pumping techniques are utilized, each optimized for a specific application. Contact: Marc Le Flohic, CEO, mleflohic@keopsys.com; Christophe Vitre, Sales Technical Support, cvitre@keopsys.com.

**KERDRY**

**#1123D**

5 rue de Brogolie, Lannion, France, 22300  
+33 2 96 48 84 77; fax +33 2 96 48 84 78  
contact@kerdry.com; www.kerdry.com

KERDRY, a leading European Manufacturer in Thin Films Technologies for Optical Components studies and performs custom-designed Metallic and Optical Coatings for Advanced Technologies: Ultra-precision Thin Films Deposition; Metallic Coatings on your own substrates (Au, Ag, Al<sub>2</sub>O<sub>3</sub>, Cr, Cr-Ni, Cu, Ni, Pt, Ti); Coatings on Fiber Optics; Photolithography. Contact: Jean-Claude Keromnes, CEO, contact@kerdry.com.

**Keting Optical Technology Inc.**

**#2627**

No 21 Tianhe Rd, Yuhang Economic Development Zone, Yuhang District Hangzhou, China, 311100  
+86 571 892633886; fax +86 571 892633883  
koti\_sales@koti-hz.com.cn; http://www.koti-hz.com.cn

**Featured Product: Solar mirror can pass the test of 1000hrs at 85°C/85% RH.**

KOTI is a professional optical coating manufacturer in China, produces various optical coating for LCD/DLP/LCOS projectors, DSC/DV/DVD digital products, develops high-end multilayer optical coating for advanced precision optical instruments. KOTI owns over 20 high vacuum coating machines with chamber size from 700mm to 1300mm, equipped with relevant inspection instruments and facilities. KOTI received certificates of ISO9001, Green Partner from Sony and ISO140001. Contact: Jinbo, Vice General Manager, kingbo@koti-hz.com.cn.

**Kigre, Inc.**

**#1639**

SPIE Corporate Member

100 Marshland Rd, Hilton Head Island, SC, 29926  
+1 843 681 5800; fax +1 843 681 4559  
kigreinc@cs.com; www.kigre.com

**Featured Product: HESP-E-7-60 compact eye-safe 6-10mj, 10-60Hz 1535nm laser suitable for range-finding, & imaging.**

Kigre manufactures High Efficiency Side Pump, (HESP) Diode Pumped Solid State (DPSS) Lasers and components. Compact eye-safe high power diode pumped 1.5µm lasers are suitable for laser range-finding, range-gated imaging and LIBS. The MK-11 & 81 (1Hz), MK-85 & 88 (10Hz) MK-830 (30Hz) and HESP-E-7-60 (60Hz) are 1535nm Q-switched laser products based upon conduction cooled High Efficiency Side Pump, (HESP) Diode Pumped Solid State Lasers (DPSS) technology. Contact: Michael J. Myers, President, kigreinc@cs.com; Jeffrey A. Myers, COO, jeffmyers@hargray.com.

**Kimmon Electric US, L.P.**

**#2130**

7002 S Revere Pkwy Ste 85, Centennial, CO, 80112  
+1 303 754 0401; fax +1 303 754 0324  
p.townsend@kimmon.com; www.kimmon.com

Kimmon, the worlds oldest and largest manufacturer of Helium Cadmium lasers offers a total of 38 different HeCd laser models at 325nm (2-100mW), 442nm (14-180mW) or both laser lines simultaneously. Additionally we also manufacture a new line of solid state blue and UV lasers. Contact: Patrick Townsend, General Manager, p.townsend@kimmon.com; Dan Lloyd, Laser Technician, dan@kimmon.com.

## Kinetic Systems, Inc.

**SPIE** Corporate Member

20 Arboretum Rd, Boston, MA, 02131-1102  
+1 617 522 8700; fax +1 617 522 6323  
www.kineticsystems.com

Kinetic Systems designs and builds "World Class" vibration isolation platforms for sensitive equipment. Our workstations and optical tables set the standard for quality and performance. You may use our standard or custom systems to suit your demanding applications. Standard systems are readily available. Our staff is eager to help provide custom systems that will meet all your requirements. Contact: Tony Kallas, Director of Sales and Marketing, tkallas@kineticsystems.com.

## Kiyohara Optics USA

929 Whitehall Ln, Redwood City, CA, 94061  
+1 650 255 7751  
atomita@kopticsusa.com; www.koptic.co.jp/opt/eng

**Featured Product: Large Aperture Beam Expander for 4" Fizeau Interferometer: BE300(12"), BE400(16"), BE500(18").**

Kiyohara Optics has been supplying fine optical components and subsystems since 1950's. Our beam expander, when combined with a standard 4" Fizeau interferometer, enables users to accurately test large optics, even when the available space is very limited. Contact: Aki Tomita, atomita@kopticsusa.com; Motosuke Kiyohara, pmk@koptic.co.jp.

## KLASTECH - Karpushko Laser Technologies GmbH

**SPIE** Corporate Member

Konrad-Adenauer-Allee 11, Dortmund, Germany, 44263  
+49 231 477 30 648; fax +49 231 477 30 620  
info@klastech.com; www.klastech.com

KLASTECH specializes in the manufacture of a revolutionary range of CW Diode Pumped Solid State lasers. Powered by our patented technology, our lasers are available from 266nm to 1064nm inherently delivering ultra quiet, single frequency laser light with diffraction limited beam profiles enabling analytical instrument designers and researchers alike to surpass their highest expectations. Contact: Christopher J. Madin, Managing Director, CSO, c.madin@klastech.de; Nicole Steinkretzer, Sales and Marketing Coordinator, n.steinkretzer@klastech.de.

## KLA-Tencor

**SPIE** Corporate Member

1 Technology Dr, Milpitas, CA, 95035  
+1 408 875 3000; fax +1 408 875 4144  
www.kla-tencor.com

KLA-Tencor's surface metrology's market segments span general scientific research and material science to semiconductor, data storage, MEMS, and optoelectronics manufacturing – a range of industries that measure surface topography to either control their process or research new material characteristics. Our products range from benchtop stylus and optical profilers used in research environments to automated high resolution profilers for advanced IC and data storage production facilities. Contact: Patrick O'Hara, patrick.ohara@kla-tencor.com.

**#5142**

## Kohoku Kogyo Co., Ltd.

1623 Takatsuki, Takatsuki-Cho Ika-Gun, Shiga, Japan, 529-0241  
+81 749 85 6260; fax +81 749 85 3215  
opt-div@kohokukogyo.co.jp; www.kohokuamerica.com

Kohoku Kogyo is a manufacture of customized multihole ferrules, fiber arrays, hermetically sealed fiber arrays, PM hermetically sealed fiber arrays, microcapillary arrays, fiber assemblies with manufacturing facilities in Japan and China. Contact: Boris Reichman, President Kohoku America Inc., breichman@kohokuamerica.com.

**#5111**

**#926**

## Konica Minolta Sensing Americas, Inc.

101 Williams Dr, Ramsey, NJ, 07446  
+1 201 236 4300; fax +1 201 785 2482  
marketing@se.konicaminolta.us;  
www.konicaminolta.com/sensingusa

Konica Minolta Sensing, the worldwide leader in light measurement, will be showing a full line of photovoltaic & light measuring equipment. The company is already responsible for innovative product lines that continuously revolutionize the way light, color, and shape are measured. Thousands of companies across the globe choose to depend on KMSA instruments when accurate measurements are vital to the manufacturing or quality control process. www.konicaminolta.com/sensingusa. Contact: Randy Klimek, Project Manager, rklimek@se.konicaminolta.us; Bryan Bond, Business Development Manager, bbond@se.konicaminolta.us.

**#4309**

## Kreischer Optics, Ltd.

1729 Oak Dr, McHenry, IL, 60050-0306  
+1 815 344 4220; fax +1 815 344 4221  
optics@kreischer.com; www.kreischer.com

**#4407**

## Krell Technologies

1126 Campus Dr W, Morganville, NJ, 07751  
+1 732 617 7091; fax +1 732 617 7092  
sales@krelltech.com; www.krelltech.com

**#4100**

**Featured Product: Trig Bare Fiber Polishing System.**

Manufactures automated connector polishing/inspection systems, portable polishers for FTTH/LAN/CATV installation and repair, retro-polishers for damaged connectors, Mil-Spec termini holding fixtures, waveguide polishers, in-line video inspection equipment, precision cleaning systems, and custom component jigs. Offers bare fiber polishers for lensing assemblies and beam control. Additionally, Krell supplies fiber optic cleaning products. Contact: Al Cheswick, VP Sales, acheswick@krelltech.com.

**#2539**

**#1801**

## Kugler of America LTD

**SPIE** Corporate Member

48 South Rd Unit I, Somers, CT, 06071  
+1 860 749 6400; fax +1 860 749 6600  
info@kuglerofamerica.com; www.kuglerofamerica.com

**#4628**

**Featured Product: Micromachining systems, 5 axis, 250nm in 3-Sigma.**

We are a leading manufacturer of ultra-precision Machining Systems for Optical Surfaces, Optical 3D Structured Surfaces, Wafer-thinning, and Micromachining applications, as well as Laser Micro machining, e.g.: Fly-cutters, Drum-Turning machines, Micromachining Systems, Air Bearing Systems, Custom Metal Mirrors, Optical structured surfaces, CO<sub>2</sub>-Laser Beam Delivery Systems and Laser Mirrors for OEM and Scientific end users. Contact: Meinrad Schirmeister, General Manager, info@kuglerofamerica.com.



## Kurt J. Lesker Company

#2603

1925 Route 51, Clairton, PA, 15025  
+1 412 387 9200; fax +1 412 384 2745  
sales@lesker.com; www.lesker.com

R&D and batch production tools for the optical, photonics, and photovoltaic/solar industries. Manufacturer of automated vacuum systems for PVD & ALD, chambers, components, film deposition sources, & pure materials. Products include: e-beam sources; thermal evaporation sources, including low temp sources for organic films; R&D and production-sized sputter sources; variety of feedthroughs; pumps; valves; pressure/flow measurement devices. We are your supply chain partner for all your vacuum needs. Contact: Shawn Jones, Regional Sales Mgr, shawnj@lesker.com; Frank Hernandez, Regional Sales Mgr, frankh@lesker.com.

## KYLIA

#5209

10 rue de Montmorency, Paris, France, 75003  
+33 1 427 45922  
www.kylia.com

**Featured Product: Kyليا offers monolithic optical systems based on free space optics and micro optical components.**

Kyليا offers optical 90° hybrid for DUAL and SINGLE polarization coherent receiver applications. Kyليا also proposes DLI's for DPSK and DQPSK applications. Kyليا athermal DWDM Mux/Demux are available with Polarisation Maintaining, frequency tuning and spacing tuning options. Spacing ranges are from 12.5 GHz to 200 GHz. Kyليا Prototyping service develops customized solutions for telecom, sensing and aerospace industries.

## Kyosemi Corporation

#2632

3003 Bunker Hill Ln Ste 102, Santa Clara, CA, 95054  
+1 408 492 9361; fax +1 408 492 9843  
info@kyosemi-opto.com; www.kyosemi-opto.com

**Featured Product: 1) Spheilar: Spherically shaped solar cells. 2) Point-source LED. 3) Parallel Beam LED.**

Kyosemi has over 30 years experience designing and manufacturing components for Optical Sensing, Optical Communication and Photo-Voltaic Energy using Silicon and Compound Semiconductor materials. Product line-up includes: UV LED and Photo-Detectors, InGaAs NIR PD, SiAPD, InGaAs APD, PD Arrays (Si, GaAs, and InGaAs), Mini-Can (World smallest TOCAN package), VCSEL, Parallel Beam LED, Pin-Point LED, Multi-wavelength LED, SMD Package options. Contact: Steve Iwashita, VP Sales and Marketing, siwashita@kyosemi-opto.com.

## L.A. Gauge Company

#6072

7440 San Fernando Rd, Sun Valley, CA, 91352  
+1 818 767 7193; fax +1 818 767 4946  
sales@lagauge.com; www.lagauge.com

L.A. Gauge has set the standard for ultra precision machining of Beryllium and other exotic materials. L.A. Gauge Company is the #1 producer of Aluminum Beryllium components worldwide and a leading producer of Beryllium components for the aerospace, defense, and optics industries. L.A. Gauge capabilities include machining, polishing, and nickel plating. L.A. Gauge standards require ULTRA PRECISION finishing using sophisticated equipment and processing techniques. Contact: Brian Walters, Sales Manager, bwalters@lagauge.com; Dale Hostetter, Contracts, dhostetter@lagauge.com.

**JGR services**

### SX8 High Channel Count Optical Switch

- Low IL at 0.7 dB
- Up to 4 x 360 outputs
- Repeatability 0.005 dB
- RL < 60 dB
- 4 week lead time

Also available...  
Backreflection Meters, Multi-channel Loss Tester,  
Functional Modular Platform, Tunable Lasers & Tunable Filters

And our expanding product portfolio!

[www.JGRservices.com](http://www.JGRservices.com)

## L-3 Communications, Tinsley

#219

SPIE Corporate Member

4040 Lakeside Dr, Richmond, CA, 94806  
+1 510 222 8110; fax +1 510 223 4534  
sales@asphere.com; www.asphere.com

Manufacturer of custom precision optical components, assemblies and sub-systems. Fabricates complex aspheric surfaces for reflective and refractive systems from 50mm to 1.5 meters in size and a wide variety of materials, including glass, Be, Al and SiC. Founded in 1926 and also known in the industry as the "Asphere Company", Tinsley has many years of experience fabricating precision optics in such areas as Space and Astronomy, Laser Fusion, Surveillance and Tactical applications. Contact: Clay Sylvester, Director of Sales & Marketing, clay.sylvester@l-3com.com.

## Labsphere, Inc.

#4509

SPIE Corporate Member

231 Shaker St, North Sutton, NH, 03260  
+1 603 927 4266; fax +1 603 927 4694  
labsphere@labsphere.com; www.labsphere.com

**Featured Product: CDS-9800 High Speed CCD Spectrometer.**

Labsphere is a leading provider of instruments & systems designed to simplify light measurement. We design, produce & sell precision radiometric & photometric test & measurement products for applications in the aerospace, electronic imaging, LED, lighting, medical imaging and electro-optics industries. Contact: Chris Durell, VP Sales, cdurell@labsphere.com; Victoria Riveria, West Coast Regional Sales Manager, vriveria@labsphere.com.

## LaCroix Optical Co.

SPIE Corporate Member

PO Box 2556, Batesville, AR, 72503  
+1 870 698 1881; fax +1 870 698 1880  
www.lacroixoptical.com

LaCroix Optical Co., a leading manufacturer of custom precision optics for more than 60 years, specializes in achromats, lenses, windows, prisms, wedges and mirrors. An ISO 9001:2000 registered company, LaCroix Optical Co. can produce your optical components in any volume. With a unique combination of modern and conventional production and testing equipment—plus an in-house coating facility—LaCroix Optical Co. is your source for custom precision optics. Proudly made in the USA. Contact: Tom Cox, Manufacturing Engineer, tom@lacroixoptical.com; David Cossey, Manufacturing Engineer, david@lacroixoptical.com.

#4406

## Lanmark Controls Inc.

SPIE Corporate Member

1740 Massachusetts Ave, Boxborough, MA, 01719  
+1 978 264 0200; fax +1 978 264 0203  
info@lanmarkcontrols.com; www.lanmarkcontrols.com

Develops and supplies the WinLase Professional and WinLase LAN software suites, and the Lanmark Embedded Controller card technology, providing complimenting ancillary products for the OEM laser system integrator market, worldwide. Contact: Christine Oskirko, VP Sales and Marketing, coskirko@lanmarkcontrols.com.

#2640

## Lambda Research Corp.

SPIE Corporate Member

25 Porter Rd, Littleton, MA, 01460-1434  
+1 978 486 0766; fax +1 978 486 0755  
sales@lambdaresearch.com; www.lambdaresearch.com

**Featured Product: TracePro 7.0 features multithreading and the new easy to use interactive optimizer.**

Lambda Research Corporation sets itself apart as a cost effective, single source solution for optical and illumination design. Lambda sells TracePro®, opto-mechanical software differentiated by its ease-of-use, CAD interface and accuracy in illumination design, OSLO®, renowned for its power and flexibility in lens design and the TracePro Bridge™, a full integrated seamless add-in for Solidworks. Lambda also distributes the ScatterScope3D™ scatterometer for fast and accurate surface measurement. Contact: Andrew Knight, Sales Manager, sales@lambdaresearch.com.

#323

## Larsen Equipment Design, Inc.

#305

1117 NW 52nd St, Seattle, WA, 98107  
+1 206 789 5121; fax +1 206 789 7756  
erik@larsenequipment.com; www.larsenequipment.com

Larsen Equipment Design is your USA manufacturer of precision optical equipment for micro, miniature and now 3" lenses. Since 1981 we have been recognized as the source for your optics manufacturing needs. All our polishers are made with sturdy stainless steel cases and sealed spindles for worry free operation. Have tooling requirements? Our engineering department can help. Turn to us as your precision optics manufacturing resource. Contact: Erik Larsen, President, erik@larsenequipment.com.

## LASCAD

#1334

Brunhildenstr 9, Munich, Germany, 80639  
+1 415 924 6300  
harry@hmstechnologysales.com; www.las-cad.com

**Featured Product: The newest LASCAD program, Dynamic Multimode Analysis, models multimode and Q-switched lasers.**

LASCAD software includes four interactive program modules for solid-state laser simulation: ABCD Matrix, Finite Element Analysis, Beam Propagation Method (wave optics) and Dynamic Multimode Analysis (including Q-switch laser analysis). The analysis includes resonator modes, thermal lensing, output power, stability, beam quality and more. LASCAD interfaces with ZEMAX and Tracepro software. Contact: Harry Skolnik, Sales, harry@hmstechnologysales.com; Dr. Konrad Altmann, President, dr.altmann@las-cad.com.

## Lambda Research Optics Inc.

SPIE Corporate Member

1695 W MacArthur Blvd, Costa Mesa, CA, 92626  
+1 714 327 0600; fax +1 714 327 0610  
lambda@lambda.cc; www.lambda.cc

**Featured Product: Lambda Offers a unique translational beam expander with 2x - 8x variable magnifications.**

Lambda is an expert manufacturer of high power optics for industrial and defense applications. Lambda offers prisms, mirrors, lenses, beamsplitters and polarizers. Lambda produces highly precise optics with BK7A, Fused Silica, CaF<sub>2</sub>, BaF<sub>2</sub>, ZnSe, ZnS, Ge, Si and flint glasses. Lambda's thin film coatings are certified periodically for high damage threshold. Optical contact method is used for high power cubes. Please, contact Lambda for all of your optics challenges. Contact: James Choi, Sales Manager, jchoi@lambda.cc; Jae Oh, Marketing Manager, joh@lambda.cc.

#2116

## Lasence Inc.

#6028

No 13 Xianshan E Rd, Qingdao Shandong, China, 266107  
+86 532 8965 3366; fax +86 532 8667 3719  
sales@lasence.com; www.lasence.com

**Featured Product: Wide Temperature Range Green Laser Modules for -30 to 50°C.**

Producer of Green Laser Modules, specialized in Wide Temperature Range (Best: -30 to 50°C) and Small Size. Producer of specialized Green Laser Pointer with/without Remote Control Function. Contact: Joerg Muehlberger, Sales & Marketing Director, sales@lasence.com; An Xiuzhen, Sales Manager, sales@lasence.com.

## Lambert Instruments Mts

#4301

Oosteinde 16, Roden, Netherlands, 9301 ZP  
+31 50 5018461; fax +31 50 5010034  
info@lambert-instruments.com; www.lambert-instruments.com

**Featured Product: HICAM 5000 intensified high speed camera, nanosecond exposure time, UV-NIR, 200.000 fps.**

Lambert Instruments specializes in intensified imaging covering the X-ray, UV, VIS and NIR spectrum. Imaging of fluorescence lifetime (FLIM) or very fast phenomena like combustion or spray particles can be achieved by using image intensifiers in gated or modulated mode. Our standard product range includes the LIFA system for FLIM, the HICAM for intensified high speed imaging, lens coupled intensifiers, X-ray cameras and cooled intensifiers. Custom systems and small series is our core business. Contact: Jeroen Wehmeijer, Product Manager ICS, ics@lambert-instruments.com; Michiel Kregel, Product Manager FLIM, flim@lambert-instruments.com.

## Laser 2000 GmbH

#2007

Argelsrieder Feld 14, Wessling, Germany, 82234  
+49 8153 4050; fax +49 8153 40533  
info@laser2000.de; www.laser2000.com

**Laser Components Canada, Inc. #2217**

9 River Rd, Hudson, NH, 03051  
+1 603 821 7040; fax +1 603 821 7041  
robinson@laser-components.com; www.laser-components.com

**Featured Product: 1550 nm pulsed lasers with integrated fast axis collimation (FAC) for higher brightness.**

Pulsed Laser Diodes produced for high power at 905 and 1550nm. New multi-junction and high intensity lasers and a low cost series compliment the well established 905&1550 lasers having peak power levels exceeding 220W. Drive electronics and modules available. Applications are range finding, speed measurement, laser radar, safety scanners, laser light curtains, or the use in testing and measurement systems. Sales/Support in USA by Laser Components IG, Inc. Contact: Gary Hayes, General Manager, hayes@laser-components.com; Matt Robinson, Sales Engineer, robinson@laser-components.com.

**Laser Components DG, Inc. #2217**

9 River Rd, Hudson, NH, 03051  
+1 603 821 7040; fax +1 603 821 7041  
www.lasercomponents.com

**Featured Product: SAP series Geiger-mode avalanche photodiode for photon counting applications.**

Avalanche Photodiodes manufactured in USA with high quality and low cost. Silicon and InGaAs APDs with optimization at 650, 905, 1550, or 1060nm. New Geiger-mode APD available for photon counting as well as hybrids and drive electronics. Applications include range finding, speed measurement, laser radar, security scanners, and fluorescence measurements in industrial, military, medical markets. Sales/Support in North America by Laser Components IG, Inc. Contact: Gary Hayes, General Manager, hayes@laser-components.com; Matt Robinson, Sales Engineer, robinson@laser-components.com.

▶▶▶  
▶ **BANNER SPONSOR**

**Laser Components GmbH #2217**

Werner von Siemens Str 15, Olching, Germany, 82140  
+1 603 821 7040; fax +1 603 821 7041  
info@laser-components.com; www.laser-components.com

**Featured Product: Ion beam sputtering (IBS) coatings now available from Laser Components. COUNT – Photon Counting Modules from Laser Components.**

Specializes in production & distribution of high-tech Components for optoelectronic and laser industries. In-house manufacturing includes lens substrates and hard dielectric coatings for laser optics, miniature laser modules, fiber optics. Photon counting modules, avalanche photodiodes and pulsed laser diodes (PLDs) available as well as drive electronics and hybrids. Manufacture spectroscopic laser diodes from 3-25 µm. Contact: Gary Hayes, General Manager, hayes@laser-components.com; Robert Gulino, Sales Engineer, gulino@laser-components.com.

Product  
Locator  
Kiosks

North Hall Concourse  
South Hall Concourse  
Find what you need, print out the results,  
and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches

**Laser Components IG, Inc. #2217**

**SPIE Corporate Member**  
9 River Rd, Hudson, NH, 03051  
+1 603 821 7040; fax +1 603 821 7041  
info@laser-components.com; www.lasercomponents.com

**Featured Product: Photon counting modules with record-breaking dark count rates and highest quantum efficiency.**

Provides high power laser optics from 193nm-10.6 µm, custom-made lenses, Flexpoint miniature laser modules, Glass polarizing filters, fiberoptic assemblies. Photon Counting Modules, Avalanche Photodiodes (APD) and Pulsed Laser Diodes (PLD), drive electronics, hybrids, complete modules. IR lead salt diode lasers (3-25 µm) and SPECILAS spectroscopic diode lasers. Contact: Gary Hayes, General Manager, hayes@laser-components.com; Matt Robinson, Sales Engineer, robinson@laser-components.com.

**Laser Diode, Inc. #218**

4 Olsen Ave, Edison, NJ, 08820  
+1 732 549 9001; fax +1 732 906 1559  
www.laserdiode.com

**Featured Product: LHCVN series incorporates a pulsed laser driver circuit into the same package as the laser diode.**

Laser Diode Incorporated offers a comprehensive line of high power laser diodes and detectors. Products include: short pulse laser from 850 to 1550 nanometers and high power 808nm CW lasers for DPSS, direct diode medical and dental applications. Telecom products include F-P and DFB lasers, APDs, detectors, PINFETs and PINAMPs. Contact: Peggy Scarillo, Sales Manager, peggy.scarillo@macomtech.com; Rolf Kojima, Product Manager, rolf.kojima@macomtech.com.

▶▶▶  
▶ **PROMOTIONAL PARTNER AND EXHIBITOR RECEPTION CO-SPONSOR**

**Laser Focus World #1501**

**SPIE Corporate Member**  
98 Spit Brook Rd, Nashua, NH, 03062  
+1 603 891 0123  
www.laserfocusworld.com

*Laser Focus World* is a global resource for engineers, researchers, scientists and technical professionals providing comprehensive coverage of optoelectronics and photonics technologies, applications and markets. Each month, *Laser Focus World* reports on and analyzes the latest developments and significant trends in both technology and business in worldwide optoelectronics and photonics industry. Contact: Christine Shaw, Senior VP/Group Publishing Director, cshaw@pennwell.com; Jeff Nichols, Regional Sales Manager, jeffn@pennwell.com.

▶▶▶  
▶ **PROMOTIONAL PARTNER**

**Laser Focus World Japan #6096**

1-5-18 Sarugakucho, Chiyoda-ku Tokyo, Japan, 101-8449  
+81 3 3219 3641; fax +81 3 3219 3628  
lfwj@ics-inc.co.jp; www.lfw-japan.jp

*Laser Focus World Japan* is a monthly magazine published in Japanese with 12,000 circulation. The excellent articles in LFW are translated and delivered to the essential readers in Japan. Contact: Manami Konishi, Publisher, lfwj@ics-inc.co.jp; Maiko Kobayashi, Sales, kobayashi-maiko@ics-inc.co.jp.



## Laser Institute of America

SPIE Corporate Member

13501 Ingenuity Dr Ste 128, Orlando, FL, 32826  
+1 407 380 1553; fax +1 407 380 5588  
lia@laserinstitute.org; www.laserinstitute.org

Laser Institute of America is the international society dedicated to fostering lasers, laser applications and laser safety worldwide. For four decades, LIA has served the laser community through conferences, symposia, publications and courses. The LIA is the secretariat and publisher of the ANSI Z136 series of laser safety standards. Contact: Jim Naugle, Marketing Director, jnaugle@laserinstitute.org; Gus Anibarro, Education Director, gus@laserinstitute.org.

#1739

## Laser Optics, a PPGI company

SPIE Corporate Member

181 Legrand Ave, Northvale, NJ, 07647  
+1 201 767 1910; fax +1 201 767 9644  
sales@ppgiptics.com; www.ppgioptics.com

Manufacturer of OEM & custom optical components & coating services for ultraviolet, visible & infrared. Specialists in coatings for high-power lasers. Products include cavity and beam steering components, waveplates & polarizing optics. Extensive optics catalog for visible & infrared applications. Serving Semiconductor inspection, Medical, National labs & Defense industries. Contact: Jeff Brunner, Director, Sales & Business Development, jbrunner@ppgiptics.com; George Murray, West Coast Sales Manager, gmurray@ppgiptics.com.

#1729

## Laser Materials Corp.

12706 NE 95 St #102, Vancouver, WA, 98682-2410  
+1 360 254 4180; fax +1 360 254 4182  
sales@lasermaterials.com; www.lasermaterials.com

**Featured Product: Laser Materials Corporation is now producing ruby and CTH:YAG laser rods.**

Laser Materials Corporation has been growing Nd:YAG in our Vancouver, Washington facility since 1992. Our efficient, high yield process allows us to provide Nd:YAG laser rods and slabs with excellent quality at a low price. Our large boule size allows us to provide rods up to 35mm diameter and 250mm long. We now also produce ruby and CTH:YAG. Contact: Paul Collins, President, paul@lasermaterials.com; David Collins, Vice-President, dcollins@lasermaterials.com.

#5034

## Laser Quantum Ltd.

Emery Court Vale Rd, Stockport Cheshire, United Kingdom, SK4 3 GL  
+44 161 975 5300; fax +44 161 975 5309  
sales@laserquantum.com; www.laserquantum.com

Laser Quantum is a world-class manufacturer of high quality solid-state lasers. Our products are known for reliability, performance-excellence and a long operational life. You'll find our products in laboratories and integrated in systems world-wide. Our expertise meets the needs of industry, aerospace, biomedicine and research. By working with our customers, our lasers are found in applications including femtosecond Ti:Sapphire pumping, microscopy, fluorescence imaging and Raman spectroscopy.

#301

## Laser Operations LLC/QPC Lasers

SPIE Corporate Member

15632 Roxford St, Sylmar, CA, 91342  
+1 818 986 0000; fax +1 818 698 0428  
info@laseroperations.net; www.qpclasers.com

**Featured Product: Ultra-G: New optimization for medical and defense applications.**

Laser Operations LLC, manufacturer of the industry leading QPC Lasers product line, is a vertically integrated laser diode manufacturer shipping high brightness lasers globally into several markets including medical, defense, industrial and consumer displays, from its high volume 40,000 sq. ft. laser manufacturing facility located in Sylmar, CA. Contact: Laurent Vaissie, Vice President of Marketing and Sales, lvaissie@laseroperations.net; Kendra Gallup, Product Line Manager, kgallup@laseroperations.net

#404

## Laser Research Optics

120 Corliss St, Providence, RI, 02904  
+1 888 239 5545; fax +1 401 331 4004  
sales@laserresearch.net; www.laserresearch.net

Laser Research Optics supplies CO<sub>2</sub> laser optics for 25 to 200 watt lasers, factory direct and optimized for 10.6 micron. Featured are ZnSe positive focusing lenses in plano-convex, plano-concave, and meniscus configurations in 1/2" to 2" dia., focal length 1" to 20". CO<sub>2</sub> laser turning mirrors offered are made from molybdenum for harsh environments; other mirrors include copper, dual band, silicon and phase retardation. These OEM quality replacement optics ship from stock within 12 hours. Contact: Scott Rouillard, Sales, scott@melleroptics.com; Steve Lydon, Sales, steve@melleroptics.com.

#2232

## Laser Optics Berlin

Messedamm 22, Berlin, Germany, 10405  
+49 30 3038 2056; fax +49 30 303.8 2291  
laser-optics@messe-berlin.de; www.laser-optics-berlin.de

**Featured Product: Laser Optics Berlin in collaboration with OSA and Microsys.**

Successful Three-Pillar Concept. International Congress: The centerpiece of Laser Optics Berlin includes scientific and application-oriented lectures and renowned experts. Exhibition: From basic technologies to applied laser technology, from scientific innovation all the way to the introduction of international projects and cooperative efforts, Laser Optics Berlin presents the industry's current state of affairs. Experts' Forums: Specific application areas take center stage. Contact: Kerstin Kube-Erkens, Senior Project Manager, laser-optics@messe-berlin.de; Prof. Dr. Eberhard Stens, TSB Innovationsagentur Berlin GmbH, adlershof@tsb-berlin.de.

#4601

## Laser Safety Industries

6311 Cambridge St, Minneapolis, MN, 55416  
+1 888 752 7370; fax +1 952 405 6949  
info@lasersafetyindustries.com; www.lasersafetyindustries.com

**Featured Product: Clear Nd:YAG laser glasses are a light-weight black sport warp frame with a glass laser filter.**

Laser Safety Industries delivers more for less. As a manufacturer we can offer you the best industry prices on laser glasses (including prescription), barrier systems, windows, and warning signs or labels. Laser Safety Industries also provides on-site and on-line laser safety training along with a full line of safety publications. Contact: Jeremy Erickson, Sales, jerickson@lasersafetyindustries.com; Keith Poppe, Owner, kpoppe@lasersafetyindustries.com.

#5506

## Laser SOS USA, Inc.

55 Sterling St, Clinton, MA, 01510  
+1 978 568 6126; fax +1 978 368 6127  
info@lasersos-usa.com; www.lasersos-usa.com

#6082

## Laser Zentrum Hannover e.V.

#4601

Hollerithallee 8, Hannover, Germany, 30419  
+49 511 2788 0; fax +49 511 2788 100  
info@lzh.de; www.lzh.de

The Laser Zentrum Hannover e.V. (LZH) is active in research, development and consulting in all areas of laser technology, including laser development, thin film technology, micro and nano-machining, cutting, welding, surface treatment, process monitoring, and laser safety. The laser development department provides innovative solutions for solid-state and fiber lasers, single-frequency lasers, ultrafast lasers, spaceborne laser systems and fiber-optic components. Contact: Joerg Neumann, Head of Laser Development Department, j.neumann@lzh.de.

## Laser-Compact Co. Ltd.

#933

SPIE Corporate Member

3 Vvedensky St, Moscow, Russia, 117342  
+7 495 720 5450; fax +7 495 720 5451  
ik@lcompact.msk.ru; www.laser-compact.ru

**Featured Product: High stability DPSS CW lasers: models DTL-313 (500 mW, 527 nm) and DTL-323 (2W, 1053 nm).**

Specializes in the field of DPSS lasers radiating in green, UV and IR ranges of spectrum. A 19-year custom design experience. Products include CW and pulsed Q-switched lasers, small laser modules and laser systems. Application fields: laser microdissection, laser microscopy, mass spectrometry, holography, non-destructive control etc. Over 40,000 of DPSS lasers have been produced for world-leading industrial companies. The biggest Russian exporter of DPSS lasers (delivery for 38 countries). Contact: Natalia Gavrilenko, Head of Sales Department, ik@lcompact.msk.ru.

## Laser-export Co. Ltd.

#933

SPIE Corporate Member

3 Vvedensky St, Moscow, Russia, 117342  
+7 495 720 54 50; fax +7 495 720 54 51  
sales@laser-export.com; www.laser-export.com

**Featured Product: the DTL-399QT, 3-in-1 DPSS Q-switched laser (1053nm, 527nm & 351nm) for scientific applications.**

Specializes in the field of DPSS lasers manufacturing and R&D. Represents a group of companies Laser-compact with 19-year custom design experience. The company offers CW and pulsed UV, green and IR lasers for use in application fields: spectroscopy, laser microdissection, interferometry, industrial & medical positioning, test & measurement equipment, quality control of crystals etc. Over 40,000 of DPSS lasers have been produced by Laser-compact group for world-leading industrial companies. Contact: Ekaterina Fedyna, Deputy Marketing Director, sales@laser-export.com; Natalia Gavrilenko, Head of Sales Department, ik@lcompact.msk.ru

## Laserline Inc.

#2528

SPIE Corporate Member

1800 Wyatt Dr Ste 9, Santa Clara, CA, 95033  
+1 408 834 4660; fax +1 408 834 4671  
info@laserline-inc.com; www.laserline-inc.com

**Featured Product: LDM compact lasers: Now up to 2500 W of fiber coupled pump power.**

Laserline is the leading manufacturer of high power diode lasers up to 12 kW. The products are used as pumps for DPSS and fiber lasers as well as in a wide range of industrial applications such as cladding, heat treatment, brazing and welding. Founded in 1997, the business is headquartered in Muelheim-Kaerlich, Germany, with a subsidiary in Santa Clara, California. Contact: Silke Pflueger, Director Marketing & Sales, sp@laserline-inc.com; Klaus Kleine, VP North American Operations, kk@laserline-inc.com.

## Laserod Inc.

#4528

20312 Gramercy Pl, Torrance, CA, 90501  
+1 310 328 5869; fax +1 310 328 5873  
www.laserod.com

Precision laser micro-machining job shop service and machine tool provider. We resize/core silicon wafers, pattern ITO, process MEMS devices and solar cells, and trim resistors. Contact: Mickey Sejpal, Sales Manager, mickey@laserod.com; Terry Pothoven, Shop Manager.

## LaserPoint Srl

#2613

Via Burona 51, Vimodrone, Italy, 20090  
+39 02 27400236; fax +39 02 25029161  
sales@laserpoint.it; www.laserpoint.it

**Featured Product: High Power Beam Position Sensing Detectors Thermal OEM Heads with RS232/USB.**

Laser Point manufactures Power and Energy Meters from nW up to multi-KW, for science, industry and medical applications. Heads have the best coatings available on the market today. Each product comes with NIST or PTB traceable calibrations. For details visit the website: www.laserpoint.eu. Contact: Mr. Ferretti Flavio, Product Mgr., ferretti@laserpoint.it; Mr. Gianluca Maestranzi, Manufacturing Manager, maestranzi@laserpoint.it.

## Lasertel Inc.

#927

SPIE Corporate Member

7775 N Casa Grande Hwy, Tucson, AZ, 85743  
+1 520 744 5700; fax +1 520 744 5766  
sales@lasertel.com; www.lasertel.com

Lasertel is a vertically-integrated semiconductor laser manufacturer. In-house epitaxy, wafer processing and packaging enables consistent delivery of a wide range of standard and customer-specific product solutions. Lasertel's chips, bars, array packages and fiber-coupled devices are available with peak wavelengths from 770nm to 1000nm, and peak powers from 200mW to several kW. Contact: Marie Grabe, Customer Service Representative, sales@lasertel.com; Robert Walker, Director of Sales, sales@lasertel.com.



BANNER SPONSOR

## Laservision USA

#708

SPIE Corporate Member

595 Phalen Blvd, St. Paul, MN, 55130  
+1 651 357 1800; fax +1 651 357 1830  
info@lasersafety.com; www.lasersafety.com

Laservision is your worldwide laser safety expert for more than thirty years. We specialize in cutting edge design, development and manufacture of laser protective technologies for the Safe Use of Lasers. Laser users worldwide rely on Laservision for the most advanced laser safety solutions and technical support. Contact: Huyen Vu, Marketing, h.vu@lasersafety.com; Richard Greene, Key Account Manager/Academy Director, r.greene@lasersafety.com.

## Lasever Inc.

#4631

1-1704 No 487 Yangmuqi Rd, Ningbo Zhejiang, China, 315040  
+86 574 27851328; fax +86 574 27851329  
lasever@163.com; www.lasever.com

Lasever Inc. is a specialized manufacturer for high quality diode-pumped solid-state laser. We have engineered our DPSS Laser to be the most attractive laser products available today by combining the benefits of compact size with an easy to use, maintenance-free design. Employing the latest production technology in precision fabrication of compact DPSS Laser has allowed us to offer you state-of-the-art products.

## LASOS Lasertechnik GmbH

SPIE Corporate Member

Carl Zeiss Promenade 10, Jena, Germany, 07745  
+49 3641 2944 0; fax +49 3641 2944 79  
lasosinfo@lasos.com; www.lasos.com

LASOS Lasertechnik GmbH develops, manufactures and markets Argon Ion lasers, Diode lasers, DPSS lasers, HeNe lasers. The industrial manufactured lasers operate in the visible wavelength range from 405 nm to 685 nm and provide output powers 0.5 mW up to 200 mW and provide excellent beam quality and long life time for OEM applications such as Biomedical Imaging, DNA Sequencing, Flow Cytometry, Holography, Optics Testing, Reprographics, and Test and Measurement. Contact: Phil Crowley, CEO, Market Tech Inc., phil@markettechinc.net.

#1331

## Lawrence Livermore National Laboratory #5403

7000 East Ave L-632, Livermore, CA, 94550  
+1 925 422 7511; fax +1 925 423 6923  
simons3@llnl.gov; https://careers.llnl.gov

The National Ignition Facility is the world's largest & highest-energy laser system. GOAL: demonstrate laser-driven inertial confinement fusion with energy gain. NIF's inter-related missions are to help ensure the reliability & safety of the nation's nuclear weapons stockpile without underground testing; and lay the groundwork for the development of fusion energy as a limitless, carbon-free energy source. Contact: Daphne Simons, simons3@llnl.gov.

## Lasys Trade Show - Messe Stuttgart

1836 Winchester Trail, Atlanta, GA, 30341  
+1 678 799 9565; fax +1 678 799 7174  
info@messe-stuttgart.de; www.lasys-messe.de

#6022

**Featured Product: LASYS 2012 System Solutions Material Processing VISION 2011 Machine Vision in Stuttgart, Germany.**

Hosting over 60 exhibitions yearly, Messe Stuttgart's new Trade Fair Center (1 mil. sq. ft.) is located beside the Int'l. Airport. It is regarded as Europe's most modern, greenest trade fair ground with an incomparable infrastructure. In the heart of Europe the Stuttgart Region is known as an important industrial & dynamic economic location. It is home to high-technology & numerous industries of the future, which is why Messe Stuttgart is specialized on high-tech & investment goods trade fairs. Contact: Nicole Essawy, USA Representative, nicole.essawy@messe-stuttgart.us.

## Lattice Electro Optics, Inc.

SPIE Corporate Member

1324 E Valencia Dr, Fullerton, CA, 92831  
+1 714 449 0532; fax +1 714 449 0531  
latticeoptics@gmail.com; www.latticeoptics.com

#533

**Featured Product: High Damage PBS, High Energy Broadband Ti:Sapphire Optics, Plastic Sheet Polarizer.**

High Power PBS; Broadband High Energy Ti:Sapphire Mirrors; EXCIMER (193 and 248nm), YAG, CO<sub>2</sub> and FEMTOSECOND optics; OPO and Laser Rod coatings; Sandia National Labs' Level 1 Supplier; 24 Hours turn around on coating; High Power Beam Expanders are available. Contact: Technical Sales/Application Engineer, latticeoptics@gmail.com; Scott Kim, President, scott.latticeoptics@gmail.com.

## Lattice Materials LLC

516 E Tamarack St, Bozeman, MT, 59715  
+1 406 586 2122; fax +1 406 587 9055  
marketing@latticematerials.com; www.latticematerials.com

#1938

**Featured Product: Magnetically Confined Czochralski Grown (MCZ) Silicon - the high transmission, low cost alternative.**

Lattice Materials is an American company that manufactures infrared optical blanks, curves and witness samples out of germanium and silicon. We also produce laser mirror blanks and thin film deposition materials with high, medium and low refractive index's as well as sputtering targets. Lattice Materials has the ability to perform crystal growth with custom resistivity to your specifications and now provides magnetically confined (MCZ) silicon material. Contact: Bob Spetz, Account Manager, bobs@latticematerials.com; Mike Foster, Account Manager, mikef@latticematerials.com.

## LEDinside

4F No 68 Sec 3 Nanjing E Rd, Taipei, Taiwan, 104  
+886 2 7702 6888; fax +886 2 7702 6898  
angushsu@trendforce.com; www.ledinside.com

#5533

**Featured Product: BeLight magazine is a biannual magazine distributed at global major LED-related trade shows.**

LEDinside, a subsidiary of TrendForce, offers research information on LED. Moreover, LEDinside also covers the technology development, market trend, and financial information of the LED industry on a global and regional basis. LEDinside was launched in July 2007 and has become one of the most popular and distinguished online news and information provider for the LED market. For more about LEDinside, please visit www.ledinside.com. Contact: Angus Hsu, Manager of Marketing Division, angushsu@trendforce.com.

## Lee Laser, Inc.

7605 Presidents Dr, Orlando, FL, 32809  
+1 407 812 4611; fax +1 407 850 2422  
salesdept@leelaser.com; www.leelaser.com

#2039

**Featured Product: Series LDP-HP: High-performance diode array; 20%+ increase in power and 25%+ decrease in pulse width.**

Manufacturer of industrial-grade OEM solid-state lasers: Diode-pumped and lamp-pumped, YAG and Vanadate, TEM<sub>00</sub> and multimode. CW and Q-switched lasers for marking, trimming, scribing, ablation, welding, cutting, diamond processing, PV manufacturing, Ti:Sapphire pumping. 1064-nm up to 1000-W; 532-nm up to 300-W; Pulse-pumped at 1064-nm up to 200-W for micro-machining; 355-nm UV up to 12-W. Specializes in OEM engineering to ease integration. Contact: Steve Lendway, Marketing Product Manager, slendway@leelaser.com; Joe Kennedy, Director Sales and Marketing, jkennedy@leelaser.com.

## LEG Thüringen GmbH

State Development Corporation of Thuringia, Mainzerhofstr 12, Erfurt, Germany, 99084  
+49 361 5603 450; fax +49 361 5603 328  
invest@leg-thuringen.de; www.invest-in-thuringia.de

#4601

LEG Thüringen GmbH is the economic development corporation for the Free State of Thuringia, Germany; and is responsible for marketing the region and attracting new investors. Companies can turn to LEG to meet all their relocation needs. LEG works with investors to select the most appropriate sites, establishes contact with regional authorities and identifies business and technology partners. LEG also provides individual advice on financing and government aid. All services are free of charge. Contact: Steffen Hinneburg, steffen.hinneburg@leg-thuringen.de; Barbara Kupfer, barbara.kupfer@leg-thuringen.de.



**Leica Microsystems GmbH**

**#4601**

Ernst-Leitz-Str 17-37, Wetzlar, Germany, 35578  
 +49 6441 29 2865; fax +49 6441 29 2679  
 loc-sales@leica-microsystems.com; www.oem-optics.com  
 Leica Microsystems is with Leica Optic Center present at the Photonics West. All you need - from Design to Delivery- The Leica Optic Center. As one of the world's leading and most established producers of precision optics and systems, innovations are part of our daily business-pioneering achievements that win prestigious industry and technology awards for us and enable our customers to make groundbreaking progress time and again. Make our expertise work for your success! Contact: Raimund Bayer, Project Manager Leica Optic Center, Raimund.Bayer@leica-microsystems.com.

**Leister Technologies, LLC**

**#1028**

**SPIE** Corporate Member

1253 Hamilton Pkwy, Itasca, IL, 60143  
 +1 630 760 1000; fax +1 630 760 1001  
 sales@leisterusa.com; www.axetris.com

**Featured Product: Fiber Coupling Micro-lens Arrays for coupling light into fiber arrays in optical communications.**

Leister offers refractive custom micro-optic for OEM customers in various industries including fiber-optic communications. The products include micro-optic lenses and lens arrays, along with, diffractive optical elements. Working with Silicon and fused Silica materials, Leister products cover the entire wavelength range from UV to mid IR. Our optics engineering and manufacturing team will support you from prototyping to volume production helping you to meet your specific design goals. Contact: Stefan Lesjak, Sales Manager, Micro-Optics, Stefan.lesjak@leister.com; Brian Kinkade, Sales Development Manager, USA, brian.kinkade@leisterusa.com.

**LEONI Fiber Optics GmbH**

**#4535**

Mühltdamm 6, Neuhaus-Schierschmitz, Germany, 96524  
 +49 36764 81100; fax +49 36764 81110  
 fiber-optics@leoni.com; www.leoni-fiber-optics.com

Optical technologies and LEONI The Fiber Optics business unit of the LEONI Group is one of the leading providers of optical fibers for communication as well for special applications in industry, sensor technology, analytics, in science and laser medicine. LEONI is offering a unique product range at every stage along the value chain: from the preform, to the fibers, up to fiber optic cables and complete fiber optic systems. Our product families: FiberTech®, FiberConnect®, FiberSplit®, FiberSwitch®. Contact: Armin Kaus, President, info@us-fibertech.com.

**Leybold Optics USA, Inc.**

**#2411**

**SPIE** Corporate Member

539 James Jackson Ave, Cary, NC, 27513  
 +1 919 657 7100; fax +1 919 657 7101  
 us.sales@leyboldoptics.com; www.leyboldoptics.com

**Featured Product: Direct optical monitoring on a SYRUSpro box coater with double rotation planet.**

Leybold Optics is a standard-setting, technologically innovative company in the business of vacuum coating systems used for coatings from the deep ultraviolet to the far infrared. The SYRUSpro is a high productivity electron beam gun coating tool with ion plasma assisted deposition for production of dense and shift free optical coatings. The HELIOS system is based on reactive magnetron sputtering and includes an in situ optical monitoring system. Contact: Tobias Haecker, Regional Sales Manager, tobias.haecker@leyboldoptics.com.

**DIODE-PUMPED SOLID-STATE LASERS**  
**from IR to UV**

— *	263 nm	266 nm
— *	351 nm	355 nm
— *	527 nm	532 nm
— *	1053 nm	1064 nm

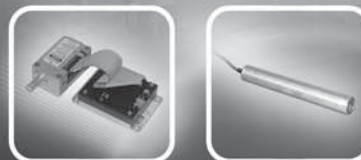


⇒ **Q-switched UV, green & IR lasers** for micro-dissection, mass-spectrometry, light detection

⇒ **High-stability CW lasers** for optical trapping

⇒ **Single-frequency CW lasers** for Raman spectroscopy, laser microscopy

⇒ **High-reliable green & IR laser modules** for alignment & positioning



**South Hall, Booth 933**

## Light Age, Inc.

SPIE Corporate Member

500 Apgar Dr, Somerset, NJ, 08873  
+1 732 563 0600; fax +1 732 563 1571  
marketing@lightage.com; www.lightage.com

#900

## LightMachinery Inc.

80 Colonnade Rd Unit 1, Nepean, ON, Canada, K2E 7L2  
+1 613 749 4895  
gsenechal@lightmachinery.com; www.lightmachinery.com

#2531

## Light Conversion Ltd.

#2417

PO Box 1485, Sauletekio Av 10, Vilnius, Lithuania, 10223  
+370 5 2491830; fax +370 5 2698723  
company@lightcon.com; www.lightcon.com

Light Conversion is the world-leader for tunable fs/ps OPA systems with the worldwide-proven TOPAS series products. New products - Ytterbium laser 'PHAROS' (180 fs, up to 10 W, 1mJ, 1MHz), harmonics generator "HIRO", parametric amplifier "ORPHEUS" form a , 'best-in-class' set of devices for femtoseconds applications in industry, medicine, and fundamental research. Contact: Lucian Hand, President of Altos Photonics, lucian@altosphotonics.com.

## LightPath Technologies, Inc.

SPIE Corporate Member

2603 Challenger Tech Ct Ste 100, Orlando, FL, 32826  
+1 407 382 4003; fax +1 407 382 4007  
info@lightpath.com; www.lightpath.com

LightPath Technologies, Inc. is a recognized leader in aspheric optical solutions for medical, industrial, defense, and communication applications. We offer a full line of aspheric optics and assemblies, including molded aspheric optics, GRADIUM optics, fiber collimators, optical isolators, and optical assemblies. LightPath specializes in aspheric optics and assemblies for medical, industrial, defense, and communication applications. LightPath is TUV ISO 9001 and SGS 9001:2000 certified. Contact: Ray Pini, Director of Marketing, rpini@lightpath.com; Rob Myers, Director of Sales, rmyers@lightpath.com.

#2029

## LightComm Technology

#4413

3F Bldg 2 North Honghualing Industry Park, 1268 Liuxian Ave, Shenzhen, China, 518055

+86 755 8615 7878; fax +86 755 8615 9471  
sales@lightcomm.com; www.lightcomm.com

**Featured Product: -Combiner. Nx1 & (N+1)x1. -NxM fiber bundle. 62.5, 100, 200um core. -Isolator and collimator.**

LightComm established in 2000, >400 employees and >5000sqm area, specialized in Telecom optical components, achieve good reputation in industry. Now launch new products focus on high power all-fiber, micro-optics, PM fiber components. Target industry is fiber laser, sensor, medical, defense etc. application. Contact: Eric Zhang, Sales VP, eric.zhang@lightcomm.com; Mr. Alan Meng, Product manager, alan.meng@lightcomm.com.

## LightSmyth Technologies, Inc.

#4220

875 Wilson St Ste C, Eugene, OR, 97402  
+1 541 431 0026; fax +1 541 284 5607  
info@lightsmyth.com; www.lightsmyth.com

**Featured Product: Fused silica grating for near IR with peak diffraction efficiency 95%, 1600 and 1000 grooves/mm.**

LightSmyth offers a wide range of high performance diffraction gratings based on advanced nanophotonic fabrication technology at low prices. Diffraction gratings by LightSmyth are distinguished by high efficiency, low PDL, ultra-low-scatter and high power handling. Each grating is a master but priced as a replicated grating. Applications include pulse compression, optical instruments, optical telecommunication (optical switch) and others. Silicon nanostamps for nanoimprinting are also offered. Contact: Dmitri lazikov, Sr. Design Engineer, info@lightsmyth.com.

## LightGuideOptics USA, LLC

#209

1141 Calboro Dr, San Jose, CA, 95117  
+1 408 244 0686; fax +1 408 244 0714  
dspecial@lgoptics.com; www.lgoptics.de

**Featured Product: Fused Fiber Bundles for high temperature and higher transmission versus standard bundle designs.**

LightGuideOptics USA manufactures a variety of large core step index fibers, finished assemblies and both standard and fused bundles for the medical, scientific and industrial markets. Fully packaged and sterilized products are available. ISO and CE Mark certifications. Contact: Mick Speciale, Chief Operating Officer, dspecial@lgoptics.com.

## LightTrans VirtualLab UG

#4601

Wildenbruchstr 15, Jena, Germany, 07745  
+49 3641 66 43 53; fax +49 3641 66 43 54  
sales@lighttrans.com; www.lighttrans.com

**Featured Product: Simulation of 3D sub-wavelength gratings, parametric optimization and many more new features.**

LightTrans continues with its trendsetting strategy in optics software development. The field tracer VirtualLab™ provides modeling techniques ranging from geometrical optics to electromagnetic simulation on one single platform. That offers an unsurpassed flexibility in modeling. The toolboxes of VirtualLab™ allow the investigation of micro-optics, diffractive optics, ultra-short pulses, laser resonators, LEDs, excimer lasers, gratings, photonics crystals, artificial materials, and much more. Contact: Tim Lindsey, Business Development, tim@jenoptik-inc.com; Dr. Michael Kuhn, Director Software Development, kuhn@lighttrans.com.

## Lighthouse Photonics Inc.

#2635

528 E Weddel Dr Ste 8, Sunnyvale, CA, 94089  
+1 408 752 0740; fax +1 408 773 6240  
info@lighthousephotonics.com; www.lighthousephotonics.com

**Featured Product: Sprout is a sub-compact, low noise, high-power CW green DPSS laser system.**

Innovative DPSS lasers for research, life sciences and industry. Sprout is a breakthrough in performance and compactness for high-power CW green DPSS lasers. Up to 10W at 532nm in a near-perfect TEM<sub>00</sub> mode with incredibly low noise and impressive power stability. Sprout is specifically designed for pumping all types of Ti:Sapphire lasers. Visit our booth and see Sprout running. Contact: John MacKay, CEO, jsm@lighthousephotonics.com.

## LightVision Technologies, Corp.

#5033

SPIE Corporate Member

6F-5 No 40-2 Sec 1 Ming Sheng N Rd, Kwei-Shan, Taoyuan, Taiwan, 333  
+886 3 3555931; fax +886 3 3555934  
sales@lightvision.com.tw; www.lightvision.com.tw

**Featured Product: Green Laser Wireless RF Presenter Laser Pointer with Remote Page up-and-down Control Function.**

LightVision is a Taiwan based company with 10 years experience in laser industry. We are mainly offering professional Laser Pointer, Laser Presenter, Laser Module and Laser System all over the world. Our products are qualified with CE, FDA, RoHS and JQA (for Japan Market) certificate. Meanwhile, our factory is also certified with ISO9001:2008. Welcome to visit our website [www.lightvision.com.tw](http://www.lightvision.com.tw) to know more about us and our products. Contact: Sophia Liu, Sales Manager, sales@lightvision.com.tw.

## LightWorks Optics, Inc.

#227

SPIE Corporate Member

14242 Chambers Rd, Tustin, CA, 92780  
+1 714 247 7100; fax +1 714 247 7101  
info@lwoptics.com; www.lwoptics.com

LightWorks Optics, Inc. is the preferred choice for meeting the complex optical design, engineering and production needs of customers within the defense, aerospace, medical device, biomedical and commercial market segments. From specification definition, to world-class design, prototyping, testing and production, our highly responsive team of engineering and manufacturing experts deliver the highest-quality visible, infrared, and laser-based assemblies, systems and components available. Contact: Kent Weed, Director of Business Development, kweed@lwoptics.com; Lisa Belodoff, Director of Marketing, lbelodoff@lwoptics.com.

## LIMO Lissotschenko Mikrooptik GmbH

#601

Bookenburgweg 4, Dortmund, Germany, 44319  
+49 231 222 41 0; fax +49 231 222 41 140  
kontakt@limo.de; www.limo.de

LIMO is world-market leader in refractive micro optics and is manufacturer of micro optics, beam shaping solutions, diode lasers and laser systems. The following industries benefit from our solutions: microlithography, medical equipment, photonics (solid-state and fiber lasers), flat panel display and photovoltaic production, automotive manufacturing and all other industries that use high power lasers. Contact: kontakt@limo.de.

## Lincoln Laser Co.

#922

SPIE Corporate Member

234 E Mohave, Phoenix, AZ, 85004  
+1 602 257 0407; fax +1 602 257 0728  
www.lincolnlaser.com

Custom Engineered and Manufactured Solutions for precision laser beam delivery systems and laser-based technologies. Extensive engineering expertise and manufacturing resources for component, sub-assembly or module level projects, prototype to production. Products include Polygon Mirrors, Motors, Control Electronics, Optics, Precision Spindles and Electro-Optic Modules. Any Industry. Any Application. Contact: Michael Adkins, VP Sales, madkins@lincolnlaser.com; dsaunder@lincolnlaser.com, ghelser@lincolnlaser.com.

## Litron Lasers

#4200

2449 Arnica Dr, Bozeman, MT, 59715  
+1 406 522 7566; fax +1 406 522 7567  
ken@litronlasers.com; www.litronlasers.com

Pulsed and CW Nd:YAG and Nd:YLF lasers for scientific and industrial applications. OEM lasers for PIV, LIBS, laser ablation, micromachining, flat panel repair. Contact: Ken Bell, President, ken@litronlasers.com.

## Lockheed Martin Aculight

#816

SPIE Corporate Member

22121 20th Ave SE, Bothell, WA, 98021  
+1 425 482 1100; fax +1 425 482 1101  
info.dp-ms2-bothell@lmco.com; www.aculight.com

Lockheed Martin Aculight provides quality, innovative, cost-effective laser systems for customers in the national defense, aerospace, commercial & medical markets. We develop & manufacture lasers with outputs from UV to IR. Offering both off-the-shelf and customer-designed products, our technology portfolio includes fiber lasers, DPSS lasers, mid-infrared lasers, nonlinear optics, and OPOs. We provide value at every level of the product cycle, from research to flexible contract manufacturing. Contact: Mark Bendett, Bothell Business Development, mark.bendett@lmco.com.

## Logitech Ltd.

#2223

Erskine Ferry Rd, Old Kilpatrick, Glasgow Scotland, United Kingdom, G60 5EU  
+44 1389 875444; fax +44 1389 890956  
www.logitech.uk.com

**Featured Product: DP1/DP4 – High speed precision polishing systems ideal for polishing hard materials.**

Logitech Ltd is a world leader in materials processing, shaping and surface finishing technology. We design and manufacture high precision cutting, lapping and polishing systems which enable high specification surface finishes to be prepared with precise geometric accuracy. Logitech systems are used to process fibre optic, laser, opto-electronic and semiconductor materials. Logitech Systems can be used for polishing optical components such as AWGs, FBGs, Fibre Arrays and SOAs. Contact: Josh Atkinson, Technical Sales Executive, josh.atkinson@logitech.uk.com; Ian Waugh, Technical Sales Executive, ian.waugh@logitech.uk.com.

**SPIE Career Center**  
**Job Fair**  
**Two Days Only**  
 North Hall | Aisle 5600  
**Employers are coming together to interview and hire candidates at Photonics West!**

Tuesday 25 January · 10:00 am to 5:00 pm  
 Wednesday 26 January · 10:00 am to 5:00 pm

[spie.org/careercenter](http://spie.org/careercenter)



## Luceta Ltd.

#4742

OpTIC Technium, St. Asaph Business Park, St. Asaph, United Kingdom, LL17 0JD  
+44 1745 535125; fax +44 1745 535101  
sales@luceta.com; www.luceta.com

Luceta supplies photonics and related technologies in the United Kingdom & Ireland. We use the latest e-business tools to deliver exceptional products manufactured by some of the industry's leading companies, including Oclaro™ High Power Laser Diodes, VCSELs, Optical Filters and Lumina Power Laser Diode Drivers. Contact: Phillip Cornish, Sales Director, phillip.cornish@luceta.com.

## Lumen Dynamics Group

#5530

2260 Argentia Rd, Mississauga, ON, Canada, L5N 6H7  
+1 905 812 2600; fax +1 905 821 2055  
x-cite@ldgi.com; www.ldgi-xcite.com

## Lumencor, Inc.

#416

14964 NW Greenbrier Parkway, Beaverton, OR, 97006  
+1 503 530 1008; fax +1 503 536 6741  
info@lumencor.com; www.lumencor.com

**Featured Product: Robust, intense, solid state illuminators and imaging subsystems for fluorescent bioanalysis.**

Lumencor manufactures light engines and imaging subsystems and offers optics expertise to provide high performance illumination in a range of bioanalytical instruments including fluorescence microscopes. Solid state sources yield power on par with an arc lamp in discrete bands throughout the UV-Vis-NIR. Intense, stable, durable, switchable light is produced from a compact, axially aligned unit for end users and OEMs. Complete optical systems for quantitation are now available. Contact: Claudia Jaffe, V.P. Business Development, claudia.jaffe@lumencor.com; Les Decker, Product Manager, les.decker@lumencor.com.

## Lumera Laser GmbH

#5119

Opelstr 10, Kaiserslautern, Germany, 67661  
+49 6301 32013 180; fax +49 6301 32013 189  
sales@lumera-laser.com; www.lumera-laser.com

Lumera Laser is the leading manufacturer of picosecond laser systems for industrial use. With systems ranging in power from 6W to 50W Lumera is able to cater to a wide range of micromachining applications. Lumera has a proven track record for reliability and many customers use our systems in 24/7 operation. Lumera Laser also offers process development and Job Shop services. Contact: Dirk Mueller, Director of Marketing and Sales, mueller@lumera-laser.com; Bernhard Klimt, Director of Business Development, klimt@lumera-laser.com.

## Lumics Laser

#1840

Carl-Scheele-Str 16, Berlin, Germany, 12489  
+49 30 67806760; fax +49 30 678067626  
infous@lumics.com; www.lumics.com

**Featured Product: LuOcean™ for solid state laser pumping. High beam quality, excellent lifetime, ultra small footprint.**

Lumics GmbH, Berlin produces laser diodes and systems based on single emitter. The product line includes pump laser for Er, Tm, Yb, Nd; single mode seed laser for fiber laser; laser modules for analytical, sensing, ranging and industrial applications; high power laser heads for material processing; as well as a medical laser product line for dermatology, surgery, dentistry and wellness. Lumics offers suitable drivers and power supplies, application solutions and optics design. We like your ideas Contact: Mathias Milstrey, Sales Manager Americas, mathias.milstrey@lumics.com; Lee Branst, Regional Sales Manager North America, lee.branst@lumics.com.

## Lumina Power, Inc.

#5200

26 Ward Hill Ave, Bradford, MA, 01835  
+1 978 241 8260; fax +1 978 241 8262  
sales@luminapower.com; www.luminapower.com

**Featured Product: New 6000 watt three phase input laser diode driver with 250amp CW output capability.**

Lumina Power designs and manufactures laser diode drivers, capacitor charging power supplies and short arc lamp power supplies for Xenon and mercury lamps. Contact: Barry Essig, VP Sales & Marketing, bessig@luminapower.com.

## Luna Technologies

#1139

3157 State St, Blacksburg, VA, 24060  
+1 540 552 5128  
solutionslt@lunatechnologies.com; www.lunatechnologies.com

**Featured Product: Luna's new OBR 4600 is an ultra-high resolution, zero dead-zone OTDR with distributed sensing.**

Luna Technologies specializes in advanced solutions for fiber optic test and measurement. Our award-winning product line includes the Optical Vector Analyzer and the Optical Backscatter Reflectometer: flexible and easy-to-use tools for loss, dispersion, PMD, polarization, high-resolution OTDR, and distributed temperature and strain analysis for optical fiber components, modules and networks. Luna's tunable lasers include high-performance modules and benchtop instruments. Contact: Lindsey Havens, Marketing Specialist, havensl@lunainnovations.com; Mark Froggatt, CTO, froggattm@lunainnovations.com.

## Luphos GmbH

#4601

Landwehrstr 55, Darmstadt, Germany, 64293  
+49 6151 992 6814; fax +49 6151 992 6815  
sales@luphos.com; www.luphos.com

**Featured Product: LuphoScan - Fast and contactless 3D metrology platform for spheric and aspheric optics.**

Luphos GmbH is a young and innovative German company specialized in high precision, contactless distance and topology measurement. The Luphos products feature the worldwide unique Multiwavelength Interferometry (MWLI®) that enables flexible and easy measurements of distances with a sub-nanometer resolution in a large working range. Knowing about the high precision demands in optics, the Luphos team always follows the mission statement "light matters". Contact: Dr. Gernot Berger, Sales Manager, berger@luphos.de; Dr. Juergen Petter, Chief Executive Officer, petter@luphos.de.

## M Squared Lasers Ltd.

#231

1 Technology Terrace, Todd Campus W.S.S.P., Glasgow, United Kingdom, G20 0XA  
+44 141 945 0500; fax +44 141 946 6389  
mail@m2lasers.com; www.m2lasers.com

From DUV to THz and CW to fs, M Squared provides Dependable Innovation: next-generation diode-pumped solid-state lasers and ICE-BLOC® photonic instruments bringing unique capabilities, ease of use and reliability to science and industry. Including: SolsTiS - the smallest, quietest CW SLM Ti:S laser available; Firefly widely tunable mid-IR/THz sources; Sprite automated, high repetition rate ultrafast oscillators. Contact: Dr Graeme Malcolm, CEO, mail@m2lasers.com.

## M&K Inc.

#5510

Bldg 11 Dongbiantou Industry Zone, Shangcun Community, Gongming Town, Shenzhen, Guangdong, China, 518106  
+86 755 81739361; fax +86 755 81739362  
www.mnkdc.com

We are specializing in: 1) Die casting tooling and components, 2) Plastic tooling and components, 3) CNC parts. Contact: Ray Lau, Marketing V.P., rlau@mnkdc.com; Sharon Wang, Administration Manager, pm8@mnkdc.com.

## m2k-laser GmbH

#4601

Hermann-Mitsch-Str 36a, Freiburg, Germany, 79108  
+49 761 5158 7370; fax +49 761 5158 7376  
info@m2k-laser.de; www.m2k-laser.de

**Featured Product: Tapered amplifiers up to 2W emitting between 780nm and 1030nm packaged on c-mount or DHP-mount.**

M2k-laser is specialized on the development and production of high brightness diode lasers based on GaAs and GaSb semiconductors. The production line comprises tapered amplifiers up to 2W between 760nm and 1064nm. In the field of GaSb-based diode lasers the company focuses diode lasers, bars and modules up to 15W between 1.9 and 2.3µm. The diodes are for state of the art applications in sensing, spectroscopy, material processing and medical treatment. Contact: Marc Kelemen, General manager, info@m2k-laser.de; Armin Schildecker, Product manager, info@m2k-laser.de.

## M3D Co.

#5516

309 Laurelwood Rd #23, Santa Clara, CA, 95054  
+1 408 970 9882; fax +1 408 970 9813  
rmatar@m3d.bz; www.m3d.bz

We specialize in mechanical machine and fixture design and build. We have an internal state-of-the-art CNC machine shop including Wire and Sink EDM. Contact: Roger Matar, Senior Mechanical Design Engineer/Principal, rmatar@m3d.bz.

## Mad City Labs, Inc.

#525

**SPIE** Corporate Member

2524 Todd Drive, Madison, WI, 53713  
+1 608 298 0855

sales@madcitylabs.com; www.madcitylabs.com

**Featured Product: High speed Nano-F25HS Piezo lens nanopositioner, nm repeatability, 25 microns travel.**

Mad City Labs designs and manufactures high precision, piezo based nanopositioning devices for research and industry. Our products offer innovative flexure guided designs, proprietary low drift PicoQ<sup>®</sup> sensor technology and closed loop control. System attributes include picometer precision, high speeds, real time position sensing. Suitable for inspection, metrology, microscopy, imaging and beam steering applications. Custom/OEM specialists. Contact: Erin Ruppert, Technical Sales, sales@madcitylabs.com; Dale Baldwin, Technical Sales, sales@madcitylabs.com.

## Makino

#4110

7680 Innovation Way, Mason, OH, 45040  
+1 513 573 7200; fax +1 513 573 7360  
www.makino.com

**Featured Product: Makino announces the new iQ300 Precision Micromachining Center.**

A world leader in advanced CNC machining centers, Makino provides a wide range of high-precision metal-cutting and EDM machinery, including horizontal machining centers, vertical machining centers, 5-axis machining centers, graphite machining centers, and wire and Ram EDMs. Contact: John Bradford, Micromachining R&D Manager, john.bradford@makino.com; Mark Rentschler, Marketing Manager, mark.rentschler@makino.com.

## MANLIGHT

#4832

4 rue Louis de Broglie, Lannion, France, 22300  
+33 2 96 04 20 00; fax +33 2 96 04 27 05  
info@manlight.com; www.manlight.com

**Featured Product: Ultra Compact Laser Transmitter at 1,5µm used as source in LIDAR systems (telemetry, range finding, 3D imaging.)**

Manlight, based in Lannion, France, designs and manufactures high power and high performances fiber lasers and amplifiers at 1.0µm and 1.5µm, CW or pulsed regime, for a large range of applications: R&D/Lab, telecom, industrial (material processing), LIDAR (telemetry, range finding, detection or 3D imaging), medical (skin treatment). Manlight, distributed worldwide, produces is large volume at attractive prices and is ISO certified.

## Market Tech, Inc.

#1331

**SPIE** Corporate Member

1500 Green Hills Rd Ste 109, Scotts Valley, CA, 95066  
+1 800 326 5714; fax +1 831 461 1136  
phil@markettechinc.net; www.markettechinc.net

Market Tech is a leading distribution and sales company offering a wide variety of Gas, Solid State, Diode and Fiber Lasers covering UV, visible and IR spectrum. We also offer laser power meters, light and color measurement instruments, optics and fiber optics products for life science, medical, aerospace, quality control and research applications. Contact: Phil Crowley, CEO, phil@markettechinc.net.

## Marlow Industries, Inc.

#1135

10451 Vista Park Rd, Dallas, TX, 75238  
+1 214 340 4900  
info@marlow.com; www.marlow.com

**Featured Product: NEW Thermoelectric Generators that operate up to 250°C for Waste Heat Recovery.**

Marlow Industries manufactures thermoelectric coolers (TECs), power generators and subsystems for the aerospace, defense, medical, industrial, automotive, power generation and telecommunications markets. As a Telcordia compliant, ISO 9001:2008 certified and National Quality Award winning company, Marlow offers premier quality at competitive prices. Contact: David Finfrock, Market Manager, DSP, dfinfrock@marlow.com; Bill Marsh, Market Manager, DSP and Telecom, bmarsh@marlow.com.

## Martek Power Laser Drive, LLC

#713

5318 Ranalli Dr, Gibsonia, PA, 15044-9625  
+1 724 443 7688; fax +1 724 444 6430  
lasersales@martekpower.com; www.laserdrive.com

Martek Power Laser Drive designs and manufactures a large variety of electronic power supplies for the electro-optics industry, specializing in OEM Designs. We offer Laser Diode Drivers, Capacitor Charging Power Supplies for Dye and Excimer Lasers, Argon & HeNe Ion Lasers, CW Arc and Flash Lamp Power Supplies. Our Quality System is certified to the ISO9001:2008 Standard. Products approved to TUV, UL and CE. Contact: Customer Service, lasersales@martekpower.com.

## Max Levy Autograph, Inc. #1235

SPIE Corporate Member

2710 Commerce Way, Philadelphia, PA, 19154  
+1 215 842 3675; fax +1 215 842 3637  
sales@maxlevy.com; www.maxlevy.com

Max Levy Autograph specializes in ultra-precision patterned components and 3D structures for the photonic, biomedical, mil-aerospace, semiconductor, and metrology industries. Applications range from the X-Ray out to Infrared. Major manufacturing process capabilities include: photolithography, electroforming, photochemical etching, film products, micro-contouring/machining, and NIST traceable calibration services. Contact: Tom Cinque, Sales Manager, tom@maxlevy.com; Rich Rosenfeld, Front Office Manager, richr@maxlevy.com.

## Meadowlark Optics #2129

5964 Iris Pkwy, Frederick, CO, 80530  
+1 303 833 4333; fax +1 303 833 4335  
mlo@meadowlark.com; www.meadowlark.com

**Featured Product: New Selectable Bandwidth Tunable Optical Filter for use in the visible range.**

Meadowlark Optics designs and manufactures standard and custom polarization control components and systems including polarizers, retarders, liquid crystal devices, subassemblies, and instrumentation. Customer applications include aerospace, defense, medical imaging/analysis, data storage, polarimetry, semiconductor inspection/processing and astronomy. New selectable bandwidth tunable optical filter targets spectroscopic imaging microscopy. Contact: William Barbarow, Technical Sales Engineer, wbarbarow@meadowlark.com; Kristy Reeves, Customer Service Representative, kreeves@meadowlark.com.

## Media Cybernetics, Inc. #1223

4340 East-West Highway Ste 400, Bethesda, MD, 20814  
+1 301 495 3305; fax +1 301 495 5964  
info@mediacy.com; www.mediacy.com

Media Cybernetics develops image analysis & processing software used in scientific industries and applications such as cell biology, failure analysis, forensics, genomics/proteomics, materials analysis, microscopy, neuroscience, pathology, pharmaceutical, semiconductor inspection and quality assurance. Key products are Image-Pro® Plus image processing, enhancement and analysis software and AutoQuant X, image deconvolution software.

## MegaWatt Lasers, Inc. #208

SPIE Corporate Member

PO Box 24190, Hilton Head Island, SC, 29925  
+1 843 342 7221; fax +1 843 342 7223  
scott.hamlin@megawattlasers.com; www.megawattlasers.com

MWL manufactures eyesafe microlasers, pump chambers, and application specific lasers. A popular product is the ER-100 eyesafe Er:Glass microlaser; packaged in a T0-3 housing, this laser produces 2ns pulses with a peak power of 50 kW making it ideal for remote sensing applications. Our high efficiency diffuse reflector pump chambers are ideal for both pulsed and CW solid state lasers. We also manufacture application specific solid state lasers for medical, industrial, and defense applications. Contact: Scott Hamlin, President, scott.hamlin@megawattlasers.com.

## Meller Optics, Inc. #2232

120 Corliss St, Providence, RI, 02904  
+1 401 331 3717; fax +1 401 331 0519  
sales@melleroptics.com; www.melleroptics.com

Meller Optics has been providing high quality optics to defense, medical, laser and industrial markets for over 50 years. Specializing in grinding and polishing of hard, durable materials. Meller has developed high-speed, low-cost finishing processes for Sapphire, Ruby, Laser Glasses, Fused Silica, Zinc Selenide, Germanium, Silicon, Fluorides and Ceramics. Configurations include windows, substrates, lenses, domes and prisms. Meller Optics is an ISO9001:2008 certified company. Contact: Craig Schweriner, Sales Manager, craig@melleroptics.com; Steve Lydon, Sales, steve@melleroptics.com.

## Menlo Systems GmbH #1715

Am Klopferspitz 19, Martinsried, Germany, 82152  
+49 89 189 166 0; fax +49 89 189 166 111  
sales@menlosystems.com; www.menlosystems.com

Menlo Systems is a leading developer and global supplier of instrumentation for high-precision metrology. Known for its Nobel Prize winning optical frequency comb technology, the Munich-based company and its US subsidiary also supply femtosecond phase stabilization units, femtosecond lasers, THz systems and a broad spectrum of high-sensitivity ultrafast photodetectors. Contact: Sales Team, sales@menlosystems.com, ussales@menlosystems.com.

## MeshTel - INTELITE, Inc. #6052

2562-F1 Silver State Pkwy, Minden, NV, 89423  
+1 775 267 5959; fax +1 775 267 5958  
info@meshtel.com; www.meshtel.com

**Featured Product: New Low cost 405nm Blue Diode Laser Module.**

Manufacturer and supplier diode/DPSS Laser. CW, Acousto-optic modulator (AOM) Q-switched, single longitudinal mode, fiber coupled and pigtailed laser with wavelength of 266, 351, 355, 473, 532, 671, 1034 and 1064nm DPSS Laser, 375 to 1600nm Diode Laser. Power up to 20W. Side Emitting Fiber Optics, Laser safety Goggles, Closed-loop scanner/driver. Contact: Ray Newton, Sales, info@meshtel.com.

## Messe München GmbH #4601

Messegelände, Munich, Germany, 81823  
+49 89 949 20317; fax +49 89 949 20319  
info@world-of-photonics.net; www.world-of-photonics.net

**Featured Product: LASER World of PHOTONICS - 20th International Trade Fair and Congress for Optical Technologies.**

LASER World of PHOTONICS - the world's leading trade show for optical technologies. Since 1973, it has taken place every two years in Munich, Germany. The event is held in parallel with the World of Photonics Congress, which is Europe's largest photonics congress. The LASER World of PHOTONICS trade fairs and their congresses are the most important marketplaces and think tanks for the worldwide laser and photonics industry and its users. Contact: Ms. Sabine Kallup, Project Manager, skallup@munich-tradefairs.com.

## METALLIFE, Inc. #5133

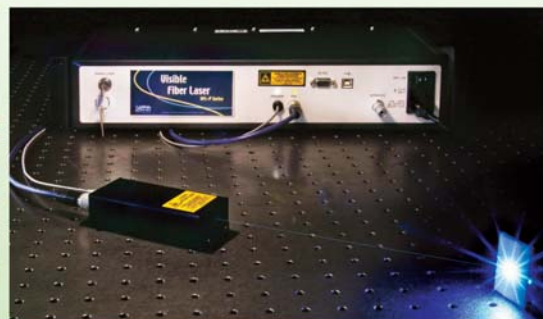
473-4 Monknae-dong, Danwon-gu, Andan-si Kyonggi, South Korea, 425-100  
+82 31 499 2817; fax +82 31 499 2815  
nam\_dongwoo@hotmail.com; www.metal-life.koreasme.com

Metallife is a leading manufacturer of precision electro-optic components for telecommunications, military and aerospace applications. We specialize in high-quality, custom designed packages. Main products: Glass-to-metal sealed and high temperature co-fired ceramic packages. Contact: Dongwoo Nam, Sales Manager, nam\_dongwoo@hotmail.com; Jesse Chao, VP of Sales & Marketing, jesse.chao@metallife-usa.com.



## THE VFL & 2RU-VFL FIBER LASER SERIES

offer exceptional beam quality, reliability, wavelength and power stability



### FOR LOW-POWER AND HIGH-POWER APPLICATIONS

Power adjustable between  
40 - 200 mW, or 100 - 300 mW

@ 488, 514, 532, 560, 580, 589, 592, 628, 642 & 647 nm

1 W up to 5 W CW Power

@ 532, 560, 580, 589, 628, 642 nm



Communications Inc.  
www.mpbcommunications.com  
phone: 514-694-8751

BIOS - #8315

PHOTONICS WEST - #311

### Metrigraphics, LLC

50 Concord St, Wilmington, MA, 01887  
+1 978 658 6100; fax +1 978 657 7765  
www.drc.com/metrigraphics

Metrigraphics LLC is a leading supplier of high resolution custom components requiring 5 to 50 micron features and micron level tolerances. Using our core technologies of photolithography, thin film processing and pattern plating, we make a wide variety of components used for control, test and measurement, and sensing applications, where accuracy repeatability and cost are critical. We offer multiple substrate options, and a broad range of sputtered and plated coatings. www.metrigraphicsllc.com. Contact: Diane Black, Sr. Account Manager, 978-658-6100 Ext 3063.

#5201

### MICOS USA, LLC

SPIE Corporate Member  
15375 Barranca Pkwy Ste G-101, Irvine, CA, 92618  
+1 949 480 0538; fax +1 949 480 0538  
info@micosusa.com; www.micosusa.com

**Featured Product:** www.micosusa.com

Founded in 1990, MICOS has 20 years of experience in providing precision motion solutions. Our ultra-high precision motion products and systems have been applied across various fields such as laser technology, telecommunications, semi-conductor manufacturing and metrology. We specialize in especially demanding application environments such as Vacuum compatibility down to 10<sup>-10</sup> torr; Cryogenic environments down to 3 Kelvin; Non-magnetic requirements. Contact: Manfred Schneider, mschneider@micosusa.com; Craig Moriwaki, Applications Engineer, cmoriwaki@micosusa.com.

#5125

### Metrology Concepts LLC

SPIE Corporate Member  
3495 Winton Pl Bldg E Ste 120, Rochester, NY, 14623  
+1 585 427 9155; fax +1 585 427 9026  
info@metrologyconcepts.com; www.metrologyconcepts.com

**Featured Product:** IR Interferometers: SWIR - MWIR - LWIR, including dual wave systems.

Metrology Concepts specializes in surface and wavefront measurement solutions for defense, laser, ophthalmic, precision optics, and scientific markets. Our core technologies include phase shifting interferometry and Shack-Hartmann wavefront sensing. Working closely with our customers, we offer standard and custom instruments, upgrades to existing metrology, as well as training and measurement services. Contact: John J. Nemechek, President, jnemechek@metrologyconcepts.com.

#4817

### Micro Electronic Technology Development Application Corp.

113 Hezuo Rd, Shijiazhuang Hebei, China, 050051  
+86 311 87091873; fax +86 311 87091973  
lasercetc13@163.com; http://121.28.149.121/web55

The Micro Electronic Technology Development Application Corp., with over 150 employees, engaged in the development and manufacture of optical fiber communications devices, and the main product series including optical transmitters, optical receivers and semiconductor lasers. Contact: An Zhenfeng, Manager, maiteda@live.cn.

#5425

## Micro Laser Systems, Inc.

SPIE Corporate Member

12841 Western Ave Ste H, Garden Grove, CA, 92841  
+1 714 898 6001; fax +1 714 897 0979  
sales@microlaser.com; www.microlaser.com

**Featured Product: Wavelength stabilized lasers from 400nm to 1600nm.**

Manufacture Free Space and Fiber Coupled diffraction limited lasers and Optical Assembly Systems from 370nm to 2000nm. Lasers have very high stability, narrow linewidths, low noise and are combined with our focusing optics, beam expanders, fibers and other optical elements to solve complex laser/optical problems for OEM users. This ensures all elements work well together. Custom systems are routinely manufactured for OEM users. Contact: Norma Adachi, Marketing Director, sales@microlaser.com.

#719

## MicroE Systems

125 Middlesex Turnpike, Bedford, MA, 01730  
+1 781 266 5700; fax +1 781 266 5112  
info@microesys.com; www.microesys.com

**Featured Product: MicroE Systems' new Mercury II 6000 encoder has the smallest sensor capable of 1.2nm resolution!**

MicroE Systems manufactures miniature, high-performance encoders for motion control feedback. Named Mercury II™, these encoders enable dramatic size, weight and cost reductions of motion stages while increasing resolution and positioning performance. Resolutions range from 5 microns to 1.2 nanometers. Vacuum models operate at up to 1E-08 torr. PCB-mount versions with Z-height of only 5.6mm enable incredibly compact motion systems with resolutions to 80nm. Contact: Mitchell R. Jones, Market Development Manager, mjones@gsg.com; Nik Brightwell, Director of Worldwide Sales, nbrightwell@gsg.com.

#1000

## Micro Photon Devices

Via Stradivari 4, Bolzano, Italy, 39100  
+39 0471 051212; fax +39 0471 501524  
nick.bertone@optoecomponents.com;  
www.microphotondevices.com

MPDs single-photon detection modules have ultra-fast timing resolution, high photon detection efficiency, low power consumption, small size and are extremely robust and reliable. The company benefits of the efforts and the expertise of a research group at Politecnico di Milano, lead by Professor Sergio Cova. Contact: Nick Bertone, sales@optoecomponents.com; Natalie Raymond, Marketing, Natalie.Raymond@optoecomponents.com.

#4829

## Micro-Hybrid Electronic GmbH

Heinrich-Hertz-Strasse 8, Hermsdorf, Germany, 07629  
+49 36601 592 100; fax +49 36601 592 110  
www.micro-hybrid.de

Micro-Hybrid Electronic GmbH develops and manufactures modern electronic and sensor components. Innovative development comprises new and further development of technologies, processes and components of micro systems technology and electronics. Goal of any development process is the solution of a customer task respectively a new product. Production of complex systems of Micro-Hybrid Electronic GmbH offers each customer an easy All-in-One solution. Contact: Uwe Manzei, u.manzei@micro-hybrid.de; Verena Tiede, v.tiede@micro-hybrid.de.

#4821

## MicroCare Corp.

SPIE Corporate Member

595 John Downey Dr, New Brittan, CT, 06051  
+1 860 827 0626  
techsupport@sticklerscleaners.com; www.sticklerscleaners.com

**Featured Product: Sticklers CleanWipes high-volume, high-speed cleaners for fiber optic end-faces.**

MicroCare makes the new Sticklers® fiber optic cleaners that deliver perfectly clean ports and jumpers every time, all the time. These help you clean easily, quickly, consistently and affordably. Select the Sticklers® products and eliminate time-consuming repair calls, sluggish networks and expensive warranty claims. Only Sticklers® cleaners can clean any connector, any size, any configuration, anywhere. See how the new Sticklers® products save you money. Free samples at Booth #4227! Contact: Tech Support, TechSupport@SticklersCleaners.com.

#4227

## Micron Optics, Inc.

1852 Century PI NE, Atlanta, GA, 30345  
+1 404 325 0005; fax +1 404 325 4082  
info@micronoptics.com; www.micronoptics.com

**Featured Product: Micron Optics introduces the s3, an Optical Imaging Swept Laser module.**

Micron Optics Inc., a leading provider of tunable optical technologies, offers a comprehensive portfolio of components and instruments including the best-in-class swept laser sources, sensor measurement systems, and tunable filters. Micron Optics' products enable broad-range applications in fiber-optic sensing, laser imaging, optical coherence tomography, as well as optical communications. Contact: Kevin Hsu, VP Research & Technologies, khsu@micronoptics.com; Clyde Story, Sales Manager, cstory@micronoptics.com.

#2310

## Microcertec

47 Allée du Clos des Charmes, Collegiens, France, 77090  
+33 1 60 06 66 73; fax +33 1 60 05 32 51  
alain.charbonnier@microcertec.com; www.microcertec.com

Microcertec is specialized in the manufacturing of customized components in advanced ceramics. Using modern CNC grinding, ultrasonic and laser micro-machining techniques, we produce parts with intricate shapes, large or small dimensions and very close tolerances. Our main markets are in such high-tech industries as photonics, scientific & medical instrumentation, electronics & microelectronics, semiconductor, aerospace. Contact: Alain Charbonnier, Managing Director, alain.charbonnier@microcertec.com.

#1123E

## Micropac Industries Inc.

Optoelectronics Division, 905 E Walnut St, Garland, TX, 75040  
+1 972 272 3571; fax +1 972 494 2281  
sales@micropac.com; www.micropac.com

Micropac designs and manufactures a wide range of optoelectronic components and modules and is qualified to MIL-PRF-19500 JAN S. Products include LEDs, LED Displays, Optocouplers, emitters and detectors. Optoelectronic and Hall Effect Sensors are also produced. Both custom and standard products are provided. MII is ISO 9001 and AS 9100 certified and also MIL-PRF-38534 qualified. Radiation tolerant designs are manufactured and many JAN qualified products are also offered. Contact: Dennis Granger, Regional Sales Manager, dennisgranger@micropac.com; Bill Holmes, Regional Sales Manager, bholmes@micropac.com.

#205

## MidDec Scandinavia AB

#4435

CO/Akroken, Sundsvall, Sweden, 857 51  
+46 70 295 10 15  
research@middec.se; www.middec.se

MidDec develops, manufactures and markets Delta E detectors and Pixel detectors for: Nuclear and material physics, Measurement of radiation in satellite telescopes, Microscopes for medical and pharmaceuticals research. We offer system tailored detectors and sensors for your needs. e.g. Developing of prototype components, custom designed components that address a specific application, flexible in physical format options and Small volume production. Customized to your specifications. Contact: Örjan Martelleur, Managing Director, orjan.martelleur@middec.se; Göran Thungström, Chief Labs & Process, goran.thungstrom@miun.se.

## Mightex Systems

#4307

SPIE Corporate Member

1315 Lawrence Ave E Ste 208, Toronto, ON, Canada, M3A 3R3  
+1 416 840 4991; fax +1 416 840 6541  
sales@mightex.com; www.mightex.com

**Featured Product: CMOS/CCD cameras (from \$199/ea), line cameras, LED controllers, spectrometers, fiber-coupled LED's.**

Mightex is specialized in developing and marketing imaging and illumination products used in biomedical imaging, machine vision, industrial tests & measurements, life & health sciences and optical microscopy etc. Products include CMOS and CCD cameras for industrial and scientific applications, LED controllers (including software, manual and/or analog controlled units), LED light sources (e.g. fiber-coupled, light-guide-coupled, and collimated LEDs etc), and spectrometers. Contact: Dr. Miles Li, Sales and Marketing, mli@mightex.com.

## Mildex, Inc.

#1134

SPIE Corporate Member

1388 Crittenden Rd, Rochester, NY, 14623-2308  
+1 585 473 6540; fax +1 585 475 1971  
info@mildex.com; www.mildex.com

**Featured Product: LenScan Model LS200 measures lens thicknesses and airgaps of closed multielement optical assemblies.**

Distributor of optical manufacturing and testing systems. Available for demonstration is TRIOPTICS OptiSpheric/OptiCentric system. The instrument can measure EFL, BFL, FFL, MTF and Centration errors of lenses or systems. Users can select a wide range of accessories to accommodate further applications. Contact: Harvey Miller, Pres., mildex@eznet.net.

## Mindrum Precision, Inc.

#423

SPIE Corporate Member

10000 Fourth St, Rancho Cucamonga, CA, 91730  
+1 909 989 1728; fax +1 909 987 3709  
sales@mindrum.com; www.mindrum.com

## Minus K Technology, Inc.

#604

SPIE Corporate Member

460 S Hindry Ave Unit C, Inglewood, CA, 90301  
+1 310 348 9656; fax +1 310 348 9638  
sales@minusk.com; www.minusk.com

**Featured Product: Bench top BM-8 vibration isolator, now up to 200 lbs .5 Hz performance vertical & 1.5 Hz horizontal.**

Manufacturer of vibration isolation systems for AFMs, SPMs, SEMs, metrology, micro-hardness testers, lasers and optics. They are low-cost, passive, vacuum adaptable and require no air or electricity. Products: table-top platforms, workstations, floor platforms and custom systems. Guaranteed 1/2 Hz natural frequencies make them effective against low-frequency building vibrations. Isolation is typically 10 to 100 times better than air tables and even better than the higher-priced active systems. Contact: Erik Runge, New Products Manager, sales@minusk.com.

## MIRTHE Center

#5228

216 Bowen Hall, 70 Prospect Ave, Princeton University,  
Princeton, NJ, 08540  
+1 609 258 2043; fax +1 609 258 1177  
info@mirthecenter.org; www.mirthecenter.org

**Featured Product: Trace gas sensor systems based on quantum cascade lasers.**

MIRTHE is an Engineering Research Center for Mid-InfraRed Technologies for Health and the Environment sponsored by National Science Foundation. MIRTHE invents, develops and proto-types high-performance, cost-effective and market-ready mid-infrared trace gas sensor systems based on new technologies such as quantum cascade lasers in close collaboration with industry, practitioners, academic institutions and government laboratories for applications in health, environment and homeland security.

## Mitsubishi Cable Industries, Ltd.

#4231

103 Bay Hill Dr, Blue Bell, PA, 19422  
+1 610 270 3002; fax +1 610 270 0588

Mitsubishi Cable Industries is Japan's leading producer of silica core fiber and cables for use in laser delivery in industrial and medical applications. We also produce the world's leading non-solarizing fiber for DUV light delivery applications in spectroscopy, process end-point detection, and excimer laser delivery. Our engineers will be in our booth to discuss and assist end users in finding solutions to demanding fiber optic applications requirements. Contact: James Stevens, US Fiber Optics Marketing Manager, James-Stevens@comcast.net.

## Mitsubishi Electric & Electronics USA, Inc.

#5114

5201 Great America Pkwy Ste 332, Santa Clara, CA, 95054  
+1 408 727 3111; fax +1 408 727 2689  
www.mitsubishichips.com

Mitsubishi Electric is a recognized world leader in the manufacture, marketing and sales of reliable, high quality products to both corporate clients and general consumers all over the world. Our Optoelectronics products are used in a broad range of applications including high power laser diodes (red, infrared, and violet) for display, medical, industrial appliances, including optical communication. Contact: King Liang, Marketing Manager, king.liang@meus.mea.com.

Plan to Attend  
FREE Exhibitor Product  
Demonstrations

Refer to pages 62-64  
for complete times,  
schedules, and  
locations.



## Mitsui Chemicals America, Inc.

#203

800 Westchester Ave Ste N607, Rye Brook, NY, 10573  
+1 914 253 0777; fax +1 914 253 0790  
info@mitsuichem.com; www.mitsuichemicals.com

Mitsui Chemicals America, Inc. offers a wide range of products for the automotive, packaging, healthcare and electronic industries. These products include a line of optical polymers called APEL, having the lowest birefringence among the optical polymers with outstanding heat resistance. Its low dispersion, near constant refractive index and high melt flow results in the superior design flexibility at the lowest manufacturing cost. Contact: Takeshi Onuma, Director Business Development, t.onuma@mitsuichem.com.

## MLD Technologies, LLC

#5025

**SPIE** Corporate Member

2672 Bayshore Pky Ste 701, Mountain View, CA, 94043  
+1 650 938 3780; fax +1 650 938 3113  
info@mldtech.com; www.mldtech.com

Produces high-performance optical coatings and components specializing in the design, development and manufacture of ion beam sputtered, low optical loss, laser-damage resistant thin films for the UV-VIS-IR spectral region. Product applications include lasers, laser devices, nonlinear crystals, medical instruments and other photonic devices. Contact: Gary DeBell or Len Mott., info@mldtech.com.

## MLOptic Corp.

#737

398 Pugang St Jiangning, Nanjing JiangSu, China, 211102  
+86 25 84436288; fax +86 25 84433188  
info@mloptic.com; www.mloptic.com

**Featured Product: Scanner equipment: complete equipment combined with optics, mechanics and electrics.**

MLOptic is a leading customized optics manufacturer located in Nanjing China, which was founded in 1996. We produce optics made from optical glasses, fused silica, sapphire, quartz, color glass and IR materials. Assembly, sub-assembly and optical system design service also available. Our products are used widely in laser industry, science, education, and medicine, communication and defense. Discover MLOptic and get solutions. Contact: Joy Yo, Customer Service Manager, joy@mloptic.com; Lisa Peng, Customer Service Supervisor, lisa@mloptic.com.

## Modu-Laser, LLC

#5305

1258 W 50 S, Centerville, UT, 84014  
+1 801 983 2682; fax +1 801 299 2682  
bill@modu-laser.com; www.modu-laser.com

**Featured Product: Aries-163 laser system replaces the discontinued Spectra Physics 163 series laser.**

Leading manufacturer of air-cooled argon and krypton lasers; single line, multi-line and selectable wave-length lasers for use in Raman Spectroscopy, Confocal Microscopy, Flow Cytometry and Research and Development. We provide integrated laser systems as well as traditional laser heads with power output levels up to 1 watt. We provide excellent customer service and our lead times are the shortest in the industry. Contact: William Meyers, VP Operations, bill@modu-laser.com; Bruce Walker, Engineering Manager, bruce@modu-laser.com.



CONFERENCE BAG INSERT AND BANNER SPONSOR

## Modulight, Inc.

#4635

Hermiankatu 22, Tampere, Finland, 33720  
+358 20 743 9000; fax +358 20 743 9009  
sales@modulight.com; www.modulight.com

**Featured Product: OEM modules incorporate laser driver and cooling: single emitter and bar fiber-coupled, multi-bar.**

Modulight is an ISO9001:2001 certified semiconductor laser company providing value-adding solutions to optical applications for industrial, communication, medical, space, and defense industries. Modulight products include various types of lasers from visible to infrared wavelengths with output power levels from mW to over hundreds of W. Modulight provides also laser solutions from design and manufacturing of laser diodes to OEM-based optical sub-systems and turnkey laser systems. Contact: Kati Reiman, Coordinator, Customer Interaction, marketing@modulight.com; Anca Guina, Manager, Product Promotion, anca.guina@modulight.com.

## Moeller-Wedel Optical GmbH

#840

Rosengarten 10, Wedel, Germany, 22880  
+49 4103 937 7610; fax +49 4103 937 7660  
info@moeller-wedel-optical.com;  
www.moeller-wedel-optical.com

**Featured Product: The GONIOMAT M is an easy to use goniometer for the angle measurement of optical components.**

MOELLER-WEDEL OPTICAL GmbH offers interferometers for shape testing, goniometers, goniometer-spectrometers, visual and electronic autocollimators, collimators, testing telescopes, diopter telescopes, and measuring devices for single lenses (focal length), prism binoculars, cameras, and zoom lenses. Contact: Bernd Grubert, b.grubert@moeller-wedel-optical.com.

## MolTech GmbH

#4139

Rudower Chaussee 29-31, Berlin, Germany, 12489  
+49 30 6392 6620; fax +49 30 6392 6622  
mtberlin@aol.com; www.mt-berlin.com

## Moore Nanotechnology Systems LLC

#1338

230 Old Homestead Way, Swanzey, NH, 03446  
+1 603 352 3030; fax +1 603 352 3363  
sales@nanotechsys.com; www.nanotechsys.com

Nanotech® Ultra-Precision Machining Systems are available in various models with 2 to 5 axes of CNC motion control for single point diamond turning or deterministic microgrinding. All Nanotech machines utilize a programming resolution of 1.0 nanometer, and a system feedback resolution of only 0.034 nanometer. Our 10,000rpm heavy duty work holding spindle allows for high speed machining but is not limited by the same weight load restrictions as other high speed spindles. Contact: Jeff Perra, Sales Engineer, perra@nanotechsys.com; Bob Cassin, Sales Manager, cassin@nanotechsys.com.

## Moulded Optics GmbH

Steinstr 13-15, Schoeffengrund, Germany, 35641  
+49 6445 6000 0; fax +49 6445 6000 40  
info@mouldedoptics.com; www.mouldedoptics.com

**Featured Product: Optical components made from glass and plastic.**

Moulded Optics GmbH, an ISO 9001:2008 certified and ITAR registered global OEM optics supplier headquartered in Germany. Moulded Optics GmbH offers many types of STANDARD precision molded Aspheric Lenses, in diameter sizes from 4 mm to 80 mm and LED Half-Ball Lenses, in diameter sizes of 3 mm, 4 mm, 5 mm and 6 mm, of B270, F2 and Borosilicate GLASS materials, as well as, many other types of CUSTOM designed and manufactured precision molded GLASS and injection-molded PLASTIC optical components. Contact: Mr. Martin Pfeil, Managing Director, martin.pfeil@mouldedoptics.com; Ms. Beate Dannewitz, Sales Dept, beate.dannewitz@mouldedoptics.com.

## MOXTEK, Inc.

452 W 1260 N, Orem, UT, 84057  
+1 801 225 0930; fax +1 801 221 1121  
moxtek@moxtek.com; www.moxtek.com

**Featured Product: Moxtek produces UBB01A Ultra Broadband polarizers which range from 250nm to more than 4 microns.**

Moxtek is a leading supplier of optical and x-ray components for analytical instrumentation and display electronics. Products include; ProFlux<sup>®</sup> wire-grid polarizer's, beam splitters and UV Polarizers; XPIN<sup>™</sup> Si-PIN x-ray detectors; MAGNUM<sup>®</sup> x-ray sources; and x-ray windows. Moxtek is well known for advanced technology, innovative solutions, and excellent customer service. Moxtek works closely with customers to provide the best OEM solutions for the marketplace. Contact: Will Abraham, Inside Sales Support, wabraham@moxtek.com; Ray West, Director of Business Development, rwest@moxtek.com.

## MPA Crystal Corp.

SPIE Corporate Member

1702-L Meridian Ave #234, San Jose, CA, 95125  
+1 408 300 0301; fax +1 408 300 0282  
pmpa@mpa-crystal.com; www.mpa-crystal.com

**Featured Product: Sapphire, Fused silica, Glass, Silicon, including Windows, Lenses, Rods, Waveguides, custom designs.**

We're the US Branch of the manufacturer-Nanjing Sapphire Electro-Optics Co., Ltd. located in China. We specialize in producing Crystal optics made of SAPPHIRE, Quartz, Silicon, Glass, YAG, Germanium and coatings. Products include Windows, Lenses, Substrates, Waveguides, Rods, Tips and much more. Custom made optics and requirements from your designs available. Contact: Pauline Liang, CEO, pmpa@mpa-crystal.com.

#4601



EXHIBITION MAP/ RESTAURANT GUIDE SPONSOR

## MPB Communications Inc.

SPIE Corporate Member

147 Hymus Blvd, Pointe-Claire, QC, Canada, H9R 1E9  
+1 514 694 8751; fax +1 514 969 5167  
info@mpbc.ca; www.mpbcommunications.com

**Featured Product: New! SF532nm & SF589nm, 488 nm & 647nm Visible Fiber Lasers**

MPB Communications Inc. has been supplying lasers and amplification products to the Photonics Community for more than 30 years. With products for Biomedical, Forensics, Telecommunications, Aerospace, Defense and Scientific markets, MPB is renown for highly reliable, innovative designs. MPBC Fiber Lasers and Single-Frequency Fiber Lasers have allowed researchers to pioneer new areas of discovery in the Medial, Biomedical and Scientific arena. Contact: Claudette Linton, Business Development, claudette.linton@mpbc.ca; Jane Bachynski, Business Development, jane.bachynski@mpbc.ca.

#311

#4224

## MRC a PPGI company

SPIE Corporate Member

6455 Parkland Dr, Sarasota, FL, 34243  
+1 941 753 8707; fax +1 941 751 4249  
sales@mrcoptics.com; www.ppgioptics.com

Manufacturer and designer of precision metal and infrared optical components, systems and sub-assemblies. Full in-house aspheric diamond machining, plating, polishing and testing capability. Materials include all non-ferrous metals, crystals, beryllium and composites. Products include polygons, aspheric components, off-axis parabolics, large flat mirrors and multi-mirror systems. Contact: Jeffrey Brunner, Director, North American Sales & Business Development, jbrunner@ppgioptics.com; Francine Marshall, Sales Account Manager, fmarshall@mrcoptics.com.

#1729

#4612

## Multi IR Optoelectronics Co., Ltd.

SPIE Corporate Member

No 6 Xiyuanqi Rd, Xihu T&E Zone, Hangzhou, China, 310030  
+86 571 89905370; fax +86 571 89905376  
www.mirhz.com

**Featured Product: Optical components. IR narrow/wide bandpass, IR long pass, IR AR coating, IR lenses, windows, etc.**

Multi IR Optoelectronics Co., Ltd is a professional IR thin film coating manufacturer. We focus on designing, manufacturing IR filters from near IR to far IR. We also can make filters based on request of clients. Our substrates are Ge, Si, ZnSe, sapphire, quartz, etc. We can dice filters into small pieces. With development of our company, our IR filters sales marketing has been around the world. Our IR filters application is in a wide filed, IR Detectors, IR thermal Imaging, IR Sensing, IR Thermography, etc.

#5420

SPIE Career Center

## Job Fair

### Two Days Only

North Hall | Aisle 5600

**Employers are coming together to interview and hire candidates at Photonics West!**

Tuesday 25 January · 10:00 am to 5:00 pm  
Wednesday 26 January · 10:00 am to 5:00 pm

[spie.org/careercenter](http://spie.org/careercenter)





EXHIBITION MAP/ RESTAURANT GUIDE AND CONFERENCE BAG INSERT SPONSOR

## Multiwave Photonics

#837

SPIE Corporate Member

Rua Eng Frederico Ulrich 2650, Moreira da Maia, Portugal, 4470-605  
+351 22 9408260; fax +351 22 9408261  
www.multiwavephotonics.com

**Featured Product: The Dynamic Pulsing fiber laser uses short pulse bursts for material processing applications.**

Multiwave offers next generation pulsed fiber lasers that allow the customer to control its key operating parameters in unique ways. Multiwave also offers other innovative optical sources based on fiber-optic technologies, as well as product design, product development and engineering services aimed at developing and selling cost-effective and reliable products and solutions. Contact: John Goings, North American Sales Manager, jgoings@multiwavephotonics.com; Bill Holtkamp, VP of Sales, bholtkamp@multiwavephotonics.com.

## MY Polymers Ltd.

#4821

175 Hateena St, Beit Elazari, Israel, 76803  
+972 8 9350101; fax +972 8 9351767  
ron@mypolymers.com; www.mypolymers.com

**Featured Product: MY-130 Series of Ultra Low Refractive Index Optical Adhesives with n=1.32, n=1.33, 1.34, etc.**

MY Polymers Ltd. manufactures Ultra-Low Refractive Index Optical Adhesives and Coating Polymers. Our products cover the whole range from n=1.32 to n=1.50. Our materials include: MY-130 and MY-140 series for bonding & encapsulation of photonics devices; OF Series for cladding of Optical fibers; QH Series for lamination & coating of LCD Back-Light Units (BLU). Our products are used for 10 years in industrial, consumer and military applications. Contact: Ron Zohar, CEO, ron@mypolymers.com; Ehud Shchori, CTO, ehud@mypolymers.com.

## Naked Optics Corp.

#2038

SPIE Corporate Member

843 Cypress Pkwy #412, Kissimmee, FL, 34759  
+1 908 685 0352; fax +1 908 325 0250  
sales@nakedoptics.com; www.nakedoptics.com

**Featured Product: Chemically strengthened windows.**

Supplier of IR optics and diamond-turned components with aspheric, diffractive and free-form surfaces in IR materials, plastics and metals; optical design services; Polished and coated windows and substrates from prototype to high-volume production; IR and glass blanks including ZnSe, Si, Ge, Sapphire, BaF<sub>2</sub>, CaF<sub>2</sub> and optical glasses; Optical glass strip, molded and CNC-machined blanks of all optical materials. Contact: Buzz Nesti, buzz@nakedoptics.com; Glen Dunn, glen@nakedoptics.com.

## Nalux Co., Ltd.

#2424

Yamazaki 2-1-7, Shimamaoto-cho, Mishima-gun, Osaka, Japan, 618-0001  
+81 75 963 3456; fax +81 75 963 3450  
kitagawa@nalux.co.jp; http://www.nalux-world.com

**Featured Product: Optical assembly from prototypes to millions per year.**

Specialized in optical assembly, optical design, and manufacture of plastic and glass optics from prototypes to high volume production. Optics include diffractives, diffractives on aspheres, laser beam shapers and LED beam shapers, toroidal mirrors and others. Plastic and glass molding, coatings, E-beam lithography, diamond turning and milling, grinding and polishing, and hybrid polymer on glass imprinting. Part size 1mm square to 8 inches long. Submicron structure sizes possible. Contact: John Rauseo (For US Customers), General Manager, Nalux Nano-Optical, Inc., rauseo@nalux.co.jp; Megumi Goto, Contact for non-US Customers, kitagawa@nalux.co.jp.

## NANOBASE, Inc.

#4928

1401 Ace Techno Tower 10th, Gasan-dong Guemcheon-gu, Seoul, Korea, 153-789  
+82 2 852 9012; fax +82 2 852 9013  
contact@nanobase.co.kr; www.nanobase.co.kr

## Nanocomp Oy Ltd.

#4635

Ensolantie 6, Lehmo, Finland, 80710  
+358 13 316 616; fax +358 13 316 617  
sales@nanocomp.fi; www.nanocomp.fi

## Nanofoot Finland Oy

#4635

Korkeakoulukatu 3, Tampere, Finland, 33720  
+358 40 541 5062; fax +358 6 315 2877  
www.veslatec.com

**Featured Product: A laser bar burn-in tester. Cost efficient design for high power lasers and laser bars.**

NANOFOOT FINLAND OY is a system integrator, developing automatic testing equipment (ATE) for semiconductor LASER and LED components and laser integrated 3 D fabrication systems for 2PP or MPP polymerization. Contact: Heikki Lindqvist, Export Manager, heikki.lindqvist@nanofoot.fi; Tero Kontkanen, Designer, tero.kontkanen@nanofoot.fi.

## Nanogenesis,

### A Division of AEGIS Technologies

#5541

410 Jan Davis Dr, Huntsville, AL, 35806  
+1 256 922 0802; fax +1 256 922 0904  
www.nanogenesisgroup.com

## Nanonics Imaging Ltd.

#429

The Manhat Technology Park, POB 48330, Malcha Jerusalem, Israel, 91487  
+972 2678 9573; fax +972 2648 0827  
info@nanonics.co.il; www.nanonics.co.il

**Featured Product: Optometronic 4000 Photonics Workstation combines AFM/Far/Near-field light nano-characterization.**

Single/Multiprobe AFM/NSOM/SPM/Confocal Systems with transparent optical & electron/ion beam integration. Multiprobe plasmonic, photonic, biological, electrical, thermal characterization. On-line Raman/TERS, SEM, FIB, 10°K operation. All AFM/NSOM modes with Si or transparent fiber probes. NanoTool Kit of optical, electric, thermal & nanochemical deposition probes. Unique Multiprobe Photonic/Plasmonic Characterization System and new revolutionary Hydra optical BioAFM. Contact: David Lewis, VP, Sales & Marketing, info@nanonics.co.il; Prof. Aaron Lewis, CEO, info@nanonics.co.il.

## nanoplus Nanosystems and Technologies GmbH

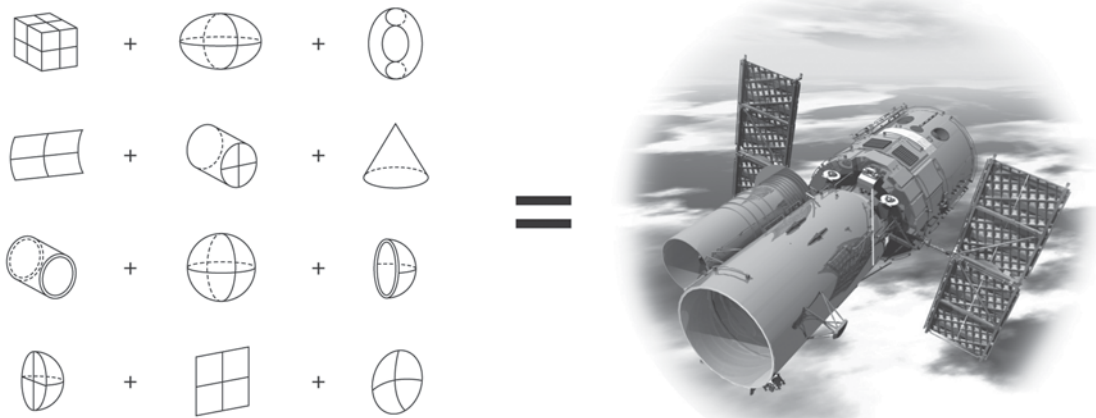
#2623

Oberer Kirschberg 4, Gerbrunn, Germany, 97218  
+49 931 908 270; fax +49 931 908 2719  
sales@nanoplus.com; www.nanoplus.com

nanoplus is a worldwide leader in the production and distribution of: DFB and Fabry Perot laser diodes from 760 nm to 3 µm, quantum cascade lasers from 5 µm to 14 µm and superluminescent diodes. They allow precise sensing applications in the fields of e.g. remote gas sensing, precision metrology, process control and atomic clocks. Contact: Daniela Brückner, Sales and Marketing, daniela.brueckner@nanoplus.com.



# How did we make **FRED™** EVEN MORE powerful?



## By making it more primitive.

We've made **FRED™** — Photon Engineering's leading optical engineering software — even more powerful by adding new primitive solid elements. With these building blocks, you can use **FRED** to model virtually any sophisticated imaging or non-imaging system you can dream of faster than ever.

But there are some things about **FRED** we didn't change, like its legendary easy-to-use WYSIWYG interface; its ability to construct optomechanical models with unlimited complexity; and its remarkably affordable price.



## Get to know **FRED** at booth #200.

## Nanoscribe GmbH

#4414

Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany, 76344

+49 7247 828840; fax +49 7247 828848

info@nanoscribe.de; www.nanoscribe.de

**Featured Product: Laser lithography system for true 3D micro- and nanostructuring achieving line widths below 150 nm.**

Nanoscribe develops compact and easy to operate table-top laser lithography systems, allowing for true 3D micro- and nanostructures in commercially available photoresists with routinely achieved line widths of 100 nm in a sample volume of 300x300x160 µm. A functional and intuitive user interface eases the realization of arbitrary CAD designs. Applications are in photonics, microfluidics or life sciences, e.g., rapid prototyping of three-dimensional extracellular matrices for cell growth studies. Contact: Martin Hermatschweiler, CEO, info@nanoscribe.de.

## nanosystec GmbH

#4601

Marie-Curie-Str 6, Gross-Umstadt, Germany, 64823

+49 6078 78254 0; fax +49 6078 78254 10

sales@nanosystec.de; www.nanosystec.de

nanosystec is the leading company for automated alignment and welding system for photonics packaging. The German company operates worldwide, providing support and technical advice to its clients. The work force of nanosystec consists of highly qualified engineers with impressive successful experience in industry and research. Contact: Christiane Hummelt, Managing Director, christiane.hummelt@nanosystec.net.



**PROMOTIONAL PARTNER**

## NASA Tech Briefs

#1039

Tech Briefs Media Group, 1466 Broadway Ste 910, New York, NY, 10036

+1 212 490 3999; fax +1 212 986 7864

joe@techbriefs.com; www.techbriefs.com

NASA's best new technology breakthroughs with down-to-earth commercial applications are reported first in the world's largest-circulation design engineering magazine, NASA Tech Briefs. For innovative solutions that focus on commercial applications of optics, fiber optics, electro-optics, lasers, imaging/cameras, optical design software, and test & measurement tools, design engineers turn to Photonics Tech Briefs. Sign up for a free subscription at www.techbriefs.com. Contact: Joe Pramberger, President, joe@techbriefs.com; Bruce Bennett, Editor, bruce@techbriefs.com.

## National Aperture, Inc.

#400

**SPIE** Corporate Member

16 Northwestern Dr, Salem, NH, 03079

+1 603 893 7393; fax +1 603 893 7857

www.nationalaperture.com

National Aperture, Inc. is a manufacturer of Precision Motion Control Equipment and Precision Apertures. Motion Control Products include manual and motorized linear and rotary stages and Aperture products include Pinholes, Air Slits, Multi Bar Patterns and custom configurations.

## National Institute of Advanced Industrial Science and Technology

#4519

Photonics Research Institute, 1-1-1 Umezono, Tsukuba Ibaraki, Japan, 305-8568

+81 29 861 3286; fax +81 29 861 5540

www.unit.aist.go.jp/photonics/index.html

**Featured Product: A novel home-communication system with nearly zero-consumption of energy for switching IT equipments.**

A national project sponsored by NEDO, with trustees of Inter Energy Co., Ltd., and Dainichiseika Color & Chemicals Mfg. Co., Ltd., is developing a home-communication system supported by National Institute of Advanced Industrial Science & Technology, HIMEJI RIKKA CO. Ltd., and Trimatiz, Ltd. A heterogeneous community of materials, a device & system for optical communication, and basic science is organized for achieving a novel home-communication system with nearly zero-consumption of energy. Contact: Hirofumi Watanabe, Vice President, Technology and Director of Board, watanabe@interenergy.jp; Norio Tanaka, Corporate Officer, ntanaka@daicolor.co.jp.

## National Instrument Technology Research Center

#5112

20 R&D Rd VI, Hsinchu Science Park, Hsinchu, Taiwan, 300

+886 3 5779911; fax +886 3 5789343

www.itrc.org.tw

**Featured Product: Advanced optical, mechanical and electrical instruments.**

Instrument Technology Research Center is a government funded research institute pioneering in instrument related frontier researches. Our long term prospect is to advance national science competence and to improve the quality of lives for the public. Contact: Chi-Hung Hwang, Deputy Director General, chhwang@itrc.org.tw; Shu-Wen Li, Assistant, gisele20th@itrc.org.tw.

## National Instruments

#4135

11500 N Mopac Expwy, Austin, TX, 78759-3504

+1 512 683 0100

info@ni.com; www.ni.com

National Instruments provides a variety of PC-based solutions suitable for use in a complex medical device or other applications like optical coherence tomography. From motion and vision, to high-speed digitizers and data acquisition, to FPGAs, NI software and hardware tools can help you design a safe and reliable system. Contact: info@ni.com

## Nature Publishing Group

#4740

75 Varick St 9th Fl, New York, NY, 10013

+1 212 726 9200

customerservice@us.nature.com; www.nature.com

**Featured Product: Nature Photonics provides a unique forum for all aspects of photonics and optoelectronics.**

Nature Publishing Group's physical sciences portfolio is rapidly expanding—from the broad scope and excellence of Nature to specific titles in physics, materials, nanotechnology, chemistry and photonics. Visit the NPG booth (#4740) for a FREE sample copy, or alternatively, visit <http://www.nature.com>.

## Naval Research Laboratory

#4318

4555 Overlook Ave SW, Washington, DC, 20375  
+1 202 767 3678; fax +1 202 404 8681  
www.nrl.navy.mil

The Naval Research Laboratory (NRL) is the Navy's full-spectrum corporate laboratory, conducting a broadly based multidisciplinary program of scientific research and advanced technological development directed toward maritime applications of new and improved materials, techniques, equipment, systems and ocean, atmospheric, space sciences and related technologies. NRL is located in southwest Washington, DC, with other major sites at the Stennis Space Center, MS; and Monterey, CA.

## Navitar

#1928

200 Commerce Dr, Rochester, NY, 14623  
+1 585 359 4000; fax +1 585 359 4999  
info@navitar.com; www.navitar.com

**Featured Product: New 50mm OptiStar® High Performance SWIR Imaging Lens.**

Navitar, and its Special Optics division is a global leader in imaging optics technology that manufactures a wide range of machine vision and electronic imaging products for research, scientific and OEM applications. Special Optics specializes in rapidly designing and prototyping custom optical systems. Our products support the semiconductor, electronics, flat panel display, metrology, biomedical imaging, food & beverage inspection, pharmaceutical, factory automation and military markets. Contact: Craig Fitzgerald, Vice President of Product Development, c\_fitzgerald@navitar.com.

## Necsel

#1331

801 Ames Ave, Milpitas, CA, 95035  
+1 408 916 4258; fax +1 408 719 9411  
www.necsel.com

Necsel is a manufacturer of high power, low cost visible light sources for display, general lighting and forensics. Contact: Phil Crowley, CEO of Market Tech, Inc., phil@markettechinc.net.

## neoLASE GmbH

#4601

Hollerithallee 8, Hannover, Germany, 30419  
+49 511 2788 515; fax +49 511 2788 100  
info@neolase.com; www.neolase.com

**Featured Product: neoLASE developed amplifier systems with several ten watt output power for ps-laser amplification.**

neoLASE provides diode pumped solid state laser solutions by covering cutting-edge laser technologies, robust mechanical designs and industrial standard control electronics. Highest quality on laser technology like laser systems for laser material applications, semiconductor industry or for the use in gravitational wave detectors is provided. The long term experience in the development of diode pumped solid state lasers allows neoLASE to provide high quality customized laser solutions. Contact: Maik Frede, info@neolase.com.

## Neptec Optical Solutions, Inc.

#4413

48603 Warm Springs Blvd, Fremont, CA, 94539  
+1 510 687 1101; fax +1 510 687 0599  
sales@neptecos.com; www.neptecos.com

Neptec Optical Solutions, Inc. is a leading provider of quick-turn fiber optic connectivity solutions and offers a comprehensive portfolio of cost-effective optical components and subsystems, serving data centers, enterprise networking, military application fiberoptics, MSO/cable service providers, telecommunications equipment and medical device companies in North America. Contact: Bryan Paolini, Sr. Account Manager, bryanp@neptecos.com; Jessie Wu, Marketing Manager, jessiew@neptecos.com.

## New England Photoconductor Corp.

#508

**SPIE Corporate Member**  
253 Mansfield Ave, PO Box M, Norton, MA, 02766-0927  
+1 508 285 5561; fax +1 508 285 6480  
nepcorp@nepcorp.com; www.nepcorp.com

**Featured Product: InGaAs detectors, infrared filters and AR coated windows.**

Lead Sulfide (PbS), Lead Selenide (PbSe) and Indium Gallium Arsenide (InGaAs) infrared detectors. Linear arrays, room temperature and thermoelectrically cooled assemblies. Narrow and wide band IR filters and Ge and Si AR coated windows. Infrared sources, standard and custom hermetic packages with optical filters. Quad detectors, beam splitters, amplifiers, TE cooler controllers and custom electronics. Contact: Richard Brennan, Sales Manager, nepcorp@nepcorp.com; Paul Brennan, Engineer, pb@nepcorp.com.

## New Focus, A Newport Corporation Brand

#1301

3635 Peterson Way, Santa Clara, CA, 95054  
+1 408 980 4300; fax +1 408 980 5537  
sales@newfocus.com; www.newport.com/newfocus

## New Imaging Technologies

#1023J

9 rue Charles Fourier, Evry, France, 91000  
+33 1 60 76 46 48  
info@new-imaging-technologies.com;  
www.new-imaging-technologies.com

**Featured Product: New Wide Dynamic Range CMOS Sensors: high dynamic range response of more than 120dB in a single shot.**

New Imaging Technologies (NIT) is a spin-off from the French Institute of Telecommunications where our MAGIC™ core technology was invented through a continuous effort of 15 years of R&D investment. New Imaging Technologies offers a complete range of standard, customized and full custom CMOS imaging sensors for a variety of applications such as machine vision, automotive transportation, biometrics, medical, security and surveillance. Contact: Nicolas Baroan, Sales Engineer, nicolas.baroan@new-imaging-technologies.com.

## New Infrared Technologies

#5411

Calle Vidrieros 30 Nave 2, Madrid, Spain, 28660  
+34 91 632 4363; fax +34 91 576 49 39  
info@niteurope.com; www.niteurope.com

**Featured Product: The new MATRIX 1024 SERIES products offer uncooled imaging and high speed detection in the MWIR.**

New Infrared Technologies manufactures PbSe imaging FPA and high speed uncooled IR systems. Our MATRIX 1024 SERIES, based on the only PbSe imaging FPA in the market, offer uncooled performance, detection in the MWIR band, high speed capability (over 1,600 fps) at an affordable price. It ranges from the FPA to the CAMERA, and includes OEM modules. Other products are the LUXELL SERIES (linear arrays), and the LEPTON SERIES (single element detectors with different geometries or custom designed). Contact: Arturo Baldasano, Managing Director, abaldasano@niteurope.com; Raúl Gutiérrez, Electronics Department, rgutalv@niteurope.com.



## New Ridge Technologies

#4232

3600 Crondall Ln Ste 110, Owings Mills, MD, 21117  
+1 410 753 3055

hyaffe@newridgetech.com; www.newridgetech.com

New Ridge Technologies provides the polarization solutions you need for 10, 40 and 100G systems. New Ridge develops and manufactures the world's most advanced Polarization Mode Dispersion Sources and Emulators, PMD Network Outage calculators and Polarization Control Platform. Contact: Henry Yaffe, President, hyaffe@newridgetech.com.

## New Scale Technologies, Inc.

#610

SPIE Corporate Member

121 Victor Heights Pkwy, Victor, NY, 14564  
+1 585 924 4450; fax +1 585 924 4468

sales@newscaletech.com; www.newscaletech.com

**Featured Product: Mini M3-F focus module: fully integrated motion system provides precise lens motion for OEM cameras.**

New Scale creates disruptively small, precise and low-power motion systems. Our closed-loop M3 micro-mechatronics modules, piezoelectric SQUIGGLE motors and miniature TRACKER position sensors enable our customers to create smaller, more feature-rich products. Applications include focus, zoom and image stabilization for phone cameras, board cameras, machine vision and biometric systems, optical and RF tuning, UAV and missile flight control, laser tuning and positioning, and medical devices. Contact: Bobbi Merenda, Sales, sales@newscaletech.com.

## New Source Technology, LLC

#2305

SPIE Corporate Member

1249 Quarry Ln Ste 100, Pleasanton, CA, 94566  
+1 925 462 6888; fax +1 925 462 8288

sales@newsourcetech.com;  
www.newsourcetech.com

**Featured Product: Off-the-shelf Flashlamp Pumped Solid State Laser Resonators - Short cut your development TAT.**

New Source Technology started its business with designing flash/arc lamps for demanding OEM requests. Our sales and marketing experience for 15 years have extended our product line, including resonators, cavities, optics, Laser rods, non-linear crystals, EO-components, Cap Chargers, Laser Diode drivers, Beam Analyzers, and Power Meters. We are not only a supplier of Laser components but also a strong sales and marketing consulting partner who can distribute your products world wide. Contact: Gregory A Pon, President, gpon@newsourcetech.com; Ruth Quinones, Customer Service Manager, rquinones@newsourcetech.com.



METER BOARD SPONSOR

## Newport Corp.

#1301

1791 Deere Ave, Irvine, CA, 92606-4814  
+1 949 863 3144; fax +1 949 253 1680

sales@newport.com; www.newport.com

Newport is a supplier of innovative solutions to multiple marketplaces including the photonics and photovoltaic industries. Our combined product portfolio which includes Corion®, New Focus™, Oriel® Instruments, Richardson Gratings™ and Spectra-Physics® Lasers enables us to better partner with our customers to provide complete photonic solutions to make, manage and measure light. Contact: Magnus Bengtsson, Senior Sales Manager, magnus.bengtsson@newport.com.

## Nextreme Thermal Solutions, Inc.

#5026

3908 Patriot Dr Ste 140, Durham, NC, 27703  
+1 919 597 7300; fax +1 919 597 7301

info@nextreme.com; www.nextreme.com

**Featured Product: The new OptoCooler HV37 can pump 4.5 Watts or 107W/cm<sup>2</sup> of cooling at 85°C in a footprint of <0.1cm<sup>2</sup>.**

Nextreme Thermal Solutions uses microscale thermoelectric technology and high-volume semiconductor manufacturing processes to address the growing needs for advanced thermal management and clean-energy solutions world-wide. Nextreme also offers sophisticated modeling, design, engineering, and contract manufacturing services to deliver fully-optimized solutions from standard and customized products that solve the most challenging thermal and power management issues. Visit www.nextreme.com. Contact: Bill Charuk, Director of Sales, bcharuk@nextreme.com; Karl von Gunten, Director of Marketing, kvongunten@nextreme.com.

## Nichia America Corp.

#5138

48561 Apla Dr Ste 100, Wixom, MI, 48393  
+1 248 349 9800; fax +1 248 349 9418

www.nichia.com

**Featured Product: Newly developed Green, 488nm and blue LDs will be displayed.**

Nichia is pioneer and leading company in GaN semiconductors. Main products are LEDs for general lighting, Automotive, display etc, and phosphor. Nichia is the only one company which carries 375nm UV to 510nm green laser diode. Nichia America (Wixom, MI) will start taking laser diode orders in 2011. Contact: Andrew Moseley, andrew.moseley@nichia.com; Abdul Aslami, Sales Manager, abdul.aslami@nichia.com.

## Nikon Corp.

#736

SPIE Corporate Member

6-3 Nishi-ohi 1-chome, Shinagawa-ku, Tokyo, Japan, 140-8601  
+81 3 3773 9034; fax +81 3 3773 9035

info.glass@nikon.co.jp;

www.nikon.com/products/glass/index.htm

**Featured Product: Fused Silica for 3-Omega High Laser Durability Laser Fusion Components.**

Nikon Glass Division is a leading supplier for High End Optical Material such as Fused Silica and CaF<sub>2</sub> for UV, DUV Application with High Durability Laser Components and excellent internal quality and i-Line Glass for various High End Application. Contact: Masaaki Endo, Manager Sales, Endo.Masaaki1@nikon.co.jp.

## Nitto Optical Co., Ltd./Saled Dept.

#4514

1-14-18 Kudankita, Chiyoda-ku, Tokyo, Japan, 102-0073  
+81 3 3511 8111; fax +81 3 3511 8110

www.nitto-optical.co.jp

**Featured Product: Crystalline Prism, Wollaston Prism, Rochon Prism, Notch Filter, Condenser Lens, Cylindrical Lens.**

Based on its own high-precision polishing and thin film coating technology, NITTO OPTICAL produces various optics from less than 1.0 mm to over 3.0 m with the integrated processing. Line-up: Optics for ultraviolet light – far-red light area and for high power laser, Ceramic polishing, Etching (Dry & Wet), Crystalline material processing, Optical parts assemblies, etc. Contact: Tatsumasa Nishida, Supervisor, nishida@nitto-optical.co.jp; Takeshi Suzuki, Manager, tasuzuki@nitto-optical.co.jp.

## NKT Photonics A/S

#723

SPIE Corporate Member

Blokken 84, Birkerød, Denmark, 3460  
+45 4348 3900; fax +45 4348 3901  
nktpsales@nktphotonics.com; www.nktphotonics.com

**Featured Product: New generation SuperK & SpectraK supercontinuum systems: better than ever.**

NKT Photonics uses its PCF platform to design & manufacture industrial solutions in high-power fiber amplifiers, supercontinuum lasers & ultra precise DFB fiber lasers under brand names CRYSTAL FIBRE, aeroLASE™, SuperK™ and KOHERAS™. Systems are commercially deployed in material processing, biophotonics, metrology, sensing, coherent comms, test & measurement, spectroscopy and LIDAR markets. NKT Photonics is wholly owned by the Danish industrial conglomerate NKT Holding A/S. Contact: Husain Imam, Sales Manager (USA), hui@nktphotonics.com; Rich Ramsay, Sales Manager, rjr@nktphotonics.com.

## NL Agency / IOP Photonic Devices

#4301

PO Box 93144, Den Haag, The Netherlands, 2509 AC  
+31 70 373 5810; fax +31 70 373 5100  
www.senternovem.nl

NL Agency came about through a merger of EVD, The Netherlands Patent Office (Octrooiencentrum Nederland) and SenterNovem. Focussing on sustainability, innovation, international business and cooperation, NL Agency is the number one contact point for businesses, knowledge institutions and government bodies. The IOP Photonic Devices programme is a dutch innovation programme for research and development of photonics related products. Contact: Dr. Eddy Schipper, Programme Coordinator, eddy.schipper@agentschapnl.nl; dieneke.meijer@agentschapnl.nl.

## nLight Corporation

#1036

SPIE Corporate Member

5408 NE 88th St Bldg E, Vancouver, WA, 98665  
+1 360 566 4460; fax +1 360 546 1960  
sales@nlight.net; www.nlight.net

nLIGHT is a privately held company established in 2000 that develops and manufactures high-power semiconductor lasers for industrial, defense, medical and consumer applications. With state-of-the-art manufacturing in over 100,000 sq. ft. of facilities in Vancouver, WA, Hillsboro, OR, China, and Finland, nLIGHT is a leader in key growth markets. nLIGHT has received numerous awards and acclaim for its growth, leadership, and innovation.

## NM Laser Products Inc.

#2112

337 Piercy Rd, San Jose, CA, 95138  
+1 408 227 8299; fax +1 408 227 8265  
sales@nmlaser.com; www.nmlaser.com

**Featured Product: DPI-6 High Irradiance, High Damage Threshold Laser Shutter.**

Develop and Manufacture High Irradiance and High Damage Threshold Laser Shutters. Models from 2 to 20 mm Apertures. OEM Specialists. Clean room grade units available. Contact: David Woodruff, Sales Engr., dave@nmlaser.com; sales@nmlaser.com.



**OPCO**  
Laboratory Inc.

## Custom Precision Optics

### Optical Fabrication

- Prisms, Beamsplitters, Lenses, Mirrors, Filters, Domes, Flats, Windows
- All Optical Glasses, Fused Silica, MgF<sub>2</sub>, CaF<sub>2</sub>, Sapphire, Borosilicate



### Thin Film Coating

- Custom Designs, Modeling Capability
- AR, Broadband, Dual Band, Reflective, Protected and Enhanced Metallics
- Multi-Layer Dielectrics - 126nm to 25um



### Replication

- Exact Reproduction in Accuracy and Surface Quality for Ellipsoid, Paraboloid, Toroidal, Plano, Spherical Mirrors, & Diffraction Gratings
- Unlimited Variety of Substrates, Metals, Glass, Graphite, Silicon Carbide
- Monolithic, Low Cost, Reusable



### Optical Assemblies

- Multi-Element Optical/Electro/Mechanical
- Prototype and Production Quantities
- Aligned, Pre-Tested, and Certified
- Class 1000 Clean Rooms



TEL: 978-345-2522  
www.opcolab.com  
info@opcolab.com

Visit OPCO at Booth 911 PHOTONICS WEST 2011 San Francisco January 25, 26 & 27

## NoIR

SPIE Corporate Member

6155 Pontiac Trl, South Lyon, MI, 48178  
+1 800 521 9746; fax +1 734 769 1708  
david.bothner@noirlaser.com; www.noirlaser.com

LaserShields provide industry-defining protection and visibility with over 100+ filters and a frame to fit any face. LaserShields afford high Optical Densities without sacrificing visibility, all while delivering the highest damage threshold ratings possible for femtosecond and high energy pulses. Made in the USA and are CE-Certified for the world of laser applications, LaserShields are the point where safety and comfort converge. Contact: David Bothner, Director of Marketing, david.bothner@noirlaser.com; Mary Klinke, Sales Manager, mary.klinke@noirlaser.com.

## Noren Products, Inc.

SPIE Corporate Member

1010 O'Brien Dr, Menlo Park, CA, 94025  
+1 650 322 9500; fax +1 650 324 1348  
tradeshows@norenproducts.com; www.norenproducts.com

**Featured Product: Noren Products has been the leader in thermal management for over 40 years.**

Noren Products has been the leader in thermal management for over 40 years. Our Thermal Management Group has expertise in phase change technology, mechanical design, 3D modeling, thermal and CFD analysis, rapid prototyping, first article prototyping, thermal performance testing, and thermographic imaging. Our capabilities include machining, prototyping, production, and testing services. Contact: Dennis Scott, Sales Manager, dscott@norenproducts.com; Ivan Pantic, Sales, ivanp@norenproducts.com.

## Norland Products Inc.

#2117

Bldg 100, 2540 Rte 130, Cranbury, NJ, 08512  
+1 609 395 1966; fax +1 609 395 9006  
tnorland@norlandproducts.com; www.norlandproducts.com

**Featured Product: 1.32 to 1.625 refractive index adhesives. Optical Adhesives that withstand 85C/85%RH.**

Manufacturer of high quality optical and electronic UV and heat curing adhesives. These one component, solventless adhesives cure quickly when exposed to UV light and are designed for precision bonding applications. Our Optical adhesives are designed for bonding components where low strain, optical clarity or low outgassing are required in military, aerospace, fiber optics and commercial optics applications. Norland Products also sells a selection of UV curing light sources. Contact: Tim Norland, General Manager, tnorland@norlandproducts.com.

## NorPix, Inc.

SPIE Corporate Member

1751 Richardson St #6117, Montreal, QC, Canada, H3K 1G6  
+1 514 846 0009; fax +1 514 846 0117  
db@norpix.com; www.norpix.com

**Featured Product: Streampix 5 single or multiple camera video recording software. Supports over 150 different cameras.**

Norpix is the developer of Streampix 5 digital video recording software and provides turnkey solutions. Record from multiple cameras simultaneously. StreamPix supports a wide variety of GigE, Camera Link, analog, USB2 and FireWire cameras. StreamPix 5 can record in uncompressed format with computer, IrigB, and GPS time stamping. In addition we provide a wide selection of modules such as motion detection, pre-prost looping, BWave audio recording, TV out module, GPS and IrigB timing. Contact: Luc Nocente, Principal, ln@norpix.com; Debbie Belafi, Office Manager, db@norpix.com.

#912

## Norsk Elektro Optikk AS

#5515

Solheimveien 62 A, Lørenskog, Norway, 1471  
+47 67 97 47 00; fax +47 67 97 49 00  
hyspex@neo.no; www.hyspex.no

**Featured Product: HySpex: Hyperspectral Cameras, LaserGas: Gas & Dust Monitors, Optopig: Pipeline Inspection Tool.**

Norsk Elektro Optikk (NEO) was established in 1985 as a privately owned research oriented company within the field of electro optics. NEO has grown to be the largest independent research and development organization in electro optics in Norway, and has in addition established itself as a manufacturer of advanced electro optical products for an international market.

## North American Coating Laboratories

#5207

9450 Pineneedle Dr, Mentor, OH, 44060  
+1 866 216 6225; fax +1 440 357 7001  
info@nacl.com; www.nacl.com

North American Coating Laboratories provides coatings for customers in the polymer & glass optic markets. Our experience in both dip and vacuum-applied processes make NAEL one of the most respected organizations in the optical coatings field. Our coating competencies include Scratch-resistant, Reflective, Anti-reflective, Filter, Conductive, and ITO coatings, all of which are used in a wide-array of applications. North American Coating Laboratories is certified to ISO 9001:2008 standards. Contact: Dan Fiore, Business Development Manager, dfiore@nacl.com; Brian Wilson, President, bwilson@nacl.com.

## Northrop Grumman Cutting Edge Optronics

#1609

SPIE Corporate Member

20 Point W Blvd, St Charles, MO, 63301  
+1 636 916 4900; fax +1 636 916 4994  
st-ceolaser-info@ngc.com;  
www.as.northropgrumman.com/ceolaser

**Featured Product: Ultra High Density Diode Stacks.**

Northrop Grumman Cutting Edge Optronics is a leading supplier of high-power laser diodes, DPSS modules, laser diode drivers and complete DPSS laser systems. Many of our diode laser based products have become industry standards, and are used in a wide variety of commercial and military applications. The company is registered to ISO 9001:2000, and is located in St. Charles, MO. Contact: David Jones, Director of Sales & Marketing, david.b.jones@ngc.com.

## Northrop Grumman SYNOPTICS

#1609

1201 Continental Blvd, Charlotte, NC, 28273  
704/588-2340; fax 704/588-2516  
stsynopticssales@ngc.com; www.as.northropgrumman.com/synoptics

Northrop Grumman Synoptics is the world's leading manufacturer of crystals for use in solid-state lasers. We also manufacture a line of specialty crystals and Air Spaced Polarizers for use at 1064nm. Products are used in applications in the military, scientific, medical and industrial markets. Materials include Nd:YAG, CTH:YAG, Er:YAG, Nd:YLF, Nd:YVO<sub>4</sub>, KTP, Alexandrite, Cr<sup>4+</sup>:YAG, Co:Spinel and Yb:YAG and TGG. Website: www.as.northropgrumman.com/synoptics/. Contact: Scott E. Griffin, Director, Marketing and Sales, scott.e.griffin@ngc.com; Sharon Robinson, Administrative Assistant, sharon.robinson@ngc.com.



## Nova-Write Inc.

#6030

45 Gigante Dr, Hampstead, NH, 03841-2310  
+1 714 651 4293; fax +1 603 329 6170  
nnathan@novawrite.com; www.novawrite.com

**Featured Product: High Speed High Power fiber laser with Direct Modulation Oscillators Spectral Broadeners.**

Nova-Write is involved in the development of high speed high power directly modulatable fiber laser systems for a variety of applications including printing, engraving, marking, ITO processing, medical applications, 3D patterning, Photovoltaic processing, and numerous applications including Semiconductor processing. Contact: Dr. Nanda Nathan, CEO, nnathan@novawrite.com; Wilbur Webster, Founder, wdwj@aol.com.

## Novotech, Inc.

#4234

SPIE Corporate Member

916 Main St, Acton, MA, 01720  
+1 978 929 9458; fax +1 978 929 9459  
contact@novotech.net; www.novotech.net

Novotech is a global manufacturer of infrared materials. Germanium is our core product, stocked in ingots to zone refined bars to sieved evaporation grade. Manufactured products include CNC generated Blanks, diamond turned Aspheres & Spheres, Windows, Dewars, Finished Optics, Substrates, SMTY and Flats. IR materials include optical grade Germanium & Silicon. Complete vertical integration from recycling-reclamation to precision fabrication, Novotech is ready to manufacture any sized volumes. Contact: Michael Hulen, President, mhulen@Novotech.net; Peter Schwarzer, Account Manager, peters@Novotech.net.

## NP Photonics

#328

SPIE Corporate Member

9030 S Rita Rd, Tucson, AZ, 85747  
+1 520 799 7400; fax +1 520 799 7403  
info@np Photonics.com; www.np Photonics.com

NP Photonics is a leading manufacturer of fiber lasers for the sensing, medical and research markets. The NP Photonics proprietary fiber technology is used across a broad family of products including narrow line-width, low phase-noise fiber lasers specifically designed for operation in an industrial environment. Contact: Terry Hannon, VP of Sales and Marketing, thannon@np Photonics.com; Eddie Oteiza, Director of Sales, eoteiza@np Photonics.com.

## nPoint, Inc.

#809

SPIE Corporate Member

3030 Laura Ln Ste 100, Middleton, WI, 53562  
+1 608 824 1770; fax +1 608 824 1774  
info@npoint.com; www.npoint.com

**Featured Product: C-400 32-bit DSP controller with advanced control algorithms. Tip/tilt stages for optical alignment.**

nPoint, Inc. manufactures ultra-precision motion and control piezo stages for nano-scale research and manufacturing. Our products include a series of nanopositioning systems that consist of stages and control electronics. The positioning products enable rapid, precise, and repeatable motion and are used in applications ranging from life science to semiconductor industry. Contact: Katerina Moloni, VP of Sales and Product Development, katerina.moloni@npoint.com; Sharath Chandrasekaran, Sales Account Manager, sharath@npoint.com.

## NTG Neue Technologien GmbH & Co. KG #4136

Im Steinigen Graben 12-14, Gelnhausen, Germany, 63571  
+49 6051 6003 0; fax +49 6051 6003 55  
info@ntg.de; www.ntg.de

**Featured Product: Ion Beam Figuring plants for optical components from 5mm to 1500mm in diameter.**

NTG Neue Technologien GmbH & Co. KG is a worldwide operating mechanical engineering company located in the heart of the European Union. Made in Germany is not just an empty phrase for us. No difference if simple job order parts or complex procedural plants, everything is manufactured in house. NTG possesses a lot of experience in the following branches: Vacuum technology, IBF, Particle Accelerators, Nuclear technology. Contact: Thomas Franz, CTO, t.franz@ntg.de; Dr. David Schäfer, R&D-IBF-Technology, d.schaefer@ntg.de.

## NTT Electronics Corp.

#326

New Stage YOKOHAMA 1-1-32 Shin-urashima, Kanagawa-ku, Yokohama Kanagawa, Japan, 221-0031  
+81 45 414 9170; fax +81 45 453 9718  
dev-info-w@ntt-el.com; www.nel.world.com

**Featured Product: Wavelength conversion lasers and DFB lasers for biochemical and sensing applications.**

NTT Electronics Corporation exhibits DFB LDs in near-IR range and wavelength conversion lasers in visible and mid-IR ranges. These are useful for gas sensing or biochemical analytic equipments. Technologies are based on ones for high-reliable telecom components. Contact: Fumiaki Hyuga, Planning Manager, hyuga-fumiaki@ntt-el.com.



☕ COFFEE BREAK SPONSOR

## Nufern

#2105

SPIE Corporate Member

7 Airport Park Rd, East Granby, CT, 06026  
+1 860 408 5000; fax +1 860 844 0210  
info@nufern.com; www.nufern.com

Nufern is a leading U.S. manufacturer of specialty optical fibers, precision wound optical fiber coils, fiber lasers and amplifiers. Our integrated team has the experience, resources, and facilities required to design, manufacture, test and qualify highly-engineered optical fibers and fiber-based products for diverse applications and industries. Contact: Fernando Martins, Customer Service Manager, fmartins@nufern.com; Violet D'Antonio, Customer Support Specialist, vdantonio@nufern.com.

## NuPhoton Technologies, Inc.

#5313

41610 Corning Pl, Murrieta, CA, 92562  
+1 951 696 8366; fax +1 951 696 8394  
info@nuphoton.com; www.nuphoton.com

**Featured Product: Ultra-stable fiber laser for thin film removal: 1064nm pulsed, >3-W output, 500kHz. Stability >2%.**

Nuphoton Technologies is one of the pioneering companies in Fiber Lasers and LIDAR sources. Since 1996, the company has been using proprietary, leading edge technologies to design and manufacture products for a wide spectrum of applications including aerospace & defense, industrial, LADAR and telecom. Nuphoton is ISO9001 and AS9100 certified. Contact: Norm Nelson, VP, Business Development, norm@nuphoton.com.

## NuSil Technology

1050 Cindy Ln, Carpinteria, CA, 93013  
+1 805 684 8780; fax +1 805 566 9905  
silicone@nusil.com; www.nusil.com

From LEDs to fiber optics, NuSil Technology's Lightspan® brand of silicone products delivers precise, custom formulations and the most comprehensive line of high-refractive index matching adhesives, encapsulants and fluids available. No matter how large or small the batch, NuSil guarantees the same high-quality. NuSil offers testing services for optical materials characterization, including UV to Vis to NIR Spectrophotometric transmission and Refractive Index vs. Wavelength and Temperature. Contact: Michelle Velderrain, Senior Technical Specialist, michelle@nusil.com.

#5024

## Ocean Thin Films

SPIE Corporate Member

8060 A Bryan Dairy Rd, Largo, FL, 33777  
+1 727 545 0741; fax +1 727 544 2241  
info@oceanthinfilms.com; www.oceanthinfilms.com

Ocean Thin Films designs and produces precision optical coatings, components and assemblies that enable a wide variety of products and custom applications. Leveraging comprehensive know-how in thin film coating development, our team provides expert design assistance for collaborative custom-engineered solutions, from rapid prototyping through high-volume contract manufacturing. Contact: Randel Mercer, VP, Business Development, randel.mercer@oceanthinfilms.com; Beth Weinstein, Marketing Director, beth.weinstein@oceanthinfilms.com.

#4619

## Nutfield Technology, Inc.

1 Wall St Ste 113, Hudson, NH, 03051  
+1 603 893 6200; fax +1 603 893 6214  
sales.info@nutfieldtech.com; www.nutfieldtech.com/nutfield/

**Featured Product: Nutfield's SurfBoard-II USB Scan Control PCB offers Ethernet and expanded I/O.**

Nutfield Technology manufactures galvo-based scanning solutions including 2- and 3-axis scan heads, single-axis scan sets, and laser/scanner control software and electronics. Best-in-class 3XB 3-axis scan heads offer flexibility produce spot sizes as small as 5µm or scan fields as large as 2m x 2m. Fiber laser scan kits provide equipment necessary to quickly integrate a laser-scanning engine. Nutfield offers unsurpassed product and applications expertise, plus fast shipment for most items. Contact: Tom Macy, Sales Manager, tmacy@nutfieldtech.com.

#1336



EXHIBITION MAP/RESTAURANT GUIDE AND METER BOARD SPONSOR

## Oclaro, Inc.

SPIE Corporate Member

2584 Junction Ave, San Jose, CA, 95134  
+1 408 383 1400  
info@oclaro.com; www.oclaro.com

Oclaro, Inc. is a tier-one provider of optical communications and laser components, modules and subsystems for a broad range of diverse markets, including industrial, scientific, consumer electronics, and medical. Oclaro is a global leader, dedicated to photonics innovation with cutting-edge chip fabrication facilities in the U.K., Switzerland and Italy, and in-house and contract manufacturing sites in the U.S., Thailand and China. Contact: Gunnar Stolze, Director, Sales, gunnar.stolze@oclaro.com.

#1001

## O/E Land Inc.

7639 Cordner St, LaSalle, QC, Canada, H8N 2X2  
+1 514 334 4588; fax +1 514 334 0216  
info@o-eland.com; www.o-eland.com

**Featured Product: Manual tunable filter & Fiber bragg grating Wide tunable range, simple structure, high sensitivity.**

O/E Land Inc. designs & manufactures fiber bragg gratings, tunable grating & filter, strain & temperature sensors, interrogation systems, phase masks, fiber collimators, broadband light sources, LED light source, lensed fiber, fiber array, laser diode drivers, mini temperature chambers, hydrogen loading systems, and other active & passive fiber optic components & modules. Contact: Justin Carignan, Photonics Engineering, justin\_carignan@o-eland.com.

#5505

## OEWaves, Inc.

2555 E Colorado Blvd Ste 400, Pasadena, CA, 91106  
+1 626 449 5000; fax +1 626 449 1215  
info@oewaves.com; www.oewaves.com

**Featured Product: Ultra-narrow line width and low phase noise optical source, optical comb and pulsed optical source.**

OEWaves is a leader in innovative microwave photonic products and solutions. OEWaves develops and offers state-of-the-art technologies and products in support of radar, communications, fiber optic sensors, and test and measurement systems for military and commercial markets. OEWaves was founded in 2000 and has licensed the exclusive rights to over 26 patents and applications from Caltech, which operates JPL for NASA. Contact: Danny Fung, Director Product Marketing, danny.fung@oewaves.com; Camerina P. Schwartz, Marketing & Business Dev. Manager, camerina.schwartz@oewaves.com.

#4643

## Ocean Optics, Inc.

SPIE Corporate Member

830 Douglas Ave, Dunedin, FL, 34698  
+1 727 733 2447; fax +1 727 733 3962  
tradeshow@oceanoptics.com; www.oceanoptics.com

Inventors of the world's first miniature spectrometer, Ocean Optics is a global provider of scientific-grade optical oxygen sensing technologies, spectroscopy software and sensing equipment for education, OEM applications and life sciences. Contact: Sales, info@oceanoptics.com.

#1007



COFFEE/DESSERT BREAK AND GENERAL REFRESHMENT SPONSOR

## OFS, Specialty Photonics Division

SPIE Corporate Member

55 Darling Dr, Avon, CT, 06001  
+1 860 678 0371; fax +1 860 678 6513  
info@specialtyphotonics.com; www.specialtyphotonics.com

**Featured Product: Phased Stabilized Optical Fiber (PSOF) Cable and FlightLink™ Fiber Optic Cable.**

OFS provides one of the most extensive portfolios of specialty optical fibers, cables and assemblies to the medical, industrial, geophysical, commercial laser, aerospace, and telecommunications industries. Products include single mode fibers for harsh environments, multimode graded or step-index fibers, large core multimode fibers, specialty optical cables, fiber bragg gratings, and products for fiber lasers. We develop custom products to meet customer application requirements. Contact: John Earnhardt, Sales Manager, jearnhardt@ofsophotonics.com.

#2201

## Product Locator Kiosks

North Hall Concourse  
South Hall Concourse

Find what you need, print out the results, and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches

## OgMentum Incorporated

#4232

297 Kingsbury Grade Ste 142, PO Box 4470, State Line, NV, 89449-4470

+1 775 473 9907; fax +1 775 473 9916

sales@ogmentum.com; www.ogmentum.com

OgMentum Incorporated - High-Tech Sales and Marketing - Providing focused technical sales and marketing of fiber optic, and fiber-optic related, products including components, modules, and test and measurement equipment to support the telecom, datacom, aerospace, defense, research, and life sciences markets. Contact: Jake Weise, President, jake\_weise@ogmentum.com.

## Ohara Corp.

#4825

SPIE Corporate Member

23141 Arroyo Vista Pkwy Ste 200, Rancho Santa Margarita, CA, 92688

+1 949 858 5700; fax +1 949 858 5455

www.oharacorp.com

Manufacturer of precision optical glasses available as strip/slab, cut/molded blanks, high homogeneity blanks, fine gobs and polished ball lenses, near UV transmitting i-Line glasses, glass ceramic substrates, CaF<sub>2</sub>, UV and IR materials, Quartz, Fused Silica (standard and excimer grade). Ohara ClearCeram-Z ultralow expansion glass with excellent CTE uniformity can be provided in blank form up to 1.8 meter DIA. Contact: Brion Hoffman, President, brionhoffman@oharacorp.com; Chris Ghio, Director of Sales, chrishgio@oharacorp.com.

## Okamoto Optics Works

#5238

8-34 Haramachi, Isogo-Ku Yokohama, Japan, 235-0008

+81 45 752 2233; fax +81 45 752 1954

sales@okamoto-optics.com; www.okamoto-optics.com

**Featured Product: High damage threshold optics and coatings.**

Okamoto Optics develops and manufactures a broad range of custom optics and thin film coatings for scientific research, high energy lasers, lithography, medical, and industrial products. We collaborate with Aperture Optical Sciences Inc. for engineering services, sales, and technical support. Contact: Flemming Tinker, President, sales@ftoptics.com; Kai Xin PhD, VP Technology, kxin@apertureos.com.

## Olympus America Inc.

#4524

SPIE Corporate Member

3500 Corporate Pkwy, Center Valley, PA, 18034

+1 866 629 2450

www.olympusamerica.com

Olympus is a leader in industrial microscopy, with its recognized innovation, optical quality, customer support and training. Olympus industrial microscopes and metrology systems play a vital role in precision R&D, engineering and manufacturing applications in fields as diverse as aerospace, automotive, electronics, materials science/metallurgy, medical device, photovoltaics and semiconductor arenas.

## O-m6 Technologies Inc.

#5006

14163 Rd 117 Ste 90, Mirabel, QC, Canada, J7J 1M3

+1 450 979 2275; fax +1 450 979 4110

www.om6.com

**Featured Product: O-m6 now offers high power connector assemblies using spliced end-cap solutions.**

O-m6 designs and manufactures a wide range of high-performance fiber optic cable assemblies. Most products are customized to suit each application. We tailor our products according to your needs: always the correct length, the right connectors, with fibers and jackets specifically designed for your applications. Contact: Michael Gervais, Technical Sales, m.gervais@om6.com; Jean-Yves Couturier, General Manager, jy.couturier@om6.com.

## Omega Optical, Inc.

#223

SPIE Corporate Member

Delta Campus, 21 Omega Dr, Brattleboro, VT, 05301

+1 802 254 2690; fax +1 802 254 3937

sales@omegafilters.com; www.omegafilters.com

## Omicron Laserage Laserprodukte GmbH #1331

Raiffeisenstr 5E, Rodgau-Dudenhofen, Germany, 63110

+49 6106 8224 0; fax +49 6106 8224 10

mail@omicron-laser.de; www.omicron-laser.de

Omicron has been developing, designing and producing innovative laser systems since 1989. Since then its highly-qualified team has specialized in the development of solutions for medicine, research, biotechnology, digital imaging and optical data storage, as well as quality assurance and metrology. Products include high power laser diode and LED systems with high speed modulation capability. Contact: Phil Crowley, CEO, Market Tech Inc., phil@markettechinc.net.

## OMRON Corp.

#4515

Advanced Sensing & Control Business Div., Shiokoji Horikawa, Shimogyo-ku Kyoto, Japan, 600-8530

+81 75 344 7211; fax +81 75 344 7107

www.omron.com

Omron Corporation Advanced sensing and control Div. develops laser systems for marking, trimming, scribing and cutting. Our original laser system offers high peak power, high repetition rate and high beam quality. As for laser processing, this laser system is a remarkable improvement of processing speed and quality over those currently in use. Contact: nsp\_info@ssa.omron.co.jp.

## Ondax, Inc.

#939

SPIE Corporate Member

850 E Duarte Rd, Monrovia, CA, 91016

+1 626 357 9600; fax +1 626 357 9321

info@ondax.com; www.ondax.com

**Featured Product: The Ondax SureLock™ LM Series Compact Single Frequency Laser.**

Ondax is the world's largest manufacturer of high-performance Volume Holographic Grating (VHG) filters and wavelength-stabilized laser sources for industrial, defense, life-science and scientific applications. Our state-of-the-art VHG's improve the spectral and thermal performance of laser diodes, reduce the form factor and increase power handling of pulse compressors, and improve the sensitivity of spectral instruments. Our single-frequency lasers cover wavelengths from 403nm to 808 nm. Contact: Linda West, VP Sales & Marketing, lwest@ondax.com; Dawn Ebertowski, Sales & Marketing Administrator, dawn@ondax.com.

## Onefive GmbH

#5219

SPIE Corporate Member

In Böden 139, Zurich, Switzerland, 8046

+41 43 538 36 57; fax +41 43 538 36 86

contact@onefive.com; www.onefive.com

**Featured Product: Katana: Versatile ps laser with 10 uJ pulse energy at truly continuously variable repetition rates.**

Onefive is a global supplier of versatile industry-proven, low-noise ultrafast pulsed lasers as well as narrow-linewidth single-frequency lasers engineered for OEM integration and with guaranteed 24/7 operation. The air-cooled lasers are as user-friendly as a laser pointer. The portfolio contains femtosecond and picosecond lasers in the 257 – 2010 nm range. Pulse repetition rates from single-shot to GHz are available and pulse energies range from a few pJ to several uJ. Contact: Lalit B. Sharma, Head of Sales & Marketing, contactus@onefive.com.



## On-Trak Photonics, Inc.

14 Goodyear Ste 130, Irvine, CA, 92618  
+1 949 587 0769; fax +1 949 587 9524  
info@on-trak.com; www.on-trak.com

On-Trak Photonics is a manufacturer and distributor of position sensing detectors and support electronics. North American distributor for Sitek Electro-Optics. www.on-trak.com. Contact: Dave Hunnicutt, Director of Sales, dave@on-trak.com.

#711

## Ophir-Spiricon, LLC

SPIE Corporate Member

60 W 1000 N, Logan, UT, 84321  
+1 435 753 3729; fax +1 435 753 5231  
sales@ophir-spiricon.com; www.ophir-spiricon.com

Spiricon and Photon, members of Ophir Photonics Laser Measurement Group, provides complete measurement solutions with power/energy meters, beam profilers, spectrum analyzers, and goniometric radiometers. Ultracal™, the renowned baseline correction algorithm, and newly-acquired Photon Inc's NanoScan, which measures beam size/position to sub-micron resolution, are two of the laser measurement products that have served manufacturing, medical, military, and research industries worldwide for over 30 years. Contact: sales@ophir-spiricon.com or beam@photon-inc.com.

#2123

## Onyx Optics Inc.

6551 Sierra Ln, Dublin, CA, 94568  
+1 925 833 1969; fax +1 925 833 1759  
sales@onyxoptics.com; www.onyxoptics.com

Onyx Optics' product capabilities include Adhesive-Free Bonded (AFB®) crystal and glass laser components such as laser rods, slabs, disks, and waveguiding structures. We work with materials such as doped and undoped YAG, YLF, YVO<sub>4</sub>, sapphire, diamond, and spinel, as well as many others. Our patented composite technology enables higher efficiency, more compact, and higher power solid state laser and photonic devices. Contact: Lesley Reo, Sales & Marketing Manager, lreo@onyxoptics.com.

#2228

## OP Mount Instrument Inc.

No 16 Lane 717 Longxing Rd, Zhongli City, Taiwan, 320  
+886 3 4379 081 3; fax +886 3 4367 560  
weishrjai@opmount.com.tw; www.opmount.com.tw

**Featured Product: Stainless steel linear stages / Education systems.**

OP Mount Instrument Inc. is the first opto-mechanics company in Taiwan found in 1984 and has established for more than 25 years. In the domestic market for punch and die parts for stamping die it has grown to enjoy the largest share. Our 9 main manufacturing lines include: Optical Table / Stage / Optics Mount / Post & Components / Motion System / Education / Laser/ Marking / Crystal & Optics / LED Measurement System. Contact: Max Wei, Sales manager, weishrjai@opmount.com.tw; San Hung, sales assistant, san@opmount.com.tw.

#509

## OPCO Laboratory, Inc.

704 River St, Fitchburg, MA, 01420-2913  
+1 978 345 2522; fax +1 978 345 5515  
info@opcolab.com; www.opcolab.com

OPCO Laboratory, Inc. is a full service in-house manufacturer, providing high precision custom designed lenses, coated and replicated mirrors, diffraction gratings, turn-key electro-optical assemblies, and metallic and thin film coatings. We provide prototype and high volume production quantities for commercial and defense markets worldwide. Our state-of-the-art manufacturing, coating, QC, assembly, and class 1000 clean rooms, ensures precise and repeatable optical components. Contact: Robert Moody, Director Sales & Marketing, rmoody@opcolab.com; David Maldari, President, dmaldari@opcolab.com.

#911

## Ophir Optics, LLC

1600 Osgood St N, North Andover, MA, 01845  
+1 978 657 6410; fax +1 978 657 6056  
sales@ophiroptics.com; www.ophiroptics.com

**Featured Product: 15-300mm, f/4, Motorized Continuous Zoom IR (3-5μ) Lens.**

Designs and produces a full range of high-performance IR optical lenses and elements for defense, security and commercial markets. Areas of Expertise: Optical Lens Assemblies for MWIR & LWIR, Cooled and Uncooled Cameras, IR Optical Components (BTP), Optics for High Power CO<sub>2</sub> Industrial Lasers. Contact: Marianne Cannizzaro, Sales Associate, m.cannizzaro@ophiroptics.com; Glenn Breeze, Director of Sales & Marketing, glenn.breeze@ophiroptics.com.

#2216



EXHIBITION MAP/ RESTAURANT GUIDE SPONSOR

## Opnext, Inc.

46429 Landing Pkwy, Fremont, CA, 94538  
+1 510 580 8828; fax +1 510 580 8819  
info@opnext.com; www.opnext.com

Opnext offers a comprehensive lineup of red laser diodes and infrared laser diodes from 635nm through 852nm and output power ranges from 3mW to 150mW. These high quality and reliable products feature high power, low operating current, circular and multi-beam options, and high performance infrared. Applications supported include: Medical, Displays, Defense & Security, Machine Control, Barcode Scanning, Consumer Products, Automotive, and Semiconductor Manufacturing. Contact: Bob Murphy, Sales, bmurphy@opnext.com.

#1837

## OPOTEK, Inc.

2233 Faraday Ave Ste E, Carlsbad, CA, 92008  
+1 760 929 0770; fax +1 760 929 8782  
www.opotek.com

**Featured Product: Introducing the Opolette HR series, compact 100Hz tunable laser systems incorporating a DPSS laser.**

OPOTEK offers a wide range of efficient, compact and broadly tunable laser systems based on Optical Parametric Oscillator (OPO) technology. Our reliable and robust systems feature the smallest footprint in their category with tuning ranges from the ultraviolet to mid-infrared. All products are computer controlled and designed for a variety of applications including photochemistry, photobiology, hyperspectral imaging, mass spectrometry, pharmaceutical processing, environmental monitoring. Contact: Mark Little, Marketing & Sales, mllittle@opotek.com.

#2005

## Optec S.p.A.

SPIE Corporate Member

Via Mantegna 34, Parabiago Milan, Italy, 20015  
+39 0331 491945; fax +39 0331 495091  
info@optec.eu; www.optec.eu

#2001

## OptecNet Deutschland e.V.

Seelandstr 3-5, Lübeck, Germany, 23569  
+49 451 3903 435; fax +49 451 3909 436  
info@optecnet.de; www.optecnet.de

The German Competence Networks for Optical Technologies unite almost 500 companies, research and education institutions, technology transfer agencies, business development companies, investors and public-law corporations. Their common aim is to support the development and application of Optical Technologies "made in Germany". Contact: Dr. Hans-Juergen Hartmann, Project Manager, messe@optecnet.de; Iris von Borcke, Marketing & Communications, messe@optecnet.de.

#4601



*Pioneers in international business*



MULTI SENSOR CAMERA PRODUCTS AND ANALYSIS SOFTWARE FOR MULTISPECTRAL AND 3D IMAGING



HIGHSPEED FIBRE BRAGG GRATING INTERROGATION SYSTEMS & SENSORS



FLIM, FRET MICROSCOPY & INTENSIFIED HIGH SPEED IMAGING



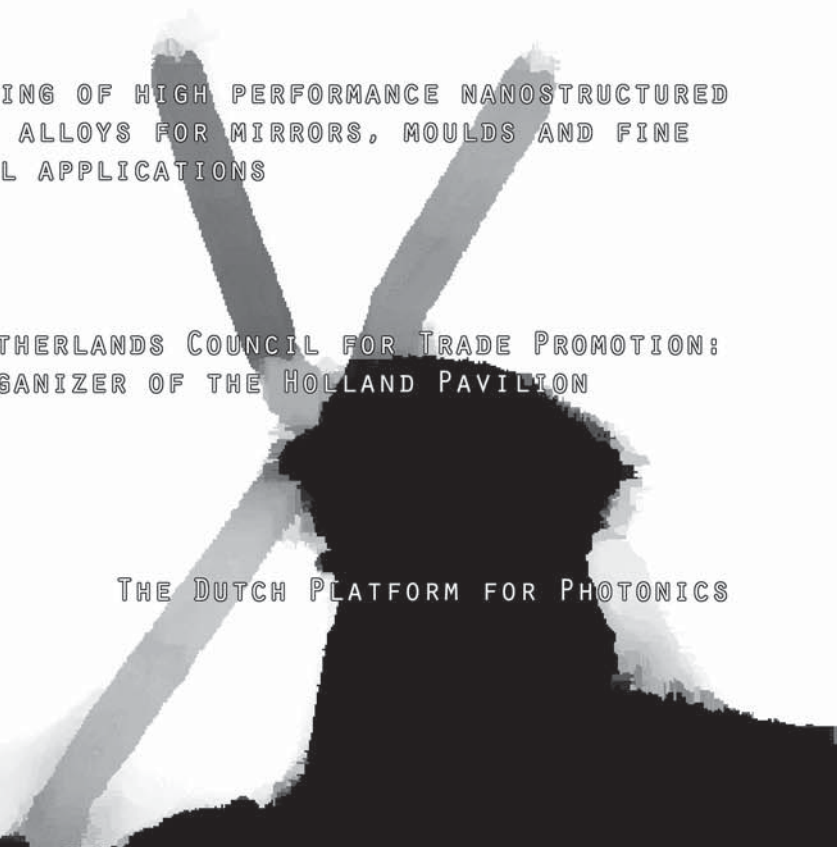
MELTSPINNING OF HIGH PERFORMANCE NANOSTRUCTURED ALUMINIUM ALLOYS FOR MIRRORS, MOULDS AND FINE MECHANICAL APPLICATIONS



NETHERLANDS COUNCIL FOR TRADE PROMOTION: ORGANIZER OF THE HOLLAND PAVILION



THE DUTCH PLATFORM FOR PHOTONICS



## OPTEG GmbH

#4601

Foepplstr 9, Leipzig, Germany, 04347  
+49 341 234935 19; fax +49 341 234935 21  
reinhard.schwabe@opteg.de; www.opteg.de

OPTEG GmbH produces turnkey Ion Beam Figuring machines for mass production in optical industry. We develop process control and visualization software. Low-coherence interferometers are offered for work-piece positioning and thickness measurements. Contact: Reinhard Schwabe, reinhard.schwabe@opteg.de.

## OpTek Systems Inc.

#4311

12 Pilgrim Rd, Greenville, SC, 29607  
+1 864 272 2640; fax +1 864 272 2630  
osi@opteksystems.com; www.opteksystems.com

Stripping, cleaving and lensing of optical fiber. Precision laser micromachining. R&D through to production. Sub-contract services, fully integrated machine tools. Opto-electronics, micro-electronics, telecom, biomedical, medical device, sensors, capillaries, photovoltaic, solar cells. Contact: Andrew Webb, Head of Business Development, osi@opteksystems.com.

## Opti Temp, Inc.

#4219

**SPIE** Corporate Member  
1500 International Dr, Traverse City, MI, 49686  
+1 231 946 2931  
information@optitemp.com; www.optitemp.com

## Optical Building Blocks Corporation

#835

300 Birmingham Rd, PO Box 186, Birmingham, NJ, 08011  
+1 609 894 1541; fax +1 609 784 7809  
contact@obb1.com; www.obb1.com

Optical Building Blocks Corporation (OBB) is built on 34 years of pioneering industry expertise in Electro-optical instrumentation. OBB designs, manufactures and markets proprietary light sources, monochromators, detectors, light based components for microscopes and bench top fluorescence systems. OBB products can be found at work in medical, healthcare, industrial process, quality control and environmental science laboratories and research facilities around the world.

## Optical Research Associates

#1200

see Synopsys, Inc.

## Optical Support, Inc.

#6062

**SPIE** Corporate Member  
7840 E Broadway Blvd Ste 160, Tucson, AZ, 85710  
+1 520 546 0642  
www.opticalsupport.biz

Optical Support provides complete optomechanical design services. Starting with a design concept, list of system requirements or an optical prescription, we provide complete optical and mechanical system design, drawings of optical elements as well as mechanical components and assemblies. This documentation package is ready for release, saving your team the time they may need to manage other efforts. We can even purchase, inspect, assemble and test optical systems before your team gets started. Contact: Michael Savard, President, msavard@opticalsupport.biz.

## OPTICS 1, Inc.

#700

**SPIE** Corporate Member

1050 Holt Ave Ste 12, Manchester, NH, 03109  
+1 603 296 0469; fax +1 603 296 0473  
www.optics1.com

Optics 1 provides expert design and manufacture of precision optical components and opto-mechanical systems. Our Defense Systems and Commercial Systems groups provide solutions from low UV to far IR. Typical applications include military surveillance, night vision, and reconnaissance systems, simulation systems, and optical instrumentation and optical sub-assemblies.



⚡ **METER BOARD SPONSOR**

## Optics Balzers

#5043

Neugrüt 35, Balzers, Lichtenstein, LI-9496  
+42 3388 9200; fax +42 3388 9390  
info@opticsbalzers.com; www.opticsbalzers.com

**Featured Product: Customized multiple notch filters with spectral performance close to the theoretical limits.**

For over 60 years, Optics Balzers has been the preferred partner for innovative optical solutions. Together with its affiliated company in Jena, Optics Balzers is one of the global leaders in the supply of optical components. The services that it offers range from optical thin-films, patterning technologies to optical subassemblies. Contact: Steffen Capello, Sales Manager USA, 1-303-502-5401, steffen.capello@opticsbalzers.com; Dirk von Frajer, Director Marketing & Sales, dirk.von.frajer@opticsbalzers.com.

## Optics Technology, Inc.

#639

3800 Monroe Ave, Pittsford, NY, 14534  
+1 585 586 0950; fax +1 585 248 2371  
info@opticstechnology.com; www.opticstechnology.com

Optics Technology, Inc. provides lens design and manufacturing services for your most challenging applications. Design and manufacturing include microscope objectives, fiber imaging eyepieces, laser collimators, endoscopes and other micro-imaging devices. OTI also provides miniature mechanical fabrication and assemble services as well. Designs are completed with manufacturability in mind during the design process. Contact: Dominick Polizzi, Director of Sales & Marketing, sales@opticstechnology.com.



⚡ **PROMOTIONAL PARTNER**

## optics.org

#5302

2 Alexandra Gate, Ffordd Pengam, Cardiff, United Kingdom, CF24 2SA  
+44 117 906 4062  
rob.fisher@optics.org; optics.org

## Optiforms

#4735

**SPIE** Corporate Member

42310 Winchester Rd, Temecula, CA, 92590  
+1 951 296 1300; fax +1 951 296 1178  
info@optiforms.com; www.optiforms.com

Optiforms is the world leader in precision electroformed optics, cold shields, and specialized miniature structures. We offer electroformed standard and custom geometric shapes; thin film vacuum deposited optical coatings; electrodeposited metals such as high density gold or rhodium; cold shields; EDM; assemblies; EMI shields; radiation shields, and reflector refurbishment. Recently celebrating 26 years of unmatched excellence to the optics industry, we welcome new custom applications. Contact: Donna Stice, Customer Service Manager, dstice@optiforms.com; Mike Birdsell, Sales Engineer, mbirdsell@optiforms.com.



## OptiGrate Corp.

SPIE Corporate Member

3267 Progress Dr, Orlando, FL, 32826  
+1 407 381 4115; fax +1 407 384 5995  
info@optigrate.com; www.OptiGrate.com

**Featured Product: Ultra-narrow-band Notch and Bandpass filters at 488, 532, 633, 785, 1064 nm for Raman spectroscopy.**

OptiGrate Corp. designs and manufactures a full range of volume Bragg gratings (VBG) in photosensitive silicate glass. Superior technologies allow OptiGrate to offer patented VBGs with efficiency up to 99.99% and set records in a number of other gratings parameters. We are proven to be a reliable supplier of diffractive optical components for government contractors, industrial and academic customers. Our superior ability to develop VBGs with unique specs is recognized worldwide. Contact: Vadim Smirnov, CTO and Vice-President, vsmirnov@optigrate.com; Igor Ciapurin, Program Manager, iciapurin@optigrate.com.

## Optikos Corp.

SPIE Corporate Member

107 Audubon Road, Bldg. 3, Wakefield, MA, 01880  
+1 617 354 7557; fax +1 617 354 5946  
sales@optikos.com; www.optikos.com

**Featured Product: The LensCheck VIS is an economical system for accurately quantifying imaging properties of lenses.**

Optikos Corporation is the world's largest manufacturer of equipment for the measurement of optical image quality and a leading provider of optical product development services. As the world leader in the field of MTF testing, Optikos offers complete solutions for both component and system level tests on imaging systems operating from the ultraviolet to the far infrared. Optikos' product line includes testing suites for measuring the performance of optical and electro-optical imaging systems. Contact: Roger Kirschner, Sales and Marketing Director, rkirschner@optikos.com; Jim Scott, Key Account Manager, jscott@optikos.com.

## Optikron GmbH

Löbstedter Strasse 70, Jena, Germany, 07749  
+49 3641 384 970; fax +49 3641 384 978  
info@optikron.de; www.optikron.de

**Featured Product: Micro - Beamsplitter - Cubes down to 0.3 mm.**

Optikron GmbH is a partner for the development and production of micro-optical components, complex micro-optical assemblies as well as for optical coatings and thin-film optics. We are manufacturing micro optics, assemblies and thin-film optics for both medical and technical applications such as endoscopes, diode lasers, laser systems, sensor systems, measuring instruments, optical data transmission systems and in innovative applications for aerospace industry. Contact: Gerrit Seyffert, seyffert@optikron.de.

## Optimax Systems, Inc.

SPIE Corporate Member

6367 Dean Pky, Ontario, NY, 14519  
+1 585 265 1066; fax +1 585 265 1033  
sales@optimaxsi.com; www.optimaxsi.com

**Featured Product: Optimax has the technology and know-how to manufacture 1/10 wave optical components in one week!**

Optimax grinds and shines optical materials to make Aspheres, Cylinders, Spheres, and Prisms to customer specifications. We specialize in producing optics in small lot sizes with diameters up to 300mm. With over 100 opticians, deterministic CNC machining, and in-house coating capabilities, Optimax can deliver precision optics in record time. Call us! Contact: Joe Pinto, Sales Engineer, joep@optimaxsi.com; Rick Plympton, CEO, rick@optimaxsi.com.

#2037

## OptiPro Systems

SPIE Corporate Member

6368 Dean Pky, Ontario, NY, 14519  
+1 585 265 0160; fax +1 585 265 9416  
sales@optipro.com; www.optipro.com

**Featured Product: CNC 80mm eSX Grinder & ePX Polisher; Small footprint, Low cost, Fast set up, High volume, & Made in the USA.**

CNC Fabrication equipment: Grinding & polishing of spherical, aspherical & conformed optics. UltraForm Finishing (UFF) – Aspherical & Conformed 5-axis Sub-aperture polishing machine. eSX 150 the industry standard for grinding complex optical components. Manufacturer & Distributor of optical surface metrology equipment including the UltraCURV digital spherometer, Zeiss Surface Profilometers, UltraSurf non-contact surface measurement system for aspheres, cylinders and conformed optics. Contact: Lynda Bechtold, Sales, lynda@optipro.com.

#626

## Optisiv Ltd.

PO Box 186, Kibbutz Einat, Israel, 48805  
+972 3901 1641; fax +972 3901 1641  
info@optisiv.com; www.optisiv.com

**Featured Product: Short pulse fiber lasers for material and solar cell processing, and synchronized pump-probe sources.**

Optisiv Ltd. develops and manufactures high-power ultrafast (fs-ps-ns) fiber laser products and related accessories for material processing, marking, solar cell manufacturing, and scientific applications. Specializing in optical pulse generation and shaping techniques, Optisiv offers turn-key laser engines that cover the UV to mid-IR range in either instruments or customized OEM versions. Optisiv also provides services for laser-induced damage testing at various wavelengths and power densities. Contact: Jacob Lasri, CTO, lasri@optisiv.com.

#2637

## OptiSource, LLC

SPIE Corporate Member

102 Mountain Park Pl NW Ste D, Albuquerque, NM, 87114  
+1 505 792 0277; fax +1 505 792 0281  
sales@optisourcellc.com; www.optisourcellc.com

**Featured Product: Improved capabilities: 6" aperture zygo/expanded assembly technics.**

We specialize in the fabrication of crystal quartz waveplates, mica waveplates, polarization rotators and etalons. We also offer a full range of windows, mirrors, beamsplitters, lenses and prisms. Contact: Ralph Temer, Sales Manager, ralph\_optisource@msn.com; Sherry Annan, Technical Sales, sherry\_optisource@msn.com.

#2113

## OptiSwitch Technology Corp.

SPIE Corporate Member

6355 Nancy Ridge Dr, San Diego, CA, 92121  
+1 858 452 8787; fax +1 858 452 8788  
sales@optiswitch.com; www.optiswitch.com

**Featured Product: The PLDD-300-1-20 is an ultra-mini, short pulse diode driver that drives a single bar to 300 amps.**

OptiSwitch Technology Corporation, a high technology innovator located in San Diego CA, specializes in ultra-compact, ultra-lightweight and highly reliable pulsed power systems. We offer a variety of precision pulsed current sources where low weight, compact size, and reliability are of utmost concern. Our drivers are easily integrated into military, medical, industrial, and laboratory laser systems. Their light weight and small footprint make them ideal for hand-held and airborne applications. Contact: Rose Southall, Sales & Marketing Manager, rose@optiswitch.com.

#5204



EXHIBITION MAP/ RESTAURANT GUIDE SPONSOR

## Optiwave Systems Inc. #715

SPIE Corporate Member

7 Capella Ct, Ottawa, ON, Canada, K2E 7X1  
+1 613 224 4700; fax +1 613 224 4706  
info@optiwave.com; www.optiwave.com

**Featured Product: New in OptiFDTD 9.0: Non-Uniform Mesh - conserves memory usage and consequently reduces CPU time.**

Optiwave's suite of comprehensive engineering design tools benefits photonic, bio-photonic, and system design engineers. OptiFDTD: Finite-Difference Time-Domain Simulation Design. OptiBPM: Waveguide Optics Design Software. OptiSystem: Optical Communication System and Amplifier Design Suite. OptiSPICE: The First Opto-Electronic Circuit Design Software. OptiGrating: Integrated and Fiber Optical Gratings Design Software. OptiFiber: Optical Fiber Design Software. Contact: global@optiwave.com.

## OPTIX Co. #2011

65 Zahari Stoyanov Str, Panagyurishte, Bulgaria, 4500  
+949 282 9723; fax +949 582 3021  
janice.hunter@primoptix.com; www.optixco.com

**Featured Product: New Production for Aspheric Lenses.**

Optix Co. is a leading supplier of Optical Components, and Optical Systems. Covering the UV and IR wavelengths. Our engineers can work with you from design to production. We will manufacture the components and the complete optical system meeting the higher standards for AQAP NATO 2110, and ISO 9001. Contact: Janice Hunter, U.S. Sales Manager, janice.hunter@primoptix.com; Stoyan Novakov, Sales Manager, sales@primoptix.com.

## Opto Diode Corp. #5325

SPIE Corporate Member

750 Mitchell Rd, Newbury Park, CA, 91320  
+1 805 499 0335; fax +1 805 499 8108  
sales@optodiode.com; www.optodiode.com

Opto Diode Corporation (www.optodiode.com – Newbury Park, CA) manufactures advanced performance, standard and custom photodetectors, and reliable, high quality visible and infrared (IR) LEDs. The company's domestic U. S. manufacturing plant includes a wafer fab to ensure delivery of volume quantities at competitive prices with short lead times. Industries served include T&M, biotechnology, military/defense, medical, entertainment, automotive, aerospace, R&D, industrial, lighting, and more. Contact: Russell Dahl, Director, Sales and Marketing, russ.dahl@optodiode.com.

## Opto Precision Pte Ltd. #5036

11 Toh Guan Rd E #02-01, Singapore, Singapore, 608603  
+65 6565 1110; fax +65 6565 0013  
enquiries@opto.co.sg; www.opto.com.sg

**Featured Product: Highlights: Expertise on polymer optics; Key advocator of lean manufacturing.**

Opto Precision, an ISO 9001:2008 Certified company, offers one of the best Optics Assembly, Optics Component manufacturing and Coating facilities in the South East Asia region. We have excellent IP-Protection systems, strategically located. Talented manpower resources in Singapore allows us to provide excellent products, faster turnaround time and competitive pricing to customers worldwide. 70% Export. Contact: Keigo Tang, Vice President, keigo.tang@opto.com.sg; Harry Ong, Sales Manager, hary.ong@opto.com.sg.

## Opto-Alignment Technology, Inc. #4411

SPIE Corporate Member

1034 Van Buren Ave, Indian Trail, NC, 28079  
+1 704 893 0403; fax +1 704 893 0403  
sales@optoalignment.com; www.optoalignment.com

**Featured Product: Ultra precision lens aligning station for micro-lithography stepper assembly.**

US manufacturer of Lens Assembly, Alignment & lens Centration Equipment & provider of lens system assembly services. We reinvest our assembly experience back into the photonics community by building superior assembly stations. The LASER ALIGNMENT STATION a laser reflection based instrument, provides sub-micron centration & angular measurement for spheric, aspheric, cylindric & coated optics, UV to LWIR. We offer LENSHANDLER and ROTOWAND vacuum pick-up tools, & lint free lens wipes. Contact: Steve Bohuczky, Director of Business Development, steve.bohuczky@optoalignment.com; Sasha Pearlman, President, sasha.pearlman@optoalignment.com.

## OptoCrystal Co., Ltd. #4516

302 2-4-4 Hagoromo-cho, Tachikawa Tokyo, Japan, 190-0021  
+81 42 512 9705; fax +81 42 512 9705  
sales@optocrystal.com; www.optocrystal.com

**Featured Product: KG-1 chalcogenide glass for thermal imaging applications.**

OptoCrystal offers KG-1 chalcogenide glass available as infrared material, and optical components. Optical components include aspherical lens, spherical lens, optical coating, and window for thermal imaging applications using KG-1 or Ge. Contact: Yutaka Kumakura, President, kumakuray@optocrystal.com; Tokikuni Nakayama, Engineer, nakayamat@optocrystal.com.

## OptoElectronic Components #4829

SPIE Corporate Member

28 Des Lilas, Kirkland, QC, Canada, H9J 4A7  
+1 514 694 0336; fax +1 514 694 8535  
sales@optoecomponents.com; www.optoecomponents.com

**Featured Product: Infrared Photon Counting Modules based on Superconducting Nanowires.**

Supplier of single photon counting detector modules with 30ps timing resolution from Micro Photon Devices, TCSPC electronics and software from PicoQuant, and Infrared Photon Counting modules based on Superconducting Nanowires from Photon Spot. OptoElectronic Components also builds custom modules for demanding light detection applications. Contact: Nick Bertone, President, Nick.Bertone@optoecomponents.com; Natalie Raymond, Natalie.Raymond@optoecomponents.com.

## Optoelectronic Industry & Technology Development (OITDA) #5205

1-20-10 Sekiguchi, Bunkuyo-ku, Tokyo, Japan, 112-0014  
+81 3 5225 6431; fax +81 3 5225 6435  
interopt@oitda.or.jp; www.oitda.or.jp



PROMOTIONAL PARTNER

## OptoIndex #6070

Papier Muehlenweg 74, Ratingen, Germany, 40882  
+49 2102 1678 26; fax +49 2102 1678 28  
constanze.classen@opto-index.de; www.opto-index.de

**Featured Product: The OptoIndex offers a comprehensive data source for companies and products in the photonics.**

Contact: Constanze Classen, Media Consultant, constanze.classen@opto-index.de.

## Opto-Line, Inc.

#4520

4-6-10 Higashi-Ikebukuro, Toshima-ku Tokyo, Japan, 170-0013  
+81 3 3981 4421; fax +81 3 3989 9608  
opl@opto-line.co.jp; www.opto-line.co.jp

**Featured Product: New Homogenizers, Receptacle Collimator (R001), Polarizing Beam Splitter and so on.**

We strive to provide best solutions to customers as a technology co-coordinator. Our business is manufacturing and sales of the customized Optical elements, components. Contact: Hiroto Suzuki, Vice President of Sales, opl@opto-line.co.jp; Yuji Mamei, P&S, Manager, opl@opto-line.co.jp.

## Optometrics Corp.

#623

SPIE Corporate Member

8 Nemco Way, Ayer, MA, 01432  
+1 978 722 1700; fax +1 978 772 7100  
www.optometrics.com

**Featured Product: Low cost Tunable Light Source Visible-NIR, Manual or Automated, Fiber Optic option, 6-25nm bandpass.**

For more than thirty years, Optometrics has been the OEM instrument manufacturer's one stop for wavelength selection solutions. From diffraction gratings to interference filters to infrared laser products, as well as monochromators and optical systems. Core competencies are grating mastering, both holographic and ruled, as well as full replication facilities. Contact: Laura Lunardo, Chief Operating Officer, lauras@optometrics.com; David Ventola, Engineering Manager, davev@optometrics.com.

## Optonetic LLC

#728

SPIE Corporate Member

6901 TPC Dr Ste 500, Orlando, FL, 32822  
+1 407 857 4410; fax +1 407 857 4409  
juncha@optonetic.com; www.optonetic.com

Manufacturer of custom, high precision, high power optical components with fast production turnaround. Provider of thin-film coating services including High Packing Density Plasma Assist Deposition (PAD). PAD advantages include Durable Low Temperature Coatings for Plastic, Non-Radioactive Coatings for IR Optics, High Laser Damage Threshold Coatings, and more. Fast Turn Around within 48 hours available Contact: Jun Cha, President, juncha@optonetic.com.

## optoSiC GmbH

#5128

Lange Str 89A, Baden-Baden, Germany, 76530  
+49 7221 973 974 0; fax +49 7221 973 974 211  
info@optosic.com; www.optosic.com

**Featured Product: • XY 10 FLAT • XY 15 FLAT • XY 50 Generic.**

OptoSiC GmbH manufactures standard SiC Generic 'one-size-fits-all' XY laser galvo scanning mirrors. They include ultra-high dynamic, low inertia scanning mirrors for Laser processing, Streak cameras, LIDAR, Security, Sensing and targeting applications. Airborne scanning. Where the enhanced flexural strength, homogeneity, high resonant frequencies, ultra-low inertia, optical surface quality and realistic price to produce the optoSiC+ material are key. Contact: Matthias Struckmeyer, CEO, M.Struckmeyer@optosic.com; Joachim Hengst, CFO, Joachim.Hengst@optosic.com.



CONFERENCE BAG INSERT SPONSOR

## OptoSigma Corp.

#1623

SPIE Corporate Member

2001 Deere Ave, Santa Ana, CA, 92705  
+1 949 851 5881; fax +1 949 851 5058  
sales@optosigma.com; www.optosigma.com

**Featured Product: Ultra Thin Extended Contact Steel Stages - 45% thinner, 30% lighter, with mic or fine pitch screw.**

OptoSigma is one of 7 global mfg facilities in the Sigma Koki Mfg Group provides both custom and catalog optical coatings, optics, opto-mechanics and motorized positioners to USA and Europe. The New 2010 Catalog offers new photonic components is now available and a new web site will launch in October 2010. Contact: Clayton Summers, Sr Mechanical Engineer, Clayton@optosigma.com; Mao Phavantha, Applications Engineer, Mao@optosigma.com.

## Optoskand AB

#4435

Krokslättis Fabriker 27, Molndal, Sweden, SE-431 37  
+46 31 706 2750; fax +46 31 706 2778  
info@optoskand.se; www.optoskand.se

**Featured Product: This year we will introduce a novel "All-in-quartz" concept as a solution to minimize focal shift.**

Optoskand offers an all-embracing product line including all you need to safely bring the light of your laser to the work piece. Our high-tech and reliable products are results of over 20 years of experience and continuous improvements in co-operation with our customers. Contact: Magnus Pålsson, Sales & Marketing Manager, magnus.palsson@optoskand.se; Anna Berner, Sales & Marketing, anna.berner@optoskand.se.

## OptoTech Optical Machinery Inc.

#4204

PO Box 131, East Greenville, PA, 18041  
+1 215 679 2091; fax +1 215 679 2013  
info@optotech.us; www.optotech.de

## Optotune

#4417

SPIE Corporate Member

Ueberlandstr 129, Dübendorf, Switzerland, 8600  
+41 58 856 3000; fax +41 58 856 3001  
info@optotune.com; www.optotune.com

**Featured Product: Electrically focus tunable lens, Manually focus tunable lens, Transmissive laser speckle reducer.**

Think different, think tunable! Optotune has invented a lens with tunable focal length. The principle is similar to that of the human eye: A soft, polymer-based lens is bent by applying a control voltage. Optics become smaller, focusing becomes faster. Optotune's technology enables novel optical designs in many applications outperforming existing solutions in terms of size, cost, power consumption and robustness. Contact: Mark Blum, COO, mark.blum@optotune.com; Dr. Yann Tissot, Product Manager, yann.tissot@optotune.com.



PROMOTIONAL PARTNER

## The Optronics Co., Ltd.

#4513

5-5 Shin Ogawamachi, Shinjuku-ku Tokyo, Japan, 162-0814  
+81 3 3269 3550  
intl@optronics.co.jp; www.optronics.co.jp

**Featured Product: IR & UV EXPO.**

Optronics, the leading photonics magazine in Japan, provides the latest news and information on the photonics industry, including optics, lasers, fiber optics, imaging and optoelectronics. Please stop by our booth for further information about the journal. The information on LENS & LASER EXPO is also available. Contact: Sakae Shibasaki, intl@optronics.co.jp.



# SPIE Photonics West Exhibitor Directory

## Orbits Lightwave, Inc.

SPIE Corporate Member

41 S Chester Ave, Pasadena, CA, 91106-3104  
+1 626 513 7401; fax +1 626 513 7410  
dmcmillan@orbitlightwave.com; www.orbitlightwave.com

#5136

## OXXIUS SA

SPIE Corporate Member

4 Rue de Broglie, Lannion, France, 22300  
+33 2 96 48 70 28; fax +33 2 96 48 21 90  
sales@oxxius.com; www.oxxius.com

#1939, 4832

**Featured Product: SLIM-561 is the first SLM yellow DPSS laser available up to 400mW for super resolution imaging.**

Oxxius manufactures innovative solid-state lasers for Biotech, Scientific and Industrial applications, featuring wavelengths in the IR, visible and near-UV and with output power up to 900mW. The SLIM line is based on a monolithic resonator technology that ensures SLM emission, excellent power stability and long life time. The LaserBoxx line is a performing driver integrated laser diode module. Available wavelengths are 375, 405, 445, 473, 488, 532, 553, 561, 590, 638, 642, 660 and 785 nm. Contact: Pascal Voluer, Director of Sales, pvoluer@oxxius.com; sales@oxxius.com.

## Oriel Instruments, A Newport Corporation Brand

150 Long Beach Blvd, Stratford, CT, 06615  
+1 203 377 8282; fax +1 203 378 2457  
oriel.sales@newport.com; www.newport.com/oriel

#1301

## OSA - The Optical Society

2010 Massachusetts Ave NW, Washington, DC, 20036  
+1 202 223 8130; fax +1 202 223 1096  
info@osa.org; www.osa.org

#3038

Stop by the OSA booth to pick up free copies of Optics and Photonics News magazine and get your free luggage tag with your business card. Learn about individual and Corporate Membership, publications and other OSA activities. OSA staff will be there to answer your questions. Sign up for membership on site and you may be able to take advantage of OSA's show special discount on some categories of new member applications and renewals. Contact: Melissa Russell, Deputy Senior Director, Corporate Development, mrusse@osa.org; Tom Markusson, Manager, Corporate Development, tmarkusson@osa.org.

## OSI Optoelectronics, Inc.

12525 Chadron Ave, Hawthorne, CA, 90250  
+1 310 978 0516; fax +1 310 644 1727  
www.osioptoelectronics.com

#1008

## OWIS GmbH

Im Gaisgraben 7, Staufen, Germany, 79219  
+49 7633 9504 0; fax +49 7633 9504 440  
info@owis.eu; www.owis.eu

#5134

**Featured Product: OWIS elevator stages HTM/HUMES provide precision positioning in small places.**

OWIS has over 30 years of experience in optomechanical components and positioning systems for: Information Technology, Mechanical Engineering, Precision Machining, Semiconductors, Printing and Imaging, Micro System and Sensor Technology, Biotechnology, Microscopy, Spectroscopy, Aeronautics. OWIS focuses high-quality standard and customized Rails, Slides, Mounts, Manual/Motorized Positioning Systems (Linear, Elevator, Rotary and XY Stages; Goniometers); Controls. Contact: Adine Miclea, Marketing, ami@owis.eu.

## Oxide Corp.

1747-1 Mukawa Hokuto, Hokuto, Japan, 408-0302  
+81 551 26 0022; fax +81 551 26 0033  
sales@opt-oxide.com; www.opt-oxide.com

#1237

**Featured Product: DUV Laser, UV Wavelength Convertor, isolator material, component for fiber laser.**

We are 10 years old, a leading supplier of optical crystals. Besides our reputed crystals as CLBO and MgO doped stoichiometric LiNbO<sub>3</sub> and LiTaO<sub>3</sub>, we start offering harmonic generators for fiber lasers and even DUV lasers. Patented PPMgSLT technology and high purity BBO with long life are used to assure super performance of these products. Contact: Hiroshi Fukube, Marketing Manager, fukube@opt-oxide.com; Atsushi Senda, Sales, senda@opt-oxide.com.

## OZ Optics Ltd.

SPIE Corporate Member

219 Westbrook Rd, Ottawa, ON, Canada, K0A 1L0  
+1 613 831 0981; fax +1 613 836 5089  
sales@ozoptics.com; www.ozoptics.com

#4801

High Power Components/Isolators/Combiners/Patchcords/Connectors/ Intelligent Tunable Laser Diode Sources/Safety Interlocks/Shutters/ Optical Coatings, Laser to Fiber Delivery Components, Collimators/ Focusers, Polarization Maintaining Components, PM/SM/MM Fused Fiber Couplers, PM Patchcords/Connectors/Splitters, Polarized Sources, Polarization Rotators/Controllers/Analyzers, Polarizers, PDL Emulators, Extinction Ratio Meter, Turnkey Laser Diode Sources, Hermetically Sealable Patchcords. Contact: Omur Sezerman, CEO & President, sales@ozoptics.com.

## P&P Optica Inc.

330 Gage Ave Ste 11, Kitchener, ON, Canada, N2M 5C6  
+1 519 576 0007; fax +1 519 576 0885  
www.ppo.ca

#5006

**Featured Product: Raman Spectrometer & gas/liquid flow-cell for <1 ppm impurities measurement in industrial processes.**

P&P Optica Inc. offers a series of exceptionally sensitive line-imaging spectrometers with up to 1" by 0.5" 2D detector arrays for simultaneous registration of the complete spectrum. The key element of these spectrometers is the VPH transmission gel grating providing high efficiency and low scattered light levels. Spectrometers with these gratings together with transmission optics perform exceptional imaging in the spectral range of 250nm to 2500nm with SNR reaching 100,000:1. Contact: Rob McAleer, Manager Business Development, rob@ppo.ca; Olga Pawluczzyk, President, olga@ppo.ca.

## Pacer USA LLC

4149 Burns Rd, Palm Beach Gardens, FL, 33410  
+1 866 375 6652; fax +1 215 689 3440  
www.pacer-usa.com

#4542

Pacer is a specialist supplier of optoelectronic components, displays and custom solutions. We offer a broad range of Optical Solutions (Displays, LEDs, LED Arrays, Laser Solutions, Light and Color Sensors) in addition to offering components and custom products. Display portfolio includes LCD, TFT, and OLED, as panels, with chassis options, monitor solutions, networkable products or digital signage solutions. Additional options include weatherproof enclosures, sunlight readable and touchscreens. Contact: David House, GM, david.house@pacer-usa.com; Theresa Doroba, Customer Service, theresa.doroba@pacer-usa.com.

# Tune in to the optics and photonics community

View more than 100 videos from SPIE including relevant technical interviews, features, presentations, and SPIE conference coverage.



# SPIE.TV

[spie.org/spietv](http://spie.org/spietv)

## Pacific Coast Optics

SPIE Corporate Member

4130 Citrus Ave #17, Rocklin, CA, 95677  
+1 916 789 0111; fax +1 916 789 0121  
www.pcoptics.com

**Featured Product: Barrel coatings. We have developed the ability to thin film coat Diameters like tubes and rods.**

Pacific Coast, formally JL Wood Optical Systems, is under new management and in a new location. We are a manufacturer of various optics, Cylindrical, Spherical and Prisms. Handling prototype and production for military, medical and electronic industries. We are a full line optics facility from concept to coatings. Visit our web site at pcoptics.com. Precise manufacturing for peak performance. Over 40 years of history says we have the technology. Contact: Steve Dianasic, VP, Sales, sdianasic@pcoptics.com; Shannon Rogers, President, srogers@pcoptics.com.

## Pacific Laser Equipment

3941 S Bristol St Unit D-122, Santa Ana, CA, 92704  
+1 714 809 5588  
info@plequipment.com; www.plequipment.com

We design micro- and nano-positioning equipment, as well as performing small systems integration. We deliver solutions for niche applications in precision motion control that are generally not addressed by the big players in the industry. Contact: Sabin H, Technical Director, info@plequipment.com.

## Pacific Rim Optical

PO Box 532, Sisters, OR, 97759  
+1 541 549 0770; fax +1 541 549 0769  
info@krugeroptical.com; http://www.krugeroptical.com/pro.asp

Pacific Rim Optical supplies precision optical components and subassemblies to manufacturers worldwide. We offer U.S.-based service and engineering, along with factory-direct Asian pricing. Our ISO 9001- and 9002-certified Asian factories can produce difficult parts in large volumes. We supply lenses, prisms, molded optics, beamsplitters, windows, microlenses, prism and lens assemblies, and opto-mechanical assemblies, as well as precision coatings, dichroic filters and metal mirrors. Contact: Forrest Babcock, Optical Sales Engineer, forrestb@krugeroptical.com.

## Pangolin Laser Systems Inc.

9501 Satellite Blvd, Orlando, FL, 32837  
+1 407 299 2088  
info@pangolin.com; www.pangolin.com

**Featured Product: LASORB dramatically increases the lifetime of laser-based products by absorbing ESD and power surges.**

Over the past 25 years, Pangolin has become a world leader in the field of software and control hardware for laser applications. Our systems span the spectrum from low-cost, silicon components to credit-card-sized OEM modules, to full-blown network and PC-based software solutions that control lasers along with audio, video and DMX-controlled lights. Our latest product – LASORB – can dramatically increase the lifetime of laser-diode-based products by absorbing ESD and power surges. Contact: William Benner, President and CTO, contact@pangolin.com; Hayden Hale, Production Manager, contact@pangolin.com.

#5321

## Paul Pleiger Maschinenfabrik GmbH & Co. KG

Division Laseroptik, Im Hammertal 51, Witten, Germany, 58456  
+49 2324 398406; fax +49 2324 398402  
info@pleiger-laseroptik.de; www.pleiger-laseroptik.de

**Featured Product: PLEIGER produces mirrors and lenses for CO<sub>2</sub> lasers and IR applications, and offers coating services.**

The laser-optics division of Paul Pleiger Maschinenfabrik GmbH & Co. KG in Witten on the River Ruhr, supplies ready-to-use optical components for CO<sub>2</sub> lasers throughout the world and coats customer's substrates for the complete near and far infrared ranges. Contact: Dr. Ralf Toelle, Head of Laser Optics Division, info@pleiger-laseroptik.de; Dr. Soheyla Eshlaghi, Research and Development, info@pleiger-laseroptik.de.

#4601

## Pavilion Integration Corp.

SPIE Corporate Member

2380 Qume Dr Ste F, San Jose, CA, 95131  
+1 408 453 8801; fax +1 408 453 8802  
www.pavilionintegration.com

#302

## PD-LD, Inc.

30-B Pennington-Hopewell Rd, Pennington, NJ, 08534  
+1 609 564 7900; fax +1 609 564 7901  
info@pd-ld.com; www.pdld.com

PD-LD, Inc. provides LuxxMaster™ based on volume Bragg gratings (VBG)™ technology. This technology uses photo-sensitive glass to produce filters to stabilize laser wavelength; narrow the absorption envelope and improve wavelength accuracy. We also offer coaxial pigtailed or receptacle short and long wavelength (635 - 1550 nm) lasers, LED's (850 to 1310 nm), CWDM pigtailed laser diodes, and detectors (400 to 1700 nm) in both standard and custom packages. Bi-Directional modules. Contact: Tom DeBerardine, Executive VP of Sales, tomd@pd-ld.com; Calvin Hsieh, Sales Manager, chsieh@pd-ld.com.

#5230

## PERFOS

11 Rue de Brogolie, Lannion, France, 22300  
+33 2 96 48 58 89; fax +33 2 96 48 79 81  
dmechin@perfos.com; www.perfos.com

PERFOS is an independent platform dedicated to the research and development of specialty optical fibers. We are able to design and manufacture the photonic crystal fiber corresponding to your needs. PERFOS works in close collaboration with SME partners and university laboratories. The areas of interest are principally optical sources, sensors and amplifiers for applications in telecommunications, industry, biomedical, environment, and defense. Contact: David MECHIN, Director Program, dmechin@perfos.com; David TREGOAT, Director Operation, dtregoat@perfos.com.

#1023C

## PerkinElmer Analytical Sciences and Laboratory Services (ASLS)

710 Bridgeport Ave, Shelton, CT, 06484  
+1 800 762 4000  
insidesales-us@perkinelmer.com; www.perkinelmer.com

PerkinElmer, Inc. is a global leader focused on improving the health and safety of people and their environment. PerkinElmer is dedicated to the quality and sustainability of the environment. With our analytical instrumentation, illumination and detection technologies, and leading laboratory services, we focus on improving the integrity and safety of the world we live in. Contact: Tracy Tran, Marketing Execution, Tracy.Tran@perkinelmer.com.

#2614



## Perkins Precision Developments LLC #2138

8234 Weld County Rd 28, Platteville, CO, 80651  
+1 970 785 2706; fax +1 970 785 2708  
info@perkinsprecision.com; www.perkinsprecision.com  
PPD manufactures a broad range of custom, high quality, precision optical components including: windows, wedges, lenses, mirrors, filters and prisms. Target applications include Semi-conductor test and inspection equipment, Medical instrumentation, Telecommunications, Aerospace, Security, Defense, and Precision substrates for coating. Contact: Jay Perkins, President, Info@perkinsprecision.com.

## PFG Precision Optics #5101

**SPIE** Corporate Member  
733 Bienville Blvd, Ocean Springs, MS, 39564  
+1 228 875 0165; fax +1 228 875 9354  
sales@pfgoptics.com; www.pfgoptics.com

**Featured Product: Expanded capability for manufacturing high performance optical components & coatings.**

ISO 9001:2008 certified manufacturer of precision optical components, coatings, and assemblies from UV to IR wavelengths. PFG specialties include high index, high included angle & truncated lenses using the latest CNC milling, shaping, & polishing with MRF finishing & edging technology. Double sided & planetary polishing for Windows, Wedges, Filters, & Prisms. Custom vacuum-deposited & Ion-assisted coatings. Contact: Colin Green, VP Sales, cody@pfgoptics.com; Barbara Dudiak, Sales, sales@pfgoptics.com.

## PhaseView #4525

7 rue de la Croix Martre, Palaiseau, France, 91120  
+33 1 69 32 12 78  
contact@phaseview.com; www.phaseview.com

**Featured Product: WaveGauge: Turnkey system for aspherics and ophthalmic lenses. MTF, power, aberrations.**

PhaseView offers high precision optical instrumentation based on its patented digital wavefront technology and its know-how and expertise in optics and imaging. Product portfolio includes turnkey systems and OEM solutions serving the most demanding applications in the following fields: Life Sciences & Medical: cell imaging & ophthalmic diagnostic instruments Research & Industries; optics characterization, 3D surface metrology, Digital Camera microscopy, laser beam profiling. Contact: Gael Launay, Sales & Marketing Mgr., gael.launay@phaseview.com; contact@phaseview.com.

## PHASICS #1334

5 Echo Place, Larkspur, CA, 94939  
+1 415 924 6300; fax +1 415 924 6399  
harry@hmstechnologysales.com;  
www.hmstechnologysales.com

**Featured Product: Phasics now offers dual-range MWIR 3-5 microns/LWIR 8-14 microns wavefront sensors.**

Phasics 4-wave lateral shearing wavefront sensors offer better spatial resolution and angular dynamic range than Shack-Hartmann wavefront sensors. Application software includes laser beam analysis and lens diagnostics. With the Software Development Kit (SDK) you can write custom programs to operate the system and control the data. Models are available in the following wavelength ranges: UV, visible, NIR, MWIR and LWIR. HMS Technology Sales offers North American sales and support for Phasics. Contact: Harry Skolnik, Sales, harry@hmstechnologysales.com.

## PHASICS France #1023F

XTEC Bât 404 Campus de l'Ecole Polytechnique, rte de Saclay, Palaiseau, France, 91128  
+33 1 69 33 89 99; fax +33 1 69 33 89 88  
contact@phasics.fr; www.phasics.fr

**Featured Product: KALEO-R system allows the measurement of various parameters of optics surface quality in reflection.**

PHASICS, a French company based in the Paris region, manufactures high resolution (up to 400x300 simultaneous measurement points) wave front sensors based on its innovative technology: 4-wave lateral shearing interferometry. These solutions answer both scientific and industrial needs and are ideal for laser characterization and optical metrology. PHASICS also proposes adaptive optics loops for laser spot optimization and beam shaping. Contact: Raphael Serra, Export Sales Manager, contact@phasics.fr; Paul Didavi, Product Marketing Engineer, didavi@phasics.com.

## Philips Technologie GmbH U-L-M Photonics GmbH #2217

9 River Rd, Hudson, NH, 03051  
+1 603 821 7040; fax +1 603 821 7041  
buettner@laser-components.com; www.laser-components.com

**Featured Product: Improved output performance of 850nm single-mode single-polarization VCSEL: 2mW at 4mA laser current.**

"ULM Photonics, now part of Philips, is a leading edge manufacturer of VCSELs, Photodiodes and high power VCSELs for Datacom, Automotive and Sensing. Single mode VCSELs from 760nm-980nm are available as chips, arrays, TO packages and fiber coupled. Optional TEC and thermistor allows 2nm tuning. VCSELs are certified for reliability (MTTF>10E7h) and 85% RH/85C(>3000h) without hermetic sealing. Sales and support in North America by Laser Components IG, Inc. Contact: Gary Hayes, General Manager, hayes@laser-components.com; Paul Buettner, Sales Engineer, buettner@laser-components.com.

## Phoenix Infrared #3050

3 Foundry St, Lowell, MA, 01852  
+1 978 458 8328; fax +1 978 458 8414  
sales@phoenixinfrared.com; www.phoenixinfrared.com

**Featured Product: OEM provider of ZnSe optics - focusing lenses, output couplers and protective windows.**

Infrared materials and optics. Phoenix Infrared specializes in Zinc Selenide (ZnSe), Germanium (Ge) and Multispectral Zinc Sulfide (MS ZnS). We provide optics fabricators with the blank material. For OEMs and end consumers, we supply fully coated optics to your specification. Contact: Stephen Allen, Vice President, Stephen.Allen@PhoenixInfrared.com.

## Phoenix Optical Technologies Ltd. #2038

Glascod Rd, St Asaph, United Kingdom, LL17 0LJ  
+908 685 0352; fax +908 325 0250  
sales@potl-ltd.co.uk; www.potl.co.uk

**Featured Product: ITO Coated Windows.**

Manufacturer of IR optics and diamond-turned components with aspheric, diffractive & free-form surfaces in IR materials, plastics and metals; Polished & coated windows from prototype to high-volume production; Optical glass strip, molded and CNC-machined blanks of all optical materials. Contact: Pete Williams, Director of Sales, pete@potl-ltd.co.uk; Buzz Nesti, buzz@nakedoptics.com.

## Phosctech Photonics Ltd.

**SPIE** Corporate Member

No 138 WuSi Rd, Fuzhou Fujian, China, 350003  
+86 591 87846955; fax +86 591 87856157  
sales@phostech.com; www.phosctech.com

**Featured Product: Achromatic Doublet Lenses; Right- Angle Prisms; MgF<sub>2</sub> Windows; CaF<sub>2</sub> Windows; Sapphire Windows.**

PHOSCTECH Specializes in Optical Lens and Optical Prism, Telecom Optics, Coating, IR Optics (MgF<sub>2</sub>; CaF<sub>2</sub>; Sapphire). Contact: John Chen, Sales Manager, sales@phosctech.com.

**#1901R**

## Photon Design

**SPIE** Corporate Member

34 Leopold St, Oxford, United Kingdom, OX4 1TW  
+44 1865 324990; fax +44 1865 324991  
info@photond.com; www.photond.com

Photon Design was started in 1992 and now provides a wide range of innovative photonics CAD tools to 25 countries around the world, supplying most of the World's leading photonics companies, universities and government research labs. CAD products include tools for both passive and active (semiconductor) component and optical circuit modelling. The company has a team of some of the brightest people in photonics modelling, developing innovative solutions for tomorrow's photonics design projects.

**#2327**

## Photek Limited

26 Castleham Rd, St Leonards-on-Sea, East Sussex, United Kingdom, TN38 9NS

+44 1424 850 555; fax +44 1424 850 051  
sales@photek.co.uk; www.photek.co.uk

**Featured Product: P-TDC - 25 ps time to digital converter for photon detectors.**

Photek is a specialist manufacture of detectors and camera systems for photon detection. We manufacture image intensifiers, photomultipliers, streak tubes plus a range of associated electronics and camera systems. We are experts in large area image intensifiers, ultra-fast PMT's, UV detection and advanced photon counting camera systems. Contact: Ian Cox, Sales and Marketing Manager, ian.cox@photek.co.uk; Mike Pavia, US Sales, Pavia@sydorinstruments.com.

**#617**



**METER BOARD SPONSOR**

## Photon Engineering, LLC

**SPIE** Corporate Member

440 S Williams Blvd Ste 106, Tucson, AZ, 85711  
+1 520 733 9557; fax +1 520 733 9609  
www.photonengr.com

Photon Engineering, LLC is a consulting and software development firm based in Tucson, Arizona. Photon Engineering develops and markets FRED, the premier proven software to solve today's challenging optical engineering problems. Users working within FRED's 3D virtual prototyping CAD environment can model and analyze virtually any optomechanical system containing arbitrary coherent, incoherent, and partially coherent sources. Engineering consulting and short courses are offered worldwide. Contact: Donata Pfisterer, Sales, donatap@photonengr.com; Carolyn Johnson, Sales, carolynj@photonengr.com.

**#200**

## Photodigm, Inc.

**SPIE** Corporate Member

1155 E Collins Blvd Ste 200, Richardson, TX, 75081  
+1 972 235 7584; fax +1 972 235 1609  
info@photodigm.com; www.photodigm.com

**Featured Product: PermaLoc™ lasers for saturated absorption spectroscopy for D1 and D2 lines of Rb, Cs, K.**

Photodigm is a manufacturer of laser diodes for precision application. Our products deliver unsurpassed performance for atom optics, non-linear optics, precision instruments, and high speed pulsed operation where single frequency operation is critical. Photodigm lasers are offered at standard wavelengths of 770, 780, 785, 795, 852, 895, 920, 976, 1064, and 1083 nanometers. A wide range of package platforms are available in free space and fiber-coupled configurations. Contact: Marty Edwards, Business Development Manager, sales@photodigm.com.

**#4317**

## Photon etc.

5795 De Gaspé Ave #222, Montreal, QC, Canada, H2S 2X3  
+1 514 385 9555; fax +1 514 279 5493  
info@photonetc.com; www.photonetc.com

**Featured Product: Resonant Raman Spectroscopy System allows studying material properties in a non-destructive manner.**

Photon etc. is a company working in the field of optics. From UV to NIR, our expertise in spectral analysis allows us to offer state-of-the-art instruments for spectroscopic and hyper spectral imaging. Based on volume Bragg gratings made out of photo-thermo-refractive glass, our technology provides unmatched reliability and durability to our instruments. Our standard and custom products are applied in numerous fields of laboratory and industrial research. Contact us for more information. Contact: Bernard-Alexandre Gaulin, Sales & Marketing Manager, bagaulin@photonetc.com; Sébastien Blais-Ouellette, President, sbo@photonetc.com.

**#5015**

## Photon Control Inc.

200 6383 Lougheed Hwy, Burnaby, BC, Canada, V5A 1X3  
+1 604 422 8861; fax +1 604 422 8418  
info@photon-control.com; www.photon-control.com

Photon Control Inc. is an innovative measurement technologies company specializing in OEM Manufacturing, VIS/UV/NIR Spectroscopy, Optical Sensors, Analytical Tools, and Optical Flow Meters in various industries worldwide. Photon Control's recognized team of optical, mechanical and electrical engineers have many years of experience in creating solutions through product design and precision manufacturing and offer two 1000 clean rooms designed for optimizing manufacturing processes. Contact: Brian Dewan, Technical Program Manager, bdewan@photonrd.com; Stefan Farkas, General Manager, Sfarkas@photon-control.com.

**#5139**

## Photon Gear, Inc.

245 David Pkwy, Ontario, NY, 14519  
+1 585 265 3360; fax +1 585 265 3364  
sales@photongear.com; www.photongear.com

Photon Gear specializes in the design, assembly and characterization of high-precision optical systems. Custom lens assemblies are verified with interferometric testing from 266 nm to 1600 nm. Supported application areas include semiconductor inspection and processing, military, metrology, biomedical, laser, scanning, high precision fiber collimators, and polymer optics. We provide optical engineering and design services as well as engineering support for custom software and optical hardware. Contact: Gary Blough, President, blough@photongear.com; John Bowen, Senior Optical Engineer, bowen@photongear.com.

**#633**

## Photon Inc.

#2123

6878 Santa Teresa Blvd, San Jose, CA, 95119-1205  
+1 408 226 1000; fax +1 408 226 1025  
beam@photon-inc.com; www.photon-inc.com

Spiricon and Photon, members of Ophir Photonics Laser Measurement Group, provide complete measurement solutions with power/energy meters, beam profilers, spectrum analyzers, and goniometric radiometers. Ultracal™, the renowned baseline correction algorithm, and newly-acquired Photon Inc's NanoScan, which measures beam size/position to sub-micron resolution, are two of the laser measurement products that have served manufacturing, medical, military, and research industries worldwide for over 30 years. Contact: sales@ophir-spiricon.com or beam@photon-inc.com.

## Photon Spot Inc.

#4829

88 Oxford St, Arlington, 02474  
+1 626 344 7768  
info@photonspot.com; www.photonspot.com

**Featured Product: Infrared Photon Counting Modules based on Superconducting Nanowires.**

Photon Spot Inc. is an MIT-spinoff commercializing photon counting detector modules for near-infrared frequencies. These photon counting modules will have photon detection efficiencies of 20-50% at 1550nm, dead times of less than 50 ns, and sub-30ps timing resolution. Contact: Dr. Vikas Anant, info@photonspot.com; Natalie Raymond, Marketing, Natalie.Raymond@optocomponents.com.

## Photon Systems, Inc.

#5210

1512 Industrial Park St, Covina, CA, 91722  
+1 626 967 6431  
r.reid@photonsystems.com; www.photonsystems.com

**Featured Product: Deep UV Fluorescence, Photoluminescence and Raman inst. Wide Band Gap semi. analysis, UVRaman.**

Deep UV Lasers, LEDs, analytical systems; Deep UV spectroscopy systems. Standoff Bio, Chem and Explosive detections system. Robot mounted or handheld for first responders and War Fighters. Hi intensity Deep UV Light source engines for critical exposure or chemical reaction initiation. Contact: Ray Reid, President and COO, r.reid@photonsystems.com; Dr. William Hug, Chairman, w.hug@photonsystems.com.

## Photon Technology International, Inc.

#835

**SPIE** Corporate Member  
PO Box 272, Birmingham, NJ, 08011-0272  
+1 609 894 4420; fax +1 609 894 1579  
marketing@pti-nj.com; www.pti-nj.com

**Featured Product: Thermo-electrically cooled PMT housing for all side-on tubes.**

Optical Building Blocks Corporation, a division of PTI, is a leading manufacturer of optical components and dedicated, compact, easy to use, economical fluorescence systems. Products include: high intensity light sources, monochromators, high sensitivity detectors, microscope accessories, fluorescence lifetime and phosphorescence decay systems. Contact: Cary Davies, Sales Manager, cary@obb1.com; Charles G. Marianik, Sales Manager, marianik@pti-nj.com.

## Photonic Cleaning Technologies

#3036

1895 Short Ln, Platteville, WI, 53818  
+1 608 467 5396; fax +1 608 467 5397  
sales@photoniccleaning.com; www.photoniccleaning.com

## Photonic Products Group Inc. (PPGI)

#1729

**SPIE** Corporate Member  
181 Legrand Ave, Northvale, NJ, 07647  
+1 201 767 1910; fax +1 201 767 9644  
sales@ppgrpinc.com; www.ppgrpinc.com

PPGI develops, manufactures, and markets products and services for use in diverse Photonics industry sectors via distinctly branded businesses. INRAD specializes in crystal-based optical components and devices, laser accessories and instruments. Laser Optics in precision custom optical components, assemblies, and optical thin film coatings. MRC Optics' in precision diamond turned optics, metal and crystal based optics, and opto-mechanical. Contact: Eileen Cutaia, Sales Administrator, ecutaia@ppgiotics.com.

## Photonic Solutions Ltd.

#2223

Unit A 40 Captains Rd, Edinburgh Scotland, United Kingdom, EH17 8QF  
+44 131 644 8122; fax +44 131 644 8144  
sales@photronicsolutions.co.uk; www.photronicsolutions.co.uk

**Featured Product: New LICSO6 Laser interlock controller suited for use with lasers of any power or type.**

Photonic Solutions is one of Europe's leading distribution companies, representing world class manufacturing companies such as JDSU, Continuum, Power Technology, Ocean Optics, MPB Communications, Northrop Grumman, EOT, Kimmon, Quantum Composers, and Exciton amongst others. We supply and support lasers from femtosecond to cw and from <200nm to >20 microns wavelengths. Other products offered include detectors, accessories and spectroscopy systems. Contact: Douglas Neilson, Managing Director, douglas.neilson@photronicsolutions.co.uk; Darryl McCoy, Lasers and Applications, darryl.mccoy@photronicsolutions.co.uk.

## Photonics Cluster Netherlands

#4301

Prins Bernhardstraat 64, Koudekerk a/d Rijn, Netherlands, 2396 GN  
+31 713 415282  
info@photonicscluster-nl.org; www.photonicscluster-nl.org

Photonics Cluster Netherlands aims to be the Dutch platform for knowledge transfer in Photonics for high tech companies and at all levels of education. We have the ambition to strengthen the industrial activities in the Netherlands in the field of Photonics. Contact: Guus Taminiau, secretary, taminiau@photonicscluster-nl.org.

## Photonics Industries International, Inc.

#1807

**SPIE** Corporate Member  
390 Central Ave, Bohemia, NY, 11716  
+1 631 218 2240; fax +1 631 218 2275  
info@photonix.com; www.photonix.com

Photonics Industries International, Inc. develops and manufactures a wide range of DPSS laser systems for industrial and scientific applications. Conventional nanosecond, picosecond, modelocked and regenerative amplified TEM<sub>00</sub> and MM lasers are available in Nd:YAG, Nd:YLF, and Nd:YVO<sub>4</sub>. Output powers range from 100mW-150W at 1064nm, 100mW-100W at 532nm, 50mW-40W at 355nm, and 5mW-10W at 266nm; pump lasers up to 60mJ at 1kHz at 527nm; Eye-safe, OPO, Ti:Sapphire tunable lasers are also available. Contact: Matt Corrello, Director of Sales, mcorrello@photonix.com; Joyce Kilmer, Director of Marketing, jkilmer@photonix.com.





## PROMOTIONAL PARTNER

### Photonics Industry & Technology Development Association (PIDA) #5402

5th Fl, 9 Roosevelt Rd Sec 2, Taipei, Taiwan, 100  
+886 2 239 67780; fax +886 2 239 68513  
sys@mail.pida.org.tw; www.pida.org.tw

**Featured Product: Photonics Festival in Taiwan is the unique and professional integrated event in Taiwan.**

Photonics Festival in Taiwan presents exhibitions and conferences on the latest technologies & products in the optoelectronics industry. Contact: Pamela Hsiao, Manager, exhibit@mail.pida.org.tw; Allen Lee, Manager, exhibit@mail.pida.org.tw.

### Photonics Industry Association of New York #635

150 Lucius Gordon Dr, West Henrietta, NY, 14586  
+1 585 329 4029; fax +1 585 214 2458  
tbattley@newyorkphotonics.org; www.newyorkphotonics.org



## PROMOTIONAL PARTNER

### Photonics Media #522

2 South St, Pittsfield, MA, 01201  
+1 413 499 0514; fax +1 413 442 3180  
photonics@laurin.com; www.photonics.com

Photonics Media – the Pulse of the Industry – invites you to kindle a new relationship with the information leader. As the publisher of Photonics Spectra, BioPhotonics and EuroPhotonics magazines, Photonics Buyers' Guide, Photonics.com, and more, we bring you the news, research and applications articles you need to succeed. Start something with Photonics Media today. Contact: Karen Newman, Group Publisher, editorial@laurin.com.



## CONFERENCE BAG INSERT SPONSOR AND PROMOTIONAL PARTNER

### Photonics Online #936

2591 Wexford Bayne Rd Ste 305, Sewickley, PA, 15143  
+1 724 940 7555; fax +1 724 940 7707  
info@photonicsonline.com; www.photonicsonline.com

Photonics Online is a comprehensive online resource for engineers and scientists who use optics and photonics technologies in industrial, military/defense, R&D, medical, and other applications. White papers, technical articles, product updates, breaking research, and industry news and views can all be found at www.photonicsonline.com and in our weekly e-newsletter. Contact: Brian Droz, Account Manager, bdroz@vertmarkets.com.

### Photonics-Sourcing #6014

6655 Blvd Pierre-Pertrand Ste 200, Quebec, QC, Canada, G2K 1M1  
+1 617 797 5494  
joan.beeson.healy@photonic-sourcing.com;  
www.photonic-sourcing.com

**Featured Product: Comprehensive search engine simplifies online photonics/optics sourcing, selling and posting RFP/RFQ.**

Photonics-Sourcing is the only dedicated marketplace for matching qualified buyers of photonic and optics products with the companies that manufacture, market, and sell a wide range of commodity and niche products. Build a user profile that makes it simple to find the most up-to-date RFPs and RFQs. Create a trading community with companies that match your profile and allow you to expedite transactions. Access all the tools and features you need to source and sell in a few easy clicks. Contact: Joan Beeson-Healy, Managing Partner, joan.beeson.healy@photonic-sourcing.com.

### Photop Technologies, Inc. #1135

253 Fuxin East Rd, Fuzhou Fujian, China, 350014  
+86 591 8805 2800  
contact@photoptech.com; www.photoptech.com

**Featured Product: Photop green laser module is a wide temperature operating laser module without TEC needed.**

Photop is a leading photonics designer and integrated manufacturing company on Optical Communications and Commercial and Consumer Optics, which covers Fiber Optics, Projection and Display Optics, DPSS Laser, Precision Optics and Crystal Material. Contact: Mr. Johnny Zhong, Director of Sales & Marketing, johnny.zhong@photoptech.com; Mr. Henry Yu, Senior Vice President, henry.yu@photoptech.com.

### Photron #1900

SPIE Corporate Member

9520 Padgett St Ste 110, San Diego, CA, 92126  
+1 858 684 3555; fax +1 858 684 3558  
image@photron.com; www.photron.com

**Featured Product: The Fastcam BC2 high speed camera provides full 1080 HD resolution (1920 x 1080) to 2000 fps.**

Photron is a leading manufacturer and supplier of high speed cameras. From low cost PC based solutions, through specialized intensified systems for biofluorescence, 1080 HDTV at 2000 fps for motion picture/broadcast work, production faultfinding systems with multiple tiny camera heads, to the world's fastest high speed video cameras, plus systems engineered to operate reliably under hostile high-G conditions. Photron has a solution whatever your high speed imaging application. Contact: Andrew Bridges, Director, Sales & Marketing, abridges@photron.com; Emi Christensen, emi@photron.com.



## PROMOTIONAL PARTNER

### Physics Today #2104

One Physics Ellipse, College Park, MD, 20740-3842  
+1 301 209 3100; fax +1 301 209 0842  
jbabee@aip.org; www.physicstoday.org

**Featured Product: New online-only content at www.PhysicsToday.org attracts 140,000 unique visitors each month.**

*Physics Today* is the foremost physics magazine in the world, delivered to more than 300,000 readers in four different media- 120k subscribers in print (30k outside the USA), 140k unique visitors each month, 55k registered for e-mail alerts, and 80k signed up for RSS feeds. Tomorrow's innovations start with the 76,000 researchers at government, industrial and university labs who read *Physics Today*. Contact: Randolph A. Nanna, Publisher, Rnanna@aip.org; Jeff Bebee, Marketing Dir, Magazines, jbebee@aip.org.

### PI (Physik Instrumente) LP #4807

SPIE Corporate Member

16 Albert St, Auburn, MA, 01501  
+1 508 832 3456; fax +1 508 832 0506  
info@pi-usa.us; www.pi-usa.us

**Featured Product: XYZ SuperResolution Microscope Stage, Piezomotor; Miniature Hexapod, Fast Steering Mirror.**

ISO 9001, ITAR certified, leader in systems for OEM and research. Piezo Stages; Nanopositioning Systems; 6-Axis Hexapod Alignment Systems, Microscope Stages; Lens Positioners; Vacuum Positioners, Fast Steering Mirrors / Active Optics; Multilayer Piezo Actuators; Non Magnetic Motors, Piezo Drivers & Digital Controllers; Micropositioning Actuators, Stages & Motion Controllers; MicroMotion Robots for Automated 3D to 6D Photonics Alignment; 40+ Years Experience. Contact: info@pi-usa.us.

■ Optical Grade Germanium

Silicon

GaAs

ZnSe



China Germanium Co., Ltd., formerly was Nanjing 718 Factory, then Nanjing Germanium Factory. Started from germanium product only in 1960, now it has been developed into a company with products including germanium, gallium, barium, electro gases, noble metals, as well as precision alloy. The company was honored "National Grade-2 Enterprise" and "High-Tech Enterprise", passed ISO9001 and ISO140001 certification.



China Germanium Co., Ltd.

#718 Jiangjun Road, Nanjing, China

[www.cnge.com](http://www.cnge.com), [www.nange.com](http://www.nange.com)

[chinagermanium@yahoo.com.cn](mailto:chinagermanium@yahoo.com.cn)

[sun@nange.com](mailto:sun@nange.com)

[pfj@nange.com](mailto:pfj@nange.com)

## PicoQuant GmbH

#4829

Rudower Chaussee 29, Berlin, Germany, 12489  
+49 30 6392 6560; fax +49 30 6392 6561  
www.picoquant.com

**Featured Product: Yellow picosecond pulsed diode laser with variable repetition rate (595nm).**

PicoQuant GmbH is a research and development company in the field of optoelectronics. Founded in 1996, the company is based in Berlin, Germany and is a worldwide leader in the field of single photon counting applications. The product line includes pulsed diode lasers and LEDs, photon counting instrumentation, fluorescence lifetime spectrometers and time-resolved confocal microscopes. Since April 2008, Sales and Support in North America is handled by PicoQuant Photonics North America Inc. Contact: Nick Bertone, sales@optoelements.com; Natalie Raymond, Marketing, Natalie.Raymond@optoelements.com.

## PicoQuant Photonics North America, Inc.

#2523

**SPIE** Corporate Member

61 Union St, Westfield, MA, 01085  
+1 413 562 6161; fax +1 413 562 6167

**Featured Product: Fully automated fluorescence lifetime spectrometer with steady-state option 'FluoTime 300'.**

Product lines include Pulsed Diode Lasers, Time-Correlated Single Photon Counting (TCSPC) electronics and detectors, fluorescence lifetime spectrometers, time-resolved fluorescence microscopes and upgrade kits for Laser Scanning Microscopes. Applications include Single Molecule Spectroscopy, Fluorescence Lifetime Imaging (FLIM), Fluorescence Resonance Energy Transfer (FRET), Fluorescence Correlation Spectroscopy (FCS), Optical tomography and Quantum Key Distribution. Contact: Alain Bourdon, bourdon@picoquant-usa.com.

## Piezosystem Jena, Inc.

#1733

**SPIE** Corporate Member

2B Rosenfeld Dr, Hopedale, MA, 01747  
+1 508 634 6688; fax +1 508 634 6868  
usa@piezोजना.com; www.piezोजना.com

**Featured Product: PXY AP is a flat scanning stage with a 100x100mm aperture, and flexible motion up to 700µm in XY.**

Piezosystem jena provides solutions for any application needing very fine accurate positioning. We can achieve up to 5 axis of travel with sub-nm resolution. The high resonant frequencies of our stages allow for fast scanning. We can maximize the travel, by using a hinge flexure design, and achieve distances up to 800 microns. Also using a closed loop feedback we can eliminate any hysteresis and drift. Contact: Jim Litynski, President, Jim@piezोजना.com.

## PLANSEE Thermal Management Solutions

#5310

10113 Carroll Canyon Rd, San Diego, CA, 92131  
+1 858 271 1993; fax +1 858 271 1980  
sales@plansee-tms.com; www.plansee-tms.com

## Plasma Process Group

#4218

1714 Topaz Dr, Loveland, CO, 80537  
+1 970 663 6988; fax +1 970 669 2312  
dbouillez@plasmaprocesgroup.com;  
www.plasmaprocesgroup.com

**Featured Product: High quality ion sources, RF and DC power supplies, grid replacements and repair services.**

Plasma Process Group is a high quality and competitive manufacturer of Ion sources, power supplies and ion source replacement parts. We also support refurbishment services for RFN's, ion sources, grids, vacuum chambers, and repair Ion Tech power supplies. We supply the best service in the industry. Contact: Dan Bouillez, Director of Sales and Marketing, dbouillez@plasmaprocesgroup.com.

## Plasmaterials, Inc.

#5203

2268 Research Dr, Livermore, CA, 94450  
+1 925 447 4030; fax +1 925 447 4031  
info@plasmaterials.com; www.plasmaterials.com

Plasmaterials, Inc. has been supplying high purity materials for the thin film industry since 1987. We make planar and rotatable sputtering targets, backing plates, backing tubes, evaporation materials, crucible liners, e-beam starter sources and provide bonding services. These materials are well suited for industrial applications, laboratory processing, research and development applications, pilot production applications as well as full scale production. For more information, please contact us. Contact: Pete Norlander, Vice President-Sales, pete@plasmaterials.com; Will Guo, Sales Engineer, will@plasmaterials.com.

## Plymouth Grating Laboratory

#5238

5 Commerce Way, Carver, MA, 02330  
+1 508 503 1719; fax +1 508 465 2775  
sales@plymouthgrating.com; www.plymouthgrating.com

**Featured Product: Pulse compression gratings.**

Plymouth Grating Laboratory is dedicated to making gratings using scanning beam interference lithography (SBIL). This technique allows production of gratings on very large substrates. PGL also maintains expertise in optical coatings, reactive ion-etching, metrology, and cleaning for large optics. PGL is very familiar with the needs of the high-energy and high-power laser community. Contact: Douglas Smith, President, dsmith@plymouthgrating.com.

## Point Grey Research Inc.

#5413

12051 Riverside Way, Richmond, BC, Canada, V6W 1K7  
+1 604 242 9937; +1 604 242 9938  
info@ptgrey.com; www.ptgrey.com

**Featured Product: USB 3.0, GigE and FireWire CCD cameras, e.g. the Grasshopper2 GigE 1.4 MP Sony ICX285 and ICX 674.**

Point Grey Research, Inc. is a worldwide leader in the development of advanced digital camera technology products for machine vision, industrial imaging, and computer vision applications. Based in Richmond, BC, Canada, Point Grey designs, manufactures and distributes IEEE-1394 (FireWire), USB 2.0, Gigabit Ethernet, and Camera Link cameras that are known for their excellent quality, performance, and ease of use. Contact: sales@ptgrey.com.

Plan to Attend  
FREE Exhibitor Product  
Demonstrations

Refer to pages 62-64  
for complete times,  
schedules, and  
locations.



## PolarOnyx, Inc.

SPIE Corporate Member

2526 Qume Dr Ste 17&18, San Jose, CA, 95131  
+1 408 573 0931; fax +1 408 573 0932  
sales@polaronyx.com; www.polaronyx.com

**Featured Product: Compact high power/energy fs fiber laser.**

World leading company in high energy/power ultrashort (fs, ps, ns) fiber lasers. Excellent for material processing, micromachining, spectroscopy, microscopy, biomedical instrumentation & optical sensing applications. OEM and instrument version are available. Wavelength ranges from UV to Mid-IR. Contact: Lihmei Yang, Director Sales & Products, lihmeiyang@polaronyx.com; Jian Liu, President, jianliu@polaronyx.com.

#810

## Power Technology, Inc.

SPIE Corporate Member

PO Box 191117, Little Rock, AR, 72219-1117  
+1 501 407 0712; fax +1 501 407 0036  
ptmarketing@powertechnology.com;  
www.powertechnology.com

**Featured Product: PTI will be displaying a new 375nm UV laser with 200mW, a 405nm 600mW laser, and a 445nm 1000mW laser.**

PTI designs, manufactures, and distributes standard and custom lasers ranging from 263nm to 13,900nm. Our IQ lasers are highly stable and are well suited for spectroscopy, illumination, aiming, pointing, fluorescence, trace gas detection, industrial, biomedical, semiconductor inspection, and many other analytical and scientific applications. Contact: James Jackson, Sales Engineer, jjackson@powertechnology.com; Glenn Sullivan, Sales Engineer, gsullivan@powertechnology.com.

#317

## Polymer Optics, LLC

SPIE Corporate Member

3100 Dutton Ave, Santa Rosa, CA, 95407  
+1 707 573 5929; fax +1 707 573 5951  
info@polyoptics.com; www.polyoptics.com

Manufacturer of precision plastic optical components in prototype and production volumes. In-house capabilities include optomechanical design, diamond machining, mold design and manufacturing, injection and compression molding, and thin-film design and deposition of optical coatings on plastic. Contact: Daniel Fisher, PE., President, dan@polyoptics.com.

#3008

## PowerPhotonic Ltd.

#2223

1 St David's Dr, St David's Business Park, Dalgety Bay Scotland, United Kingdom, KY11 9PF  
+44 1383 825910; fax +44 1383 825739  
info@powerphotonic.com; www.powerphotonic.co.uk

PowerPhotonic provides optics that maximize the brightness and efficiency of high power diode laser systems. Our wavefront correction phaseplates restore brightness lost through smile, defocus and lens aberration. PowerPhotonic collimator arrays, beam transformers and homogenizers can integrate multiple functions in a single optical element, reducing part count and simplifying assembly. Contact: Roy McBride, Managing Director, r.mcbride@powerphotonic.co.uk.

## Polymicro Technologies, a subsidiary of Molex Incorporated

SPIE Corporate Member

18019 N 25th Ave, Phoenix, AZ, 85023-1200  
+1 602 375 4100; fax +1 602 375 4110  
polymicrosales@molex.com; www.polymicro.com

**Featured Product: High Temperature Fibers: Acrylate Buffered Fiber up to 200°C & Graded Index Fiber w/polyimide buffer.**

Polymicro manufactures multimode, step-index fused silica optical fibers with polyimide, acrylate, silicone & custom buffers; dual clad optical fibers, solarization resistant optical fibers; hollow silica waveguides; fiber optic cables & assemblies; high strength, high temperature flexible fused silica capillaries; square capillaries; light guiding capillaries; custom precision silica & quartz rod & tubing pieces; custom shaped rod & tubing; multimode tubing; telecom ferrules & sleeves. Contact: polymicrosales@molex.com.

#823

## Pranalytica, Inc.

#232

1101 Colorado Ave, Santa Monica, CA, 90401  
+1 310 458 4493; fax +1 310 458 0171  
fxmcmguire@pranalytica.com; www.pranalytica.com

## Precision Asphere Inc.

#3032

SPIE Corporate Member

48860 Millmont Dr #105C, Fremont, CA, 94538  
+1 510 668 1508; fax +1 510 668 1595  
info@precisionasphere.com; www.precisionasphere.com

Precision Asphere, LLC. is an US company specialized in manufacturing of high precision custom aspheres. With our proprietary computer controlled technology and over 13 years of asphere manufacturing experience, Precision Asphere offers you the highest PERFORMANCE-to-COST ratio in the industry.



**METER BOARD SPONSOR**

## Precision Glass & Optics

#5300

SPIE Corporate Member

3600 W Moore Ave, Santa Ana, CA, 92704  
+1 714 540 0126; fax +1 714 540 1482  
info@pgo.com; www.pgo.com

**Featured Product: PG&O offers precision thin film coatings, glass and optics for standard and custom applications.**

PG&O will showcase a variety of specialized custom optical components for biomedical, imaging, laser, digital cinema, military, aerospace, astronomy, & solar applications. We provide standard and custom components including prisms, windows, mirrors, beamsplitters & light pipes, complete in-house fabrication capabilities, and a wide array of thin film coatings. We carry an extensive inventory of glass and offer expert in-house engineering support. Contact: Thad Sanchez, Sales Manager, thad@pgo.com; Demessow Kebede, Inside Sales, dk@pgo.com.

## POPsud - Optitec

#1023H

38 Rue Joliot Curie, Marseille Cedex 13, France, 13388  
+33 4 91 05 59 69; fax +33 4 91 05 69 84  
www.popsud.org

POPsud (Pôle Optique et Photonique sud), a non-profit organization set up in 2000 at the initiative of industry and researchers, is today a community of more than 188 highly committed members, who play key roles in industrial development, research and higher education in optics/ photonics and image processing. Contact: Marie Lhoutellier, Contact Manager, marie.lhoutellier@popsud.org; Katia Mirochnitchenko, Director, katia.mirochni@popsud.org.

## Precision Optical

#2207

869 W 17th St, Costa Mesa, CA, 92627  
+1 949 631 6800; fax +1 949 642 7501  
sales@precisionoptical.com; www.precisionoptical.com

**Featured Product: New 1200mm Plasma Assist E-Beam Evaporation Chamber.**

Manufacturer of laser quality precision optical assemblies and components (VUV to IR) including prisms, mirrors, windows retroreflectors, filters, plate-type beamsplitters, alignment cubes, polarizing and nonpolarizing cube beamsplitters and coatings. Contact Jim McClure, Vice President Sales & Marketing, jmcclure@precisionoptical.com; Al Lambert, Jr, Vice President & Gen Manager, alambertjr@precisionoptical.com.

## Precision Optics Corp Inc.

#934

22 E Broadway, Gardner, MA, 01440  
+1 978 630 1800; fax +1 978 630 1487  
info@poci.com; www.poci.com

Precision Optics Corporation has been a developer and manufacturer of advanced optical instruments since 1982. We design and produce high-quality optical components, sub-assemblies and complete systems for medical, industrial and military applications. We have developed proprietary microprecision™ technologies to be able to design and manufacture micro optics components and instruments with sizes less than 1 millimeter. We have a technology program that meets the requirements of ITAR. Contact: Chuck Gerlowski, Director of Business Development, cgerlowski@poci.com.

## Precision Optics Gera

#2038

1090 Delacroix Circle, Nokomis, FL, 34275  
+1 908 685 0352; fax +1 908 325 0250  
www.pog.eu

**Featured Product: OLED Microstructures and Reticles.**

POG is a leading manufacturer of custom and standard microstructures on glass and ceramics – reticles, scales, calibration targets and test patterns. In-house photolithographic processes result in the highest possible quality for serial production and small batch quantities. POG designs, develops and processes custom optical systems and components from the UV through IR for machine vision, semiconductor industry, aerospace and defense. Contact: Buzz Nesti, buzz.nesti@pog.eu; Jan Schubach, jan.schubach@pog.eu.

## Precision Photometrics Ltd.

#2223

10 House O'Hill Avenue, Edinburgh Scotland, United Kingdom, EH4 5DD  
+44 131 249 4843  
chris@precisionphotometrics.com;  
www.precisionphotometrics.com

**Featured Product: Compact, high speed, UV-Visible, double monochromator spectroradiometer.**

Precision Photometrics design and manufacture a range of light measurement instruments and systems to industry, research and medical applications. Contact: Christopher MacLellan, Director, chris@precisionphotometrics.com.

## Precision Photonics Corp.

#4830

**SPIE** Corporate Member

3180 Sterling Circle, Boulder, CO, 80301  
+1 303 444 9948; fax +1 303 444 9951  
info@precisionphotonics.com; www.precisionphotonics.com

**Featured Product: High Energy Plate Polarizers and Cube Beamsplitters for 250nm to 3 microns.**

At PPC, we're making impossible optics possible, with the data to prove it! We have developed advanced methods to measure the optical properties of our devices because measurement is fundamental to everything we do. PPC specializes in the manufacturing of high-power optical components, ion-beam-sputtered coatings and solid state laser optics with an objective to provide custom and OEM optics that work, at a price and lead time that meet your needs. Contact: Emily Kubacki, Director of Sales and Marketing, emily.kubacki@precisionphotonics.com; Kris Clymer, Sales Engineer, sales@precisionphotonics.com.

## Precitech, Inc., a division of AMETEK

#1829

**SPIE** Corporate Member

44 Blackbrook Rd, Keene, NH, 03431  
+1 603 357 2511; fax +1 603 355 3291  
www.precitech.com

Precitech has a complete line of ultra-precision machining systems. Configured with 2 to 5-axes and designed for the production of single point diamond turning or deterministic micro-grinding of optical lenses, optical mold inserts, mirrors and precision mechanical components. Our CNC machine control provides a user friendly interface it's fast, easy to use and boasts an unprecedented 16 picometer feedback resolution and it is the most accurate servo control system commercially available. Contact: Chris Stroshine, North American Sales Manager, Chris.stroshine@ametek.com; Kirk Rogers, North American Sales Manager, kirk.rogers@ametek.com.

## PRIMES GmbH

#4601

Max-Planck-Str 2, Pfungstadt, Germany, 64319  
+49 6157 9878 0; fax +49 6157 9878 28  
info@primes.de; www.primes.de

**Featured Product: The MicroSpotMonitor-Compact is a modular focus analyzer for lasers with spots around 10 to 150 µm.**

PRIMES GmbH produces measuring devices for the production with laser radiation. Particularly, PRIMES designs, constructs and sells equipment for characterising the laser beam parameters: power, beam profile, beam direction and beam as well as M<sub>2</sub>. PRIMES produces and constructs laser beam diagnostic devices for laser machine builders, beam source producers, r & d as well as laser users. Contact: Dr. Harald Schwede, Sales Manager, h.schwede@primes.de.



**METER BOARD AND INTERNET PAVILION SPONSOR**

## Princeton Instruments

#1223

**SPIE** Corporate Member

3660 Quakerbridge Rd, Trenton, NJ, 08619  
+1 609 587 9797; fax +1 609 587 1970  
info@princetoninstruments.com; www.princetoninstruments.com

Princeton Instruments is the proven choice for high-performance CCD cameras, spectroscopy and optical coating solutions for demanding research, industrial and OEM applications, with decades of experience helping scientists solve challenging problems. Many of our cameras are now available with PI's exclusive eXcelon technology, providing enhanced sensitivity, reduced etaloning and lower dark current. Contact: info@princetoninstruments.com.

## Product Locator Kiosks

North Hall Concourse  
South Hall Concourse  
Find what you need, print out the results, and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches

# Find Top Products from **CHINA**



**North Hall  
#5425**



**盛和矿业**  
SHENG HE MINING CO., LTD



**CHINA PAVILION**

**North Hall #5425**



**领汇国际展览**  
LEWAY INTERNATIONAL FAIRS  
展览助推全球贸易

[www.lewayfairs.com](http://www.lewayfairs.com)

[www.worldfairs.cn](http://www.worldfairs.cn)



## Princeton Optronics

#5232

1 Electronics Dr, Mercerville, NJ, 08619  
+1 609 584 9696; fax +1 609 584 2448  
sales@princetonoptronics.com; www.princetonoptronics.com

**Featured Product: High Power Side and End Pump modules using VCSEL arrays. 400 W QCW Air Cooled.**

Princeton Optronics designs and manufactures high power CW and QCW Vertical Cavity Surface Emitting Lasers (VCSEL) arrays; power levels 1kW/cm<sup>2</sup> CW, 4kW/cm<sup>2</sup> QCW – wavelength range 780 nm to 1100 nm. Benefits include: round spot, insensitivity to back reflection, small shift with temperature (0.06 nm/C), high operating temperatures (80C), no mode hopping, very low speckles and High reliability (FIT <1). Low Noise and Narrow lasers at 1064 and 1550 nm are also available. Contact: Paul Chalifour, Director of Sales, Sales@princetonoptronics.com.

## Prior Scientific Inc.

#314

80 Reservoir Park Dr, Rockland, MA, 02370  
+1 781 878 8442; fax +1 781 878 8736  
info@prior.com; www.prior.com

Prior Scientific is the leading manufacturer of high precision motorized microscope stages, nanopositioning Piezo Z stages, automated slide loading systems, laser autofocus systems, fluorescence illumination systems, fiber optic inspection equipment, motorized filter wheels, microscopes, custom optical systems and a wide array of microscopy accessories for a variety of applications. Contact: Dennis Doherty, National Sales Manager, ddoherty@prior.com.

## PriTel, Inc.

SPIE Corporate Member

PO Box 4025, Naperville, IL, 60567-4025  
+1 630 983 2200  
pritel@pritel.com; www.pritel.com

#5543

## Process Materials Inc.

#909

5625 Brisa St Ste A, Livermore, CA, 94551  
+1 925 245 9626; fax +1 925 245 9629  
anudelman@processmaterials.com; www.processmaterials.com

Process Materials is a large manufacturer of metals, alloys, precious metals and ceramic materials including cylindrical targets. Our sputtering targets expertise includes large planar, multi-piece and rotatable targets with special expertise in plasma sprayed rotatable targets. Process Materials is leading provider of materials. We also have in-house bonding services which we offer. Contact: Adam Nudelman, Sales Engineer, anudelman@processmaterials.com; Gina Craig, Sales Engineer, GCraig@processmaterials.com.

## PROMET International Inc.

#833

SPIE Corporate Member

4611 Chatsworth St, Shoreview, MN, 55126  
+1 651 481 9661; fax +1 651 481 9565  
info@promet.net; www.promet.net

PROMET® International provides precision optical and opto-mechanical design, testing and manufacturing services, and FiBO true phase-shifting, vibration-insensitive Michelson interferometers for (portable) 3D and 2D fiber optic connector endface and micro component verification. With experienced staff and comprehensive laboratory facilities, PROMET has been serving aerospace, biometrics, data network, machine vision, medical, military, and telecommunications customers worldwide since 1993. Contact: Jeanne Ann Zinser, Sales and Marketing Director, fibo@promet.net; Helena Mares, Communications Manager, helena@promet.net.

## ProPhotonix, Ltd.

SPIE Corporate Member

32 Hampshire Rd, Salem, NH, 03079  
+1 603 870 8830; fax +1 603 898 8851  
irinfo@prophotonix.com; http://www.prophotonix.com/

ProPhotonix, the united brand for StockerYale and Photonic Products, is a leading innovator in diode-based lasers and LED technology. Applications for ProPhotonix's products include, machine vision, 3-D imaging, glass, advanced materials, automotive paint quality, and electronic assembly inspection, security identification, defect detection, and alignment and positioning. Organizations worldwide use these applications to improve quality, save money and increase operational efficiencies. Contact: David McGuinness, Director of Sales, david.mcguinness@photonic-products; Kathleen Vorse, Director of Marketing, kvorse@prophotonix.com.

#1923

## ProSpect Photonics, Inc.

#6074

75 Fifth St NW Ste 202, Atlanta, GA, 30308  
+1 404 453 4643  
info@prospectphotonics.com

**Featured Product: Holographic Spectrometer; LED Beam Combiner; Raman Analyzer; Multispectral Imager.**

ProSpect Photonics, Inc. serves as a design house to provide solutions for analytical instrumentations and medical device markets. The company is currently working on several government grants to develop the holographic spectrometer, Raman analyzer, and multispectral imager. Contact: Chaoray Hsieh, Senior Research Engineer, hcj@prospectphotonics.com; Arash Karbaschi, Senior Research Engineer, arash@prospectphotonics.com.

## Proxitronic Industries AG

#5031

Robert-Bosch-Str 32B, Bensheim, Germany, 64625  
+49 6251 17030; fax +49 6251 170380  
industries@proxitronic.com; www.proxitronic.com

Since 32 years Proxitronic is the only German manufacturer of image intensifiers and related opto-electronic systems. We also offer test stations for image intensifier quality inspection and for highly cost-efficient repair services. More recently we have completed our product spectrum by innovative IR products. Contact: Paul Ecker, Sales Director, paul.ecker@proxitronic.com; Klaus Loos, CEO, klaus.loos@proxitronic.com.

## PRP Optoelectronics Ltd.

#5414

Wood Burcote Way, Towcester, Northamptonshire, United Kingdom, NN12 6TF  
+44 1327 359135; fax +44 1327 359602  
sales@prpopto.co.uk; www.prpopto.com

**Featured Product: High resolution LED matrix display module with wide dynamic range for adverse environments.**

PRP Optoelectronics Ltd. is the world's largest independent supplier of high performance custom LED displays, specifically for the Avionics, Industrial Instrumentation and Medical industries. Our products provide the highest levels of reliability and long service life time in adverse environments. PRP Optoelectronics specializes in the design, processing and manufacture of Light Emitting Diode displays, chips, hybrids, systems and related activities. Contact: Andy Walton, Product/Program Manager, andyw@prpopto.co.uk; Sam Cox, Project Manager, samc@prpopto.co.uk.

## Pyreos Ltd.

#2223

Scottish Microelectronics Centre, The Kings Buildings West Mains Rd, Edinburgh Scotland, United Kingdom, EH9 3JF  
+44 131 650 7009; fax +44 131 650 7458  
www.pyreos.com

**Featured Product: Showcasing pyroelectric line sensors, miniature 4 channel gas sensors & IR spectrometer modules.**

Pyreos MEMs thin film IR technology provides a flexible design and manufacturing platform for our world class, miniaturised, & value IR sensor products. Pyreos line sensors are used as miniature IR spectrometer medical diagnostic devices that monitor for early signs of life threatening diseases, as well as in process analysis, flame detection, laser beam, FT-IR & Terahertz imaging. Pyreos gas sensors are receiving world-wide acclaim & adoption for their outstanding performance & robustness. Contact: Jeff Wright, CEO, jeff.wright@pyreos.com; Carsten Giebeler, CTO, carsten.giebeler@pyreos.com.

## QD Laser, Inc.

#5519

Keihin Bldg 1F, 1-1 Minamiwataridacho, Kanagawa-ku Kawasaki, Japan, 210-0855  
+81 44 333 3338; fax +81 44 333 3308  
info@qdlaser.com; www.qdlaser.com

**Featured Product: Quantum Dot Lasers by High Temp operation, 1064nm DFB, Green-LD and etc.**

QD Laser, Inc. provides truly revolutionary lasers with significant performance over conventional semiconductor lasers in temperature stability and low power consumption based on the Quantum Dot technology. The quantum dot is a nano-sized semiconductor particle. This small particle, confining electrons in the zero dimension, has the potential to open a new world of semiconductors. Application: Optical Telecommunication over Fibers, Mobile Projectors, Sensing and Optical Interconnections. Contact: Yoshi Ouchi, Sales Manager, ouchi@qdlaser.com; Michael Usami, VP of Sales and Marketing, usami@qdlaser.com.

## QED Technologies, Inc.

#722

SPIE Corporate Member

1040 University Ave, Rochester, NY, 14607  
+1 585 256 6540; fax +1 585 256 3211  
sales@qedmrf.com; www.qedmrf.com

QED's metrology and polishing systems provide optics manufacturers with the tools to deliver quality optics with confidence. Our SSI<sup>®</sup> metrology systems enable in-process and final testing of most of the optics in your shop. QED's MRF<sup>®</sup> polishing platforms are predictable, precise and fast. Ask about QED's Advanced Production Services. If you have applications requiring high precision optical surfaces, QED offers optical polishing and metrology services to help you get your job done. Contact: Chuck McFee, Global Sales and Marketing Manager, mcfee@qedmrf.com; Mike DeMarco, Sales Manager, demarco@qedmrf.com.

## QGLex Inc.

#5006

105 Schneider Rd Ste 111, Ottawa, ON, Canada, K2K 1Y3  
+1 613 800 5067  
info@qglexinc.com; www.qglexinc.com

**Featured Product: High Power CW and Pulse Fiber Lasers in 1 and 1.5 micron bands.**

QGLex Inc. is an innovative company dedicated to the design and manufacture of new generation of Optical Amplifiers, ASE, CW and Pulse Fiber Lasers. QGLex's fiber amplifiers and lasers deliver high output power – up to 20W CW or 5kW peak in 1 and 1.5 micron bands. QGLex is a leading developer of cost efficient integrated fiberoptic products and services, which find their applications in CATV, telecom, industrial, LIDAR, medical, and military environments. Contact: Serguei Tchouragoulov, CEO, stchouragoulov@qglexinc.com.



METER BOARD AND BANNER SPONSOR

## Qioptiq

#1522

SPIE Corporate Member

25 Avenue Pierre de Coubertin, Paris Cedex 13, France, 75647  
+1 585 223 2370; fax +1 585 223 1999  
photonics@qioptiq.com; www.qioptiq.com

**Featured Product: LINOS Matrix Clamping System - Precision spring-tension part holder offers versatile stability.**

Qioptiq designs and manufactures photonic products and solutions that serve a wide range of markets and applications in the areas of industrial manufacturing, medical and life sciences, research and development, defense and aerospace. Qioptiq benefits from having integrated the knowledge and experience of LINOS, Point Source, Spindler & Hoyer, Gsänger, Optem, Pilkington, and others. Qioptiq's 2,300 people work at sites across Europe, Asia and the USA. More information at www.qioptiq.com. Contact: Joe Delfino, Vice President Sales, photonics@qioptiq.com; Yvonne Chao, Sales Manager, yvonne.chao@qioptiq.com.

## QPhotonics, LLC

#2115

3830 Packard Rd Ste 280, Ann Arbor, MI, 48108  
+1 734 477 0133; fax +1 734 477 0166  
info@qphotonics.com; www.qphotonics.com

**Featured Product: Semiconductor optical amplifiers at 790-1550nm with polarization maintaining fiber input and output.**

QPhotonics is a specialist supplier of semiconductor light emitting devices in wavelength range 405nm-1650nm for research, development, and production. We offer a large variety of laser diodes, superluminescent diodes, and semiconductor optical amplifiers. Individual devices can be selected from stock and purchased online. We also provide controllers, mounts, collimators, and photodiodes for building laser systems. Contact: Wei Yang, Sales Engineer, wyang@qphotonics.com; George Loutts, Sales Manager, gloutts@qphotonics.com.

## Quality Thin Films, Inc.

#2033

141 Burbank Road, Oldsmar, FL, 34677  
+1 813 855 1900; fax +1 813 855 5580  
sales@qtf.com; www.qtf.com

Quality Thin Films supplies optics, laser crystals and thin film coatings. We specialize in ultra high damage threshold coatings on super polished crystals and optics, from the UV to the IR. State of the art equipment for substrate fabrication and leading edge coating chambers enable QTF to continuously improve on quality with emphasis on customer service. ISO 9001:2008 certified. Contact: Karl George, Jr, Vice President, sales@qtf.com; Sales, sales@qtf.com.

## Quantel

#1229

SPIE Corporate Member

601 Haggerty Ln, Bozeman, MT, 59715  
+1 406 586 0131  
sales@quantelusa.com; www.quantelusa.com

Quantel is an international leader in the design and manufacturing of solid-state lasers for industrial, scientific, medical, military and aerospace applications. Quantel also offers optical laser damage testing services. Founded in 1970, Quantel corporate headquarters is in Paris with subsidiaries in the USA, Germany, and France. Contact sales@quantelusa.com – www.quantel-laser.com.

## Quantronix Corp.

**SPIE** Corporate Member

41 Research Way, East Setauket, NY, 11733  
+1 631 784 6100; fax +1 631 784 6101  
qinfo@quantronixlasers.com; www.quantronixlasers.com  
Manufactures industrial, scientific and OEM ultrafast Ti:Sapphire lasers and amplifiers, tunable ultrafast optical parametric amplifiers (OPAs), diode-pumped and lamp-pumped Nd:YAG, Nd:YLF and Vanadate lasers in IR, second, third and fourth harmonics. Also manufactures a range of multi-wavelength scan heads, marking, deep engraving and micromachining systems. Offers complete computer control and system integration. Contact: Jeff Wojtkiewicz, Director of Sales, qinfo@quantronixlasers.com.

## Quantum Technology, Inc.

108 Commerce St Ste 102, Lake Mary, FL, 32746  
+1 407 333 9368; fax +1 407 333 9352  
staff@quantumtech.com; www.quantumtech.com

**Featured Product: 100KHz Driver. Voltage up to 4KV depending on the repetition rate and rise/fall time requirements.**

Quantum is a premier supplier of quality E-O and NLO products for research and manufacturers worldwide. EO LASER MODULATORS, Q-SWITCHES, MODULATION and DEFLECTOR SYSTEMS. Applications include complete systems for REGEN amplifiers, PULSE-PICKERS for mode-locked pulse selection, high rep rate BBO, RTP or KD\*P Q-switch systems and phase and intensity modulators for broadband or resonant operation from DC to over 1 GHz. These can be driven with Quantum's exhaustive line of matching amplifiers. Contact: Sanjay Adhav, President, staff@quantumtech.com; Vikas Sudesh, Vice President, staff@quantumtech.com.

## Quartus Engineering Incorporated

10251 Vista Sorrento Pkwy Ste 250, San Diego, CA, 92121-3776  
+1 858 875 6000; fax +1 858 875 6001  
jeff.frantz@quartus.com; www.quartus.com

Quartus Engineering provides mechanical design, analysis, and test services for product development of opto mechanical products. Our staff of 70 engineers can apply all CAD and CAE technologies to complement in house engineering staffs. Contact: Jeffrey Frantz, VP Sales, jeff.frantz@quartus.com; Brad Steele, Engineering Director, brad.steele@quartus.com.

## Quebec Photonic Network

111 rue Lapierre BP 128, LaSalle, QC, Canada, H8N 2J4  
+1 514 368 1677  
www.photoniquequebec.ca

The Quebec Photonic Network is a non-profit organization whose mission is to accelerate the economic development of the Photonic Industry in the Province of Quebec. It is the voice of the industry for: Business development agencies; Provincial and Federal government agencies; Other Photonics Clusters. Membership in the Quebec Photonic Network is for Quebec-based companies, research centers, institutions, government agencies, professionals and individuals involved in photonics.

## Quest Innovations B.V.

Industrieweg 41, Wieringerwerf, Netherlands, 1770 AA  
+31 227 604046; fax +31 227 604053  
info@quest-innovations.com; www.quest-innovations.com

**#1509**

## R. Mathews Optical Works, Inc.

26280 Twelve Trees Ln, Poulsbo, WA, 98370  
+1 360 697 6160; fax +1 360 697 7417

bob@mathewsoptical.com; www.mathewsoptical.com

Mathews Optical is a prototype to production manufacturer of precision glass aspheric lenses and mirrors. Aspheric lenses from 10mm to 300mm diameter can be produced using our volume capabilities for grinding and polishing. Contact: Bob Mathews, President, bob@mathewsoptical.com; Nathaniel Mathews, nathaniel@mathewsoptical.com.

**#3012**

## Raicol Crystals Ltd.

**SPIE** Corporate Member

PO Box 2753 Industrial Zone, Yehud, Israel, 56217  
+972 3 936 7412; fax +972 3 906 8969  
info@raicol.com; www.raicol.com

Raicol manufactures nonlinear optical elements, including KTP, HGTR KTP, RTP, PPKTP and PPSLT. Raicol's newest products are the RTP electrooptic Q-switch for high-repetition rate applications and the monolithic KTP OPO. Raicol also supplies Cr:YAG, BBO and LBO elements. Contact: Alex Skliar, CTO, alexs@raicol.com.

**#2303**

## Rainbow Photonics AG

Farbhofstr 21, Zurich, Switzerland, 8048  
+41 44 419 05 05; fax +41 44 419 05 06

info@rainbowphotonics.com; www.rainbowphotonics.com

**Featured Product: TeraIMAGE for THz spectroscopy and imaging in materials testing and security applications.**

We offer terahertz technology based on novel organic materials for THz generation and detection (DAST, DSTMS, and OH1) as well as for fast electro-optics. The terahertz instruments offered in our portfolio are TeraSys4000, TeraKit and the new TeraIMAGE provide a flexible solution for THz spectroscopy and imaging for applications in materials testing and security. They are based on novel organic electro-optic materials and femtosecond lasers. THz frequencies up to 12 THz can be accessed. Contact: Dr. Carolina Medrano, CEO, info@rainbowphotonics.com; Dr. Blanca Ruiz, Product manager engineer, blanca.ruiz@rainbowphotonics.com.

**#4426**



**GENERAL REFRESHMENT SPONSOR**

## Rainbow Research Optics, Inc.

**SPIE** Corporate Member

6830 S Dawson Cir, Centennial, CO, 80112  
+1 303 371 3000; fax +1 303 371 1333  
sales@rroptics.com; www.rainbowoptics.com

Rainbow Research Optics, Inc is an optics manufacturing and coating company in Centennial, Colorado. We offer precision optics with fast deliveries and competitive pricing. Our optics range from UV to IR including: Flat and Spherical Components along with Opto-Mechanical Assemblies. We offer prototype to mass production quantities. Please Visit us at Booth #2400. Contact: Hollie Marinecz, Sales Manager, h.marinecz@rroptics.com; Eli Bruner, Sales Engineer, e.bruner@rroptics.com.

**#2400**

## RAYBIUM

Storgatan 90, Sundsvall, Sweden, 851 70  
+46 70 6895798

sales@raybium.com; www.raybium.com

RAYBIUM is a supplier of rare-earth (RE) doped fibers for fiber laser applications. Our core competence is development of high performance RE-doped silica fibers for e.g. OEM integration. RAYBIUM now offers highly ytterbium doped silica fibers meeting high demands on efficiency and reliability (high photodarkening resistance). The fibers are available in several standard dimensions including both PM- and non-PM versions. We also provide other RE-doped fibers on request (erbium, thulium). Contact: Bengt-Olof Larsson, CEO, bengt-olof.larsson@raybium.com.

**#4435**



## Raydiance, Inc.

#4114

2199 S McDowell Blvd Ste 140, Petaluma, CA, 94954  
+1 707 559 2100; fax +1 707 559 2123  
www.raydiance.com

**Featured Product: Smart Light 50 is the world's first broadly accessible, industrial-grade ultrafast fiber laser.**

Raydiance is the world's leading developer of ultrafast laser technology. It has integrated fiber optic, computing and software technologies to create the world's only broadly accessible, industrial-grade ultrafast laser. The company is focused on providing transformative, reliable and cost-effective solutions for the medical device manufacturing, medical therapies, industrial laser processing, biosciences, and defense markets. Contact: Mike Armas, VP, Business Development, marmas@raydiance.com; Bob Yates, Sr. VP, Business Development, byates@raydiance-inc.com.

## RAYLASE AG

#4601

Argelsrieder Feld 2-4, Wessling, Germany, 82234  
+49 8153 8838 0; fax +49 8153 8898 10  
sales@raylase.de; www.raylase.de

**Featured Product: RAZORSCAN-AC - auto calibration SUPERSCAN-II - twin shell technology, low drift, high speed.**

TOTAL CONTROL OF YOUR LASER BEAM. RAYLASE stands for innovative laser technology, precision, high performance and quality scan solutions. As a global market leader RAYLASE develops and manufactures galvanometer-scanner based components and subsystems for laser beam deflection, modulation and control. Contact: Werner Grünwald, International Sales Manager, w.gruenwald@raylase.de; Harnesh Singh, Sales & Marketing Manager, h.singh@raylase.de.

## Raytheon ELCAN Optical Technologies

#4943

SPIE Corporate Member

450 Leitz Rd, Midland, ON, Canada, L4R 5B8  
+1 705 526 5401  
info@elcan.com; www.elcan.com

Raytheon ELCAN is the global partner-of-choice for product design and high-volume manufacturing of precision optical systems to refine your original concepts into highly competitive products. In addition to the latest biophotonic technologies, Raytheon ELCAN Optical Technologies also provides the necessary discipline in program management that is an essential service to medical device companies looking for a reliable manufacturing partner. Contact: Edgar Reyes, Regional Sales Manager, N.W. Central USA, ereyes@elcan.com; Wolf Glage, Vice President, Engineering, wglage@elcan.com.

## RDECOM-AMRDEC

#4141

5400 Fowler Rd , Attn: RDMR-TM-SD, Redstone Arsenal, AL, 35898  
+1 256 842 9959  
thomas.lee.harris@us.army.mil

## Redfern Integrated Optics, Inc.

#2633

SPIE Corporate Member

3350 Scott Blvd Bldg 62, Santa Clara, CA, 95054  
+1 408 970 3500  
sales@rio-inc.com; www.rio-inc.com

Redfern Integrated Optics (RIO), headquartered in Santa Clara California, develops and manufactures optical sources and subsystems based on its proprietary planar external cavity laser technology (PLANEX™). RIO's product lines include 1550nm single frequency narrow linewidth lasers and modules with very low noise, unparalleled wavelength stability, low cost, small size, low power dissipation, and Telecom grade lifetime reliability. Contact: Tony Pisano, Director of Sales, tony.pisano@rio-inc.com; Lew Stolpner, Director of Product Management, lew.stolpner@rio-inc.com.

## Remtec, Inc.

#4324

100 Morse St, Norwood, MA, 02062  
+1 781 762 9191; fax +1 781 762 9777  
sales@remtec.com; www.remtec.com

Remtec manufactures cost effective custom metallized ceramic substrates with PCTF® (Plated Copper on Thick & Thin Film) for thermal management applications. Products include custom high performance laser & photo diodes submounts with "Zero Pullback" metallization, optoelectronics circuits, and spacers. Alumina, Beryllia and Aluminum Nitride ceramics with 25-75 micron copper and selective gold tin plating. Metalization exhibits reliable adhesion during die attach and components assembly. Contact: Nahum Rapoport, President/Technical Sales & Application Engineering, nrapoport@remtec.com; David Suconick, Technical Director, dsuconick@remtec.com.

## Research Electro-Optics, Inc.

#2433

SPIE Corporate Member

5505 Airport Blvd, Boulder, CO, 80301  
+1 303 245 4306; fax +1 303 447 3279  
www.reoinc.com

REO is a volume manufacturer of high precision thin film coatings, optics and optomechanical assemblies for the ultraviolet through the long-wave infrared. We also produce high performance HeNe lasers. Markets served include semiconductor process equipment, aerospace/defense systems, telecom, laser manufacturers, materials processing and life sciences instrumentation. When you need engineering and design expertise, plus cutting edge fabrication, thin film coating and assembly, think REO. Contact: Mark Damery, VP and General Manager of Worldwide Sales, markd@reoinc.com; Ed Yousse, National Sales Manager, edy@reoinc.com.

## Reynard Corp.

#318

SPIE Corporate Member

1020 Calle Sombra, San Clemente, CA, 92673  
+1 949 366 8866; fax +1 949 498 9528  
sales@reynardcorp.com; www.reynardcorp.com

**Featured Product: Custom designed infrared variable spectral bandpass filters.**

Reynard supplies custom, stock optical components & thin film coatings 0.2µm to 50µm (UV-FAR IR) to demanding specs for military, aerospace, medical & telecom applications. Our expertise in these markets enables us to stay on the leading edge of technological advancements through research partnerships, commercial development programs, SBIR programs and internal R&D. Other services include Optical & Mech Fab, Photolithography Patterns, Environmental Testing & Sub-Assembly. Contact: Beth Kinchyk, sales@reynardcorp.com.

## RGB Lasersystems GmbH

#4601

Donaupark 13, Kelheim, Germany, 93309  
+49 9441 17 50 33 20; fax +49 6441 17 50 33 92  
sales@rgb-laser.com; www.rgb-laser.com

**Featured Product: NovaPro: compact laser; Minilas: mini USB lasers; Spectrometers DNA, explosive; Software; Food analysis.**

RGB Lasersystems is based in Kelheim/Bavaria/Germany and designs and manufactures innovative laser and spectrometer solutions for scientific, industrial and research and custom OEM solutions. The focus is on miniaturized high-end products, user friendly, reliable and best price-/performance ratio. RGB Lasersystems offers the world's most compact and highest precise laser systems, spectrometers and unique laser/spectrometer combinations for food and DNA analysis and explosive detection. Contact: Reinhold Wagensohn, Director of Sales and Marketing, reinhold.wagensohn@rgb-laser.com; Dr. Jörg Ehehalt, Director of Research and Development, joerg.ehehalt@rgb-laser.com.

## RGBLase LLC

SPIE Corporate Member

3984 Washington Blvd #306, Fremont, CA, 94538  
+1 510 585 8449  
panm@rgblase.com

**Featured Product: 80mW Single mode fiber coupled 405nm laser module. Multi color laser system.**

RGBLase LLC provide Violet, Blue, Green, Yellow, Red Diode and DPSS lasers, optical parts, coating service, precision mechanical parts and OEM service. Our vision is to become the number one laser & photonic total solution supplier for scientific research, bio-medical instrumentation and other industrial applications.

## Richardson Gratings, A Newport Corporation Brand

#1301

705 St Paul St, Rochester, NY, 14605  
+1 585 262 1331; fax +1 585 454 1568  
grating.sales@newport.com; www.newport.com/gratings

## Rising Electro-Optics Ltd.

#4306

1st Fl Bldg 24 Jinshan Fuwan Industrial Park, No 869 PanYu Rd, Fuzhou, China, 350002  
+86 591 8334 9016; fax +86 591 8330 0646  
marketing@rising-eo.com; www.rising-eo.com

**Featured Product: PBS are widely use in LCOS & LCD Projection Systems.**

Rising Electro-Optics Ltd. founded since 2001, is a manufacturer & distributor of precision optical components. We serve a multitude of worldwide markets, including Laser, Electronics, Semiconductor, Telecommunication, Thermal Imaging, Medical, for Industry, Military and Scientific Research applications. Our products include all kinds of lenses, windows, mirrors, and other optical components with or without coating, even lenses assemblies. Contact: Vincent Chen, Sales Manager, vincent@rising-eo.com; Minny Hu, Sales Engineer, minny@rising-eo.com.

## RMI Laser Div.

#1515

106 Laser Dr, Lafayette, CO, 80026  
+1 303 664 5000; fax +1 303 664 5001  
sales@rmico.com; www.rmico.com

## Rochester Precision Optics LLC

SPIE Corporate Member

850 John St, West Henrietta, NY, 14586  
+1 585 292 5450; fax +1 585 292 5459  
www.rpoptics.com

**Featured Product: Optical Assemblies – Eye Piece and objectives utilizing molded glass and machined aspheric optics.**

Manufacturer of precision molded glass aspherical lenses and optical assemblies for Defense, Imaging, Industrial and Medical industries. Vertically integrated manufacturing for prototype and high volume. The latest automated optical manufacturing, diamond turning, advanced thin film coating and precision machine centers based on over 25 years of development and production experience at Kodak Optical Imaging Systems. Visible to Infrared molded aspheres from 1mm to 60mm diameters. Contact: Edward Patton, Director Sales and Marketing, epatton@rpoptics.com; Mike Bilak, Sales, mbilak@rpoptics.com.



GENERAL REFRESHMENT SPONSOR

## Rocky Mountain Instrument Co.

#1515

SPIE Corporate Member

106 Laser Dr, Lafayette, CO, 80026  
+1 303 664 5000  
sales@rmico.com; www.rmico.com

Rocky Mountain Instrument Co (RMI) is a leading manufacturer of optical components, high power thin film coatings and assemblies. RMI offers design, fabrication and testing services in our 90,000 sq. ft manufacturing facility in Lafayette, CO. RMI Laser is a manufacturer of compact precision laser marking engines for all metals, plastics, and ceramics. Contact: Jensen Huddleston, Marketing Manager, jensenh@rmilaser.net; Hanbit Miskell, Sales Administrator, hanbit@rmilaser.net.

## Roditi International Corporation Ltd.

#5034

102 Stewarts Rd, London, United Kingdom, SW8 4UF  
+44 20 7819 8080; fax +44 20 7720 5261  
sales@roditi.com; www.roditi.com

Roditi International is a specialist distributor to laser, optics and electronics industries. They are suppliers of a wide range of laser rods and crystals, including Nd:YAG, CTH:YAG, Yb:YAG, ruby, Ti:Sapphire and vanadate, along with optical components, quartz and sapphire, lithium niobate and lithium tantalate substrates and boules. Roditi is based in Europe but operate and source their products worldwide. Contact: Andrew Turner, Sales Manager, andy@roditi.com; Juergen Brendel, Managing Director, jwb@roditi.com.

## Roithner Lasertechnik GmbH

#4403

Wiedner Hauptstr 76, Vienna, Austria, 1040  
+43 1 586 52 43 0; fax +43 1 586 52 44  
office@roithner-laser.com; www.roithner-laser.com

**Featured Product: UV LEDs 245-340nm up to 50mW Laser diodes/ pointers at 375, 405, 415, 445, and 488nm.**

Roithner Lasertechnik GmbH is a leading supplier in the optoelectronic field, offering a comprehensive arrangement of LEDs, laser diodes, and laser systems in all available wavelengths, covering a range of 245 up to 7µm for LEDs and laser diodes from 375nm – 13.9µm. Our lineup further includes a broad selection of photodiodes, optical components, drivers, and laser accessories. We are specialized in the design of custom made LED arrays and laser modules to meet your special requirements. Contact: Matthias Felber, Senior Product Manager, m.felber@roithner-laser.com.

## Rolyn Optics Co.

#2428

SPIE Corporate Member

706 Arrowgrand Cir, Covina, CA, 91722-2199  
+1 626 915 5707; fax +1 626 915 1379  
sales@rolyn.com; www.rolyn.com

## Roth & Rau MicroSystems GmbH

#4733

Gewerbering 3, Hohenstein-Ernstthal Saxony, Germany, 09337  
+49 3723 4988 0; fax +49 3723 4988 25  
microsystems@roth-rau.de; www.roth-rau.de/microsystems

**Featured Product: IonScan 3D system for the ion beam finishing of 3 dimensional optical samples.**

Roth & Rau MicroSystems GmbH is a worldwide operating company that provides advanced technology solutions for the coating, structuring and processing of surfaces through the application of plasma and ion beam processes. The process systems are predominantly applied in the semiconductor industry, in the production of high precision optics and sensors as well as for research and development. Contact: Andrea Kunz, Sales Director Germany/USA, microsystems@roth-rau.de.



# Subscribe for free\*



**Electro Optics**, with more than 40 years of history, is the magazine, website, and e-newsletter (EONewsline) for the photonics market, covering technology, business and applications. It is Europe's leading publication for all those involved in the supply, integration or use of photonics components.

[www.electrooptics.com/subscribe](http://www.electrooptics.com/subscribe)

**Imaging and Machine Vision Europe** is the leading magazine, website, and e-newsletter (IMVENewsline) for those involved in the integration and use of vision technologies across a wide range of disciplines, including manufacturing, traffic, security, military and medicine.

[www.imveurope.com/subscribe](http://www.imveurope.com/subscribe)



**Laser Systems Europe** is the magazine for integrators and users of laser systems, with a focus on applications, alongside up-to-date information on suitable products and technologies. The publication is supported by the LIA (Laser Institute of America).

[www.lasersystemseurope.com/subscribe](http://www.lasersystemseurope.com/subscribe)

All titles are published by Europa Science Ltd, The Spectrum Building, The Michael Young Centre, Purbeck Road, Cambridge, CB2 8PD, UK. Tel: +44 (0)1223 211170. [www.europascience.com](http://www.europascience.com)

\*Subscription is free for qualifying individuals

## Register online now



## Route des Lasers

#1123G

42 Ave du Général de Larminat, Bordeaux, France, 33001  
+33 5 57 57 84 83; fax +33 5 56 24 06 39  
www.routedelasers.com

The Route des Lasers competitiveness cluster Bordeaux, France, brings together the region's players in research / industry / training in optics and lasers. It's dedicated to jointly conduct actions that structure and stimulate the sector, for industrial applications in aeronautics and space, embedded systems, biomedical equipment, electronics, agribusiness, energy/environment/photovoltaics, etc. Contact: Françoise METIVIER, Project manager, alpha@2adi.aquitaine.fr.

## RPC Photonics, Inc.

#1141

**SPIE** Corporate Member

330 Clay Rd, Rochester, NY, 14623  
+1 585 272 2840; fax +1 585 272 2845  
info@rpcphotonics.com; www.rpcphotonics.com

RPC Photonics Inc. designs and manufactures micro-optical components for illumination, displays, LED & laser systems, semiconductors, medical, military & space applications. Products include Engineered Diffusers™, beam shapers, microlens arrays & diffractive optical elements. RPC offers complete optical solutions from design to manufacturing of low-volume unique components or high-volume consumer optics in glass, polymer on glass, IR materials, injection or compression-molded polymers or films. Contact: Rose A. Peet, Contracts/Quality Manager, info@RPCphotonics.com.

## RPMC

#4832

**SPIE** Corporate Member

203 Joseph St, O'Fallon, MO, 63366  
+1 636 272 7227; fax +1 636 272 3909  
rpmc@rpmclasers.com; www.rpmclasers.com

RPMC Lasers, Inc. is a distributor of lasers and laser diodes. We offer a wide range of solid state lasers, including femtosecond, picosecond, nanosecond, microsecond, millisecond and CW dpss / lamp pumped lasers as well as pulsed and cw fiber lasers. We also offer single mode & multimode laser diodes, free space and fiber coupled, drivers, controllers, heat sinks and even turnkey systems. Custom products are offered.



CONFERENCE BAG INSERT SPONSOR

## RSoft Design Group

#2023

**SPIE** Corporate Member

400 Executive Blvd Ste 100, Ossining, NY, 10562  
+1 914 923 2164; fax +1 914 923 2169  
info@rsoftdesign.com; www.rsoftdesign.com

RSoft Design Group is the leader in photonics design software and serves several industries including optical communication, optoelectronics and semiconductor manufacturing. Within optical communications, RSoft is the only company to provide a full range of design, optimization and planning tools. RSoft also provides award-winning design tools for optoelectronics components and subsystems. Contact: Carl Klinges, carl@rsoftdesign.com; Carl Klinges, info@rsoftdesign.com.

## RSP Technology BV

#4301

Metaalpark 2, Farmsun, Netherlands, 9936 BV  
+31 596 632300; fax +31 596 632678  
www.rsp-technology.com

**Featured Product: RSP realizes production of aluminium alloys with a surface roughness less than 1 nanometer.**

RSP Technology produce and develop aluminium alloys for optical applications, like mirrors, moulds, housings, mounting- and gimbal-systems, with advantages for surface roughness, shape stability, strength and low thermal expansion. RSP cools down materials over 10,000,000° C per second, "freezing" the liquid alloy. This results in alloys with a microstructure which is a factor 10 x to 50 x finer than conventional materials and a mirror surface roughness less than 1 nanometer. Contact: Roger Senden, Sales Director, rsenden@rsp-technology.com.

## Rubicon Technology, Inc.

#1026

**SPIE** Corporate Member

900 Green St, Bensenville, IL, 60106  
+1 847 295 7000; fax +1 847 295 7555  
sales@rubicon-es2.com; www.rubicon-es2.com

Rubicon Technology, Inc. is a vertically-integrated manufacture and an advanced electronic materials provider that is engaged in developing, manufacturing and selling monocrystalline sapphire for LEDs, RFICs, blue laser diodes, optoelectronics and other optical applications. We apply its proprietary crystal growth technology and fabrication process to produce very high-quality sapphire in various sizes and orientations of substrates and windows specified by its customers in volume production. Contact: Dr. Elena Dobrovinskaya, Chief Scientist, edobrovinskaya@rubicon-es2.com; Miyuki Calvert, Account Manager, mcalvert@rubicon-es2.com.

## Sacher Lasertechnik GmbH

#4813

**SPIE** Corporate Member

Rudolf Breitscheid Str 1-5, Marburg, Germany, 35037  
+49 6421 305 0; fax +49 6421 305 299  
contact@sacher-laser.com; www.sacher-laser.com

**Featured Product: Tunable Diode Laser with 2500mW at 780nm for optical cooling and trapping.**

Sacher Lasertechnik is leading manufacturer of high power tunable external cavity diode lasers. Intellectual property is covered by several patent families. Products include tunable external cavity diode lasers in Littman/Metcalf configuration and in Littrow configuration, low noise laser controllers, Frequency Doubled Laser Systems (SHG, FHG), and Argon Ion Lasers. Highlights are high power single mode and narrow linewidth tunable diode lasers with output power above 2500mW. Contact: Yvonne K. Adams, Sales Manager, sales@sacher.us; Kerstin Mühligh, Sales Manager, contact@sacher-laser.com.

## SAES Getters USA, Inc.

#329

1122 E Cheyenne Mtn Blvd, Colorado Springs, CO, 80906  
+1 719 576 3200; fax +1 719 576 5025  
www.saesgetters.com

SAES Getters is the world leader in scientific and industrial applications where stringent vacuum is required. At Photonics West 2011, SAES will display the innovative dispensable dryer products including AquaDry for transparent applications, DryPaste for non-transparent applications, and the active edge sealant ZeoGlue. Also showing PageWafer and PageLid, our film getter materials that can be patterned on silicon, glass, metallic or ceramic substrates; and SAES Non Evaporable Getter (NEG) pumps for applications requiring best vacuum possible.

## Product Locator Kiosks

North Hall Concourse  
South Hall Concourse  
Find what you need, print out the results, and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches

## Saint-Gobain Crystals

#2136

6810 Winchester Cir, Boulder, CO, 80301  
+1 303 444 3420; fax +1 303 444 1686  
bouldersales@saint-gobain.com;  
www.photonic.saint-gobain.com

Saint-Gobain Crystals (formerly Alpine Research Optics) is a premier manufacturer of custom and OEM optical components and coatings. We specialize in laser optics from 193nm to the NIR. Product range includes beamsplitters, polarizers, mirrors, spherical lenses, and windows. Our polishing and coating technology allow us to produce some of the highest laser damage threshold coatings available. We routinely work with substrate materials like MgF<sub>2</sub>, CaF<sub>2</sub>, fused silica, and all optical glasses. We also offer coating services. Contact: Peter Allard, Product Manager, peter.allard@saint-gobain.com; Lynn Ferro, Sales, lynn.ferro@saint-gobain.com.

## Salem Distributing Co.

#4331

SPIE Corporate Member

5901 Gun Club Rd, Winston-Salem, NC, 27103  
+1 336 766 1104; fax +1 336 766 1119  
sales@salemndist.com; www.salemndist.com

### Featured Product: Acculap synthetic polishing pitch.

Salem ASM offers precision surfacing materials. ABRASIVES: Alumina, Silicon Carbide, Boron Carbide. POLISHES: Cerium Oxide, Aluminum Oxide, Submicron Alumina, Colloids, Pitch, Acculap Synthetic Pitch. PADS: Stock Removal, Primary Polish, Final Polish, Polyurethane, Napped Poromeric. DIAMONDS: Blades, Core Drills. All of these materials were designed exclusively to enhance the quality and efficiency of any precision surfacing and polishing application. Contact: Steve Albright, Precision Group Sales Director, salbright@salemndist.com.

## Sandia National Laboratories

#2404

PO Box 5800, Albuquerque, NM, 87185-2634  
+1 800 417 2634  
www.sandia.gov/mstc

Sandia National Laboratories Microsystems Center develops microsystems and their constituent components including electronic devices, MEMS, optoelectronic and photonic integrated circuits, sensors, and sensed systems. The center is also a DMEA accredited Category 1A trusted supplier for both ASIC design and foundry services. Sandia is a multiprogram laboratory operated by Sandia Corporation a Lockheed Martin Company. Contact: Carol Sumpter, Technical Marketing Staff, cwsumpt@sandia.gov.

## Santec USA Corp.

#424

433 Hackensack Ave, Hackensack, NJ, 07601  
+1 201 488 5505; fax +1 201 488 7702  
info@santec.com; www.santec.com

### Featured Product: NEW! First Array Waveprocessor based on LCOS (liquid crystal on silicon) for next generation ROADM.

Santec is a leading manufacturer of Tunable Lasers, Optical Test and Measurement Products, and Advanced WDM Optical Components. Santec offers tunable lasers for telecom test, OCT, sensing, optical characterization, and custom applications. Test and Measurement Instruments include Tunable Filters, Polarization Extinction Meters, and Switches. Advanced Optical Components include Tap Photodetectors, Variable Optical Attenuators, WDM, CWDM, PON filters, and MEMS components. Contact: Max Chang, Senior Sales Engineer, max@santec.com; Jonathan Evans, Senior Sales Engineer, jonathan@santec.com.

## Satisloh North America Inc.

#4508

SPIE Corporate Member

N116 W18111 Morse Dr, Germantown, WI, 53022  
+1 262 255 6001; fax +1 262 255 6002  
www.satisloh.com

The Satisloh line includes generators, polishers, laser centering, and coating machines (sputtering) for all applications. A supplier of diamond wheels and pellets, spherometer rings, and spare parts, we offer a complete range of consumable products – including distribution of Mueller Diamonds, Desmopan and Desmoflex polishing pads, and Borer Chemical ultrasonic cleaning products. Contact: Tom Godin, Precision Optics Manager, tom.godin@satisloh.com; Lori Heller, Sales Administration, lori.heller@satisloh.com.

## Savimex

#1023G

Parc d'Activités des bois de Grasse, BP 85262 1 avenue Louison Bobet, Grasse, France, 06130  
+33 4 93 70 41 31; fax +33 4 93 70 77 21  
anita.lemesle@savimex.fr; www.savimex.fr

SAVIMEX is a specialist for the design and the manufacturing of optical components in thermoplastic polymer materials (PC, PMMA, COC, COP, PEI) by injection, as well as for optical thin film coatings and for opto-mechanical subsystem assemblies. SAVIMEX also proposes ultra precision machining by diamond turning technology with a total number of 4 advanced diamond machining systems. Contact: Anita Lemesle, anita.lemesle@savimex.fr.

## Savvy Optics Corp.

#5238

SPIE Corporate Member

35 Gilbert Hill Rd, Chester, CT, 06412-1306  
+1 860 878 0722  
sales@savvyoptics.com; www.savvyoptics.com

### Featured Product: SavvyInspector SIF-4, a software-assisted scratch and dig measurement system.

Savvy Optics is dedicated to the mission of finding practical solutions to optical problems, and the challenges of our industry. We offer products, consulting, and educational services for scratch and dig metrology, mid-spatial frequency waviness, standards and specifications, and innovative but practical optical design and engineering. Contact: Dave Aikens, President, sales@savvyoptics.com.

## SCANLAB America, Inc.

#2515

SPIE Corporate Member

100 Illinois St Ste 200, Saint Charles, IL, 60174  
+1 630 797 2044; fax +1 630 797 2001  
info@scanlab-america.com; www.scanlab-america.com

### Featured Product: intelliSCAN\_de 30: encoder-based, fully digital 30mm aperture scan head for highest precision.

OEM manufacturer of high-performance galvanometer scanners and galvanometer-based scanning systems for deflection and positioning of laser beams in up to three dimensions. Serves industrial and medical applications. Product range includes standard and high-end scan heads (more than 1200 cps), scan systems for kW-range lasers, customized systems, control electronics, laser processing software and accessories. Contact: Dale Sabo, Vice President Sales & Marketing, d.sabo@scanlab-america.com; Dominik Brunner, Sales Manager America and Asia, d.brunner@scanlab.de.

## SCD-Semi Conductor Devices

#2628

**SPIE** Corporate Member

PO Box 2250, Haifa, Israel, 31021  
+972 4 990 2535; fax +972 4 990 2627  
marketing@scd.co.il; www.scd.co.il

**Featured Product: ODEM, New 808/940nm collimated Vertical Array, 1,500W/10% duty cycle, Laser Pumping or Direct Diode.**

SCD-SemiConductor Devices acting more than 35 years, has the experience and know-how in the field of diode lasers. SCD is an innovating leading company, making superior high power pumping diode lasers used by the best and biggest manufacturers. SCD does it all in-house. Main applications are: Space and Defense programs, Aesthetic medical equipment and Security. Contact: Ronen Diamant, Marketing Manager, ronend@scd.co.il; Yoram Karni, Laser Diodes, Division Manager, yoramk@scd.co.il.

## Schmidt & Bender

#4601

Fehér út 10 3 épület, Budapest, Hungary, 1106  
+36 1 4342 100; fax +36 21 252 50 20  
info@schmidt-bender.hu; www.sb-optics.com

## Schneider Optical Machines, Inc.

#4228

**SPIE** Corporate Member

5916 Stone Creek Ste 120, The Colony, TX, 75056  
+1 972 247 4000; fax +1 972 247 4060  
info-us@schneider-om.com; www.schneider-om.com

## Schneider Optics, Inc.

#712

**SPIE** Corporate Member

285 Oser Ave, Hauppauge, NY, 11788  
+1 631 761 5000; fax +1 631 761 5090  
www.schneideroptics.com

**Featured Product: Schneider Optics new F-Mount lenses have lockable iris & focus. They image in both visible & NIR.**

Schneider Optics designs, develops, and manufactures high performance lenses for machine vision & other image processing applications. Standard products include Compact C-mount lenses, Bilateral Telecentric lenses, a modular Macro system, large format lenses (area & line scan), 3-CCD lenses and industrial filters. Custom lens solutions are also available. Key markets include Machine Vision, Document & Parcel Scanning, Industrial Inspection, 2D/3D Metrology, Surveillance, & Hyperspectral Imaging. Contact: Jim Sullivan, Director of Sales, Industrial Optics; Stuart Singer, Vice President, ssinger@schneideroptics.com.

## Scientech, Inc.

#2140

5649 Arapahoe Ave, Boulder, CO, 80303-1332  
+1 303 444 1361; fax +1 303 444 9229  
inst@scientech-inc.com; www.scientech-inc.com

**Featured Product: Astral Series S laser power and energy measurement systems.**

Scientech has been an USA manufacturer of laser power and energy measurement systems for over 42 years. We offer detectors that can measure from  $\mu\text{J}$  to KJ and have apertures from 7mm to 200mm. Contact: Tom Campbell, VP, inst@scientech-inc.com.

## Scientific Materials Corp.

#605

31948 E Frontage Rd, Bozeman, MT, 59715  
+1 406 585 3772; fax +1 406 585 8606  
sales@scientificmaterials.com; www.scientificmaterials.com

Scientific Materials Corp. – A Division of FLIR Systems, produces high purity, low loss laser materials including rare-earth doped YAG,  $\text{Cr}^{4+}$ :YAG, TGG, YSGG, composite and co-doped materials, Nd/Tm YAIO (YAP), LuAG, YSO and other high temperature oxide single crystal materials. Primary products include laser rods, bars, slabs & discs, as well as custom material development. Our fab and polishing capabilities support high volume production capacity as well as custom component manufacturing. Contact Zack Cole zachary.cole@flir.com or Larry Alegria larry.alegria@flir.com.

## Scottish Development International

#2223

Atlantic Quay, 150 Broomielaw, Glasgow,  
United Kingdom, G2 8LU  
+44 141 248 2700  
www.sdi.co.uk

The major economic development agency for Scotland, our aim is attract direct foreign investment for research, design and development projects; create partnership investments between Scottish and foreign companies/organizations, to open new channels to markets, investments, technologies and products; increase trade growth by the expansion of Scotland's portfolio of exported goods and services to new markets; and help strike licensing deals between Scottish and overseas companies and universities.

## Scottish Optoelectronics Association

#2223

Geddes House Business Centre, Kirkton North, Livingston  
Scotland, United Kingdom, EH54 6GU  
+44 1506 497228; fax +44 1506 497229  
soa@optoelectronics.org.uk; www.optoelectronics.org.uk

**Featured Product: Nexpresso places pre-market components into hands of research institutions. See [www.nexpresso.eu](http://www.nexpresso.eu).**

Represents Scottish companies and university departments with photonics activities. Promotes Photonics locally, nationally and internationally. Engaged in knowledge transfer, provision of market information and entry, guidance & advice. Contact: Chris Gracie, CEO, chris.gracie@optoelectronics.org.uk; Leigh-Ann Donoghue, Administrator, leigh-ann@optoelectronics.org.uk.



STAIRWAY STRIP AND EXHIBITION MAP/RESTAURANT GUIDE SPONSOR

## SCHOTT North America, Inc.

#1601

**SPIE** Corporate Member

400 York Ave, Duryea, PA, 18642  
+1 570 457 7485; fax +1 570 457 6960  
info.optics@us.schott.com;  
www.us.schott.com/advanced\_optics

Advanced Optics offers a broad range of cutting-edge components & materials for optical applications & is a leading manufacturer of ZERODUR glass ceramics, filters, optical & i-line glass, IR material & laser glass. A global network of manufacturing facilities is integrated from material development to finishing operations which include high-precision processing & metrology expertise. Contact: Dr. Heather Rayle, Vice President/General Manager, heather.rayle@us.schott.com; Marlene Deily, Promotions Manager, marlene.deily@us.schott.com.



## Scottish Universities Physics Alliance (SUPA)

#2223

University of Strathclyde, Wolfson Centre 106 Rottenrow, Glasgow Scotland, United Kingdom, G4 ONW  
+44 141 952 9475; fax +44 141 952 9400  
admin@supa.ac.uk; www.supa.ac.uk

The Scottish Universities Physics Alliance (SUPA) is the largest collective of physics research talent in the UK, with over 1000 researchers. Optoelectronics and photonics are SUPA's core strengths. Our research is present in many current commercial systems. From R&D to CPD, we can help solve your problems. Contact: Richard Mosses, Business Development Manager, richard.mosses@supa.ac.uk.

## SDS Systems Development & Solutions #4821

5 bvd de Créteil, Saint Maur des Fossés, France, 94100  
+33 1 43 97 65 04; fax +33 1 48 85 82 70  
contact@sdshv.com; www.sdshv.com

**Featured Product: GAM detector is a high-speed gamma rays radiometer fitted with an original filtering algorithm.**

Drawn directly from its longstanding expertise in high-voltage supply components and systems, SDS has diversified its current product line with the achievement of several R&D projects leading to new derived devices, as specialized power supplies fitted to dedicated applications such as microchannel plates, streak cameras, Pockels cells, APDs, CCD intensifiers, mass spectrometry detectors. In addition, a benchtop portable instrument is now available for multipurpose detectors. Contact: Bernard Leibovici, Managing Director, contact@sdshv.com.

## Seiwa Optical America Inc. #5113

3042 Scott Blvd, Santa Clara, CA, 95054  
+1 408 844 8008; fax +1 408 844 8944  
info@seiwaamerica.com; www.seiwaamerica.com

## Semiconsoft, Inc. #6042

83 Pine Hill Rd, Southborough, MA, 01772  
+1 617 388 6832  
info@semiconsoft.com; www.semiconsoft.com

**Featured Product: MProbe system makes measurement of translucent thin-films in 3nm-400µm range easy and affordable.**

Semiconsoft, Inc develops and manufactures thin-film measurement systems and data analysis software. Our user-friendly and intuitive TFCompanion software includes large materials library and wide range of parameterized models to make data analysis of reflectance, transmittance, ellipsometry and imaging data easy. Our thin-film measurement systems: MProbe (spectroscopic reflectance/transmittance) and PicoProbe (spectroscopic ellipsometry) make thin film measurement simple and affordable. Contact: Leo Asinovski, Product Manager, leo@semiconsoft.com.

## SemiNex Corp. #5500

100 Corporate Pl Ste 401, Peabody, MA, 01960  
+1 978 278 3550  
info@semnexus.com; www.seminex.com

**Featured Product: High power semiconductor lasers from 14XXnm to 15XXnm with output power from 3 to 6 watts.**

SemiNex Corporation aims to fundamentally transform key industries by displacing conventional laser technology with higher-power semiconductor diode lasers. SemiNex enables cost-effective laser applications by providing better semiconductor laser performance and efficiency while drastically reducing the laser size and power consumption. This enables lasers to be used more broadly in high-volume applications for medical, military and free space optical communications systems. Contact: Ed McIntyre, VP of Sales & Marketing, emcintyre@seminex.com; Dave Bean, President, dbean@seminex.com.



**BANNER SPONSOR**

## Semrock, Inc. #616

SPIE Corporate Member

3625 Buffalo Rd Ste 6, Rochester, NY, 14624  
+1 585 594 7000; fax +1 585 594 7095  
semrock@idexcorp.com; www.semrock.com

**Featured Product: VersaChrome™ filters - tunable over 12% of the CWL with no change in spectral performance.**

Semrock manufactures advanced hard-coated optical filters that set the new standard for biomedical and analytical instrumentation. These include BrightLine™ fluorescence filters, high-performance filters for Raman spectroscopy, and unique laser system optics. Semrock's products are built on the latest in optical coating technology. Founded in September 2000, Semrock is based in Rochester, New York, a well-known center of optics. Visit Semrock and our products at www.semrock.com.

## SensL Technologies Ltd. #4205

SPIE Corporate Member

Bldg 6800 Ave 6000, Cork Airport Business Park, Cork, Ireland  
+353 21 2407110; fax +353 21 2407119  
info@sensl.com; www.sensl.com

**Featured Product: Matrix9 – digitizing, solid state readout for nuclear medical imaging.**

SensL is a leading developer and high volume manufacturer of Silicon Photomultipliers. We offer a vertically integrated line of stock and OEM detectors ranging from discrete and array packaged sensors over readout and timing solutions up to application specific, turnkey low light detection systems. Contact: David McNally, Head of Marketing & Sales, dmcnally@sensl.com; Shawn P. Fennelly, Director of Sales, North America, sfennelly@sensl.com.

## Sensofar-Tech, SL #5035

SPIE Corporate Member

14 5 IPCT-Modul TR20, Ctra N-150 Km, Terrassa Barcelona, Spain, E-08227  
+34 93 739 8945; fax +34 93 786 0116  
info@sensofar.com; www.sensofar.com

**Featured Product: The plu APEX is a new non-contact optical profiler for the measurement of aspheric surfaces.**

Sensofar is a leading-edge technology company within the field of non-contact surface metrology. Sensofar provides high-accuracy optical profilers based on interferometry and confocal techniques, the PLU series. From standard setups for R&D and quality inspection laboratories, to complete non contact metrology solutions for online production processes, we are offering a technology enabling our customers to achieve the most challenging breakthroughs in more than 20 countries. Contact: Isabel Hernandez Ramirez, Marketing & Sales Mgr, hernandez@sensofar.com; info@sensofar.com.

## Sensor Electronic Technology, Inc. #2003

1195 Atlas Rd, Columbia, SC, 29209  
+1 803 647 9757; fax +1 803 647 9770  
sales@s-et.com; www.s-et.com



COFFEE/DESSERT BREAK SPONSOR

## Sensors Unlimited-Goodrich ISR Systems #811

SPIE Corporate Member

3490 US Rte 1 - Bldg 12, Princeton, NJ, 08540  
+1 609 520 0610; fax +1 609 520 1663  
sui\_info@goodrich.com; www.sensorsinc.com

**Featured Product: New LDH2 SWIR Line Scan Camera Images Up To 92,000 Lines per Second - Ideal for SD-OCT Scanning.**

Manufacturer of indium gallium arsenide (InGaAs) near-infrared (NIR) and shortwave infrared (SWIR) imagers and detectors (available fully packaged or as OEM imaging modules). Innovative InGaAs-based products include fast-framing and high-resolution cameras, linescan imagers, and focal plane arrays. Our products feature easy-integration, use standard glass optics and require no cooling. New LDH2 SWIR Line Scan Camera provides ultra-fast SD-OCT imaging, up to 92,000 lines per second. Contact: Bob Struthers, Director, Sales & Marketing, Robert.Struthers@goodrich.com; Karen Jeffers, Marketing Communications Specialist, karen.jeffers@goodrich.com.

## Sens-Tech Ltd. #226

6A Langley Business Ctr, Station Rd, Langley, United Kingdom, SL3 8DS  
+44 1753 214714; fax +44 1753 214715  
info@sens-tech.com; www.sens-tech.com

**Featured Product: Sens-Tech Photomultiplier Modules for low light level detection and measurement.**

Sens-Tech Ltd has pioneered the development and manufacture of high sensitivity solutions for the detection of light and X-rays. Our photomultiplier modules are highly cost effective, and the electronic and mechanical design can be customized to provide the optimum interface with the OEM's equipment. Sens-Tech has the capability to provide not only the detector module but can also manufacture a complete instrument, such as a luminometer, or a sub-assembly to the customer's design. Contact: Giselle Lord, Sales Manager, giselle.lord@sens-tech.com.

## Servometer #5408

501 Little Falls Rd, Cedar Grove, NJ, 07009-1291  
+1 973 785 4630; fax +1 973 785 0756  
info@servometer.com; www.servometer.com

**Featured Product: Structurally rigid electroforms with internal optical blackening for electro-optical applications.**

Servometer® electroforms are structurally rigid, hollow metal shells that can be made as small as .020 in. (.5 mm) in diameter with internal optical blackening, out of nickel, copper, gold or silver or a combination thereof. They can be used as radiation or cold shields in Electro-optical applications. Servometer also manufactures custom metal bellows and bellows assemblies, bellows-type flexible shaft couplings, and gold plated bellows contacts. Design assistance available. Contact: James Barkand, Business Development Mgr., jim\_b@servometer.com; Ed Gajewski, Technical Support Engineer, edg@servometer.com.

## Shanghai Jiujun Optics Co., Ltd. #5307

Zhandou Rd #88, Jiading Industrial Zone, Shanghai Jiading, China, 201807  
+86 021 39968084; fax +86 021 39968064  
jiujun\_shane@163.com; www.jiujun.net.cn

Our company is a joint venture, and we focused on cold process and coating, with the strict quality control, we have a good reputation in the domestic market, so we want to set a good relationship with foreign countries. Contact: Shane, International Trade Specialist, jiujun\_shane@163.com.

## Shanghai Optics Inc. #3018

SPIE Corporate Member

17 Brant Ave Ste 6, Clark, NJ, 07066  
+1 732 321 6915; fax +1 732 875 0298  
sales@shanghai-optics.com; www.shanghai-optics.com

**Featured Product: Ge & ZnSe optics & blanks. NLO-Crystals: BIBO, KTP/KTA, BBO. Laser Crystals: ND:YAG, ND:YVO<sub>4</sub>, Er:YAG.**

Shanghai Optics is a make to order manufacturing company. We offer high end laser optics and assemblies. Prisms, lenses, cylindrical lenses, cubes, x-cubes, filters, windows, wave plates, and micro optics. We also offer complete optical design and complete turnkey manufacturing of optical systems. Materials include: Fused Silica, BK7, CaF<sub>2</sub>, MgF<sub>2</sub>, ZnSe, Ge, sapphire, filter glass, and many more not listed. Contact: Brad Lewis, Director of Business Development, blewis@shanghai-optics.com; Joanna Lee, VP Sales, jlee@shanghai-optics.com.

## Shasta Crystals #6092

SPIE Corporate Member

5206 Industrial Way Ste D, Anderson, CA, 96007  
+1 530 378 0395  
www.shastacrystals.com

**Featured Product: BondFree YAG - We have achieved concentration gradients of dopant without any bonding agents.**

Shasta Crystals is a California based crystal growth company making PPMgLN for generation of 532 nm, KLN for blue and UV and YAG with a variety of dopants. Our proprietary growth and poling technology allows Poling PPLN in situ as well as growth of novel and hard to grow materials. Shasta Crystals has been the recipient of several National Science Foundation grants and was a 2010 Prism Award Finalist in the "Photonics Processes" category.

## Sheaumann Laser Inc. #2206

SPIE Corporate Member

45 Bartlett St, Marlborough, MA, 01752  
+1 508 970 0600; fax +1 508 970 0610  
www.sheaumann.com

**Featured Product: 2.94µm 1W CW DPSS laser which has a Typical TEM00 M2 value of 1.12 and a beam divergence of 20 mrad.**

Sheaumann Laser introduces the first commercially available, hermetically sealed 2.94µm single mode laser, rated at 1 watt CW. Sheaumann also offers a family of high power multimode fiber coupled laser diode products, ranging from 790nm to 1060nm. Sheaumann Laser is a privately held corporation located in Marlborough, Massachusetts where all products are designed, assembled, and tested. For more information, please visit our website at www.sheaumann.com. Contact: Jaclyn Smith, Sales Manager, jsmith@sheaumann.com.

## Shenghe Mining Co., Ltd. #5425

Guxian Town, Lingbao Henan, China, 472541  
+86 13709143908; fax +86 398 6833258  
lingbaoshenghe@yahoo.cn; http://shenghe09.cn.alibaba.com

We work on development and utilization of mineral resources such as: rare metal mine, rare-earth, lithium etc. Main products: a series of metaphosphate and fluoride. 5 inventions have been granted the national patent. We have passed the ISO9001 and ISO14001 certification and 2008 international quality management system certification. Contact: MingGang Liu, Chief Engineer, lingbaoshenghe@yahoo.cn.

## Shimadzu Corp.

#2630

3 Kanda-Nishikicho 1-chome, Device Dept., Chiyoda-ku Tokyo, Japan, 101-8448

+81 3 3219 5797; fax +81 3 3129 5567

nyosida@shimadzu.co.jp; www.shimadzu.com/products/opt

**Featured Product: NIR high efficiency grating for S-polarization shows great performance for optical communication.**

Over the 130 years since its founding, Shimadzu Corporation has been providing society with high technology and high value added products used for measuring instruments, medical systems, aircraft equipment and industrial machinery under the corporate philosophy of "Contributing to Society through Science and Technology". Its optical device division mainly manufactures diffraction gratings and mirrors with high quality and suitable performances in many applications. Contact: Naoki Yoshida, Assistant Manager, Sales, Optical Devices Dept, yosida@shimadzu.co.jp.

## Shin-Etsu Chemical

#4739

Ohtemachi 2-6-1, Chiyoda-ku, Tokyo, Japan, 100-0004

+81 3 3246 5345; fax +81 3 3246 5724

okamotoa@shinetsu.jp; www.shinetsu.co.jp

**Featured Product: Optical isolators for high power applications at 0.3-0.5/1/2µm with newly developed Faraday rotators.**

Optical Products Group has been manufacturing millions isolators for fiber telecommunications based on producing RIG materials as Lead-free Faraday rotator for more than a decade. New materials development will enable us to supply optical isolators to Fiber laser, various sensor, medical, and other applications. Contact: A. Okamoto, Sales Manager, okamotoa@shinetsu.jp.

## Sichuan GLAS Opt & Ele Technology Co., Ltd.

#1901P

403 Block A South Bldg INTRAXX Plaza, No 145 Tiantai Rd High-tech Zone, ChengDu Sichuan, China, 610041

+86 28 61550972; fax +86 28 61550974

hu\_nicole@163.com; www.sc-glas.com

## Sierra Precision Optics

#310

12830 Earhart Ave, Auburn, CA, 95602

+1 530 885 6979; fax +1 530 885 3352

sales@sierraoptics.com; www.sierraoptics.com

Flatwork: Plano optics (Filters, Panels, Windows, Mirrors, Beam Splitters, Wedges and Prisms), Spherical and Cylindrical Lenses. Specialties: Cylindrical optics, Excimer laser components, UV/VIS/NIR Resonator optics, Flow Tubes and Custom shaped optics, 1/20th wave optical grade metal polishing of Invar and stainless steel. Contact: Jim Stimpson, V.P. Sales & Marketing, jstimpson@sierraoptics.com; Steve Bennion, Engineering Manager, sbennion@sierraoptics.com.

## Silian Technical Import & Export Co., Ltd. Chongqing

#1901L

5F Mercury Science Bldg, No 5 Hunagshan Ave New Northern Zone, Chongqing, China, 401121

+86 23 63633995; fax +86 23 63621030

zhaoke.silian@yahoo.com.cn; www.silian-tech.com



Booth No. 2417

**EK SMA  
OPTICS**

Mokslininku str. 11,  
LT-08412 Vilnius  
LITHUANIA

Tel: +370 5 272 99 00  
Fax: +370 5 272 92 99

E-mail: info@eksmaoptics.com  
Website: www.eksmaoptics.com

## OPTICAL SYSTEMS for LASER APPLICATIONS

- ▶ F-Theta Lenses
- ▶ Gauss-to-Top Hat Beam Shaping Lens
- ▶ Zoom Beam Expanders
- ▶ Continuously Variable Attenuators
- ▶ Variable Attenuators for Linearly Polarized Laser Pulses



Booth No. 2417

**Distributor in North America**

201 South Wallace, Suite B-2C  
Bozeman, MT 59715

Tel: 866-658-5404  
Fax: 866-658-7357

E-mail: sales@altosphotronics.com  
Website: www.altosphotronics.com





## Silicon Sensor International AG

#4541

SPIE Corporate Member

Peter-Behrens-Straße 15, Berlin, Germany, 12459  
+49 30 63 99 23 99; fax +49 30 63 99 23 33  
sales@silicon-sensor.de; www.silicon-sensor.com

**Featured Product: Avalanche Photodiodes (APDs) with BP635, 660, 905nm in SMD. APD matrix arrays and evaluation boards.**

Design, development and high quality manufacturing of application specific opto-electronic, piezo resistive pressure sensor and MEMS solutions. Our core capabilities: Wafer processing, photo detectors and emitters, optical sensor systems, hybrids and modules, pressure sensors and packaging. Contact: Barry Jones, General Manager, bjones@pacific-sensor.com; Olaf Hug, CEO, o.hug@silicon-sensor.de.

## Silicon Valley Optics Technology, Inc.

#4101

44141 S Grimmer Blvd, Fremont, CA, 94538  
+1 510 623 1161; fax +1 510 217 2223  
info@svotek.com; www.svotek.com

## Sill Optics GmbH & Co., KG

#4608

SPIE Corporate Member

Johann Hoellfritsch Str 13, Wendelstein, Germany, 90530  
+49 9129 9023 0; fax +49 9129 9023 43  
info@silloptics.de; www.silloptics.de

**Featured Product: Fused silica scan lens for ps-Laser Colour corrected scan lenses.**

Sill Optics develops and manufactures a wide range of Telecentric lenses, Illumination Systems, CCD-Lenses with C-mounts, either off the shelf or customized manufactured. Scanlenses for Printing, Beamexpanders, Yag Focussing Optics, Profile Projector Lenses are in the program, including custom made Optical Systems and components for Prototypes and series. Contact: Konrad Hentschel, Research & Q.A.Manager, konrad.hentschel@silloptics.de; Markus Klahr, Sales Manager, markus.klahr@silloptics.de.

## Simphotek Inc.

#4314

SPIE Corporate Member

211 Warren St Ste 202, Newark, NJ, 07103-3568  
+1 973 621 2340  
info@simphotek.com; www.simphotek.com

**Featured Product: SimphoSoft's CAD software uses novel diagrams to replace tedious programming for photonic modeling.**

Simphotek offers CAD-based simulation software for modeling photonic interactions in materials and devices. Its unique patent-pending software eliminates time-consuming programming by using a set of novel diagrams to "write and solve" complex equations. The product enables users to analyze complex interactions of light with photoactivated materials and to design and optimize novel materials/devices. Features include simulation, visualization, EM field propagation, and multi-photon absorption. Contact: info@simphotek.com.

## Sinclair Manufacturing

#2407

12 S Worcester St, PO Box 398, Chartley, MA, 02712  
+1 508 222 7440; fax +1 508 226 0517  
sales@sinclairmfg.com; www.sinclairmfg.com

Sinclair is a leading manufacturer of hermetic packages and optical windows for the photonic, telecom, hybrid and microwave markets. In house capabilities include stamping, machining, glass to metal and ceramic to metal sealing. Prototypes to high volume.

## Sino-Galvo (Beijing) Technology Co., Ltd.

#5425

15-2-B101 ShangD Jiayuan, Haidian District, Beijing, China, 100085  
+86 10 62979055; fax +86 10 62979755  
bj@jhckj.com; www.jhckj.com

Sino-Galvo (Beijing) Technology Co., Ltd. is a high and new technology enterprise, which is specialized in researching and developing optical scanning galvanometers. We have strong strength of R&D. Our products include laser marking and Fractional Laser two industries, and we have obtained many technical achievements as well as CE approval. Our mission is: "excellent quality, best-selling around the world". Contact: Shuangliu Zhou, Sales and Marketing Director, bj@jhckj.com.

## SIOS

#1733

2B Rosenfeld Dr, Hopedale, MA, 01747  
+1 508 634 6688; fax +1 508 634 6868  
www.sios.de

**Featured Product: Laser Vibrometer with 80 meter measuring range and sub-nm resolution. Vibrations up to 2.5 MHz.**

Manufacturer of high speed Michelson interferometers with single, double and triple beam ports in a compact fiber-coupled head. Also manufactures microscope vibrometers, gage-block calibration systems and frequency stabilized HeNe lasers. Contact: Jim Litynski, West Coast Sales, usa@piezोजना.com; Peter Viglas, East Coast Sales, pviglas@piezोजना.com.

## Siskiyou Corporation

#2100

SPIE Corporate Member

110 SW Booth St, Grants Pass, OR, 97526  
+1 541 479 8697; fax +1 541 479 3314  
sales@siskiyou.com; www.siskiyou.com

Siskiyou Corporation manufactures motion control devices with manual and computer interfaced controllers, translation stages, mirror mounts, lens positioners, adjustment screws, construction hardware, fiber grippers, and other opto-mechanical components for use in research and manufacturing. Siskiyou Corporation will also custom tailor devices to fit your needs. Contact: Robert Hodge, President, rshodge@siskiyou.com; Mark Mittelstaedt, Western Regional Sales Manager, mmittelstaedt@siskiyou.com.



CONFERENCE BAG INSERT SPONSOR

## SmarAct GmbH

#4106

Floetenstr 70, Oldenburg, Germany, 26125  
+49 441 800879 0; fax +49 441 800879 21  
info@smaract.de; www.smaract.de

**Featured Product: The SmarPod 110.45, a compact manipulator for microassembly with six degrees of freedom.**

The core competence of SmarAct is the development of miniaturised positioners that provide an extremely high accuracy. Our product portfolio includes different types of positioners, ranging from various linear positioners, rotary positioners and goniometers. Almost all positioners can be equipped with position sensors. Since the development and the complete production are done in-house we can quickly design and produce custom-specific positioning systems. Contact: Helge Huelsen, Sales Engineer, huelsen@smaract.de.

**Smart System Technology & Commercialization Center (STC)**

**#636**

5450 Campus Dr, Canandaigua, NY, 14424  
+1 585 919 3000; fax +1 585 919 3001  
info@itcmems.com; www.itcmems.com

STC was created through a merger of the NYS Centers of Excellence at the Infotonics Technology Center and the College of Nanoscale Science & Engineering. STC is a 20,000-sq. ft. Class 100 MEMS foundry providing a vertically integrated "one-stop-shop" for smart systems' device development and process manufacturing. Offering complex MEMS design, fabrication, packaging and test services, STC provides you a comprehensive commercialization resource, reducing cost while accelerating time to market. Contact: Mary Winters, Director of Business Development, mary.winters@stcmems.com; Paul Tolley, CNSE Vice President for Disruptive Technologies; Executive Director of the CNSE Smart Systems Technology and Commercialization Center of Excellence, paul.tolley@stcmems.com.

**Snake Creek Lasers**

**#2513**

61 Railroad Ave, Hallstead, PA, 18822  
+1 570 879 4992; fax +1 570 879 0912  
info@snakecreeklasers.com; www.snakecreeklasers.com

**Featured Product: MiniMax Wide-Temperature-Range Green DPSS Laser.**

Snake Creek Lasers is a US-based manufacturer of miniature solid-state lasers with wavelengths of 1064, 532, and 473 nm. These compact lasers are employed in non-lethal weapons, human-eye guidance, bio-fluorescence, Raman, RGB laser display, and illumination applications. Snake Creek Lasers provides engineering services for adaptation of its milliwatt-level lasers to demanding environmental requirements and R&D contracts for multi-kilowatt solid-state lasers. Contact: Sten Tornegard, Marketing Manager, stornegard@snakecreeklasers.com; Lisa Vitali, VP, lvitali@snakecreeklasers.com.

**Sofradir EC, Inc.**

**#2401**

373 Rte 46 W, Fairfield, NJ, 07004-2442  
+1 973 882 0211; fax +1 973 882 0997  
info@sofradir-ec.com; www.sofradir-ec.com

Sofradir EC, Inc., formerly Electrophysics, offers cooled and uncooled infrared arrays, IR engines and certain finished products for scientific imaging, infrared inspection and night vision. Products include handheld thermal imagers, high performance infrared cameras and night vision. On display will be an SSC-640M high performance infrared camera based on a 15µm HgCdTe cooled detector in a sealed, rugged housing for high resolution tracking, target signature, high speed imaging etc. Contact: Chris Alicandro, Director of Sales - Infrared Products, calicandro@sofradir-ec.com; Frank Vallese, General Manager, fvallese@sofradir-ec.com.

**Solid State Cooling Systems**

**#2534**

167 Myers Corners Road, Wappingers Falls, NY, 12590  
+1 845 296 1300; fax +1 845 296 1303  
info1@sscooling.com; www.sscooling.com

**Featured Product: Oasis 160...the world's smallest recirculating chiller!**

Since 1994, SSCS has manufactured solid state temperature control products which are compact, quiet, vibration-free, reliable and energy-saving. 80% savings over compressor-based models. Our family of thermoelectric products (chillers, heat exchangers, power supplies and cold plates) provide precise temperature control for low light CCD cameras, diode lasers, fiber lasers, laser medical applications, SEM's, small enclosures, and therapeutic heating/cooling. Contact: Mark Logan, VP of Sales, mlogan@sscooling.com.

**Space Optics Research Labs, LLC**

**#4240**

7 Stuart Rd, Chelmsford, MA, 01824  
+1 978 250 8640; fax +1 978 256 5605  
sorl@sorl.com; www.sorl.com

We specialize in off-axis aspheric mirrors and reflective optical systems and instrumentation. Applications include EO system test, collimating, imaging, and beam delivery for the test equipment and aerospace/defense industries and researchers world-wide. Check our standard components catalog and see us for custom designs. Exceptional customer service, delivering top quality optics to tight specs at a reasonable price are what has kept us a leader in this arena for over 47 years. Contact: Sandra Scannell, Business Manager, sandy.scannell@sorl.com; Diane Chevalier, Sales Associate, diane.chevalier@sorl.com.

**Spanoptic Ltd.**

**#737**

Telford Rd, Eastfield Industrial Estate, Glenrothes Fife  
Edinburgh, United Kingdom, KY7 4NX  
+44 1592 771590; fax +44 1592 774049  
tobias@spanoptic.com; www.spanoptic.com

**Featured Product: Design and Manufacture of Infrared Anti-Reflective coatings for 3-12 micron.**

Spanoptic is an independent manufacturer of high precision custom optical components. The product range covers spherical, aspherical and cylindrical lenses, flats, prisms, sub-assemblies and IR coating services. Latest CNC equipment and metrology as well as traditional manufacturing methods enable sophisticated lens geometries from prototype to mid size series. Customers benefit from technical competence and fast service. Contact: Tobias Moeller, Sales & Marketing Manager, tobias@spanoptic.com; Stephen Roe, Managing Director, stephen@spanoptic.com.

**Sparkle Optics Corp.**

**#5513**

**SPIE** Corporate Member  
655 Deep Valley Dr Ste 170, Rolling Hills Estates, CA, 90274  
+1 310 265 8600; fax +1 310 265 8610  
admin@sparkleoptics.com; www.sparkleoptics.com

**Spartan Felt Company, Inc.**

**#5537**

151 Felt Dr, Spartanburg, SC, 29375  
+1 864 576 7919; fax +1 864 574 4507  
cdickson@spartanfelt.com; www.spartanfelt.com

**Special Optics**

**#1928**

315 Richard Mine Rd, Wharton, NJ, 07885  
+1 973 366 7289; fax +1 973 366 7407  
sales@specialoptics.com; www.specialoptics.com  
Special Optics, a Navitar company, specializes in rapidly designing, prototyping, and manufacturing the most innovative & highest performing custom optical systems. We provide state-of-the-art optical solutions that are typically found in applications that demand the finest optical surfaces, highest accuracy and tightest tolerances. In addition to our custom solutions, Special optics carries a complete line of standard "off-the-shelf" products, like F-Theta Scan Lenses and Laser Beam Expanders. Contact: Craig Fitzgerald, VP of Product & Business Development, c\_fitzgerald@navitar.com.

## Specialised Imaging, Inc.

#4527

2243 Agate Ct Unit C, Simi Valley, CA, 93065  
+1 951 693 2148; fax +1 951 699 7374  
frank@specialised-imaging.com

**Featured Product: SIR3 Ballistic Range Camera, a Rugged Intensified CCD camera for ballistics research, 11 M Pixels.**

Specialized Imaging is a full line manufacturer and supplier of Ultra High Speed Imaging systems. Framing Cameras with up to 1 Billion fps, exposure times down to 3 ns and up to 32 frames per event, with multi spectral framing. Ballistic Range Cameras with 11 M pixel single and double frames, Trajectory Trackers with real time tracking of projectiles, Image Intensifiers and Optronis Streak Cameras with 2 Picosecond time resolution complete our line of products. Contact: Frank Kosel, President, Sales and Applications, frank@specialised-imaging.com; Al Febraro, Manager, Service and Applications, al@specialised-imaging.com.

## Specim, Spectral Imaging Ltd.

#4635

**SPIE** Corporate Member

Teknologiantie 18a, Oulu, Finland, 90590  
+358 10 424 4400; fax +358 8 388 580  
info@specim.fi; www.specim.fi

SPECIM, Spectral Imaging Ltd. is a world-leading provider of high performance hyperspectral imaging systems and components in UV, Vis, VNIR, SWIR, MWIR, and LWIR spectral ranges. SPECIM ImSpector, Spectral Camera, SISU and AISA products are used in the increasing range of chemical imaging applications in laboratory and industrial environments, as well as for ground and airborne remote sensing. Contact: Teija Pakanen, Key Account Coordinator, teija.pakanen@specim.fi; Jouni Jussila, Product Manager, jouni.jussila@specim.fi.

## Spectral Evolution

#2636

90 Sutton St Unit 4, North Andover, MA, 01845  
+1 978 687 1833; fax +1 978 945 0372  
info@spectralevolution.com; www.spectralevolution.com

**Featured Product: Photodiode array spectrometers, spectroradiometers & spectrophotometers-lab and field portable units.**

SPECTRAL EVOLUTION UV-VIS-NIR Photodiode Array Spectrometers and Spectroradiometers are used worldwide for many lab and field assignments due to their reliable, robust, rugged yet lightweight design and user-friendly features including: Si/InGaAs photodiode arrays for low noise & reliable performance with integral Lilon rechargeable batteries; Fast, full spectrum measurements with no moving gratings; Integral dark shutter for convenient scans, Bluetooth interface for wireless applications. Contact: Maurice Kashdan, Head of Marketing & Sales, maurice.kashdan@spectralevolution.com; Dennis Witz, President, dennis.witz@spectralevolution.com.

## Spectral Instruments Inc.

#2017

420 N Bonita Ave, Tucson, AZ, 85745  
+1 520 884 8821; fax +1 520 884 8803  
info@specinst.com; www.specinst.com

**Featured Product: Low-cost high-performance OEM cameras now available.**

Spectral Instruments specializes in cooled CCD cameras for demanding low-light applications. With read noise <3e- and high dynamic range we provide the finest high sensitivity cooled 16-bit CCD cameras that current technology can offer. Optical inputs include windows with custom coatings, fiber optic tapers or faceplates. Readout options are designed to be flexible and customized to the application. Custom CCD designs and OEM camera production are available. Contact: Kevin Toerne, Systems Specialist, ktoerne@specinst.com; Charles Slaughter, Systems Specialist, cdslaughter@specinst.com.

## Spectral Products

#230

111 Highland Dr, Putnam, CT, 06260  
+1 860 928 5834  
www.spectralproducts.com

## Spectral Systems

#5435

35 Corporate Park Dr, Hopewell Junction, NY, 12533  
+1 845 896 2200; fax +1 845 896 2203  
info@spectral-systems.com; www.spectral-systems.com

## Spectralus Corp.

#5417

**SPIE** Corporate Member

2953 Bunker Hill Ln Ste 205, Santa Clara, CA, 95054  
+1 408 516 4553  
info@spectralus.com; www.spectralus.com

Spectralus Corporation was founded in 2003 with the mission to develop high-efficiency, mass-manufacturable periodically poled nonlinear crystals and laser products enabled by these crystals. Since then, Spectralus Corporation has developed a revolutionary green laser based on its patented Nd:YVO<sub>4</sub>/PPMgOLN microchip technology. The new ATTO laser offers world's highest-efficiency, ultra compact green laser platform that is key for mobile applications. Four green laser products with power level of 50-500mW have been developed for consumer electronics, instrumentation and defense applications.

## Spectra-Mat, Inc.

#329

100 Westgate Dr, Watsonville, CA, 95076  
+1 831 722 4116; fax +1 831 722 4172  
smi\_sales@saes-group.com; www.spectramat.com

Spectra-Mat, Inc. (SMI), a member of SAES Getters Group, is a developer/manufacturer of low coefficient of thermal expansion (CTE) components and substrates designed to provide thermal management solutions at chip through wafer level applications. Our "Powder to Parts" methodology ensures high quality and process control from raw materials to finished products. With CTE's from 4.5—8.0, our products provide an excellent match to III-V semiconductors while retaining good thermal conductivity. Contact: Sandra Petznick, Marketing Manager, smi\_sales@saes-group.com.

## Spectra-Physics, A Newport Corporation Brand

#1301

**SPIE** Corporate Member

3635 Peterson Way, Santa Clara, CA, 95054  
+1 408 980 4300; fax +1 408 980 5537  
sales@spectra-physics.com; www.newport.com/spectra-physics

## SPECTRO Inc.

#4529

#308 APRI in GIST, 261 Chomdan-gwagi-ro, Buk-gu, Gwangju, South Korea, 500-712  
+82 31 798 8674; fax +82 31 798 8670  
yykwon@spectroco.com; www.spectroco.com

**Featured Product: 1. Mmac Monochromator/Spectrograph; 2. OEM Monochromator/Spectrograph.**

SPECTRO makes your own spectrographs including single/dual/triple grating turret, motorized slit, filter wheel, shutter and others. Optical path are Czerny-Turner or Crossed Czerny Turner. Focal length can be selectable from 70/200/320/520/750mm. Control can be made through USB or RS232. Spectro makes your own Spectrograph for your application. Contact: Young Youl Kwon, Marketing Director, yykwon@spectroco.com; Jungbae Hwang, President, jbhwang@spectroco.com.



# EXCELLENCE IN THIN FILM PRODUCTS



Coating Materials

Sputtering Targets



Coating Accessories

ISO 9001:2008

Booth 1901-K, South Hall

**EVOCHEM**

ADVANCED MATERIALS

[www.evo-chem.de](http://www.evo-chem.de)

**USTRON**

[www.ustron.com.cn](http://www.ustron.com.cn)

## Spectrogon US Inc.

**SPIE** Corporate Member

24B Hill Rd, Parsippany, NJ, 07054  
+1 973 331 1191; fax +1 973 331 1373  
sales.us@spectrogonus.com; www.spectrogon.com

SPECTROGON specializes in the design & manufacture of optical filters, thin film coatings and components, for analytical, medical, and scientific instruments. Spectrogon is the world leader in the manufacture and design of Holographic Diffractions Gratings for laser Compression/Stretch applications, tuning and spectroscopic instruments. Spectrogon offers a huge inventory of stock filters, (website: www.spectrogon.com), that can be shipped within two weeks. E-mail: sales.us@spectrogon.com. Contact: Steve Finn, Sales Manager, sales.us@spectrogon.com; Kelly Koerber, Sales Adm., sales.us@spectrogon.com.

## Spectronix Corp.

#4518

Kunisato Bldg 5F, 8-8 Eidai-cho, Ibaraki Osaka, Japan, 567-0816  
+81 72 624 0700; fax +81 72 627 1070  
sales@spectronix.co.jp; www.spectronix.co.jp

**Featured Product: Ultra Compact DPSS Green, UV, and Fiber LASERS with outstanding Beam Quality & Output Stability.**

Spectronix delivers advanced LASERS & Optical Solutions for the Solar, Semiconductor, Microelectronics, and other Industrial Microprocessing markets. Spectronix has the capability of developing various DPSS & Fiber LASERS, Optical Components, and LASER Peripherals with its original innovative technologies. Our Thermal Analysis and Control Technology for advanced LASER systems assists us to achieve both the Outstanding Output Stability and Robustness at various environmental conditions. Contact: Rieko Okada, Director, rieko@spectronix.co.jp.



**PROMOTIONAL PARTNER**

## Spectroscopy Magazine

#935

485F US Highway 1 S Ste 100, Iselin, NJ, 08830  
+1 732 596 0276; fax +1 732 596 0003  
www.spectroscopyonline.com

*Spectroscopy* serves subscribers by using print and digital media to disseminate highly focused editorial content that combines peer-reviewed scientific articles with practical, solutions-based information, helping readers to become better spectroscopists whether they work in the laboratory, on the process line, or in the field. 26,318 BPA Qualified Subscribers. Contact: Ed Fantuzzi, Publisher, efantuzzi@advanstar.com; Stephanie Shaffer, East Coast Sales Manager, sshaffer@advanstar.com.

## Spectrum Scientific, Inc.

#2238

**SPIE** Corporate Member

16692 Hale Ave, Irvine, CA, 92606  
+1 949 260 9900; fax +1 949 260 9902  
info@ssioptics.com; www.ssioptics.com

**Featured Product: New line of Precision Replicated; Off-Axis Parabolic Mirrors and Precision Hollow Cube Retroreflector. New UV Blazed Holographic Concave Gratings.**

Manufacturer of holographic diffraction gratings and precision replicated optics. Including blazed plane, convex, concave, toroidal and aspheric gratings, spherical and aspheric mirrors (On or Off-Axis parabolic mirrors, elliptical and toroidal mirrors), Hollow-Cube Retroreflector, nanostructures, complex optics and custom spectrometers. Custom grating designs available upon request. SSI specializes in UV as low as 120nm, as well as VIS/NIR applications. Contact: sales@ssioptics.com. Contact: Daphnie Chakran, info@ssioptics.com; David Cook, David.Cook@ssioptics.com.

## Spectrum Thin Films Inc.

#2011

135 Marcus Blvd, Hauppauge, NY, 11788  
+1 631 901 1010; fax +1 631 236 4309  
www.spectrumthinfilms.com

**Featured Product: New and innovative UV silver coating design producing 99.0% reflectivity 320nm to near I.**

Optics and optical coatings, producing high technology optics for the laser industry, government, research organizations, Astronomy and the optical manufacturing industry. In house testing includes a UV-VIS-IR spectrophotometers, environmental and test chambers. Contact: Harry Sudwischer, Technical Sales, Harry@spectrumthinfilms.com; Tony@spectrumthinfilms.com.

## Sperian Protection

#4206

10 Thurber Blvd, Smithfield, RI, 02917  
+1 401 757 2298; fax +1 401 757 2912  
mmclear@sperian.com; www.sperian.com

Sperian Protection, the new name of Glendale, is the worldwide leader in serving the laser industry with laser protective eyewear, patient eye shield products, and specialty filters for every industry where lasers are used. Our motto in product design is "Protection You Can Trust". Key factors considered in every design are: protection, visibility, and style. Sperian is now a part of Honeywell. Contact: Mark McLearn, Director of Specialty Business, mmclear@sperian.com; Cathi Scogin, Territory Sales Manager - Laser, cscogin@sperian.com.

## SPI Lasers

#1935

6 Wellington Park, Tollbar Way Hedge End, Southampton, United Kingdom, SO30 2QU  
+44 1489 779 696; fax +44 1489 779 698  
www.spioptics.com

**Featured Product: SPI lasers are used for a range of applications including cutting, marking, welding & micro-machining.**

SPI Lasers, a wholly owned subsidiary of the TRUMPF group, is a leading manufacturer of fiber lasers. Welding, cutting, marking & micro-machining operations can be carried out faster & more accurately with an SPI Laser, for better reliability, less waste & improved productivity, for use in materials processing applications in a wide range of industries. Our technology solves manufacturing problems; it moves the boundaries of what is possible, making good products better & enabling new designs. Contact: sales@spilasers.com.

## Spica Technologies, Inc.

#1639

**SPIE** Corporate Member

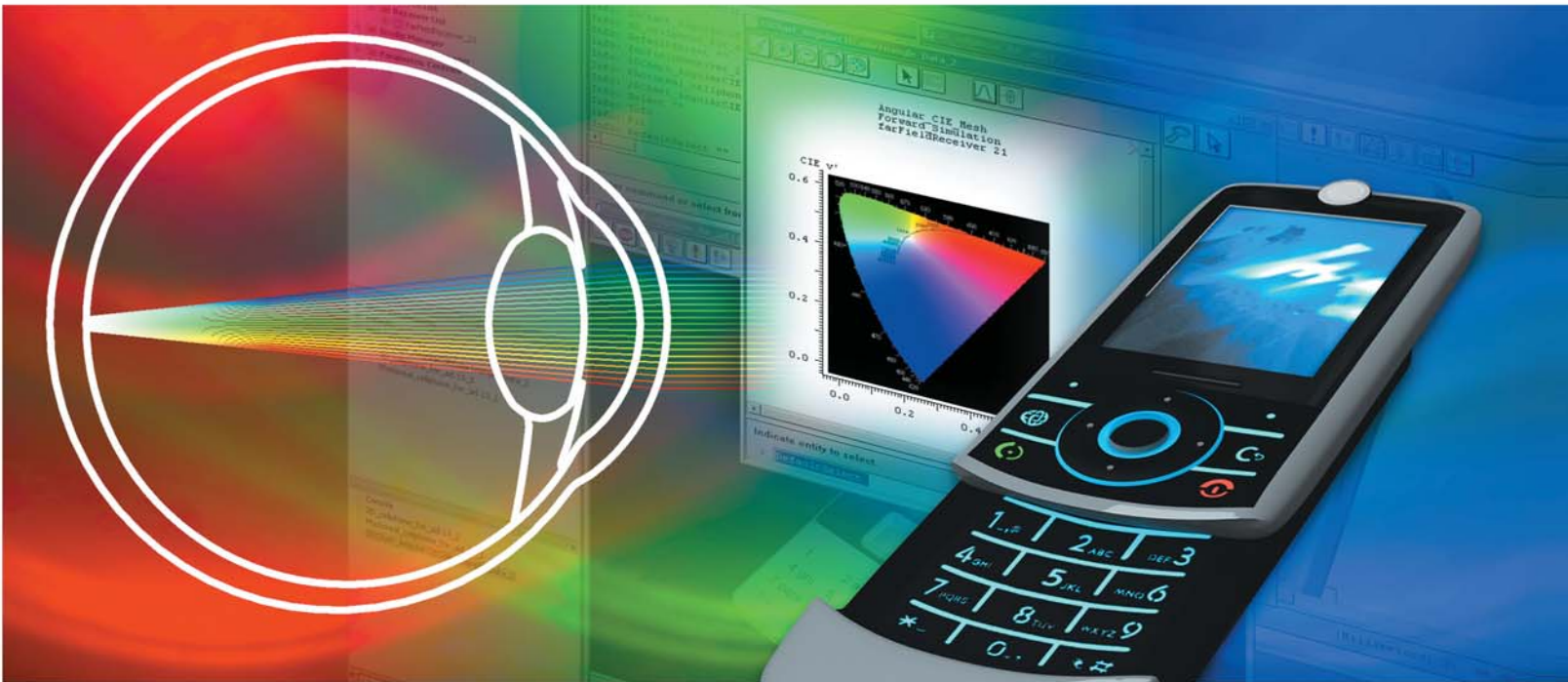
18 Clinton Dr #3, Hollis, NH, 03049  
+1 603 882 8233; fax +1 603 882 8614  
sales@spicatech.com; www.spicatech.com

Spica provides a broad range of optical test and measurement services for manufacturers and end users of optical components. Founded in 1989, Spica has evolved as the premier source for laser damage testing, optical density measurements, environmental exposure, telecomm testing, and optical component metrology. Relying on numerous laser sources, a host of specialized optical instruments, and years of experience, Spica can support a broad range of optical test and measurement needs. Contact: Michael Thomas, President, sales@spicatech.com.



# The Full Spectrum of Color Analysis

*Flexibility, performance, and innovation—LightTools delivers it all.*



## Color Definition

- Full-spectral sources and chromaticity calculations based on real colors using CIE coordinates
- Spectral-dependent materials, reflectors, and diffusers
- Color ray data, wavelength or tri-stimulus based
- Fully dispersive ray tracing
- Backward ray tracing for illuminance, intensity, and spatial and angular luminance calculations
- Wavelength-dependent bulk absorption, reflectance, and transmittance

## Color Analysis

- Color meshes and points
- RGB true-color plots
- Smart output smoothing
- Spectral power distribution and CRI
- Photorealistic rendering
- Individual or combined CRI calculations on any receiver

**G**et accurate, fast predictions of your illumination system's color performance with *LightTools*. Tailored to meet diverse application demands, our robust design and analysis capabilities provide a seamless package to achieve any color performance goal, from uniformity to quality to saturation.

### Spectral Flexibility

*LightTools* provides flexible design options while specifying color in your optical system. Easily define the color of materials and surfaces, or use the industry's most complete phosphor capability to add color to the components. Accurately simulate the colorimetric performance of any source, from LEDs to CFLs, from filaments to the Sun.

### Performance and Reliability

Integrated optimization automatically determines the best design that meets color specifications and ensures performance and reliability when manufactured. Evaluate the lit or unlit true color appearance of your system with photorealistic rendering.

### Innovation

Smart output smoothing uses a unique algorithm to reduce statistical noise and provide rapid, accurate color analysis results. Verify your design's compliance with performance requirements at any stage of the design process.

*Unsurpassed color definition, comprehensive color analysis—from the optical design innovation leader you've trusted for over 45 years.*

OPTICAL  
RESEARCH  
ASSOCIATES

**LightTools**

Tel: (626) 795-9101 E-mail: [info@opticalres.com](mailto:info@opticalres.com)  
Web: [www.opticalres.com](http://www.opticalres.com)

©2010 Synopsys, Inc. *LightTools* is a registered trademark of Synopsys, Inc.

**SYNOPSYS**



# SPIE Photonics West Exhibitor Directory

## SPIE Career Center

#5600, 5601

1000 20th St, Bellingham, WA, 98225  
+1 360 715 3705

jobsales@spie.org; www.spie.org/careercenter

Your source for optics and photonics jobs and talent. Recruit your next hire or find your next job on the SPIE Career Center. Job seekers can search job listings, set up email alerts, and view the 'Advice+Tools' section. Employers may post jobs and gain access to a resume database, create a Resume Alert, and participate in job fairs held at SPIE conferences. Contact: Sara Liebert, Sales, saral@spie.org; Robert Dentel, Sales, robertd@spie.org.

## SPIE Digital Library

#5502

1000 20th St, Bellingham, WA, 98225  
+1 360 676 3290; fax +1 360 647 1445

dlinfo@spie.org; http://spiedigitallibrary.org

**Featured Product: eBooks, SPIE Reviews, Journal of Photonics for Energy.**

SPIE is an international, not-for-profit, membership society. Dedicated to advancing light-based technologies, SPIE publishes research in astronomy, biophotonics, nanotechnology, sensors, lasers, electro-optics, communications, imaging, and more. The SPIE Digital Library includes eBooks and more than 300,000 technical papers from SPIE Journals and Conference Proceedings from 1990 to present.

## SPIE Photonics for a Better World

#1439

PO Box 10, Bellingham, WA, 98227  
+1 360 676 3290; fax +1 360 647 1445  
www.spie.org

## SPIE Student Services

#5501, 5503

1000 20th St, Bellingham, WA, 98225  
+1 360 685 5426; fax +1 360 647 1445  
benl@spie.org; www.spie.org/students

As a student, joining a professional society is one of the best investments you can make in your future. SPIE Student Services provides a wide range of education, support, and professional development opportunities that you can use today to make informed career choices. Stop by the booth and find out what a network of 17,000 members can do for you!

## Spire Semiconductor, LLC

#2108

25 Sagamore Park Dr, Hudson, NH, 03051  
+1 603 595 8900; fax +1 603 595 0975  
sales@spiresemi.com; www.spiresemi.com

Spire Semiconductor as a semiconductor foundry we offer design, development & manufacturing services for the CPV, defense, telecommunication & biomedical markets. We offer our clients a shorter time to market, a higher degree of product differentiation, and an ability to rapidly ramp their products to high-volume manufacturing. Spire offers close customer collaboration with our scientists & engineers to ensure guaranteed access to experience and a competitive edge in the marketplace. Contact: Vic Haven, Mfg Manager, vhaven@spiresemi.com.

## SPOT Imaging Solutions

#709

6540 Burroughs, Sterling Heights, MI, 48314  
+1 586 731 6000; fax +1 586 731 6469  
info@diaginc.com; www.diaginc.com

**Featured Product: SPOT Insight Gigabit Camera.**

SPOT™ Imaging Solutions, is celebrating their 44th year of designing products that support the Research and OEM customer. Diagnostic Instruments, Inc. is introducing two new cameras at this event. The first addresses the High Resolution (4MP), High Speed (dual channel 40 MHz), Low Read Noise (15e-) needs of the HTS market. The second camera is a redesign of our popular cooled, 1.4MP, USB Pursuit XS. Stop by our booth #709 or visit our website: www.spotimaging.com. Contact: David Springett, Sales Manager, dspringett@diaginc.com; Stephan Palmer, Sales Manager, spalmer@diaginc.com.

## Springer

#5242

233 Spring St, New York, NY, 10013  
+1 212 460 1600; fax +1 201 348 4505  
exhibits-ny@springer.com; www.springer.com

Visit Springer to benefit from the conference discount on world-leading books by renowned authors on optics, condensed matter, biophysics, quantum physics and more! Plus: get a sample copy of any journal on display, find out about Free Trial Access and our free Tables of Contents e-mail alerts! www.springer.com/physics. Contact: Acasia Dalmau, Exhibits Manager, exhibits-ny@springer.com; Shauna Pryce, Exhibits Coordinator, shauna.pryce@springer.com.

## SRICO, Inc.

#4917

2724 Sawbury Blvd, Columbus, OH, 43235  
+1 614 799 0664; fax +1 614 799 2116  
sri@srico.com; www.srico.com

**Featured Product: SRICO offers High D\* TFLT™ Pyroelectric and THz Sensor Chip ready for package assembly.**

SRICO specializes in custom-designed photonic devices for communications, aerospace, defense & security, test instrumentation, and medical applications. Products are LiNbO3 modulators, frequency converters, PPLN devices, sensors, and fiber-optic data links. SRICO specializes in thin-film ferroelectric (TFLN™ and TFLT™) materials & devices for high performance photonic systems. SRICO's TFLT™ is a highly desirable materials platform for pyroelectric and THz detection and imaging applications. Contact: Sri Sriram, PhD, President, sri@srico.com.

## SSCP USA

#5401

400 Atrium Dr #151N, Somerset, NJ, 08873  
+1 732 271 0350; fax +1 732 348 9496  
timothyelark@sscpcorp.com; www.sscpusa.com

**Featured Product: PC 363, lowest index polymer cladding, with index of 1.363 at 850 nm & NA of 0.50 on fused silica.**

SSCP manufactures Efiron® UV curable polymer claddings with NAs from 0 to 0.50, primary/secondary fiber coatings, adhesives, waveguide resins, and ink and matrix for fiber ribbons. We are featuring our latest products, including PC 363, the lowest index polymer cladding available, with an index of 1.363 at 850 nm, (NA of 0.50 on fused silica), and PC 404F, a cladding designed with faster curing speed, optimized viscosity for drawing, and increased modulus. Contact: Timothy Clark, Marketing Director, Timothyelark@sscpcorp.com.

**Photonics  
For a Better  
World  
Pavilion**



South Hall • Booth 1439



**A showcase of world-changing organizations and ideas**

**Jewish World Watch**

17514 Ventura Blvd #206, Encino, CA, 91316  
+1 818 501 1936  
www.jewishworldwatch.org

Jewish World Watch is a hands-on leader in the fight against genocide and mass atrocities, engaging individuals and communities to take local actions that produce powerful global results.



**Light Up the World**

224-13 Avenue SW, Calgary, AB, Canada, T2R 0K2  
+1 403 266 5004; fax +1 403 266 5433  
lutw@lutw.org; www.lutw.org

The Light Up the World Foundation is a non-profit humanitarian organization dedicated to providing lighting to poor people in remote areas who currently rely on kerosene lamps or wood fires.

**One Million Lights**

PO Box 444, Palo Alto, CA, 94302  
+1 650 387 3150  
contact@onemillionlights.org; www.onemillionlights.org

Our mission is to improve the daily lives of children and adults by providing clear and healthy lighting. We distribute environmentally friendly rechargeable solar lights.



**Standa**

PO Box 377, Vilnius, Lithuania, 03012  
+370 5 2651474; fax +370 5 2651483  
sales@standa.lt; www.standa.lt

Standa motorized positioners & motor controllers, together with our high quality precision mechanics are widely used to enable leading-edge research and products. Standa picosecond micro lasers deliver peak power 200 kW, 120 kHz PRR, and  $M^2 < 1.2$ . These lasers are optimal for micro-machining, spectroscopy, and seeding high-energy fiber lasers. Contact: Lucian Hand, President of Altos Photonics, lucian@altosphotonics.com.

**#2417**

**Stanford Photonics Research Center**

**#4313**

348 Via Puebla Mall Office 107B, Stanford, CA, 94305-4088  
+1 650 723 5627; fax +1 650 725 1822  
photonics@stanford.edu; www.photonics.stanford.edu

The Stanford Photonics Research Center builds strategic partnerships between the Stanford University research community and companies using optics and photonics in their commercial activities. SPRC promotes member company recruitment of Stanford students by coordinating recruiting events and providing access to student resumes. Corporate Members directly support photonics research activities at Stanford; in turn members benefit from their exposure to current/emerging areas in photonics research. Contact: Sara Lefort, Assistant Director, photonics@stanford.edu.

## Stanford Photonics, Inc.

#608

1032 Elwell Ct Ste 102, Palo Alto, CA, 94303  
+1 650 969 5991; fax +1 650 969 5993  
info@stanfordphotonics.com; www.stanfordphotonics.com  
Stanford Photonics, Inc. designs and manufactures digital CCD and ICCD cameras for imaging applications. Mega-pixel resolution and rates of 30 to 1000 fps are supported by SPI's proprietary acquisition and RAID-based streaming software. SPI offers integrated systems for TIRF, single molecule/single photon ultra low light bioluminescence imaging. Based on the combination of sensitivity, speed and resolution, SPI provides the highest performing cameras available to the marketplace. Contact: Michael Buchin, President, mbuchin@stanfordphotonics.com; David Callard, Director of Operations, dcallard@stanfordphotonics.com.

## Stanford Research Systems, Inc.

#1806

1290-D Reamwood Ave, Sunnyvale, CA, 94089  
+1 408 744 9040; fax +1 408 744 9049  
info@thinkrs.com; www.thinkrs.com  
Stanford Research Systems designs and manufactures scientific and engineering instruments, including lock-in amplifiers, boxcar systems, digital delay/pulse generators, small instrument modules, optical shutter systems, temperature controllers, laser diode controllers, preamplifiers, optical choppers, high voltage power supplies, photon counters, and many more. Contact: David Ames, Sales, davea@thinkrs.com; Janie Du, Sales, janied@thinkrs.com.

## Star Tech Instruments

#6060

  
PO Box 1822, New Fairfield, CT, 06812  
+1 203 312 0767  
info@startechinstruments.com; www.startechinst.com  
Star Tech Instruments manufactures stock and custom energy probes, beam profilers and position sensors for the DUV. Contact: Bill Fricke, TATZEN@ATT.NET.

## StarOptix

#6098

150 Bourbon Pl, Whitby, ON, Canada, L1R 3C6  
+1 905 665 3873; fax +1 905 665 3873  
sales@staroptix.com; www.staroptix.com

**Featured Product: Fused fiber optic product: faceplates, tapers, inverters, microchannel plates (MCP).**

Supplier of fused fiber optic product: faceplates, tapers, inverters, microchannel plates and scintillation crystal faceplates & tapers. These products have been widely used for medical, dental, life science, scientific, security, defense industries around the world. Contact: John Li, Manager, john.li@staroptix.com.

## Steinmeyer, Inc.

#202

56 Middlesex Tpke, Burlington, MA, 01803  
+1 781 273 6220; fax +1 781 273 6602  
www.steinmeyer.com

Steinmeyer manufactures a complete line of precision linear and rotary stages including multi-axis configurations, with or without controls. Drive systems include ball screws, linear motors or piezo motors. Custom solutions are available for high-vacuum and non-magnetic applications. Motors and drives are often built in for space saving solutions! Contact: John Skaltsas, Marketing/Sales, jskaltsas@steinmeyer.com.

## Stellar Industries Corp.

#937

50 Howe Ave, Millbury, MA, 01527  
+1 508 865 1668; fax +1 508 865 5016  
sales@stellarind.com; www.stellarind.com

**Featured Product: Stellar Industries Corp. announces our 'new' CPU on 230 Watt ALN or 325 Watt BeO.**

Stellar Industries Corp. offers high performance, high power Copper on Ceramic for Laser Submounts and for RF Microelectronic hybrids. Stellar Industries Corp. also offers vapor deposited AuSn for precision mounting and a complete line of custom ceramic machining and metallization services. Contact: John B. Snook, Vice President, snooky@stellarind.com; Eric Brown, Sales Manager, ericb@stellarind.com.

## StellarNet, Inc.

#2639, 4118

  
14390 Carlson Cir, Tampa, FL, 33626  
+1 813 855 8687; fax +1 813 855 0394  
www.stellarnet.us

**Featured Product: The Dwarf-Star is a miniaturized, rugged RED-Wave NIR spectrometer for portable measurement and OEM.**

Since 1991, StellarNet, Inc. has been a global provider of low cost miniature spectrometers and spectroscopy software for product analysis, research, education, and OEM. StellarNet instrumentation is rugged for any environment- lab, process, or field. We offer complete systems and accessories including integrating spheres, light sources, optical fibers, and probes. Applications include LED/Laser characterization, solar spectral analysis, thin-film metrology, colorimetry, chemistry, and LIBS. Contact: Ryan Flaherty, VP Sales and Marketing, Ryan@StellarNet.us.

## Stemmerich, Inc.

#1839

4728 Gravois Ave, St. Louis, MO, 63116  
+1 314 832 7726; fax +1 314 832 7799  
www.stemmerich.com

Providers of Specialty Glass components for the Display and Electronic Industries. Complex configurations, precision edge profiles, ground and polished surfaces. Clean Room inspection and packaging. R & D, pilot and production run quantities with quick on time deliveries. Contact: Colleen Weber, Sales, colleenweber@stemmerich.com; Ron Seago, Sales, rseago@stemmerich.com.

## Strasbaugh

#3042

825 Buckley Rd, San Luis Obispo, CA, 93401  
+1 805 541 6424; fax +1 805 541 6425  
info@strasbaugh.com; www.strasbaugh.com

For over 60 years, Strasbaugh has designed and manufactured the world's leading optical fabrication equipment. Products include spindle polishers, continuous pitch polishers, curve generators, ring lapping machines, diamond wheels, process laps and precision spherometers. Headquartered in San Luis Obispo, California, with sales and service offices worldwide, Strasbaugh proudly offers complete fabrication solutions for our Optical, Photonic, MEMS, Aerospace, Defense, and Research customers. Contact: Gerard Pardeilhan, Precision Optics Product Manager, optix@earthlink.net.

## Stron Optics Technical Co., Ltd.

#4729

A Bldg Lirenmeng Industrial Zone, Dong Guan, Guang Dong, China, 523000  
+86 769 2260 7473; fax +86 769 2225 9370  
us@stron-optics.com; www.stron-optics.com



**OPTICS & PHOTONICS**  
*International* 2011

*Showcase your products at this premiere event!*



# IR + UV EXPO

Organizer: Optical Society of Japan  
Japan Photonics Council

Debuting  
April 2011

Co-located with

**LE LASER EXPO**

**LENS EXPO**

**VISION Japan**

**POSITIONING EXPO**

**Optical Fiber Expo** NEW

**20-22 April, 2011**

**Pacifico Yokohama, Japan**

Total Projected Participation

- Exhibitors 300
- Attendees 12,000



For further information <http://www.optronicsjp.com/uvir/>

The Optronics Co., Ltd. International Dept. E-mail: intl@optronics.co.jp

## Sumitomo Electric Industries, Ltd.

#4512

3-9-1 Shibaura, Minato-ku, Tokyo, Japan, 108-8539  
+81 3 6722 3316; fax +81 3 6722 3317  
yo-shikata@sei.co.jp; www.sei.co.jp

**Featured Product: PULSED FIBER LASER "SumiLas", High peak power, Short pulse duration, High repetition rate. GaN Substrates, 6-inch for white LEDs, 2-inch Nonpolar/Semipolar for LED/Laser (Green/Blue).**

Since the founding in 1897, the Sumitomo Electric Group has developed and delivered many new technologies and products through innovative R&D activities based on the prowess of its production engineering capabilities in electric wires and power cables. The Sumitomo Electric Group provides superb products and services in five business segments: "Automotive," "Information & Communications," "Electronics," "Electric Wire & Cable, Energy," and "Industrial Materials." Contact: Yoshiaki Shikata, Marketing Manager, yo-shikata@sei.co.jp.

## Sumitomo Metal Mining Co. Ltd.

#5110

11-3 Shimbashi 5-Chome, Minato-ku, Tokyo, Japan, 105-8716  
+81 3 3436 7832; fax +81 3 3436 7827  
comm\_dn@ni.smm.co.jp; www.smm.co.jp

**Featured Product: Compact and Low Cost Optical Isolator for High Power Application.**

Contact: Shinnosuke Yamaguchi, Sales & Marketing, Shinnosuke\_Yamaguchi@ni.smm.co.jp; Junji Iida, Research & Developing, Junji\_Iida@ni.smm.co.jp.

## Superlum

#523

Unit 1F Eastlink Business Park, Carrigtwohill, Cork, Ireland  
+353 21 45 33 ext. 666; fax +353 21 453 3026  
sales@superlum.ie; www.superlumdiodes.com

SUPERLUM is the leader in developing and manufacturing of Broadband Light Sources: Superluminescent Diodes for cutting edge OCT technologies, fiber-optic gyros and other fiber-optic sensors; broadband SOA and gain modules with extreme outstanding parameters; widely tunable lasers/swept sources. Contact: Nataly Tuchapsky, Sales Executive, nataly@superlum.ie; Vladimir R. Shidlovski, Vice Director, support@superlum.ie.

## Suruga Seiki Co., Ltd.

#4131

3F Konan YK Bldg 2 4 12 Konan, Minato-ku, Tokyo, Japan, 108-0075  
+81 3 6711 5011; fax +81 3 6711 5018  
e-ost@suruga-g.co.jp; www.suruga-ost.com

## SUSS MicroOptics SA

#1836

Rue Jaquet-Droz 7, Neuchatel, Switzerland, 2000  
+41 32 720 5104; fax +41 32 720 5713  
info@suss.ch; www.suss.ch

SUSS MicroOptics is a leading company for high-quality refractive and diffractive micro-optics. SUSS MicroOptics comprises profound experience in optical design, micro-fabrication and metrology. We use leading edge manufacturing techniques, based on 200mm wafer technology in Quartz and Silicon. Our micro-optical components meet highest demands as required for semiconductor applications, medical applications, laser materials processing, optical networking and metrology. Contact: Kristina Schulz, Sales & Marketing, schulz@suss.ch.

## Sutter Instrument Co.

#422

SPIE Corporate Member

One Digital Dr, Novato, CA, 94949  
+1 415 883 0128; fax +1 408 883 0572  
info@sutter.com; www.sutter.com

**Featured Product: The DG4 PLUS has twice the speed and 30% higher output power than our previous version.**

Sutter Instrument is a leading manufacturer of precision electromechanical instrumentation for scientific research and industry. Products include optical filter wheels, filter switchers, xenon and extended life light sources, the stepper-motor controlled SmartShutter, and motorized X-Y translator. Our P-2000 is the premier NSOM fiber tip puller. With extensive motor control and CNC machining experience, we are able to design and deliver versatile, robust optical products at affordable prices. Contact: Alexandra Cooper, Sales and Marketing, alex@sutter.com; Jack Belgum, PhD, Sr. VP, R&D, jack@sutter.com.

## Suzhou Delphi Laser Co., Ltd.

#1901H

No 77 Suhong Middle Rd SIP, Suzhou Jiangsu, China, 215021  
+86 512 8718091; fax +86 512 87189097  
worldwidesales@delphilaser.com; www.delphilaser.com

**Featured Product: Full automatic wafer dicing system, cost-effective, custom and complete laser micromachining services.**

Delphilaser is devoted to the development, manufacturing and marketing of high-end lasers & laser systems, especially, the systems employing UV and ultra-fast lasers for applications in Solar Cells, LED, LCD and Touch Panel industrials, as well as micromachining. Its application labs and job shop occupies a space of 3000 sq. ft. and equipped more than 30 sets different laser systems and precision testing equipments, providing flexible research and cost-effective micromachining service. Contact: David Kao, Sales Manager, worldwidesales@delphilaser.com; Dr Yuxing Zhao, CEO, y.zhao@delphilaser.com.

## Swamp Optics, LLC

#3046

6300 Powers Ferry Rd Ste 600-345, Atlanta, GA, 30339  
+1 404 547 9267; fax +1 866 855 4518  
linda.trebino@swampoptics.com; www.swampoptics.com

**Featured Product: BOA pulse compressor with one prism more accurate, compact, and inexpensive.**

Swamp Optics offers compact, convenient devices for measuring ultrashort laser pulses in real time and which yield the most complete measurements ever and include the beam spatial profile and spatio-temporal distortions. Awards include an R&D100 award and a Circle of Excellence award. Swamp Optics also offers custom devices for nearly every pulse-measurement problem, and we recently introduced a compact pulse compressor automatically free of distortions and very inexpensive. Contact: Linda Trebino, Co-Founder & Member, Linda.Trebino@SwampOptics.com; Rick Trebino, Co-Founder & Member, Linda.Trebino@SwampOptics.com.

## Swift Glass Company

#631

131 W 22nd St, Elmira Heights, NY, 14903  
+1 607 723 7166; fax +1 607 732 5829  
quality@swiftglass.com; www.swiftglass.com

Specializing in the fabrication of Pyrex, Vycor, Borofloat, Sapphire, Fused Silica, Quartz, Soda Lime, Starphire, Schott Color Filters and Kopp Color Filters. Capabilities include double sided lapping and polishing, CNC machining, edge grinding and polishing, drilling, heat tempering and chemical strengthening. Swift Glass is also available for R&D work on customer supplied materials. Contact: Tony Speciale, Sales Manager, tspecial@swiftglass.com; David Sabatini, Customer Service, dsabatini@swiftglass.com.



**Swiss Jewel Co. #4408**

Constitution Pl #509, 325 Chestnut St, Philadelphia, PA, 19106  
+1 215 925 2867; fax +1 215 922 3055  
sales@swissjewel.com; www.swissjewel.com  
Swiss Jewel Company is a leading supplier of Sapphire, Ruby, Glass and Quartz components, including Windows & Lenses, Ball Lenses and Hemispheres down to 0.15mm. Rods, Tubes, Pin Hole Jewel Wafers, etc. Prototypes to OEM production with our 400 item stock list and custom manufacture to tight tolerances. Contact: Dave Steel, VP, dave@swissjewel.com; Adam Steel, Pres., adam@swissjewel.com.

**SwissOptic AG #2211**

Heirich-Wild-Str, Heerbrugg, Switzerland, CH-9435  
+41 71727 3074; fax +41 71727 4686  
swissoptic@swissoptic.com; www.swissoptic.com  
SwissOptic AG, a Berliner Glas Group company, is one of the leading European providers of optical key components, assemblies and systems. With our understanding of optical systems and optical production techniques, we develop and integrate optics, mechanics and electronics into innovative system solutions. These solutions are applied worldwide across the whole spectrum of the light-using industry – from medicine to semiconductors, metrology and analysis to defense. Contact: Fred Doss, Sales Manager, fdoss@berlinerglasus.com.

**Sydor Instruments LLC #617**

31 Jet View Dr, Rochester, NY, 14624  
+1 585 278 1168; fax +1 585 278 1169  
sales@sydorinstruments.com; www.sydorinstruments.com  
For customers in all areas of Energy, Research, and Defense we build custom diagnostics and ultrafast imaging systems for a variety of applications. We specialize in streak cameras and single photon detectors where the highest resolution and accuracy is required. Sydor now delivers the best in single photon counting cameras, image intensifiers, photomultipliers, and detectors for space, energy, and life sciences. Contact: Daniel Rao, Sales, danr@sydorinstruments.com; Michael Pavia, President, pavia@sydorinstruments.com.



**Easy**

Precisely guiding a beam toward a moving object – as the archer fish does – is certainly not simple, but it brings competitive advantages. Precise positioning of laser beams is the key for equally dynamic, accurate and flexible tools – that help you develop new markets.

SCANLAB's laser scan technology enables efficient and dependable processes in industry, medicine and biomedicine. From galvanometer scanners to complex scan solutions, SCANLAB products prove their worth across a diverse range of applications – from marking, cutting and drilling to welding, from 3D laser processing to "processing on the fly".

Gain a lead over your competitors! If you're looking for dynamic, precise and reliable scan solutions, then just ask us.

**Please visit us at booth #8632 (BiOS) and #2515 (Photonics West)**



[www.scanlab.de](http://www.scanlab.de)





## Sydor Optics, Inc.

31 Jet View Dr, Rochester, NY, 14624  
+1 585 271 7300; fax +1 585 271 7309  
sales@sydor.com; www.sydor.com

Manufacturing precision, flat-surfaced, parallel and wedged optics and specializing in double-sided grinding and polishing. Sydor Optics offers prototype, to high volume OEM production. Products include: beam splitters, color filters, debris shields, glass wafers, grating substrates, light pipes, light-weighted substrates, mirrors, optical flats, wedges, and windows. Also offering laser optics and laser machining. Contact: James Sydor, President, sales@sydor.com; Mike Naselaris, General Manager, sales@sydor.com.

#617

## TEC Microsystems GmbH

SPIE Corporate Member

Schwarzschildstr 3, Berlin, Germany, 12489  
+49 30 6789 3314; fax +49 30 6789 3315  
info@tec-microsystems.com; www.tec-microsystems.com

**Featured Product: New low-current, low-power consumption thermoelectric coolers for TOSA applications.**

TEC Microsystems GmbH provides the widest range of miniature thermoelectric coolers. More than 850 different TE cooler types are available in manufacturing range. The main focus is on thermoelectric cooling solutions for temperature stabilization of telecom lasers, cooled TOSA, TE cooling for IR and X-Ray detectors, CCD matrixes, FPA and thermal imagers calibration devices. Contact: TEC Microsystems GmbH, info@tec-microsystems.com.

#4601

## Synopsys, Inc.

SPIE Corporate Member

3280 E Foothill Blvd Ste 300, Pasadena, CA, 91107  
+1 626 795 9101; fax +1 626 795 9102  
info@opticalres.com; www.opticalres.com

**Featured Product: LightTools 7.1 delivers enhanced analysis and ease of use features for illumination system modeling.**

Optical Research Associates, now a part of Synopsys, will exhibit two optical design software products. LightTools® provides virtual prototyping, simulation, optimization and photorealistic renderings of illumination systems. CODE V® has powerful capabilities for lens optimization, analysis, tolerancing, beam propagation and coupling efficiency. Engineering services will also be exhibited. Contact: Stuart David, Sales Manager, info@opticalres.com; James McGuire, Manager of Optical Engineering Services, engr@opticalres.com.

#1200

## tec5USA

SPIE Corporate Member

80 Skyline Dr, Plainview, NY, 11803  
+1 516 653 2000; fax +1 516 939 0555  
info@tec5USA.com; www.tec5USA.com

**Featured Product: Ethernet spectrometer electronics with preprocessing, dark current, averaging, non-linearity correct.**

High-quality products for spectroscopy, light sources, light guides, fiber-optic switches and probes, spectrometer modules, operating electronics. (Multi-channel) spectrometer systems for multiple applications in lab or process, e.g. concentration, filter transmission, color, thin film thickness. Optical instrumentation as remote control biomass detection systems. Various software support. Custom designed components and systems. Contact: Gert Noll, General Manager, gert.noll@tec5usa.com; Dan Fields, General Manager, dan.fields@tec5usa.com.

#716

## Syntec Optics

SPIE Corporate Member

7100 Junction Rd, Pavilion, NY, 14525  
+1 585 768 2513; fax +1 585 768 7138  
info@syntecoptics.com; www.syntecoptics.com

Looking to plastic optics to reduce cost or weight, or improve functionality? Syntec Optics is highly skilled in meeting tough design challenges, and has a track record of success in defense, medical and biometrics optics and assemblies. In fact, we are the largest independent custom plastic optics manufacturer in North America, and winner of the Frost & Sullivan Growth Excellence of the Year award. Contact: Rich Arndt, VP/GM, ramrdt@syntecoptics.com; Doug Hand, Sales Manager, dhand@syntecoptics.com.

#640

## Techmetals, Inc.

SPIE Corporate Member

345 Springfield St, Dayton, OH, 45403  
+1 937 253 5311; fax +1 937 253 5096  
info@techmetals.com; www.techmetals.com

**Featured Product: TM-Rx Medical Grade Chrome, Medically approved Electro polish, Passivation and Titanium Anodize.**

Optakoat - the coating of choice for SPDT applications of precision optics, mirrors, critical optic molding applications, BEF and solar panel film production. Techmetals also offers Optic Grade EN, Anodize, Silver, as well as TM-Rx Medical Grade Chrome, Medically approved Electro polish, Passivation and Titanium Anodize. See our complete list of custom designed coatings at www.techmetals.com. Contact: Steve Deisher, GM - Optics Department, sdeisher@techmetals.com; Kenny Hindman, Metal Finishing Specialist, khindman@techmetals.com.

#4510

## Taboada Research Instruments, Inc.

1923 N New Braunfels, San Antonio, TX, 78208  
+1 210 224 8876; fax +1 210 224 8834  
info@taboada.com; www.taboada.com

#3040

## TDK-Lambda Americas Inc.

405 Essex Rd, Neptune, NJ, 07753  
+1 732 922 9300; fax +1 732 922 1441  
sales@us.tdk-lambda.com; www.us.tdk-lambda.com/hp

TDK-Lambda - leading producer of high current and high voltage power sources for research, test systems and other demanding applications. Programmable DC to 600V Genesys™ power supplies - new standards for flexible, reliable power from 750W to 15kW, Outputs from 0-6VDC to 0-600VDC, current to 1,000A. High Voltage Solutions. ALE systems - designer & manufacturer of high voltage capacitor charging power supplies. Wide range (1 - 65kV) & (500J/sec to 30kJ/sec) from single supplier is unique. Contact: Bonnie West, Manager Inside Sales, Bonnie.West@us.tdk-lambda.com.

#4201

## Technical Manufacturing Corp.

SPIE Corporate Member

15 Centennial Dr, Peabody, MA, 01960  
+1 978 532 6330; fax +1 978 531 8682  
sales@techmfg.com; www.techmfg.com

**Featured Product: STACIS SEM-Base & STACIS Stage-Base for piezo vibration cancellation for SEMs and metrology tools.**

TMC manufactures a complete line of Optical Tops and Precision Vibration Isolation Systems. Key features include the patented CleanTop® II spill-proof tops and Gimbal Piston® isolators for vertical and horizontal vibration isolation. New products include the STACIS iX LaserTable-Base hybrid 2-stage vibration isolation system and STACIS® piezoelectric active vibration isolators. Contact: Steve Ryan, VP, Marketing, sryan@techmfg.com.

#1012

NEW!

Overseas VIP Buyer Scheme  
( Flight Ticket / Hotel Subsidies )

# PHOTONICS FESTIVAL in TAIWAN

台北國際光電週 系列活動  
[www.optotaiwan.com](http://www.optotaiwan.com)

June 14-16, 2011

TWTC Nangang Exhibition Hall  
台北世貿南港展覽館



## OPTO Taiwan 國際光電大展

The 20th Int'l  
Optoelectronics Exposition

### Exhibits

Compound Semiconductor  
Optoelectronics Devices  
Optical Fiber Communication  
Optical I / O & Storage Devices  
Laser Applications  
Vacuum Coating  
Precision Instrument / Equipment



## LED Lighting Taiwan LED照明展

The 7th Int'l  
LED Lighting Exposition

### Exhibits

LED Lighting Fixture  
LED Applications  
Package / Module  
Epi Wafer / Chip  
Materials  
Processing Equipment



## SOLAR Taiwan 太陽光電展

The 5th Int'l  
Photovoltaic Exposition

### Exhibits

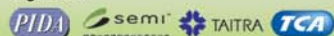
Solar Integrated Products & Applications  
Photovoltaic(PV) System & Installation  
PV Module  
Solar Cell  
Materials  
Production Equipment  
PV Program

### Concurrent Exposition

#### Display Taiwan 2011

台灣平面顯示器展  
The 13th Int'l Flat Panel Display Exposition

#### Organizers



### Organizer



財團法人光電科技工業協進會  
Photonics Industry & Technology Development Association  
台北市10093羅斯福路二段九號五樓  
5F, No.9, Sec.2, Roosevelt Road, Taipei 10093, Taiwan  
Tel : +886-2-2351-4026 Fax : +886-2-2396-8513

#### [ Overseas contact ]

Pamela Hsiao (ext. 805) E-mail : [exhibit@mail.pida.org.tw](mailto:exhibit@mail.pida.org.tw)  
Allen Lee (ext. 850) E-mail : [allen@mail.pida.org.tw](mailto:allen@mail.pida.org.tw)  
【台灣地區】  
陳憶梅 小姐 (ext. 803) E-mail : [ginger@mail.pida.org.tw](mailto:ginger@mail.pida.org.tw)  
張雲卿 小姐 (ext. 809) E-mail : [cathy@mail.pida.org.tw](mailto:cathy@mail.pida.org.tw)



## Technobis Group

#4301

Geesterweg 4B, Uitgeest, Netherlands, 1911 NB  
+31 251 362777; fax +31 251 242835  
info@technobis.com; www.technobis.com

**Featured Product: Deminsys is the fastest multi sensor/multi channel FBG interrogator system in the market.**

Technobis Group is a developer and supplier of high-tech instruments and modules for the most dedicated (international) OEM-company's. Contact: Thomas J. van Els, Sales Manager, info@technobis.nl; Pim Kat, President & CEO, info@technobis.nl.

## Technodiamant USA Inc.

#4645

35A Kennedy Rd, Tranquility, NJ, 07879  
+1 908 850 8505; fax +1 908 850 8506  
dave@technodiamant.com; www.technodiamant.com

Technodiamant offers a full range of diamond tools for machining optics, including controlled waviness tools with waviness as low as 10nm on .2mm radius tools. We are now owned by the Diamond Tools Group, combining the strengths of Technodiamant and Contour Fine Tooling. Single crystal natural or synthetic diamond, CVD, and PCD tools are available. Diamond Core drills, cleaving knives and custom products also offered. Contact: David Slaperud, Sales Manager - North America, dave@technodiamant.com; Ronald de Vries, Sales Manager - International, ronald@technodiamant.nl.

## Technologiesgesellschaft für Strahlwerkzeuge mbH (TGSW mbH)

#4601

Rotebuehlstrasse 87, Stuttgart, Germany, 70178  
+49 711 90 70 600; fax +49 711 90 70 60 99  
sommer@tgsw-photonics.de; www.tgsw-photonics.de

**Featured Product: Laser material processing with pico- and femtosecond pulses.**

TGSW offers the complete services around laser material processing. Starting with consulting and processing development, we further assist our customers in setting up their own producing, or can fabricate small series in our facility. Processing diagnostics and processing control, together with the development of special system technology complete our services for laser processes like: welding, cutting, drilling, marking, micromachining. Contact: Steffen Sommer, info@tgsw-photonics.de.

## TECNISCO, LTD.

#4216

2-2-15 Minami-Shinagawa, Shinagawa-ku, Tokyo, Japan, 140-0004  
+81 3 3472 6963; fax +81 3 3472 1316  
o-sales@tecnisco.co.jp; www.tecnisco.co.jp/en

**Featured Product: CTE matched Microchannel cooler CuAlNiCu submount Structured glass wafer Through glass Via wafer.**

TECNISCO is a subsidiary of Disco Corp. a worldwide manufacturer of dicing saws and grinding machines. We are doing processing services and able to supply customized parts that are manufactured with metal, ceramic, glass and silicon by its advanced high-precision processes and composite technologies. TECNISCO's expertise includes: Dicing, Sandblasting, Milling (CNC machining), Assembling (AuSn, AuGe, AgCuIn, AgCu), Polishing, Bonding, Metallization (Plating, Sputtering, Vapor deposition). Contact: Naohiro Asada, Overseas Marketing Dept., n-asada@tecnisco.co.jp; Ryosuke Kanai, Overseas Marketing Dept., r-kanai@tecnisco.co.jp.

## TecOptics, Inc.

#915

SPIE Corporate Member

1760 Grand Ave, Merrick, NY, 11566  
+1 516 379 1203; fax +1 516 546 7031  
info@tecoptics.com; www.tecoptics.com

Air-spaced and solid etalons. Ultrahigh damage threshold laser optics. Interferometric optics. Custom optical and opto-mechanical systems. Diode-pumped CW TEM00 solid state lasers from Laser Quantum: 473nm, 523nm, 527nm, 532nm, 660nm, 1047nm, 1053nm, 1064nm wavelengths - 50mW to 6W output powers - mode-hop-free single frequency models - high quality at reasonable prices.

## Tecport Optics, Inc.

#2030

SPIE Corporate Member

6901 TPC Dr Ste 450, Orlando, FL, 32822  
+1 407 855 1212; fax +1 407 855 1213  
tamble@tecportoptics.com; www.tecportoptics.com

**Featured Product: SYMPHONY 20+. A new line of very large 80"+ (2m+) coating systems with HD Plasma Deposition.**

Manufacturer of Vacuum Coating Systems for Precision Optics, Ophthalmic, Flat Panel Display, Imaging, and Telecommunication applications. An industry leader in innovation, quality, reliability, software and service. Sophisticated yet user friendly systems employ leading edge technology such as plasma assisted deposition. Systems are custom built and pre-configured for your process and your volume. Process is pre-configured, and installed systems are production-ready within one week. Contact: Frank Helmes, Director of Sales, fhelmes@comcast.net; Joseph Kim, Vice President, jkim@tecportoptics.com.

## Teem Photonics

#1023E

61 Chemin du Vieux Chêne, Meylan, France, 38240  
+33 4 76 06 03 09; fax +33 4 76 04 0302  
www.teemphotonics.com

**Featured Product: New application is 3D microlithography for proteins, polymers or metals.**

Passively Q-switched MicroChip lasers for OEM and scientific applications. 100's of ps pulses, high repetition rate and high peak power. Additional activity in Ion exchange integrated Optics. Main application domains for lasers are materials micromachining, precision marking, in Biology or medial domain, UV micro Micro dissection and micro surgery, Fluorescence and spectroscopy, LIDAR, MALDI-TOF. Contact: Jacques Bourgoin, North American Sales Director, j.bourgoin@teemphotonics.com; Lidia Quaresemin, Sales Assistant, l.quaresemin@teemphotonics.com.

## Teledyne Judson Technologies

#2101

SPIE Corporate Member

221 Commerce Dr, Montgomeryville, PA, 18936-9641  
+1 215 368 6900; fax +1 215 362 6107  
www.teledynejudson.com

A global designer/manufacturer in the IR Sensor market with design/fabrication expertise in FPAs (InGaAs, InSb, & HgCdTe) and photodetectors (Ge, InGaAs, InAs, InSb, PbS(e), & HgCdTe), packaging/cooling, electronics, and optics. We deliver solutions for industrial, military, and space markets. A quarter VGA InGaAs camera developed for commercial application will be demonstrated. Contact: George Gasparian, Sales/Applications Engineer, ggasparian@teledynejudson.com; Joseph Kimchi, Vice President, Business Development, jkimchi@teledynejudson.com.



rsoftdesign.com

# RSOFT

Design Group

3 day event, 3 iPod touches,  
1 iPod touch winner a day!!!

# 2023

Visit Booth #

## ENTER TO WIN iPod touch

Drop off business card **or** fill out contest drawing card.



▶ THE SOURCE FOR PHOTONIC & NETWORK DESIGN SOFTWARE

### Telesis Technologies, Inc.

48377 Fremont Blvd Ste 115, Fremont, CA, 94538  
+1 510 413 1740  
sales@telesistech.com; www.telesis.com

Telesis is the leader in product identification and laser processing technologies. Our wide range of permanent, programmable laser, PINSTAMP and TELEScribe marking systems are fast and durable. They are relied on in thousands of manufacturing environments every day, throughout the world. Contact: Tom Marquart, Product Manager, tom.marquart@telesistech.com; Mike Watts, Laser Project Manager, michael.watts@telesistech.com.

**#4108**

### Tempo Clean Room Foam

1227 N Miller Park Ct, Visalia, CA, 93291  
+1 559 651 7711  
tempo@tempo-foam.com; www.tempo-foam.com

**#6050**

### Tempotec Optics Co., Ltd.

**SPIE** Corporate Member  
Inside Min'an Enterprise Hongshan Science & Technology Area, 550 Industry Rd, Fuzhou Fujian, China, 350002  
+86 591 2837 9366; fax +86 591 2837 9339  
sales@tempotec.com; www.tempotec.com

**#4629**

**Featured Product: IPL filter and light guide, Zero order waveplate, Color glass filter, Laser window.**

Tempotec optics is a professional manufacturer of high quality precision optical components. Our products include Waveplate, Laser mirror, Laser window, Optical window, filter, Mirror, Beamsplitter, Prism, Lens, etc. The main applications are include Laser, Surveying, Graphic, Instruments, Research, etc. Our quality policy is "By Continual improvement, Technology researching and Employee development, provide excellent product and service, to create maximum value to our customer". Contact: Hongbo Hou, VP, Sales & Marketing, hongbo.hou@tempotec.com; Tony Lin, President, tonylin@tempotec.com.

### TEM Messtechnik GmbH

Grosser Hillen 38, Hannover, Germany, 30559  
+49 511 510 896 30; fax +49 511 510 896 38  
info@tem-messtechnik.de; www.tem-messtechnik.de

**#4601**

**Featured Product: Aligna. Automated self learning Laser Beam Alignment and Stabilization System.**

The TEM Messtechnik GmbH is specialized in converting scientific results and ideas into real-world applications. Since many years, the company convinces with fundamental knowledge and innovative ideas. The development process goes from the first idea to the production-ready solution and includes customer specific adaption of the standard products, new development at the electronic devices, analog and digital solutions, OEM-boards, modular systems or stand-alone devices. Contact: Dr. Thomas Müller-Wirts, CEO, Thomas.Mueller-Wirts@TEM-Messtechnik.de; Dr. Thomas Kinder, Development, Thomas.Kinder@TEM-Messtechnik.de.

## TeraView Ltd.

#4308

Platinum Bldg, St John's Innovation Park, Cambridge, United Kingdom, CB4 0WS  
+44 1223 435380; fax +44 1223 435382  
www.teraview.com

### Featured Product: TPI Gantry system - for large area scanning.

TeraView is the world's leading provider of terahertz spectrometers and imaging systems. It is able to provide both CW terahertz spectrometer (based on a fiber-fed photomixing system) and pulsed systems for example the world leading TPS spectra 3000 which allows you to undertake THz ATR spectroscopy, reflection and transmission imaging and remote fiber probes all on one system. Contact: Philip Taday, Head of Applications, philip.taday@teraview.com.

## Teraxion Inc.

#734

2716 Einstein, Québec, QC, Canada, G1P 4S8  
+1 418 658 9500; fax +1 418 658 9595  
info@teraxion.com; www.teraxion.com

TeraXion designs and manufactures state-of-the-art optical components for high speed fiber optic transmission networks. Its line of OEM chromatic dispersion management solutions includes Telcordia-qualified low loss DCMs and tunable dispersion compensators. TeraXion offers customized filtering based on advanced fiber Bragg grating technology and narrow line width laser sources Contact: info@teraxion.com.

## TERMIONA LLC

#4441

1st Zavodskaya 1 Building 1, Moscow, Russia, 124365  
+7 499 729 74 20; fax +7 499 731 65 37  
info@termiona.ru; www.termiona.ru

### Featured Product: Laser cooling system with no intermediary heat conductors.

TERMIONA LLC is the manufacturer of the unique non-ceramic Peltier, cooling and generating thermoelectric systems. Possibility to manufacture units of any shapes, large sizes (up to 400x300 mm), simple assembly-no lapping, polishing, or special instruments required. Use of special materials and manufacturing operations guarantee higher performance, low maintenance expenses and longer functioning. Contact: Andrey Zykin, Global Director Sales & Marketing, azykin@termiona.ru; Anastasia Riabukhina, Head of Marketing Department, ariabukhina@termiona.ru.

## Termotek AG

#5311

Im Rollfeld 6, Baden-Baden, Germany, 76532  
+49 7221 9711 0; fax +49 7221 9711 111  
info@termotek-ag.com; www.termotek-ag.com

We produce: Air-to-water heat exchangers for low-power lasers; Air-to-water compression coolers for medium-power diode lasers up to 200 watts; Air-to-water compression coolers for high-power diode lasers and CO<sub>2</sub> lasers; Water-to-water heat exchangers up to 50 kilowatts. Contact: Denis Roessel, Sales, denis.roessel@termotek-ag.com.

## Tessera Inc.

#1016

**SPIE** Corporate Member

3099 Orchard Dr, San Jose, CA, 95134  
+1 408 321 6000; fax +1 408 321 2904  
www.tessera.com

Tessera invests in, licenses and delivers innovative miniaturization technologies that transform next-generation electronic devices. Tessera's imaging and optics solutions provide low-cost, high-quality imaging functionality for wafer-level cameras, compact camera modules (CCM) and specialty optics systems, and include image enhancement technologies and wafer-level packaging. Contact: Judy Erkanat, PR Director, jerkanat@tessera.com.



**CONFERENCE BAG INSERT SPONSOR**

## Texas Instruments

#2309

12500 TI Blvd MS 8680, Dallas, TX, 75243  
; fax +1 214 567 5106  
www.ti.com

DLP® Products, a division of Texas Instruments, creates world-class digital technology allowing electronics manufacturers, scientists, and engineers to innovate. DLP technology enables industrial, medical and life science applications such as 3D optical measurement, direct imaging systems, microscopy and optical networking. TI is committed to delivering great solutions that solve customers' problems and to making the world smarter, healthier, safer and more fun. Visit www.ti.com/MEMS.



**METER BOARD SPONSOR**

## Thales Optronique SA

#5414

2 avenue Gay Lussac, Elancourt, France, 78995  
+33 1 30 96 20 00; fax +33 1 30 96 75 50  
info.optics@fr.thalesgroup.com; www.thalesgroup.com

Thales is the world leader in the conception, the development and the manufacturing of Nd:YAG, Nd:YLF and Phosphate glass nanosecond lasers and Ti:Sa femtosecond lasers. For more than 20 years, Thales has been driving innovative solutions with a large patents portfolio and scientific partnerships to provide standard, turnkey, easy to use and reliable systems which meet the needs of industrial, scientific, space and defense applications.

## Thatshigh Photoelectric Technology Co., Ltd.

#1901D

Office Bldg No 1 677 Tian-chen Rd, National High-tech Development Zone, Jinan Shandong, China, 250100  
+86 531 88687737; fax +86 531 88907971  
sales@thatshigh.com; www.thatshigh.com

### Featured Product: DKDP Q-switch, LN Q-switch, Bonded Crystal.

Thatshigh Photoelectric Technology Co. Ltd. is a fast-growing high-technology company specialized in: laser-used crystals, non-linear crystals and optical components. Cooperated with several famous research institutes, Thatshigh has built advanced experience in the growing and processing of laser-used crystals and non-linear crystals, as well as the R & D of optical components. Contact: Peter Zhao, Sales Manager, sales@thatshigh.com; Leo Dong, Sales Assistant, leo@thatshigh.com.

## The China and South Optical Crystals Co.

#1901J

First Industrial Zone, Songgang Boan District, Shenzhen Guangdong, China, 518105  
+86 755 27091212; fax +86 755 27553757  
sapphires@126.com; www.sapphires.com.cn

The China & South Optical Crystal Co. is a manufacturer of precision sapphire optical components for used in a wide variety of Infra-Red and Ultra-Violet applications including as defense, optical devices, medical, laser and industrial markets for 10 years. We produce products such as sapphire optical windows, lenses, prisms, aspheric lenses, and so on. Contact: Mr. Martin Ding, Manager, sapphires@126.com.

Plan to Attend  
FREE Exhibitor Product  
Demonstrations

Refer to pages 62-64  
for complete times,  
schedules, and  
locations.

## Thermo Scientific - CIDTEC

#2423

SPIE Corporate Member

101 Commerce Blvd, Liverpool, NY, 13088  
+1 315 451 9410; fax +1 315 451 9421  
tony.chapman@thermofisher.com; www.thermo.com

**Featured Product: 2K x 2K Random access 16bit camera with eXtreme Dynamic Range. Radiation hard digital color camera.**

Thermo Scientific - CIDTEC manufactures high performance Charge Injection Device (CID) cameras for demanding imaging applications in scientific imaging, machine vision, and radiation environments. Features include: Wide Dynamic Range, Anti-blooming, UV-NIR response, and Radiation hardness. Formats include: Scientific, RS-170, Progressive, CCIR scan with intensification services for low light imaging or high speed gating. Deep UV and X-ray coating deposition services are also available. Contact: Tony Chapman, Sales and Marketing Director, tony.chapman@thermofisher.com; Mike Pilon, General Manager, sales.cidtec@thermofisher.com.

»»» EXHIBITION MAP/RESTAURANT GUIDE SPONSOR

## Thermo Scientific, Scientific Instruments

#2423

5225 Verona Rd, Madison, WI, 53711  
+1 608 273 6822  
analyze.us@thermo.com;  
www.thermoscientific.com/spectroscopy

## ThermoTek Inc.

#941

1200 Lakeside Parkway #200, Flower Mound, TX, 75028  
+1 972 874 4949; fax +1 972 874 4945  
thermotek@thermotekusa.com; www.thermotekusa.com  
Thermal management systems for precise temperature control. Solid state recirculating chillers from 100 to 1200 watts of cooling power in a small portable package. Patented power supply and patented energy efficient thermoelectric systems design. Thermalplane technology enables our systems to be small, economical and reliable. ThermoTek PhasePlane aluminum extruded heatpipes, designed for mass manufacturability, have greater performance over traditional heatpipe systems in all mounting orientations. Contact: Tony Quisenberry, President, thermotek@thermotekusa.com.

## Thin Film Technology

#1600

*please refer to Williams Advanced Materials*

## Thorlabs, Inc.

#1715

SPIE Corporate Member

435 Rt 206, Newton, NJ, 07860  
+1 973 300 3000; fax +1 973 300 3600  
sales@thorlabs.com; www.thorlabs.com

**Featured Product: Thorlabs is demonstrating two new, compact, Fourier transform-based Optical Spectrum Analyzers.**

Thorlabs is dedicated to serving the photonics community by designing, manufacturing, and supporting a complete line of research equipment. Founded in 1989, Thorlabs' product portfolio includes optomechanical, motion control, vibration isolation, optical, fiber, light analysis, light manipulation, light source, and imaging components and systems. We have over 600 employees at manufacturing and sales offices throughout the United States, United Kingdom, Germany, France, Sweden, Japan, and China. Contact: Sales at Thorlabs, Sales, sales@thorlabs.com.

# Why Choose Stradus™ Diode Laser Modules?

The Stradus™ is the **BEST** Diode Laser Module Available For:

- Flow Cytometry • Medical-Diagnostics
- Defect Analysis • Confocal Microscopy
- R&D Laboratory Use • Fluorescence

**All Popular Wavelengths & Power:**

660nm/100mW, 642nm/110mW, 488nm/50mW,  
473nm/16mW, 445nm/40mW, 405nm/100mW,  
375nm/16mW, Plus many others!!

**Made In USA**



**Call One of Our Expert Laser Applications Engineers**

**VORTRAN**  
LASER TECHNOLOGY, INC.

[www.vortranlaser.com](http://www.vortranlaser.com)

Vortran Laser Technology, Inc.

21 Goldenland Court #200

Sacramento, CA 95834

(916) 283-8208

*See us at Booth #5229*



## Tianjin Teng Teng Industrial and Trading Co., Ltd.

#4405

No 85 Xihu Rd, Nankai District, Tianjin, China, 300190  
+86 022 87612140; fax +86 022 27365406  
tengteng@optentics.com; www.optentics.com

**Featured Product: Power magnifiers, nine apertures magnifiers, 4-fold desktop magnifier, 6 fold magnifier.**

We are Tianjin Teng Teng Industrial and Trading Co., Ltd in China which was built up since 1995. It is an enterprise that professionally produces various types of high precision optical lens. For decades, we have achieved consistent reputation in domestic and overseas business field. The scope of the optical lens that our company has produced ranges from  $\phi$ 1060;5 mm to  $\phi$ 1060;200 mm. The curvature radius goes between R2.7 mm to  $R\infty$ mm. Contact: Shirley Cui, Interpreter and International trader, tengteng@optentics.com.

## Time-Bandwidth Products, Inc.

#2523

SPIE Corporate Member

61 Union St, Westfield, MA, 01085  
+1 413 564 0610; fax +1 413 562 6167

Time-Bandwidth Products manufactures passively mode-locked tunable and fixed pico and femtosecond DPSS lasers using our patented SESAM<sup>®</sup> technology. Wavelengths from 262nm to 1550nm are available at different rep rates and power levels reaching up to 50W to match your application in research or for industrial applications. Contact: Alain Bourdon, alain.bourdon@tbwp.com.

## TLC International

#4125

SPIE Corporate Member

9849 N 21 Drive, Phoenix, AZ, 85021-1825  
+1 602 866 8208; fax +1 602 866 8280  
mlinden@tlcinternational.com; www.tlcinternational.com

**Featured Product: G3/G5 mechanical glass cutting machines. Outsource R&D Cutting Lab. Tooling. ServiTrain Program.**

TLC manufactures G3 (24"/600mmsq. stage) and G5 (46" x 58"/1160 mm x 1460 mm stage) computerized, precision mechanical glass cutting machines for X-Y/circular/shaped singulation of thin (0.003"-0.125"/0.07mm-3.0mm) single-sheet/laminated, standard/coated flat technical glass. Outsource R&D Glass Cutting Lab for small run, fast turn contract cutting, prototype and process development. ServiTrain Program. Tooling, parts, technical support, training for most other precision glass cutting equipment. Contact: Maribeth V. Linden, VP Global Sales/Marketing, mlinden@tlcinternational.com; Ernest K. Linden, President, elinden@tlcinternational.com.

▶▶▶ **BANNER SPONSOR**

## Toptica Photonics, Inc.

#817

SPIE Corporate Member

1286 Blossom Dr Ste 1, Victor, NY, 14564  
+1 585 657 6663  
sales@toptica-usa.com; www.toptica-usa.com

TOPTICA is the world leader in diode laser and ultrafast technology for industrial and scientific markets. We offer the widest range of single mode tunable light in the 190 to 2900nm and 0.5-2.5THz spectral region with various accessories to measure, characterize, stabilize and analyze light. With our Passion for Precision, TOPTICA delivers! Contact: office@toptica-usa.com.

## Torrey Hills Technologies, LLC

#5308

6370 Lusk Blvd Ste F-111, San Diego, CA, 92121  
+1 858 558 6666

sales@torreyhillstech.com; www.torreyhillstech.com

Torrey Hills Tech is a leader in developing quality yet affordable refractory metal based heat sinks used in high-end active photonic components such as lasers and as optical benches. The materials that the company offers include copper tungsten, copper molybdenum, CMC, and CPC. Headquartered in San Diego, CA, its mission is to help customers achieve higher profitability by the provision of innovative products and services. Contact: Joyce Zhang, Product Manager, yzhang@torreyhillstech.com.

## Toshiba America Information Systems

#5301

9740 Irvine Blvd, Irvine, CA, 92618-1608

+1 949 461 4861; fax +1 949 470 9390

maroy.finesoa@tais.toshiba.com; www.cameras.toshiba.com

Toshiba Imaging Group is the premier manufacturer of high definition video cameras for life science, microscopy, industrial and homeland security applications. These include 3 sensor prism blocks and remote head models. Contact: Vincent Giovinco, National Sales Manager, vincent.giovinco@tais.toshiba.com; Marcy Fonseca, Marketing Assistant, marcy.fonseca@tais.toshiba.com.

## tousimis research corporation

#6032

2211 Lewis Ave, Rockville, MD, 20851-2333

+1 301 881 2450; fax +1 301 881 5374

trc@tousimis.com; www.tousimis.com

**Featured Product: Supercritical CO<sub>2</sub> Dryers preserve delicate micro 3D structure by eliminating surface tension forces.**

Tousimis manufactures highly reliable Supercritical CO<sub>2</sub> Dryers which enable delicate micro 3D structural preservation. Our Critical Point Dryer (CPD) process technology eliminates surface tension forces. Current CPD applications include MEMS, Bio-MEMS, AeroGel, Nano Particle, Carbon Nanotube, Graphene and others. Tousimis is a USA based company located in the Washington D.C. area. Tousimis supports all products with our global sales and service support network. Contact: Yianni Tousimis, Sales Manager, trc@tousimis.com; Hyun Park, Sales, hjpark@tousimis.com.

## Tower Optical Corp.

#222

SPIE Corporate Member

3600 S Congress Ave, Boynton Beach, FL, 33426

+1 561 740 2525; fax +1 561 740 2518

sales@toweroptical.com; www.toweroptical.com

**Featured Product: 10mm Waveplates for high performance and low cost available at any wavelength.**

Tower manufactures precision opticals including zero order and Achromatic waveplates, beamsplitters, prisms, mirrors, windows, lenses, optical flats, Transmission flats, filters and custom optics. Machined metal parts, optical mounting rings and assembly of optical components is also available. Commercial and military parts accepted. Tower is an SD-VOSB company certified to ISO 9001:2008. Contact: Joel Kramer, Director of Sales, Joel@toweroptical.com; Ken Weinberger, Sales Engineer, kweinberger@toweroptical.com.

## Product Locator Kiosks

North Hall Concourse

South Hall Concourse

Find what you need, print out the results, and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches

# WELCOME TO CHINA PAVILION

- 1901-A HB Optical Technology Co., Ltd
- 1901-B Beijing Glass Research Institute (BGRI)
- 1901-C Gold Dragon Optics.
- 1901-D Thatshigh photoelectric technology co,Ltd
- 1901-E Filtech Photonics Co., Ltd
- 1901-F Dayoptics,Inc.
- 1901-G Zhejiang ZCN Scientific Co,Ltd
- 1901-H Suzhou Delphi Laser Co,Ltd
- 1901-I Xi'an Focuslight Technologies Co.,Ltd
- 1901-J Winho Optical Mfg.Co.,Ltd
- 1901-K Fuzhou Ustron Optoelectronic Materials Co., Ltd
- 1901-L Silian Technical Import&Export Co., Ltd. Chongqing
- 1901-M Wu Han Tianyu Optical Electronic Instrument Co,Ltd.
- 1901-N Wu Han Zhongji Optical Instrument Co,Ltd
- 1901-O Wuhan Huaray Precision Laser Co.,Ltd
- 1901-P GLAS Optical Technology Co., Ltd
- 1901-Q Beijing Bodian Optical Tech,co.,Ltd
- 1901-R Phosctech Photonics Ltd
- 5214 JPT Electronics Co., Ltd
- 5212 Xinxiang City Baihe O.E Co., Ltd

One of The Best Group Participation Organizers In China.  
中展海外--中国最大组团单位，期待您的加入！



CIEC Overseas Exhibition Co., Ltd.  
www.ciec-overseas.com

Add: CIEC, 6 East Beisanhuan Rd, Beijing, China  
P C: 100028 Email: songqiushuang@ciec.com.cn  
Tel: 0086-10-84600568 Fax: 0086-10-64671381

## Toyo Glass Co., Ltd.

#4521

3-2-3 Yako, Kawasaki-ku, Kawasaki-shi, Japan, 210-0863  
+81 44 276 5284; fax +81 44 276 4970  
kaihatsu\_a@toyo-glass.co.jp; www.toyo-glass.co.jp

**Featured Product: The Lateral Emitting Collimator which is made of the Gradient Index Lens "SILICAGRIN".**

Toyo Glass is a leading manufacturer of glass containers in Japan, and we developed the Gradient Index Lens "SILICAGRIN" in 2005. Now we provide the various products (and trial products) of "SILICAGRIN" to our users of the communication industry, the medical treatment industry and so on. Contact: Tsgio Yonemura, General Manager of New Business Sales Group, tsgio\_yonemura@toyo-glass.co.jp; Taroh Suzuki, taroh\_suzuki@toyo-glass.co.jp.

## Translume, Inc.

#707

SPIE Corporate Member

655 Phoenix Dr, Ann Arbor, MI, 48108  
+1 734 528 6371; fax +1 734 528 6334  
www.translume.com

**Featured Product: Microfluidic chips and flow cells for life science, chemical and industrial applications.**

Translume specializes in manufacturing glass microfluidic chips and flow cells. The company is a leader in micromachining of fused silica glass and offers a variety of fabrication and integration services. Using proprietary laser writing and etching techniques, Translume fabricates devices that combine microfluidic components, optical fibers, optical waveguides, and glass micromechanical (glass MEMS) elements. Contract manufacturing for any volume, from prototyping to large production runs. Contact: Eric Jacobson, Vice President, ericjacobson@translume.com; Philippe Bado, President & CTO, pbado@translume.com.

## TransMIT GmbH/Center of Fiber-optic and Industrial Laser Applications (CeFILA)

#4601

Kerkrader Str 3, Giessen, Germany, 61169  
+49 641 94364 0; fax +49 6031 6898 47  
karl.klein@transmit.de; www.transmit.de

**Featured Product: DUV MM Fibers below 200 nm, with Certificate; UV Gas detection; Set-ups for Fiber Characterization.**

TransMIT offers information about major activities and research results within Hessian universities, supporting to find contacts and co-operation partners. CeFILA is active in Fiber-optics and Industrial Laser Applications. Non-active specialty fibers have been developed and characterized for new applications. DUV multimode fibers with lowest UV-induced loss will be delivered with a certificate. Gas detection systems based on UV absorption are available. Consulting is another area of CeFILA. Contact: Karl F. Klein, Professor, Karl.Klein@transmit.de; Cornell P. Gonschior, Dipl.-Ing. (FH), Gonschior@on-labor-friedberg.de.

## Tresky Corp.

#2607

50 Route 9 Ste 304, Morganville, NJ, 07751  
+1 732 536 8600; fax +1 732 810 0433  
sales@tresky.com; www.tresky.com

**Featured Product: Tresky is introducing its new HD Flip Chip Optics which provide 0.5 micron resolution.**

Manufacturer of Highly flexible die bonding systems with 1µm alignment accuracy. Systems are capable of performing Flip Chip Bonding, Eutectic Die Attach, Thermosonic, Thermocompression, 3D Stacking and Precise Z Height Control with Bond-line Thickness. Simple, easy to use Rework systems with advanced capabilities for Eutectic and Epoxy Bonded Devices. Contact: Allen Weil, VP, Sales & Marketing, a.weil@tresky.com.

## Triad Technology Inc.

#2138

SPIE Corporate Member

3131 Indian Rd, Boulder, CO, 80301  
+1 720 494 0717; fax +1 720 306 3716  
sales@triadtechno.com; www.triadtechno.com

**Featured Product: MOG Lab external cavity laser system available at 780 and 852nm wavelengths.**

Triad is a supplier and manufacturer of spectroscopy equipment. We supply both atomic and molecular reference cell. We can supply custom cell thru our corporate part, Japan Cell. Japan Cell is a leading supplier of custom scientific glassware. In addition, we can also provide a MOG Lab external cavity laser system at 780 and 852nm wavelengths. The external cavity is supplied with signal breakout board for interfacing to customer built laser systems. Contact: Archie Brown, Vice President, abrown@triadtechno.com; Frederick Brown, President, fbrown@triadtechno.com.

»»

» EXHIBITION MAP/RESTAURANT GUIDE SPONSOR

## Trioptics GmbH

#2317

SPIE Corporate Member

Hafenstr 35-39, Wedel, Germany, 22880  
+49 4103 18006 0; fax +41 4103 18006 20  
info@trioptics.com; www.trioptics.com

**Featured Product: OptiCentric®: Centration error and center thickness measurement of lenses in one instrument.**

Leading manufacturer of accurate & fully PC controlled optical test equipment for industrial & scientific use. Centration error measurement, optical alignment, centering, cementing & bonding; complete optical characterization (EFL, BFL, MTF, radius); MTF-characterization in UV-VIS-IR; real time wavefront analysis with Shack Hartmann sensors; prism measurement; electronic autocollimators, visual autocollimators; Twyman Green interferometer for surface profiling. Contact: sales@trioptics.com.

»»

» HOTEL ROOM KEY SPONSOR

## TRUMPF Inc.

#1631

SPIE Corporate Member

111 Hyde Rd, Farmington, CT, 06032  
+1 860 255 6000; fax +1 860 255 6242  
info@us.trumpf.com; www.us.trumpf.com

As a world market leader in laser technology, TRUMPF provides machine tools for laser processing, punching, forming and bending. The TRUMPF laser product portfolio comprises laser systems for cutting, welding and surface treatment of 3D parts, high powered CO<sub>2</sub> lasers, as well as lamp- and diode-pumped solid-state lasers, marking lasers, and laser systems. Additional business divisions include power tools, electronics, and medical technology. Contact: info@us.trumpf.com.

## TSB Innovationsagentur Berlin GmbH

#4601

Fasanenstr 85, Berlin, Germany, 10623  
+49 30 46302 440; fax +49 30 46302 442  
www.tsb-adelrshof.de

The TSB is the central contact point for technology and innovation in Berlin and aims at fostering the sustainable development of Berlin's centres of excellence, which are characterized by a variety of innovative companies and research institutions, towards internationally competitive hightech clusters, mainly in the fields of Biotechnology, Optical and Microsystems Technologies, Medical Engineering, ICT, Energy as well as Transport and Mobility. Contact: Prof. Dr. Eberhard Stens, Division Manager Photonics, optik@tsb-berlin.de.



## TwinStar Optics, Coatings, & Crystals #1639

SPIE Corporate Member

6741 Commerce Ave, Port Richey, FL, 34668  
+1 727 847 2300; fax +1 727 847 2304  
sales@twinstaroptics.com; www.starstar.com

TwinStar is a global leader in the fabrication and coating of precision optics and crystals. TwinStar's coating lab produces high damage coatings from the UV thru the FAR IR including solderable edge metalizations. TwinStar fabricates waveplates, etalons, lens ducts, laser slabs/rods, prisms, mirrors, and provides bonding and optical assembly services and also works with linear/non-linear laser crystals including YAG, KTP, LBO, Kigre glasses. TwinStar is an ISO 9001:2008 certified company. Contact: Amanda Minier, Sales & Contract Administrator, sales@twinstaroptics.com; Mark Gruttadauria, General Manager, Sales@twinstaroptics.com.

## u2t Photonics AG #4601

Reuchlinstr 10-11, Berlin, Germany, 10553  
+49 307 2611 3530; fax +49 307 2611 3800  
sales@u2t.de; www.u2t.com

**Featured Product: CPRV1010A - The highly compact and integrated coherent receiver for 100G DP QPSK applications.**

u2t Photonics AG, founded in 1998, headquartered in Berlin/Germany, is a leading, ISO 9001 certified supplier of ultra-high speed optical components up to 100GHz. Based on its advanced technology u2t develops, manufactures and markets highly competitive products, such as photoreceivers and modulators, for high speed Communications, T&M and Aerospace applications supporting transmission formats such as 40G DP QPSK and 100G DP QPSK. Contact: Jens Fiedler, VP Sales and Marketing, fiedler@u2t.de; Peter Rajec, Sales Manager, rajec@u2t.de.

## UC Instruments Corp. #5418

37498 Glenmoor Dr, Fremont, CA, 94536  
+1 510 366 7353; fax +1 510 535 1809  
jim\_wang@ucinstruments.com; www.ucinstruments.com

**Featured Product: Tunable laser source; Optical power meter; OTDR; VOA; Components test system. Interferometer.**

UC Instruments Corp. design, manufacture, sell, rent, lease, buy, trade, repair and calibrate New and Refurbished optical, fiber optical, electronic, networks test equipments. The company provides high performance, high value, affordable test & measurement equipments for our customers. We also provide automatic test system integration service. Contact: Jim Wang, Sales and Marketing Director, jim\_wang@ucinstruments.com; Jack Zhou, Sales VP, jack.zhou@ucinstruments.cn.

## UCLA California NanoSystems Institute #5549

570 Westwood Plz, Los Angeles, CA, 90095  
+1 310 267 4838; fax +1 310 794 4207  
cnsievents@cnsi.ucla.edu; www.cnsi.ucla.edu

**Featured Product: Academic Research.**

The California NanoSystems Institute (CNSI), an integrated research facility at UCLA, is one of four Institutes for Science and Innovation established in 2000 by the State of California to drive technology innovation. CNSI's mission is to advance economic development by fostering interdisciplinary collaborations in nanoscience and nanotechnology; generating translational research partnerships with industry; and training tomorrow's scientific leaders.

# InfraTec

See us at

**PHOTONICS WEST**

North hall, booth 4419

**Pyroelectric Detectors  
single & multi-color**

- Lithium tantalate
- Spectral range 2 ... 25  $\mu\text{m}$



**Standard and customized  
detectors for use in**

- high quality gas analyzers
- flame detectors
- radiometers
- spectrometers



**NEW**

**PIA-903 angular  
resolving flame detector**

- warns of fire and gives direction to within 5°
- 3D coordinates given when using multiple detectors
- TO8 package with integrated high gain OpAmps
- demo system on display in our PHOTONICS WEST booth

**InfraTec GmbH  
Dresden - GERMANY**

**InfraTec infrared LLC  
Grapevine, TX - USA**

Call us at 877-pyros4u (877-797-6748)

E-mail: sensor@infrotec-infrared.com  
Internet: www.infrotec-infrared.com

## ULIS

#2401

BP 27 ZI des Iles Cordees, Veurey Voroize, France, 38113  
+33 4 76 5374 70; fax +33 4 76 5374 80  
ulis@ulis-ir.com; www.ulis-ir.com

**Featured Product: PICO640 17 micron is a 640 x 480 video quality focal plane array that operates in the 8-12.**

ULIS manufactures high-volume infrared imaging sensors for cost-effective, low power, lightweight IR cameras. ULIS' IR sensors are key components of IR equipment increasingly used in energy audits in buildings, thermography, security & surveillance, and night vision driving for motor vehicles, as well as fire-fighting and lightweight military equipment. Customers recognize ULIS' IR sensors for their low weight, low power consumption and availability in large volumes. Contact: Dominique Bonnisseau, Sales Director, ulis@ulis-ir.com.

## ULTRA Tec Mfg., Inc.

#2102

1025 E Chestnut Ave, Santa Ana, CA, 92701  
+1 714 542 0608  
rob@ultratecusa.com; www.ultratecusa.com

'Fiber Polishing Machines' for Bare-fiber applications (Flats, Bevels, Cones, Chisel-tips, Multiple-facets, etc.). Connector Polishing Machines for field installation and production. R&D Polishing Machines for small optics, crystals, wafers, etc. Saws for wafers, crystals, circuit boards, optics, etc. We also stock a wide variety of Polishing supplies. Contact: Robert Rubin, rob@ultratecusa.com.

## UltraVolt, Inc.

#2109

1800 Ocean Ave, Ronkonkoma, NY, 11779  
+1 631 471 4444; fax +1 631 471 4696  
csd@ultravolt.com; www.ultravolt.com

**Featured Product: 0-6kV/6W Benchtop High Voltage Power System.**

UltraVolt manufactures over 600 models of standard product high efficiency high-voltage power supplies. Output voltages range from 0 to 62V through 0 to 40kV with output power from 100mW to 250W. Units feature output over-current protection with self-recovery. Ultra-low ripple is available down to <3mV. Modular, rack-mount, and benchtop units available. Contact: Scott Wilson, Director of Business Development, csd@ultravolt.com.

## Umicore Optical Materials USA Inc.

#4624

**SPIE** Corporate Member

2976 S 614 Rd, Quapaw, OK, 74363  
+1 918 673 1650; fax +1 918 673 2121  
opticalmaterials@umicore.com; www.eom.umicore.com

Umicore Electro-Optic Materials offers infrared materials, optical coatings, components and assemblies for thermal imaging applications using either Ge or GASIR®. GASIR® chalcogenide glass can be molded or finished conventionally with DPT with complex geometry. Umicore has developed coatings, including iDLC hard coating for GASIR®. Umicore's optical-mechanical design competencies enable the manufacture of lens assemblies. Umicore Electro-Optic Materials has operations in the USA and Europe. Contact: Jeff Koch, Sales Manager, jeff.koch@am.umicore.com; Priyesh Narsale, Sales and Program Manager, priyesh.narsale@am.umicore.com.

## Umicore Thin Film Products

#4624

**SPIE** Corporate Member

50 Sims Avenue, Providence, RI, 02909-1023  
+1 800 248 7073; fax +1 401 421 2419  
sales.materials.na@umicore.com;  
www.thinfilmproducts.umicore.com

Umicore Thin Film Products is a recognized leader in developing, manufacturing, and recycling materials used in thin film coatings. We are committed to customer satisfaction by providing competitive, high quality products such as evaporation materials, sputtering targets, and accessories that meet our customer's unique specifications. Our materials are suitable for coatings in all wavelength regions and come in a variety of forms and sizes. ISO 9001:2000/ISO 14001:2004/OHSAS 18001:1999. Contact: Chaffee Tran, Sales Engineer, chafee.tran@am.umicore.com.

## Unice E-O Services Inc.

#3006

Chung Li Industrial Park, 3F No 25-2 Ji Lin Rd, Chung Li, Taiwan, 32062  
+886 3 462 6569; fax +886 3 462 5586  
johnnyc@email.unice.com.tw; www.unice.com.tw

**Featured Product: Nanomover linear stage in 15µm range and 10nm resolution, driven by hand, w/o controller.**

Unice E-O Services Inc. is a technology-based company. We own a group of experienced and professional engineers who have been working in Mechanic, Automation Control, Light Measurement and System Integration for a long time. From mechanical part, module or subsystem to whole system, Unice has successful created many units in different application in the worldwide customers. Give me a chance, give you a chance too. One piece is also available and welcome. Contact: Johnny Chang, Manager, johnnyc@email.unice.com.tw; Lucia Hsiao, Secretary, luciah@email.unice.com.tw.

## Union Optic, Inc.

#4225

**SPIE** Corporate Member

4th Fl Bldg F Hi-tech Digital Harbor, Guandong Industrial Park, Wuhan, China, 430074  
+86 27 87531505; fax +86 27 87531525  
sales@u-optic.com; www.u-optic.com

Manufacturer in Optics Valley of China, products include waveplates, polarizers, prisms, windows, lenses, color filters, beamsplitters, IR optics, micro optics, laser crystals, NLO crystals and in-house coating. ISO9001 certified. Contact: Casper Zhang, Sales Director, casper@u-optic.com; Jessica Li, Sales Engineer, jessica@u-optic.com.

## Unioriental Optics Co., Ltd.

#4932

Southwest of Shatuo, Renhe, Shunyi District, Beijing, China, 100130  
+86 10 69475833; fax +86 10 69475872  
sales@unioriental.com; www.unioriental.com

**Featured Product: YLF, BaF<sub>2</sub>, CaF<sub>2</sub>, ZnSe, ZnS.**

Unioriental Optics Co., Ltd. is a professional manufacturer in Beijing China with engineers from top China institutions. The company has 19 years' industrial experience specialized in laser and optical materials growth and fabrication and coating. We have been serving in the high end international markets both industrial and scientific and now have more than 200 customers worldwide. Contact: Jacky Chen, Sales Manager, jacky@unioriental.com; Mary, Sales Assistant, sales@unioriental.com.

# VISIT THE FRENCH PAVILION

**A.A Group**  
[www.aaoptoelectronic.com](http://www.aaoptoelectronic.com)

**ALPAO**  
[www.alpao.com](http://www.alpao.com)

**AUREA Technology**  
[www.aureatechnology.com](http://www.aureatechnology.com)

**AZUR LIGHT SYSTEMS**  
[www.azurlight-systems.com](http://www.azurlight-systems.com)

**BORDEAUX ROUTE DES LASERS®**  
[www.routedeslasers.com](http://www.routedeslasers.com)

**BRETAGNE INTERNATIONAL**  
[www.bretagne-international.com](http://www.bretagne-international.com)

**EOLITE SYSTEMS**  
[www.eolite.com](http://www.eolite.com)

**FIBERCRYST**  
[www.fibercryst.com](http://www.fibercryst.com)

**INNOPTICS**  
[www.innoptics.com](http://www.innoptics.com)

**ISP SYSTEM**  
[www.isp-system.fr](http://www.isp-system.fr)

**IXFIBER**  
[www.ixfiber.com](http://www.ixfiber.com)

**KEOPSYS**  
[www.keopsys.com](http://www.keopsys.com)

**PERFOS**  
[www.perfos.com](http://www.perfos.com)

**KERDRY**  
[www.kerdry.com](http://www.kerdry.com)

**NEW IMAGING TECHNOLOGIES**  
[www.new-imaging-technologies.com](http://www.new-imaging-technologies.com)

**MICROCERTEC**  
[www.microcertec.com](http://www.microcertec.com)

Organized by

**UBIFRANCE**  
AND THE  
FRENCH TRADE COMMISSIONS

[www.ubifrance.fr](http://www.ubifrance.fr)



Spotlight  
on French  
exhibitors

**TEEMPHOTONICS**  
[www.teemphotonics.com](http://www.teemphotonics.com)

**POP SUD**  
[www.popsud.org](http://www.popsud.org)

**PHASICS**  
[www.phasics.fr](http://www.phasics.fr)



# SPIE Photonics West Exhibitor Directory



## BANNER SPONSOR

### United Lens Co., Inc. #1929

259 Worcester St, Southbridge, MA, 01550-1376  
+1 508 765 5421; fax +1 508 765 0500  
kplouffe@unitedlens.com; www.unitedlens.com

### Univ. of Arizona, College of Optical Sciences #925



1630 E University Blvd, Tucson, AZ, 85721  
+1 520 621 4111; fax +1 520 626 1480  
www.optics.arizona.edu

#### Featured Product: B.S. in Optical Sciences and Engineering, M.S. and Ph.D. in Optical Sciences. Distance Learning.

The College of Optical Sciences is home to the world's finest teaching and research programs in optics. OSC educates students in all aspects of the science and application of light and performs world-leading research in optical sciences and engineering. OSC offers a B.S. degree in Optical Sciences and Engineering, as well as M.S. and Ph.D. degrees in Optical Sciences. Our graduate programs are offered both on campus as well as through Distance Learning. Contact: Carl F. Maes, Associate Dean, Academic Programs, carl.maes@optics.arizona.edu.

### Univ. of Massachusetts - STL #4445

175 Cabot St, Lowell, MA, 01854  
+1 978 934 1300; fax +1 978 452 3333  
robert\_giles@uml.edu; http://stl.uml.edu

Since 1982, the Submillimeter-Wave Technology Laboratory (STL) at the University of Massachusetts Lowell has developed solid-state and laser-based terahertz sources along with high-sensitivity incoherent and coherent receivers. Using these technologies, STL researchers have engineered unique Compact Radar Ranges to acquire the radar signature of scaled tactical vehicles. Producing high fidelity radar imagery cost effectively, STL has pioneered terahertz radar modeling. Contact: Dr. Robert Giles, Director, Robert\_Giles@uml.edu; Dr. Andrew Gatesman, Assistant Director, Andrew\_Gatesman@uml.edu.

### Universal Photonics, Inc. #1823



495 W John St, Hicksville, NY, 11801  
+1 516 935 4000; fax +1 516 935 4039  
info@universalphotonics.com; www.universalphotonics.com

#### Featured Product: SOMOS High-Speed, Double-Sided Lapping and Polishing Machines.

Manufacture and distribution of advanced lapping/polishing consumables and machinery for glass, plastic, crystals, infrared, semiconductor, electro, laser and fiber optics. Including polish pads and compounds, ultra-pure alumina, colloidal silicas, thermoplastic adhesives, holding foils, diamond powders, compounds and lapping film, slurries for sapphire/CaF, lens bonding material, precision pitch, waxes and cements. Machinery: Advantage and DAMA, HKS centrifuges, SOMOS Double-sided Lapping and Polishing. Contact: Jerry Hammock, Sales Rep, jerryh@universalphotonics.com; Justin Mahanna, Technical Sales, justinm@universalphotonics.com.

### University of Rochester, The Institute of Optics #632



PO Box 270186, Wilmot Bldg River Campus,  
Rochester, NY, 14627  
+1 585 275 2322; fax +1 585 244 4936  
www.optics.rochester.edu

Optical Science and Engineering. Industries and national laboratories can interact with The Institute's faculty and students through The Institute's Industrial Associate Program, which meets on campus twice annually. Also of interest is the Optics Summer School Program, a series of introductory and intermediate short courses. See www.optics.rochester.edu. Contact: Prof. Wayne Knox, Director and Professor, wknox@optics.rochester.edu; Prof. Gary Wicks, Associate Director and Professor, wicks@optics.rochester.edu.

### UNIVET srl #207

Via Giovanni Prati 87, Rezzato, Italy, 25086  
+39 030 2499411; fax +39 030 2499430  
info@univet.it; www.univet.it

#### Featured Product: 5X7 is the ideal eyewear for operator protection, over-spec and equipped with SoftPad™.

Univet designs, produces and distributes industrial, medical and laser safety eyewear together with surgical magnification systems. Precision and quality are the result of made-in-Italy research and many controls of the supply line. Univet is the only company that offers complete lines of safety eyewear in so different fields. The interaction among these sectors encourages the evolution of products to original solutions, always meeting market requests. Contact: Gianpiero Giuliano, Export Manager, giulianog@univet.it; Marco Caldera, Export Sales Coordinator, calderam@univet.it.

### VACCO Industries #5005

10350 Vacco St, South El Monte, CA, 91733  
+1 626 443 7121; fax +1 626 350 0533  
www.vacco-etch.com

#### Featured Product: Precision Pin Holes for leak & pressure testing, .002" and greater with tight tolerances.

Your "Partner in Precision" since 1954, VACCO Industries manufactures precision Photo Etched & Diffusion Bonded components. Micro Fluidic Channels, Mini Chambers, Fuel Cells, Heat Exchangers, and many other custom applications are made to meet your exact needs and requirements. Hermetically sealed and tested. VACCO supplies products both small and large in size and/or quantities. ISO 9001:2000 and AS9100B registrations along with many other in-house capabilities are offered. Contact: Mike Courtney, California Sales Manager, mcourtney@vacco.com.

### Vacuum Engineering & Materials Co., Inc. #2512

390 Reed St, Santa Clara, CA, 95050  
+1 408 871 9900; fax +1 408 871 2900  
info@vem-co.com; www.vem-co.com

VEM is your "Premier" ISO Certified and ITAR Registered PVD Materials Supplier! With sputtering targets and evaporation materials up to 99.9999% purity we cover all applications including: Photovoltaics, Precision Optics, TF Solar Cells, Fiberoptics, Lasers, AR Coatings, and many others. Speciality items include ITO, AZO, ZNO plus materials for P-N junctions, Interconnect Layers and Barrier Films. Please visit the VEM web site at www.vem-co.com or e-mail us at info@vem-co.com. Contact: Marco Garcia, Inside Sales, MGarcia@vem-co.com; Jeanne Graziani, Inside Sales, JGraziani@vem-co.com.

## Vacuum Process Technology LLC (VPT) #5037

70 Industrial Park Rd, Plymouth, MA, 02360  
+1 508 732 7200; fax +1 508 732 0317  
sales@vpotec.com; www.vpotec.com

Vacuum Process Technology (VPT) is a solutions provider for a wide range of industries using PVD thin film coating technology. We have delivered over 200 high vacuum systems over the past twenty years ranging in size from 24 inches to 120 inches in both batch and in-line configurations. VPT is unique because we are not simply a fabricator or integrator; we have engineering design, fabrication, assembly and process development under one roof. This allows us to deliver turn-key solutions. Contact: Mark Dykstra, VP Sales and Marketing, mdykstra@vpotec.com; Steve Chiavaroli, Sales Manager, schiavaroli@vpotec.com.

## Valdor Fiber Optics #2621

3116 Diablo Ave, Hayward, CA, 94545  
+1 510 293 1212; fax +1 510 293 9996  
sales@valdor.com; www.valdor.com

**Featured Product: Omega Field-installable Kits & Enclosures - perfect for field repair, cable installation/extension.**

Offers all-mechanical, field-installable Impact Mount Connectors, Enclosures & Termination Kits. The Flexible Omega Enclosure line & its SP Miniature Connector is ideal for repair & cable extension. We offer multi-channel HeptoPort Bundle Connectors for military/aerospace applications. Our IMT SMA connectors are designed for high power application. Valdor's laser pigtailed provide hermeticity without costly metallization. Contact us for custom assemblies at sales@valdor.com. Contact: Bianca Sanchez, Sales Manager, bianca@valdor.com; Becky Chan, Admin/Sales, becky@valdor.com.

## Valley Design Corp. #1741

151-D Harvey W Blvd, Santa Cruz, CA, 95060  
+1 831 420 0595; fax +1 831 420 0592  
info@valleydesign.com; www.valleydesign.com

ISO 9001:2008 certified manufacturer of substrates, wafers, discs and other flat components for optical, microelectronic and photonic applications. Provider of precision lapping, polishing, dicing, grinding, thinning services. Materials processed: Fused Silica, Glass, Sapphire, Silicon, Aluminum Nitride, Alumina, SiC, Aluminum, Stainless Steel, Molybdenum, Germanium, Crystals and others. Many materials in stock. East and West coast facilities. All work performed in house since 1975. Contact: Mandi Indars, Director, Marketing & Sales, mandi@valleydesign.com; Christina Hantzis, Customer Service, info@valleydesign.com

## Valtech Corp. #4741

2113 Sanatoga Station Rd, Pottstown, PA, 19464  
+1 610 705 5900; fax +1 610 705 0300  
b.girard@valtech.com; www.valtechcorp.com

Valtech Corporation is a global manufacturer of formulated detergents, specialty adhesives and custom molded polymers. Our Products are supplied into the semiconductor, computer disk drive, precision optical, ophthalmic, photovoltaic, medical, and instrumentation industries. Contact: Lynne Sacerdote, Market Development Manager, l.sacerdote@valtechcorp.com; Robert Girard, Vice President, b.girard@valtechcorp.com.

## Product Locator Kiosks

North Hall Concourse  
South Hall Concourse  
Find what you need, print out the results,  
and be on your way in no time!

- Product Search
- Keyword Search
- Product Demonstrations
- Product Launches

## The Expert and Manufacturer of Optical Coating .



1. Optical Coating  
Components Used in Projector  
Display: Color Prism, PBS,  
DM, UV-IR cut,
2. Optical Coating  
Components used in Digital  
Products: PC ND, PC-IR cut,  
Blue glass.
3. Optical Coating  
Components used in Advanced  
Optical Instruments: BP, OD

## Keting Optical Technology Inc.

**Tel:86-571-89263887**

**Fax:86-571-89263883**

**www.koti-hz.com.cn**

## Varioptic

24B rue Jean Baldassini, Lyon, France, 69007  
+33 4 37 65 35 31; fax +33 4 37 65 35 30  
sales@varioptic.com; www.varioptic.com

**Featured Product: Baltic 617 liquid lens enables optical image stabilization and ultra fast focus with no moving parts.**

Varioptic develops and produces electrowetting liquid lenses featuring fast and precise curvature and tilt variation. They bring auto focusing and optical image stabilization to miniature imaging devices, for markets such as industrial cameras, machine vision, barcode reading, biometrics, endoscopy, medical.

#1522

## Vermont Photonics Technologies Corp.

#840

22 Browne Ct Unit 110, Brattleboro, VT, 05301  
+1 802 275 5210; fax +1 802 275 5215  
mail@vermontphotonics.com; www.vermontphotonics.com

Optical testing, metrology and quality control equipment. Autocollimators, collimators, diopometers, alignment telescopes, focometers, refractometers. Contact: Michael Mross, President, mail@vermontphotonics.com; Thomas Lowell, VP, mail@vermontphotonics.com.

## Veeco Instruments Inc.

#1101

**SPIE** Corporate Member

1 Terminal Dr, Plainview, NY, 11803  
+1 516 677 0200; fax +1 513 714 1200  
info@veeco.com; www.veeco.com

**Featured Product: SPECTOR Large Area Planetary IBD System combines unsurpassed ion beam film quality with batch sizes.**

Veeco is the world leader in ion beam technology, offering the most comprehensive ion source product line available. With technologies including: DC, RF, Anode Layer, End-Hall and Cylindrical Magnetron. Veeco's technology advantage in ion beam grid optics has produced some of the world's most collimated and uniform ion beams for etch and alignment applications. In addition, Veeco has produced highly divergent ion sources for large area ion assisted deposition applications. Contact: Brian Knollenberg, Director, Marketing, bknollenberg@veeco.com; Mike Meyer, Product Marketing Engineer, mmeyer@veeco.com.

## VENTEON Laser Technologies GmbH

#6084

Hertzstr 1B, Garbsen, Germany, 30827  
+49 511 762 17219; fax +49 511 762 17220  
info@venteon.com; www.venteon.com

VENTEON Laser Technologies offers comprehensive solutions in the field of few-cycle laser pulses, covering their generation, characterization and application. The leading-edge femtosecond oscillators by VENTEON feature the shortest pulses commercially available, high pulse energies, and octave-spanning output spectra for direct CEP stabilization. The product portfolio is completed by pulse characterization tools such as SPIDER, broadband femtosecond optics and custom-designed solutions. Contact: Dr. Thomas Binhammer, Managing Director, info@venteon.com; Dr. Stefan Rausch, Technical Director, rausch@venteon.com.

## VERTILAS GmbH

#4601

c/o Gate Garching, Lichtenbergstr 8, Garching, Germany, 85748  
+49 89 5484 2010; fax +49 89 5484 2019  
sales@vertilas.com; www.vertilas.com

**Featured Product: VL-1490: 1490 nm VCSELs for FTTx. 1- 10 Gbps. VL-23xx-1-SQ: 2,3 µm SM VCSEL for NIR gas detection.**

VERTILAS GmbH provides innovative lasers for optical communications and NIR Gas Detection. Lasers are available from 1,3 µm to 2,6 µm with a wide range of packaging options. VERTILAS high-performing InP VCSEL technology enables customers to reduce power consumption by up to 50% and offers signaling rates up to 20 Gbps and more. Contact: Christian Neumeyr, Chief Executive Officer, neumeyr@vertilas.com.

## V-gen Ltd.

#2616

1 Betzalel St, Ramat Gan, Israel, 52521  
+972 3 5755756; fax +972 3 5299707  
sales@vgen.com; www.vgen.com

**Featured Product: V-Gen's VPFL lasers are pulsed Ytterbium fiber lasers for marking, scribing, LIDAR and more.**

V-Gen develops, manufactures and markets high quality innovative CW and pulsed fiber laser systems for a wide range of industrial and medical applications. In the industrial field the company develops and manufactures pulsed Ytterbium fiber-lasers for such applications as marking, micro-machining and solar cell scribing. V-Gen's short pulse versions are primarily implemented in LIDAR and range-finding. Contact: Meir Giladi, Sales Director, meir@vgen.com; Dr. Eran Inbar, CEO, eran@vgen.com.

## VI Systems GmbH

#5217

Hardenbergstr 7, Berlin, Germany, 10623  
+49 30 308 31 4331; fax +49 30 308 31 4359  
sales@v-i-systems.com; www.v-i-systems.com

**Featured Product: VI Systems is a fabless manufacturer of VCSEL based fiber optic components based in Berlin, Germany.**

VI Systems GmbH, founded in 2006, is a fabless developer and manufacturer of optical engines for data transmission at ultrahigh bit rates and the related electro-optic components. The company offers ultrahigh-speed 850nm VCSEL and photodetector chips, integrated circuits such as transimpedance amplifiers, VCSEL driver and modulator driver ICs. The product range includes fiber coupled modules for test equipment and micro-assemblies for short reach optical transceivers. Contact: George Schaefer, Director of Sales, George.Schaefer@v-i-systems.com; Ljudmila von Berg, Director of Operations, Ljudmila.vonberg@v-i-systems.com.



**SPIE Career Center**  
**Job Fair**  
**Two Days Only**  
North Hall | Aisle 5600  
**Employers are coming together to interview and hire candidates at Photonics West!**  
Tuesday 25 January · 10:00 am to 5:00 pm  
Wednesday 26 January · 10:00 am to 5:00 pm  
spie.org/careercenter SPIE



# Explore Colorado Photonics

- **Products & Services**
- **Education & Workforce Training**
- **Research and Development**
- **Specialized Labs & Facilities**

## Discover the Colorado Cluster

### Booth

- 2139** Advanced Thin Films
- 2132** ALIO Industries
- 2131** Avantes, Inc.
- 2128** Boulder Nonlinear Systems, Inc.
- 2134** Colorado Photonics Industry Association
- 2135** Kapteyn-Murnane Labs., Inc.
- 2130** Kimmon Electric US, L.P.
- 2129** Meadowlark Optics, Inc.
- 2138** Perkins Precision Developments, LLC
- 2140** Scientech, Inc.
- 2138** Triad Technology
- 2141** Virtual Industries, Inc.



[www.coloradophotonics.org](http://www.coloradophotonics.org)

## Vincent Associates

#629

803 Linden Ave, Rochester, NY, 14625  
+1 585 385 5930; fax +1 585 385 6004  
vincentassociates@uniblitz.com; www.uniblitz.com

Vincent Associates is the manufacturer of UNIBLITZ electronically programmed shutters & shutter drive systems, with standard devices (including the LS, VS and the CS series of high reliability shutter systems), the XRS (for X-ray use) series and the new NS & DSS shutter series. Standard aperture sizes ranging from 1mm - 90mm with many types of microscope and video mounting systems offered for specific shutter mounting applications. Custom configurations and OEM systems are also available. Contact: Stephen Pasquarella, Senior VP, spsq@uniblitz.com; Adam J. Lamb, VP Manufacturing, alamb@uniblitz.com.

## Virtual Industries, Inc.

#2141

2130 Victor Pl, Colorado Springs, CO, 80915  
+1 719 572 5566; fax +1 719 572 5504  
info@virtual-ii.com; www.virtual-ii.net

Manufacturer of vacuum handling tools and accessories. Products include self-contained vacuum pens, battery operated units, benchtop systems and a variety of vacuum cups and tips. Uses include the handling of electronic components, lenses, wafers or any parts ranging in size from 0.005 in. to over 12 in. All products are manufactured in the USA.

## VisiMax Technologies, Inc.

#3010

9177 Dutton Dr, Twinsburg, OH, 44087  
+1 330 405 8330; fax +1 330 405 8332  
www.visimaxtechnologies.com

VisiMax ITAR registered, world class provider of precision optical coatings for both glass and polymer optics. VisiMax offers an extensive range of coating types including anti-reflection, beamsplitters, mirrors, protective hardcoatings, bandpass filters/dichroics, and dielectric reflectors, as well as custom coating designs. VisiMax use state-of-the art optical coating systems and automation within clean room facility. Contact: Dane Clark, Operations Manager, dclark@visimaxtechnologies.com; Brian Murphy, CDO, bmurphy@visimaxtechnologies.com.

## Vision Components GmbH

#5525

10 Hedgerow Dr, Hudson, NH, 03051  
+1 603 598 2588

**Featured Product: VC4012nano: Freely programmable, high performance low-cost smart camera in a small package.**

Vision Components is a leading supplier in the field of machine vision, manufacturing real-time self-contained Smart Cameras for quality inspection and automation. Equipped with the multitasking VCRT operating system, VC Smart Cameras can be easily configured for all possible tasks. VC provides software libraries for a wide range of applications including motion capture, decoding, and measurement. VC also develops custom solutions, such as solar wafer handling or OEM cameras for medical devices. Contact: Endre Toth, Director of Business Development, etoth@vision-components.com.

## Vision Research, A Division of AMETEK

#5407

100 Dey Rd, Wayne, NJ, 07470  
+1 973 696 4500; fax +1 973 696 0560  
phantom@visionresearch.com; www.visionresearch.com

Vision Research designs and manufactures high-speed digital imaging systems which continue to stand as benchmarks for the high speed digital imaging industry. The Phantom family of digital high-speed cameras add a new dimension to the sense of sight, allowing the user to see details of an event when it's too fast to see, and too important not to™. Please visit www.visionresearch.com. Contact: Mark Doerfler, Sales, mark.doerfler@ametek.com; Larry Vlastic, Sales, Larry.Vlastic@ametek.com.

## Vixar

SPIE Corporate Member

15350 25th Ave N Ste 110, Plymouth, MN, 55447  
+1 763 746 8045  
info@vixarinc.com; www.vixarinc.com

**Featured Product: Two inch linear 680 nm laser scanning array. Available as well in a four inch version.**

Vixar offers high performance, cost effective, and reliable visible and near IR VCSEL components and solutions. Our VCSEL based solutions can reduce power consumption in your handheld or body worn device, improve the range or precision of your motion control sensor, or enhance performance of your office peripheral or vehicle/home network. Contact: Mary Hibbs-Brenner, CEO, mhibbsbrenner@vixarinc.com; Bouchaib Nessar, Business Development, bnessar@vixarinc.com.

#5202

## VLOC

#1135

7826 Photonics Dr, Trinity, FL, 34655  
+1 727 372 4425; fax +1 727 375 5223  
www.vloc.com

Manufacturer of fluoride and oxide crystals including YAG, YLF, YAIO, ruby, LiSAF, LiSGaF and YVO4. Nonlinear materials include KTP, KTA and KNbO3. Components include laser cavity flow tubes, mirrors, prisms, lens duct and wave plates. Custom services include wafer fabrication, repolishing, coatings and optical subassemblies. Coatings are dielectric, metallic, ion-assisted deposition and ion-beam sputtering. Contact: Jim Keck, Director of Sales and Marketing, info@vloc.com.

## Voltage Multipliers Inc.

#4325

8711 W Roosevelt, Visalia, CA, 93291  
+1 559 651 1402  
mfulley@voltage-multipliers.com; www.voltage-multipliers.com

**Featured Product: 2.5kV OC025 High Voltage Opto-coupler features high gain, and high isolation in a small package.**

Voltage Multipliers, Inc. opened in November of 1980. Since then, our product line has grown to include high voltage diodes, high voltage power supplies, opto-couplers, and rectifier assemblies. Our products are found in military, space, industrial, medical, and portable X-ray applications. VMI is ISO9001:2008 certified. VMI is represented world-wide, and boasts direct factory support. VMI is partnered with CalRamic Technologies LLC, maker of high voltage ceramic capacitors. Contact: Margaret Fulleylove, Senior Inside Sales, mfulley@voltage-multipliers.com; Karen Spano, Sales Administration Manager, kspano@voltage-multipliers.com.

## Vortran Laser Technology, Inc.

#5229

SPIE Corporate Member

21 Goldenland Ct Ste 2000, Sacramento, CA, 95834  
+1 916 283 8208; fax +1 916 648 9751  
dwilner@vortran.com; www.vortran.com

**Featured Product: Vortran's Stradus™ series of diode modules now include a 473nm, 60mW module. More to come soon!**

Vortran Laser Technology, Inc. is composed of laser industry professionals with over 75 years of optical engineering experience. The Stradus™ series of laser diode modules have the highest performance specifications available in the industry with a fast start up time, low noise, unprecedented stability, and unrivaled reliability. Product offerings include wavelengths from UV(375nm) to near-IR(~785nm) at various powers. We also offer custom optical sub-system design and manufacturing. Contact: Steve Throne, Director of Sales, sthron@vortranlaser.com; Doug Wilner, Executive VP, dwilner@vortranlaser.com.

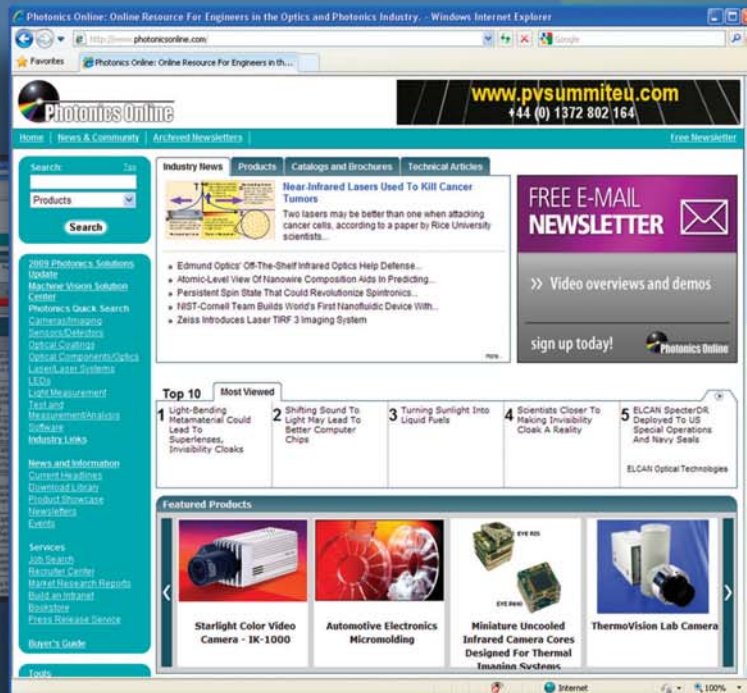




# Photonic Online

## Where the future of photonics is found

Photonic Online is the leading Web site for the optics and photonics industry, serving the needs of industry professionals since 1997. We are your information source for everything related to optics and photonics technology, whether you are searching for product overviews, technical articles, or industry news ... or looking to market your products and services in this space. Take a guided tour below, and visit us at [www.photonicsonline.com](http://www.photonicsonline.com).



[www.photonicsonline.com](http://www.photonicsonline.com)

### 1. Find Solutions

Locate the ideal product or services for your current project in our extensive solutions database.

### 2. Current Headlines

We help you keep abreast of the latest news, technology updates, product introductions, and everything else.

### 3. Free Newsletter

Get technical articles, product overviews, case studies, white papers, and news delivered directly to your inbox.

### 4. Community

Stay engaged with your peers in the industry through our active online community.

### 5. Top Ten

What articles, case studies, and white papers are your colleagues reading? Find out here.



## VTT Technical Research Centre of Finland

#4635

Tietotie 3, Espoo, Finland, 02044  
+358 20 722 720; fax +358 20 722 7012  
sales.electronics@vtt.fi; www.vtt.fi

**Featured Product: Innovative MEMS-based microspectrometer technology for wavelength ranges from 350 nm up to 14  $\mu$ m.**

VTT Technical Research Centre of Finland is the biggest multitechnological applied research organisation in Northern Europe. VTT provides high-end technology solutions and innovation services. In the field of optics and photonics VTT has competence on integrated optics, optical MEMS, optoelectronic modules, optical system integration, optical sensors and measurement devices, imaging instruments, optical communication devices and fiber optics. Contact: Kai-Erik Elers, Customer Manager, kai-erik.ellers@vtt.fi; Jarkko Antila, Team Leader, Senior Research Scientist, jarkko.antila@vtt.fi.

## VueMetrix

SPIE Corporate Member

#740

960 Hamlin Ct, Sunnyvale, CA, 94089  
+1 408 734 9974; fax +1 408 734 7997  
info@vuemetrix.com; www.vuemetrix.com

VueMetrix is a leading supplier of laser diode and TEC control systems. Our feature-rich controllers satisfy the most demanding requirements, and our development kits provide complete out-of-the-box solutions to many advanced control problems. Small size, low cost and convenient packaging options make our controllers ideal for high-volume applications. Easy to use WinVue software facilitates first-time setup, plus powerful data acquisition and control functions for R&D engineers. Contact: Joe Avery, Director of Sales, joe.avery@vuemetrix.com; Jim Chiu, VP of Engineering, jim.chiu@vuemetrix.com.

## Vytran LLC

#729

1400 Campus Dr W, Morganville, NJ, 07751  
+1 949 244 2807; fax +1 949 209 2585  
info@vytran.com; www.vytran.com

Vytran produces equipment for optical fiber stripping, cleaning, cleaving, splicing, recoating and testing. Its all-in-one systems and individual process tools are used in the sensing, medical, telecom, aerospace and defense, research, and fiber laser markets. The company's unique products enable low-loss, high-performance components such as the combiners and tapers that are a foundation of scalable fiber lasers. Contact: Dan Bowden, Sales Engineer, dbowden@vytran.com; Jim Stathis, Business Development Manager, jstathis@vytran.com.

## Wasatch Photonics

#1041

1305 N 1000 W Ste 120, Logan, UT, 84321  
+1 435 752 4301; fax +1 435 752 4306  
info@wasatchphotonics.com; www.wasatchphotonics.com

**Featured Product: Spectrometers for Raman, OCT, and hyperspectral imaging with high resolution and throughput.**

Wasatch Photonics specializes in high performance Volume Phase Holographic Gratings and Optical Elements. Our transmission geometry simplifies design and manufacturing. Our Systems Division builds VPHG based spectrometers with industry leading throughput and resolution with low PDL. Applications include Raman, OCT, and hyperspectral imaging for users ranging from researchers to OEMs. At Wasatch Photonics, we are committed to quality, innovation, and meeting the needs of our customers. Contact: Gerald Heidt, President, gheidt@wasatchphotonics.com; Mike Sullivan, General Manager, Systems Division, msullivan@wasatchphotonics.com.

## Wavelength Electronics, Inc.

#2200

SPIE Corporate Member

51 Evergreen Dr, Bozeman, MT, 59715  
+1 406 587 4910  
sales@teamWavelength.com; www.teamWavelength.com

High Precision Laser Diode Drivers and Ultrastable Temperature Controllers. We design and manufacture a wide range of robust controllers for OEM markets and researchers. Our high performance controllers are used widely in Biomedical, Semiconductor, Electro-Optics, Fiber Optics, Spectroscopy, and Military applications. If you want to save space, cost, and development time contact sales@teamwavelength.com. Contact: Ward King, Sales Manager/Applications Engineer, ward@teamwavelength.com.

## Wavelength References

#4327

33809 SE Eastgate Circle, Corvallis, OR, 97333  
+1 541 738 0528; fax +1 541 738 0998  
sales@wavelengthreferences.com;  
www.wavelengthreferences.com

**Featured Product: Clarity-NLL high power linewidth narrowed laser for sensing applications.**

We make gas cells of all types for use as wavelength calibrators, in sensing applications, or research and development. We have introduced a line of linewidth narrowed DFB lasers locked to gas lines available in various power and wavelength options. Contact: Steve Blazo, President, steve.blazo@wavelengthreferences.com; Jeremy Colson, Engineering Manager, jeremy.colson@wavelengthreferences.com.

## Wavelength Technology Singapore Pte Ltd.

#2610

Blk 2 Bukit Batok St 24, #06-03 Skytech Building, Singapore, Singapore, 659480  
+65 65649624; fax +65 65643862  
info@wavelength-tech.com; www.wavelength-tech.com

**Featured Product: Beam shaper is to change the Gaussian profile of a light source to become a Top-Hat profile.**

Wavelength Technology Singapore is established by a group of Laser Optics professionals in 2002 to provide customer with quality and cost competitive optical products, primary laser optics, Infrared imaging lens, laser accessories and related components. We are a global company providing fully integrated, high quality and best value electro optic solutions to our customers. Contact: Jenny Zhu, Operations Director, jenny@wavelength-tech.com; Diana Lie Q. Abiso, Product Marketing Engineer, yana@wavelength-tech.com.

## Western Photonics Technology

#903

SPIE Corporate Member

2005 Orange St Ste D, Alhambra, CA, 91803  
+1 626 289 1686; fax +1 626 289 1048  
info@wptec.com; www.wptec.com

**Featured Product: Precision cemented lens, Rod lens, Mini optics.**

Develops and manufactures miniature optics (lens, rod lens, C-lens, G-lens, prism, window), optics (window, lens, prism; filter), IR, visible, UV optics (Sapphire, Germanium, ZnSe, CaF<sub>2</sub>), laser and optical crystals (Nd:YAG, BBO), coatings, optical system, fiber optics (fiber pigtail), borescopes (IR, visible, UV rigid/flexible borescope, high temperature borescope, endoscope), lasers (CTH:YAG laser, Nd:YAG laser, CO<sub>2</sub> laser), hologram (hologram label). Contact: Roger Xie, North American Manager, info@wptec.com.

A NEW ADDITION TO THE RED-WAVE SERIES...

# DWARF STAR



RUGGED NIR SPECTROMETER  
COMPACT - 5x3x2 INCHES  
INGAAS PDA DETECTOR

*Portable Applications,  
Industrial Solutions, and OEM Instrumentation*

## Miniature Fiber Optic Spectrometers

StellarNet's rugged line of low cost and portable spectrometers are ideal for a complete spectrum of lab and field measurements. Coupled to fiber optic sampling accessories and free SpectraWiz® software, StellarNet's accurate and reliable instrumentation provides a multitude of light measurement applications in the UV-VIS-NIR wavelength ranges.

- NIST Traceable Spectroradiometers
- LED Characterization Systems
- High Resolution Laser Measurement
- Plasma Emission Monitors
- Thin Film Thickness Measurement
- Fiber Optic Spectrum Analysis
- Solar Irradiance Monitoring Systems
- Optics, Coatings & Filter Analysis
- Fiber Optic Probes & Light Sources
- Low Cost Integrating Spheres
- UV-VIS-NIR Systems 190-2300nm
- Powerful SpectraWiz® Software



*Visit the SpectraWizard  
Booth #2639, South Hall  
Booth #4118, North Hall*

Find an International Dealer  
[www.StellarNet.us/dealers](http://www.StellarNet.us/dealers)



Tampa, FL, USA

[www.StellarNet.us](http://www.StellarNet.us)

(+)-1-813-855-8687



## Wiley-Blackwell

111 River St, Hoboken, NJ, 07030  
+1 201 748 6000; fax +1 201 748 6088  
info@wiley.com; www.wiley.com

Wiley-Blackwell is the international scientific, technical, medical and scholarly publishing business of John Wiley & Sons, with strengths in every major academic and professional field and partnerships with many of the world's leading societies. For more information, please visit www.wileyblackwell.com or http://onlinelibrary.wiley.com.

## Williams Advanced Materials

2978 Main St, Buffalo, NY, 14224  
+1 716 837 1000  
www.williams-adv.com

WAM has a full range of Thin Film and Micro electronic Packaging Materials and related services from precious and non-precious metals to inorganic chemicals and ceramics for the LED, Optics, Laser, IR Imaging & Sensors markets, including CIGS materials for Solar applications. We are also a leading manufacturer and supplier of precision optical filters and thin film coating services from the UV through the Far IR for life sciences, commercial, defense, space, and scientific applications. Contact: Kim Schoen, Marketing Specialist, kschoen@beminc.com.

## WITCORE Co., Ltd.

Science Park of Shandong University, Yirgxiu Rd High Tech Zone, Jinan, China, 250101  
+86 531 85198638; fax +86 531 88873658  
sales@witcore.com; www.witcore.com

**Featured Product: Single Domain KTP/KTA crystals for OPO application! BBO/LBO crystals as well as optics.**

WITCORE CO., LTD. was founded by Coretech Crystal Co., (since 1990) and Wit Crystal Co., that evolved primarily from the National Key Laboratory-Institute of Crystal Material (ICM). We are devoted to the development and manufacturing of NLO, laser crystals as well as optics! Contact: Peixuan Liu, Sales Mgr., px.liu@witcore.com.

## Wordingham Technologies

**SPIE** Corporate Member

580 Fisher Station Dr, Victor, NY, 14564  
+1 585 924 2294; fax +1 585 924 7660  
borcutt@wordingham.com; www.wordingham.com

## World Star Technologies

**SPIE** Corporate Member

321 Lesmill Rd, Toronto, ON, Canada, M3B 2V1  
+1 416 363 3332; fax +1 416 363 3112  
info@worldstartech.com; www.worldstartech.com

**Featured Product: Compact Computer Controlled Laser from 405nm to 1064nm with RS-232/USB control.**

World Star Technologies specializes in manufacturing ultra compact energy efficient lasers which deliver high stability and low noise. Our goal is to introduce highly compact and efficient diode pumped lasers which will enable applications previously considered unachievable. Contact: David Stephen, Sales Manager, dstephen@worldstartech.com; Emily Hodgkinson, Customer Support, emily@worldstartech.com.

#705

## Wuhan Huaray Precision Laser Co., Ltd.

HUST Science Park, Wuhan East Lake High-Tech Development Zone, Wuhan Hubei, China, 430223  
+86 27 8718 0496; fax +86 27 8718 0323  
www.huaraylaser.com

**Featured Product: Compact design and high reliability, excellent beam quality, high beam pointing stability.**

The Huaray solid-state laser included RIO-U3A, RIO-G7A, RIO-F10A, and RIE-F15B. All the products are in a very compact package. An improved cavity design and compact makes its beam quality excellent, pulse width short, peak power high and rep-rate wide. Assembled and tuned in a class 1000 clean room, it outputs a consistent and reliable laser beam for industrial processing. With cost effective, it is an ideal choice for high-precision and high quality laser machining. Contact: Flora Dai, Sales Assistant, flora7729@yahoo.com.cn; Hua Ming, Sales Manager, hm@hglaser.com.

#19010

#1600

## Wuhan Kirn Survey Instrument Co., Ltd. #5425

Wuchang District, No 40 Hongshance Rd, Wuhan Hubei Province, China, 430071  
+86 27 8782744; fax +86 27 87862744  
licuixia\_2006@126.com; www.khyqc.com

This company is a professional manufacturer of high-quality corner prism, precision is 1" ~ 5". The fused silica corner prism that used in the field of CNSA is all supplied by our company. Our foreign client includes Germany, the Czech Republic, Korea, Japan and other international well-known optical companies. Contact: Cuixia Li, Factory Director, licuixia\_2006@126.com.

## Wuhan TianYu Optical & Electronic Instrument Co., Ltd.

Beigang Industrial Park, No 8 Wenxiu St Hongshan District, Wuhan, China, 430070  
+86 27 87673885; fax +86 27 87677199  
sales@tianyu.cn; www.tianyu.com

**Featured Product: Optical Component, Laser Surveying Instrument, ADS Prism Reflector.**

The Wuhan TIANYU Optical & Electronic Instrument Co., Ltd. is located in the Optics Valley industrial park, Wuhan of China. After years of continuous improvement and development, the production technology and output capacity of ADS prism reflectors and accessories is in a leading position in China. TIANYU has researched and developed laser products with world-class standard, including Cross Line Laser, Automatic Level, Laser Plumb, etc. Contact: Mr. Liu Jizhong, General Manager, Sales@tianyu.cn; Ms. Li Runhua, Sales Manager, Sales@tianyu.cn.

#1901M

#638

## Wuhan Zhongji Optical Instrument Co., Ltd.

Beigang Industrial Park, No 8 Wenxiu St Hongshan District, Wuhan, China, 430070  
+86 27 67125537; fax +86 27 87673991  
whzjgx@126.com; www.cnzjgx.com

**Featured Product: Optical Component, coner cube, prism.**

The annual out put for Wuhan Zhongji Optical Instrument Co., Ltd's coner cubes and prisms in various sizes reaches 100,000 pcs, and the products cover the fields of surveying & mapping, satellite positioning, military, information and communication transport, etc. Contact: Huang He, General Manager, whzjgx@126.com; Ms. Li Runhua, Sales Manager, Sales@tianyu.cn.

#1901N

#5021



# PHYSORG **.COM**

All you can consume science and research news

**Optics & Photonics** Condensed Matter Quantum Physics  
Superconductivity **Physics** Soft Matter Plasma  
**Nanotechnology** Nanophysics Nanomaterials Bio &  
Medicine **Space & Earth** Astronomy Environment Space  
Exploration **Electronics** Consumer & Gadgets Hardware  
Robotics **Technology** Internet Software Engineering  
Semiconductors Telecom Energy **Materials Science**  
Computer Sciences Hi Tech & Innovation **Chemistry**  
Biochemistry Polymers Analytical Chemistry **Biology** Plants &  
Animals **Evolution** Ecology Cell & Microbiology Biotechnology  
**Medicine & Health** Psychology & Psychiatry Medications  
Cancer Genetics HIV & AIDS Diseases Neuroscience  
**Mathematics** Archaeology & Fossils **Social Sciences**

[www.PHYSorg.com](http://www.PHYSorg.com)

Promote your products to a targeted audience on PhysOrg.com at competitive rates. For all Photonics West attendees, please contact [feedback@physorg.com](mailto:feedback@physorg.com) with the code "SPIE2011" and receive a 20% advertising discount.



## **WZWOPTIC AG**

**SPIE** Corporate Member

Wegenstr 18, Balgach, Switzerland, 9436  
+41 71 722 1214; fax +41 71 722 1240  
optics@wzw.ch; www.wzw.ch

**Featured Product: Sub Angström Polishing <1Å Optical Assemblies Opto-mechanical Assemblies Endoscopic prisms 0.3mm.**

Since 1965 WZWOPTIC AG have been producing optics for customers all over the world with Swiss precision. High-end optical fabrication and opto-mechanical assemblies all under one roof. As of 2008, WZW has had "super polishing capabilities, RMS <1 angstrom, guaranteed with meterology". A further investment in 2010 into additional machinery, has now more than doubled our capacity, due to more than expected demand. Contact: David Varrie, Director Sales & Marketing, david.varrie@wzw.ch; Willi Weder, CEO, willi.weder@wzw.ch.

## **Xactra Technologies**

9 Marway Circle, Rochester, NY, 14624  
+1 585 426 2030; fax +1 585 426 2709  
sales@xactra.com; www.xactra.com

Xactra Technologies, produces precision custom machined components for the optics/photonics marketplace. Our meticulous attention to detail and high quality standards are well known to many major OEM optical companies. We provide precision components for all optical devices: Lenses, laser instrumentation, military/defense, machine vision, positioning systems, and medical devices. Xactra Technologies: Quality obsessed, Schedule driven and Competitively focused. Contact: J. Michael Grady, VP, sales@xactra.com.

## **Xenics**

**SPIE** Corporate Member

Ambachtenlaan 44, Leuven, Belgium, 3001  
+32 16 38 99 00; fax +32 16 38 99 01  
sales@xenics.com; www.xenics.com

Xenics is the leading developer of innovative infrared detection solutions for a wide range of applications. Xenics designs, manufactures and sells infrared detectors and cameras, both line-scan and 2-D, covering the infrared wavelength ranges from 0.4 to 14 micrometers. In addition, Xenics delivers custom products according to the agreed specification and planning. Contact: Luc DeBrouckere, US Sales Manager, luc.debrouckere@xenics.com.

## **Xi'an Focuslight Technologies Co., Ltd. #19011**

No 17 Xinxi Rd, New Industrial Park Xi'an High-Tech Zone, Xi'an Shaanxi, China, 710119  
+86 29 88881149; fax +86 29 88887075  
sales@focuslight.com.cn; www.focuslight.com.cn

**Featured Product: 12 series of Focuslight's products are very competitive in international market.**

Xi'an Focuslight Technologies Co., Ltd is committed to research, development, manufacturing and sale of high -power laser diodes in a wide range of applications including industry, medical, display, illumination, entertainment and scientific research. We also serve as an ODM and/ or OEM for other companies in this field. Contact: YanChun Zhang, VP of Sales & Marketing, zhangyc@focuslight.com.cn; Vivian Liang, Senior Assistant Sales & Marketing, liangxw@focuslight.com.cn.

**#836**

## **Xinxiang Baihe O.E. Co., Ltd.**

**#5212**

Xinxiang Economic Zone, Xinxiang Henan, China, 453731  
+86 373 5588101; fax +86 373 5599251  
xxbh\_zjm@vip.163.com; www.baiheoe.com

**Featured Product: Laser Coating, Long Pass Filters, Short Pass Filters, Band pass Filters, High Reflection Mirror.**

Xinxiang Baihe O.E. Co., Ltd. is a professional processing enterprise with vacuum coating technology. Our core team has more than 30 years of experience of both coating technology development and volume production. Our main products include BBAR Coating, High-Reflection Coating, Beamsplitters, ITO, Interference Filter, Band pass Filter, Polarizing Coating, Anti-Polarizing Coating, Narrow-band Reflection Filter, Laser Coating, and Color Temperature Adjusting Film. Contact: Bo Zhang, Manager Assistant, xxbhzb@hotmail.com; Jianmin Zhang, Director, xxbh\_zjm@vip.163.com.

## **Xinxin Opto-Electrical Science and Technology Co., Ltd.**

**#5425**

Tieta Rd Gaoxin Area, Xinye County, Nanyang Henan, China, 473500  
+86 37766226678; fax +86 37766210868  
xinxinlens@yahoo.cn; www.xinxinlens.cn.alibaba.com

We are one of photoelectric technology enterprises founded after HK JinXiang Industrial Co., Ltd. with USD20,000,000 registered capital and 100,000sqm building area. Our company introduced the advanced technologies from Korea, Japan and Germany etc. All production equipments were introduced from overseas famous companies. Our products based on optical lens and includes the processing and film coating and so on. Contact: Zihao Wang, Deputy Manager, xinxinlens@yahoo.cn.

**#624**

**#325**

## **XiO Photonics B.V.**

**#4315**

PO Box 1254, Enschede, The Netherlands, 7500 BG  
+31 53 4836688; fax +31 53 433 7415  
www.xiophotonics.com

**Featured Product: The Integrated LaserBox provides all 8 wavelengths for confocal microscopy in one single mode fiber.**

XiO Photonics supplies the next-generation optical modules based on a photonic integration platform from the UV to IR. XiO Photonics' products provide an integrated optical solution for applications ranging from (bio-) medical visible-light, datacom and sensing, to telecommunication and consumer electronics. The integrated laserbox provides all 8 wavelengths for confocal microscopy in one single mode output fiber all in a single box. Contact: Anton Schotel, Sales Director, a.schotel@xiophotonics.com; Willem Hoving, CEO, w.hoving@xiophotonics.com.

## **Xiton Photonics GmbH**

**#1331**

Openstrasse 10, Kaiserslautern, Germany, 67661  
+49 631 414 9944 0; fax +49 631 414 9944 9  
sales@xiton-photonics.com; www.xiton-photonics.com

Xiton Photonics GmbH produces pulsed DPSS laser systems for applications in industry and science. Our product portfolio consists of a variety of Q-switched, diode-laser-pumped solid-state laser systems with single transverse mode beam profile at high power densities. The standard laser systems are based on the wavelengths 1342 nm or 1064 nm. Non-linear frequency conversion options can be used to extend the wavelength range to 671 nm, 532 nm, 447 nm, 355 nm and 266 nm. Contact: Phil Crowley, CEO of Market Tech, Inc., phil@markettechinc.net.



**Yangtze Optical Fibre and Cable Co., Ltd. #213**

No 4 Guanshan Er Rd, Wuhan Hubei, China, 430073  
 +86 27 87802541; fax +86 27 87802536  
 panlin@yofc.com; www.yofc.com

**Featured Product: Large Core Fiber, Erbium Doped Fibre, Polarization Maintaining Fibre, Windpower Cable.**

Yangtze Optical Fibre and Cable is a high-tech cooperation dedicated to the manufacturing, research and development of optical fiber and cable products, which is the largest one of the kind in China at present. YOFC has the most fiber types. Beside standard fibers, it has specialty fibers which are widely used in electrical, medical, industrial, and military areas. Specialty fibers include polarization maintaining fiber, large core laser delivery fiber, electrical and windpower cables, etc. Contact: Pan Lin, Sales Manager, panlin@yofc.com; Jin Shaojun, Sales Assistant, jinshaojun@yofc.com.

**Yelo Ltd. #5431**

75 Belfast Rd, Carrickfergus, County Antrim, United Kingdom, BT38 8BX  
 +44 028 9335 7300; fax +44 028 9335 7305  
 www.yelo.co.uk

**Featured Product: Yelo's Probed Burn-In. Allows for laser arrays, photodiode arrays, multi chip components, 40G & 100G.**

Founded in 1983, Yelo's Burn-In, Life-Test and Qualification Systems provide a modular tightly temperature controlled environment in which to test photonics components such as multi-chip edge emitters, transceivers, (both PIN and APD), transmitter modules and more. Devices can be tested either packaged or in the chip-on-carrier form and can be tested with in-situ optical measurements – no need to remove the emitters to do pre and post burn-in/periodic LIV plots. Contact David Simms, Director, Sales & Marketing, david.simms@yelo.co.uk; Christine Davison, Client Support Manager, christine.davison@yelo.co.uk.

**Yenista Optics S.A. #6006, 6008**

4 Rue Louis de Broglie, Lannion, France, 22304  
 +33 2 96 48 37 15; fax +33 2 96 48 73 04  
 sales-am@yenista.com; www.yenista.com

**Featured Product: T100S high performance swept tunable laser for research and manufacturing applications.**

YENISTA is a supplier of high-end Fiber Optics Test & Measurement Equipment. Products: Tunable Lasers (Tunics T100S and T100R), Tunable Filters (XTA-50, XTM-50 and WSM-160), Optical Component Testers (CT-400), Multi-function Platforms (OSICS including DFB modules) and OEM modules. Repair and calibration services are proposed on Yenista's products and its predecessors from Photonics and Nettek (Tunics, ECL, OSICS, Xtract, Walics). Contact: Aline Pham, Applications Engineer, aline.pham@yenista.com; Michiel van der Keur, CEO, michiel.vanderkeur@yenista.com.

**Yokogawa Corporation of America #2508**

2 Dart Rd, Newnan, GA, 30265  
 +1 800 888 6400; fax +1 770 251 6427  
 info@us.yokogawa.com; http://tmi.yokogawa.com

**Featured Product: Yokogawa is demonstrating our dedication to advancement by showcasing 3 New OSA models for 2010.**

Yokogawa Corporation of America serves a diverse customer base with market-leading products including a full line of precision photonics test equipment consisting of Optical Spectrum Analyzers, Optical Power Meters, Laser and Broadband light sources, Optical Time Domain Reflectometers and more. For more information about our Test and Measurement Products, please visit our web site at http://tmi.yokogawa.com. Contact: Michael Kwok, Optical Product Manager, michael.kwok@us.yokogawa.com; Larry Walsh, Optical Application Engineer, larry.walsh@us.yokogawa.com.

**Yongzhou Haozhi Rare Earth Co., Ltd. #5425**

Baishui Industrial park, Qiyang Town, Yongzhou, China, 410100  
 +86 731 84098199; fax +86 731 84098205  
 canvass.lee@haozhigroup.com; www.haozhigroup.com

**Featured Product: Glass processing materials.**

HAOZHI focus on the R&D and production of advanced processing materials for the manufacturers of LCD glass, precise optical glass and hard disk substrate semiconductors. Products include: Cerium oxide polishing powder, Zirconia Abrasive slurry, SiO<sub>2</sub> polishing slurry and glass cleaning agent. Contact: Canvass Lee, Overseas Sales Manager, Canvass.lee@haozhigroup.com.

**Yunnan Lincang Xinyuan Germanium Industrial Co., Ltd. #5425**

6/F Bldg A Dushimingyuan, Middle Renmin Rd, Kunming Yunnan, China, 650031  
 +86 871 3630756; fax +86 871 3639236  
 www.sino-ge.com

Yunnan Germanium Industrial has been a germanium producer for over 30 years. With its own mining resources and a full germanium industrial chain, it became a leading producer and supplier of germanium products in China and Asia. In 2008 its sales accounted for 43% of the germanium market of the national total. In 2010 it will successfully go public in Shenzhen China. Contact Kevin Lee, Sales Manager, kevin@sino-ge.com.

**Z&Z Optoelectronics Tech. Co., Ltd. #5027**

**SPIE** Corporate Member

No 3 Keyuan South Rd, Chengdu Sichuan, China, 610041  
 +86 28 8513 9768; fax +86 28 8525 5889  
 sales@zzoptic.com; www.zzoptic.com

**Featured Product: Super polishing optics, ZnSe high precision optics.**

As Leading manufacturer of high precision optics in China, with our super polishing technology, Z&Z is serving many US and European customers with its high quality and cost effective IR and visible optics. Our optics can meet roughness 0.1-0.2nm, flatness 1/30 lambda and surface quality 5-1. Our products list includes Window, Mirror, Wafer, Wedge, Prism, lens with kinds of materials, such as Ge, Si, ZnSe, ZnS, CaF<sub>2</sub>, GaAs, MgF<sub>2</sub>, BK7, Fused Silica, glass, etc. Contact: Cynthia Qi, Business Manager, sales@zzoptic.com.

**Zaber Technologies Inc. #2619**

**SPIE** Corporate Member

1777 W 75th Ave, Vancouver, BC, Canada, V6P 6P2  
 +1 604 569 3780; fax +1 604 648 8033  
 contact@zaber.com; www.zaber.com

Automate precision positioning applications quickly and easily with our affordable line of computer controlled linear actuators, stages, mirror mounts, motors and other devices. Our T-series products do not require external controllers, as the controllers are built into the devices. Our products can be daisy-chained and controlled from a single serial or USB port, facilitating a low, entry-level cost without sacrificing system expandability. Contact: contact@zaber.com.



## ZC&R Coatings for Optics, Inc.

1401 Abalone Ave, Torrance, CA, 90501  
+1 310 381 3060; fax +1 310 782 9951  
info@zcrcoatings.com; www.zcrcoatings.com

ZC&R Coatings together with Abrisa offer customized optical product solutions. As manufacturers of high quality glass products & precision thin film optical coatings, we provide integrated glass fabrication and precision coatings from the ultraviolet spectrum out to the longwave infrared. OEM custom engineering, design & support services; for the defense, medical, display & lighting markets. Contact: Jim Walker, Engineering Sales Manager, jwalker@zcrcoatings.com.

#541

## Zhejiang Quartz Crystal - Optech Co., Ltd.

Bldg A5 Xingxing Electronic Industry Zone, JiaoJiang District, Taizhou City Zhejiang, China, 318015  
+86 576 88011411  
sales@zqcot.com; www.zqcot.com

**Featured Product: Patterned wafer, CPV mirror, CPV light tunnel, Edge Filter, light engine, narrow bandpass filter.**

Crystal-Optech focuses on the optical film optics industry, specializing in producing digital imaging, optical communications, infrared and laser field optical thin film, the core technology is optical thin film coating, cold working and photolithography. With an efficient and scientific management team, steady strategic alliances, and high level R&D capability, Crystal-Optech has become a well-known sci-tech listed company. Contact: Qibin Zhang, Sales Manager, zqb@zqcot.com; Missy, Sales Representative, yhy@zqcot.com.

#5117

## ZEMAX Development Corp.

3001 112th Ave NE Ste 202, Bellevue, WA, 98004-8017  
+1 425 822 3406; fax +1 425 889 4687  
sales@zemax.com; www.zemax.com

**Featured Product: New non-sequential birefringence and sequential black-box lens surface.**

ZEMAX Development Corporation publishes the ZEMAX® Optical Design Program which can be used for both sequential and non-sequential ray tracing. Our software can be used to conceptualize, design, optimize, analyze, tolerance and document virtually any optical system. ZEMAX® also goes beyond the traditional limits of ray tracing software by allowing users to use diffraction calculations to propagate any arbitrary beam through an optical system. Contact: Akash Arora, Optical Engineer, akash@zemax.com; Mark Nicholson, VP, Operations, mark@zemax.com.

#834

## Zhejiang ZCN Scientific Co., Ltd.

9/F Ste C Tianyuan Bldg, No 508 Wen San Rd, Hangzhou, China, 310013  
+86 400 6598096; fax +86 571 88225252  
sales@zcnsci.cn; www.zcnsci.cn

**Featured Product: ZFL-D series fiber coupled diode laser turn-key systems offer superior reliability, cost effective.**

Focusing on providing optical solutions for scientific and industrial applications, ZCN Scientific develops and manufactures high power fiber coupled diode laser turn-key systems, spectroscopic measurement systems, light sources, fibers and sampling accessories. Contact: Ms. Ting Luo, Customer Service, sales@zcnsci.cn.

#1901G

## Zeon Chemicals

4111 Bells Ln, Louisville, KY, 40211  
+1 502 775 2036; fax +1 502 775 2025  
zeonex@zeonchemicals.com; www.zeonex.com

**Featured Product: ZEONEX 350R COP for blue laser applications; F52R for low birefringence & high heat stability.**

ZEONEX(R) cyclo-olefin polymer (COP) from ZEON is designed for high-precision optical components including camera lenses, mirrors, prisms, f-theta lenses and optical film applications. ZEONEX exhibits excellent transparency, low birefringence, superior moldability, and low fluorescence. Adding to the product line up is ZEONEX F52R for improved low birefringence with photo-elastic stability under high heat exposure. Contact: Mark Nevitt; zeonex@zeonchemicals.com; +1.502.775.2000. Contact: Mark Nevitt, Market Development, zeonex@zeonchemicals.com.

#841

## Z-LASER Optoelektronik GmbH

Merzhauser Str 134, Freiburg, Germany, 79100  
+49 761 29644 44; fax +49 761 29644 55  
info@z-laser.de; www.z-laser.com

**Featured Product: ZM18-DM with new modulation and connections. ZM18 Developer Kit with 7 exchangeable optics.**

Z-LASER are German designers and manufacturers who market lasers, laser-based systems and Laser Projectors to customers in many industries: Laser projection for positioning applications, Vision/3D-Measurement, Biophotonics/Medical. Founded in 1985, we have successfully expanded our business through a combination of internal growth, new industries and sophisticated products and technologies. We rely on our high quality laser systems to fulfill ALL solutions for various applications. Contact: Ralph Tesson, Director of Sales, ralph@z-laser-america.com.

#4217

## Zeta Instruments

SPIE  
Corporate  
Member

1909 Concourse Dr, San Jose, CA, 95120  
+1 408 577 1888; fax +1 408 577 0588  
sales@zeta-inst.com; www.zeta-inst.com

Zeta Instruments manufactures precision metrology systems that analyze high-roughness, low-reflectance surfaces for Biotech, solar cell, LED, MEMS and other applications. Our optical profilers create true color images of the surface and can measure high-aspect-ratio features from the millimeter to sub-micron range, and film thicknesses down to 30nm. With DIC Imaging and Film Thickness Measurement options, our systems provide the widest range, highest flexibility and best value in its class.

#4401

## Zomega Terahertz Corp.

2121 Sixth Ave, Troy, NY, 12180  
+1 518 833 0577; fax +1 518 833 6718  
ttongue@zomega-terahertz.com; www.z-thz.com

**Featured Product: Mini-Z THz TDS Imaging System, and Teracopia THz Imaging DVD Vol I.**

Zomega Terahertz is a manufacturer of THz systems and components for R&D and industrial applications. Systems include Time Domain Spectrometers (TDS) useful for point measurement or imaging in both transmission and reflection geometries. The mini-Z TDS is the first truly portable, turnkey system to offer real-time spectroscopy for real-world applications, while the Z-3 TDS offers lab-based high-dynamic range performance. Contact: Thomas Tongue, CEO, ttongue@zomega-terahertz.com; Brian Schulkin, Senior Engineer, bschulkin@zomega-terahertz.com.

#2535

# Famous for the Loch Ness Monster and digital expertise.

Our track record  
for innovation  
is legendary.



We've got quite a reputation for invention, innovation and creating the unbelievable. MRI scanning. Radar. Grand Theft Auto. It's a long list. And it's still growing. That's why companies are doing business in Scotland. Our passion for success and hunger to win,

combined with our world-class academic institutions, outstanding research and superb facilities is financially irresistible. So wouldn't setting up in Scotland be a shrewd investment? You'll find few better places to develop new products and expand your business.

To see what we can do for your business, visit [www.sdi.co.uk/nessie](http://www.sdi.co.uk/nessie)

SCOTLAND. SUCCESS LIKES IT HERE.



## Zurich Instruments

Technoparkstr 1, Zurich, Switzerland, 8005  
+41 44 515 0410  
info@zhinst.com; www.zhinst.com

**Featured Product: HF2LI 50 MHz Lock-in Amplifier, dual lock-in, 120 dB dynamic reserve, multi-frequency.**

Technology-leader Zurich Instruments (ZI) designs and manufactures high performance dynamic signal analysis instruments for advanced scientific research and leading industrial applications. ZI products include lock-in amplifiers, instruments for electrical impedance spectroscopy, and application specific pre-amplifiers. Headquartered in Zurich, Switzerland, ZI provides premium support to scientists and engineers in leading research labs and organizations worldwide. Contact: Stephan Koch, VP Marketing & Sales, stephan.koch@zhinst.com.

#4102

## Zygo Corporation

**SPIE** Corporate Member

Laurel Brook Rd, Middlefield, CT, 06455-1291  
+1 860 347 8506; fax +1 860 347 3968  
inquire@zygo.com; www.zygo.com

ZYGO designs and manufactures a wide range of noncontact inspection, surface analysis, and precision displacement measurement solutions, as well as precision optics, optical design, and opto-mechanical assembly. Our precision noncontact measuring instruments and systems enable manufacturers to increase operating efficiencies and product yields during and after the manufacturing process. ZYGO will be exhibiting their newest lines of interferometers, enabling software, and optical capabilities. Contact: George Neale, Director Sales and Service Americas, gneale@zygo.com.

#1531

## SPIE annually provides over \$2 million in support of photonics education programs

- ▶ SPIE Scholarships
- ▶ Education Outreach Grants
- ▶ Student Chapters
- ▶ Student Activities
- ▶ Best Student Paper Prizes
- ▶ Free Posters
- ▶ Free Educational CDs, DVDs, and Videos
- ▶ Women in Optics
- ▶ Education and Training in Optics and Photonics Conference (ETOP)
- ▶ Student Outreach
- ▶ Science Fairs
- ▶ Optics Education Directory
- ▶ Free SPIE Journal Access in developing nations
- ▶ Active Learning in Optics and Photonics (ALOP): Teacher Training
- ▶ International Centre for Theoretical Physics (ICTP) Winter College
- ▶ Visiting Lecturers Program

[spie.org/giving](http://spie.org/giving)



**SPIE**



## Abrasives, Chemicals & Process Materials

Advanced Optowave Corp.  
Applied Thin-Film Products  
Baikowski International Corp.  
CV Nanotechnology Inc.  
Fiber Optic Center, Inc.  
Germanium and Applications Ltd.  
Logitech Ltd.  
MicroCare Corp.  
Plasmaterials, Inc.  
Process Materials Inc.  
RSP Technology BV  
Salem Distributing Co.  
Satisloh North America Inc.  
Shenghe Mining Co., Ltd.  
SSCP USA  
Universal Photonics, Inc.  
VACCO Industries  
Valtech Corp.  
Williams Advanced Materials  
Yongzhou Haozhi Rare Earth Co., Ltd.

## Astronomy

4D Technology Corp.  
ADIT/Electron Tubes  
ALPAO  
Alpha Media Group (Physorg.com)  
Applied Optics Group  
Applied Surface Technologies  
ASE Optics, Inc.  
Axsys Technologies - General Dynamics Advanced Information Systems  
Boston Micromachines Corp.  
CAEN Technologies, Inc.  
CeramOptec Industries, Inc.  
Collimated Holes, Inc.  
Corning Incorporated  
ESDI (Engineering Synthesis Design, Inc.)  
Evaporated Metal Films Corporation  
Glass Fab Inc.  
Harold Johnson Optical Labs.  
Hinds Instruments, Inc.  
HTA Photomask  
Imagine Optic  
Inrad, a PPGI Company  
Iris AO, Inc.  
Kaiser Optical Systems, Inc.  
KERDRY  
Keting Optical Technology Inc.  
L-3 Communications, Tinsley  
Lambert Instruments Mts  
LightVision Technologies, Corp.  
Metrigraphics, LLC  
MPB Communications Inc.  
Naval Research Laboratory  
Norland Products Inc.  
Ondax, Inc.  
Optimax Systems, Inc.  
optoSiC GmbH

Photek Limited  
Photon Engineering, LLC  
QED Technologies, Inc.  
Quartus Engineering Incorporated  
SCHOTT North America, Inc.  
Spectral Instruments Inc.  
Spectrum Thin Films Inc.  
Universal Photonics, Inc.  
Vincent Associates  
Xenics  
Xinxin Opto-Electrical Science and Technology Co., Ltd.  
ZEMAX Development Corp.

## Cameras and CCD Components

Advanced Technical Ceramics Company (AdTech Ceramics)  
AGM Container Controls, Inc.  
Andor Technology  
ASE Optics, Inc.  
Astro- und Feinwerktechnik Adlershof GmbH  
Axiom Optics  
BaySpec, Inc.  
Berliner Glas KGaA Herbert Kubatz GmbH & Co.  
BigC  
Bo Xin Photoelectric Co., Ltd.  
Carl Zeiss MicroImaging, Inc.  
CEDRAT Technologies  
Chang Shu JingBo Optical Technology Co., Ltd.  
CMOSIS  
Cooke Corp., The  
DALSA  
DataRay, Inc.  
Dayoptics, Inc.  
Dexela Ltd.  
Diffractive Optics Ltd.  
Docter Optics, Inc.  
DRS Technologies, Inc.  
e2v  
Epitex Inc./Marubeni America Corporation  
EPIX, Inc.  
Excelitas Technologies Corp.  
Fairchild Imaging  
Ferrotec (USA) Corp.  
FJW Optical Systems, Inc.  
FLIR Systems, Inc.  
Focal Point, Inc.  
Fotofab  
Fraunhofer-Institut für Integrierte Schaltungen IIS  
Frontier Optics Inc.  
Fuzhou Alpha Optics Co., Ltd.  
Gentec Electro-Optics Inc.  
Hamamatsu Corp.  
Harold Johnson Optical Labs.  
Imaging Solutions Group  
IMEC  
Infrared Laboratories, Inc.  
Inlight Precision Optics Co., Ltd.  
inno-spec GmbH



Innovations In Optics, Inc.  
Intlvac  
J&M Analytik AG  
JENOPTIK | Optical Systems  
JENOPTIK | Optical Systems  
Keting Optical Technology Inc.  
Lambert Instruments Mts  
Lasys Trade Show - Messe Stuttgart  
M&K Inc.  
Marlow Industries, Inc.  
Mightex Systems  
MLOptic Corp.  
MOXTEK, Inc.  
National Instruments  
New Imaging Technologies  
Noren Products, Inc.  
NorPix, Inc.  
Norsk Elektro Optikk AS  
Olympus America Inc.  
Ophir-Spiricon, LLC  
Optics Technology, Inc.  
OptoCrystal Co., Ltd.  
Pacific Rim Optical  
PHASICS  
Phoenix Optical Technologies Ltd.  
Phosctech Photonics Ltd.  
Photon etc.  
Photron  
Point Grey Research Inc.  
Precision Optics Corp Inc.  
Princeton Instruments  
Quartus Engineering Incorporated  
Route des Lasers  
SCANLAB America, Inc.  
Sensors Unlimited-Goodrich ISR Systems  
Servometer  
Shanghai JiuJun Optics Co., Ltd.  
Sill Optics GmbH & Co., KG  
Sinclair Manufacturing  
Sofradir EC, Inc.  
Solid State Cooling Systems  
Specialised Imaging, Inc.  
Spectral Instruments Inc.  
SPOT Imaging Solutions

Stanford Photonics, Inc.  
Star Tech Instruments  
StarOptix  
SwissOptic AG  
Sydor Instruments LLC  
Teledyne Judson Technologies  
Tessera Inc.  
Thermo Scientific - CIDTEC  
ThermoTek Inc.  
TLC International  
Toshiba America Information Systems  
ULIS  
Vincent Associates  
Vision Components GmbH  
Vision Research, A Division of AMETEK  
Wordingham Technologies  
Xinxiang Baihe O.E. Co., Ltd.  
Xinxin Opto-Electrical Science and Technology Co., Ltd.  
Zhejiang Quartz Crystal - Optech Co., Ltd.

## Chemical & Biological Sensing

4AD Enterprises, Inc.  
Applied Physics & Electronics, Inc.  
Avo Photonics, Inc.  
Axcel Photonics Inc.  
B&W Tek, Inc.  
BaySpec, Inc.  
Biophotonic Solutions, Inc.  
Boston Electronics Corp.  
Boulder Nonlinear Systems, Inc.  
Cal Sensors, Inc.  
CLaser Photonics, Inc.  
Clemson University/COMSET  
Cobolt AB  
CryLaS GmbH  
Daylight Solutions  
Deltronic Crystal/Isowave  
Eagleyard Photonics GmbH  
Fraunhofer Heinrich Hertz Institute  
GiGa Concept Inc.

# SPIE Photonics West Product Index



Headwall Photonics, Inc.  
 Heidelberg Instruments Inc.  
 INDATECH  
 IRflex Corporation  
 JenLab GmbH  
 JP Innovations, LLC  
 Kigre, Inc.  
 KLASTECH - Karpushko Laser  
 Technologies GmbH  
 LASOS Lasertechnik GmbH  
 Lockheed Martin Aculight  
 M Squared Lasers Ltd.  
 m2k-laser GmbH  
 MLD Technologies, LLC  
 MPB Communications Inc.  
 National Instrument Technology  
 Research Center  
 Omicron Laserage Laserprodukte  
 GmbH  
 OPOTEK, Inc.  
 P&P Optica Inc.  
 Photon Systems, Inc.  
 Photonics Industries International,  
 Inc.  
 Scottish Optoelectronics  
 Association  
 Sens-Tech Ltd.  
 Spectral Evolution  
 Teem Photonics  
 Translume, Inc.  
 VTT Technical Research Centre of  
 Finland  
 Wavelength References  
 Xenics  
 Yokogawa Corporation of America  
 Zomega Terahertz Corp.

## Clinical, Chemical and Biological Instrumentation

Advanced Optowave Corp.  
 AllMotion  
 ALPAO  
 B&W Tek, Inc.  
 Blue Sky Research  
 Bridger Photonics, Inc.

CeramOptec Industries, Inc.  
 Daylight Solutions  
 Dowa Electronics Materials Co.,  
 Ltd.  
 DPSS Lasers Inc.  
 Edinburgh Instruments Ltd  
 Genia Photonics  
 GratingWorks, USA  
 Helioworks, Inc.  
 High Q Laser (US), Inc.  
 Hitachi High Technologies  
 America  
 HVM Technology Inc.  
 Ibsen Photonics  
 IMRA America, Inc.  
 International Light Technologies  
 Intlvac  
 JenLab GmbH  
 Kaiser Optical Systems, Inc.  
 Lockheed Martin Aculight  
 Lumencor, Inc.  
 MLD Technologies, LLC  
 NKT Photonics A/S  
 NM Laser Products Inc.  
 Optometrics Corp.  
 P&P Optica Inc.  
 Photon Systems, Inc.  
 Precision Photometrics Ltd.  
 ProSpect Photonics, Inc.  
 RGB Lasersystems GmbH  
 Sens-Tech Ltd.  
 Spectral Evolution  
 Teem Photonics  
 ThermoTek Inc.  
 tousimis research corporation  
 Translume, Inc.  
 Voltage Multipliers Inc.  
 Wasatch Photonics  
 Xinxiang Baihe O.E. Co., Ltd.  
 XiO Photonics B.V.  
 Zomega Terahertz Corp.

## Communications

AllMotion  
 ALPAO  
 Analog Modules, Inc.

Avo Photonics, Inc.  
 Boston Micromachines Corp.  
 Boulder Nonlinear Systems, Inc.  
 Canadian Photonics Fabrication  
 Centre (CPFC)  
 Carl Hanser Verlag GmbH & Co.  
 KG  
 China International  
 Optoelectronics Exposition  
 CorActive High-Tech, Inc.  
 CRYSTECH Inc.  
 Deltronic Crystal/Isowave  
 Fiber Optic Valley AB  
 Fraunhofer Heinrich Hertz Institute  
 Fraunhofer-Institut für  
 Silicatiforschung  
 GratingWorks, USA  
 Greenlee/A Textron Company  
 Hagitec Co., Ltd.  
 HC Photonics Corp.  
 IMRA America, Inc.  
 Inspired Photonics Inc.  
 JenaBusiness  
 Kohoku Kogyo Co., Ltd.  
 Laser Diode, Inc.  
 Laser Optics Berlin  
 MicroCare Corp.  
 Mitsubishi Electric & Electronics  
 USA, Inc.  
 MPB Communications Inc.  
 NASA Tech Briefs  
 National Institute of Advanced  
 Industrial Science and  
 Technology  
 Neptec Optical Solutions, Inc.  
 Noren Products, Inc.  
 Nufern  
 NuPhoton Technologies, Inc.  
 OFS, Specialty Photonics Division  
 O-m6 Technologies Inc.  
 Optiwave Systems Inc.  
 OptoIndex  
 Photonics-Sourcing  
 QD Laser, Inc.  
 QGLex Inc.  
 Remtec, Inc.  
 RSoft Design Group  
 Scottish Development  
 International  
 Shimadzu Corp.  
 Spectra-Mat, Inc.  
 Stellar Industries Corp.  
 Teraxion Inc.  
 u2t Photonics AG  
 Voltage Multipliers Inc.  
 Yangtze Optical Fibre and Cable  
 Co., Ltd.  
 Yenista Optics S.A.  
 Yokogawa Corporation of America  
 Zhejiang Quartz Crystal - Optech  
 Co., Ltd.

## Displays

Advanced Microoptic Systems  
 GmbH

AGM Container Controls, Inc.  
 Arteryon BV  
 Axcel Photonics Inc.  
 Boulder Nonlinear Systems, Inc.  
 China International  
 Optoelectronics Exposition  
 Covesion Ltd.  
 CQ Laser Technologies Co., Ltd.  
 CRYSTECH Inc.  
 Esterline CMC Electronics  
 Evaporated Metal Films  
 Corporation  
 Exciton, Inc.  
 Foreal Spectrum, Inc.  
 Forth Dimension Displays Ltd.  
 Fosta-Tek Optics  
 Fraunhofer IPMS  
 GEL-PAK  
 Greenlight Optics, LLC  
 HC Photonics Corp.  
 Infinite Graphics  
 Intlvac  
 Lambda Research Corp.  
 Laser Operations LLC/QPC  
 Lasers  
 Laserod Inc.  
 Lattice Electro Optics, Inc.  
 LightVision Technologies, Corp.  
 Micropac Industries Inc.  
 Mitsubishi Electric & Electronics  
 USA, Inc.  
 MOXTEK, Inc.  
 MY Polymers Ltd.  
 Norland Products Inc.  
 North American Coating  
 Laboratories  
 Ondax, Inc.  
 Pacer USA LLC  
 Pangolin Laser Systems Inc.  
 Photonics Industry & Technology  
 Development Association  
 (PIDA)  
 PRP Optoelectronics Ltd.  
 QD Laser, Inc.  
 Scottish Development  
 International  
 Scottish Optoelectronics  
 Association  
 Shasta Crystals  
 Snake Creek Lasers  
 Stemmerich, Inc.  
 Synopsys, Inc.  
 Texas Instruments  
 TLC International  
 Zeon Chemicals

## Distributor or Reseller

3SAE Technologies, Inc.  
 Axiom Optics  
 Ayase America, Inc.  
 Boston Electronics Corp.  
 Directed Light, Inc.  
 Frankfurt Laser Co.  
 Hagitec Co., Ltd.

# 光

## *Japan Knows Photonics*

**AIST** Photonics Research Institute, National Institute of  
Advanced Industrial Science & Technology

**OPL OPTO-LINE, Inc.**

**Japan Cell**

 **Spectronix, Corp.**  
Leading Science to Industrial Applications

 **NITTO OPTICAL CO., LTD.**

 **SUMITOMO ELECTRIC**

**OMRON**

 **TOYO GLASS CO., LTD.**

 **OptoCrystal Co., Ltd.**

Visit the **Japan Pavilion**  
North Hall Booth No. **4512-4521**

Organized by **OPTRONICS**



# SPIE Photonics West Product Index

IMM Photonics GmbH  
Kiyohara Optics USA  
Luceta Ltd.  
Market Tech, Inc.  
New Source Technology, LLC  
OgMentum Incorporated  
Photonic Solutions Ltd.  
ProPhotonix, Ltd.  
RGBLase LLC  
Roditi International Corporation Ltd.  
Roithner Lasertechnik GmbH  
SPECTRO Inc.  
Suzhou Delphi Laser Co., Ltd.  
Triad Technology Inc.  
Universal Photonics, Inc.

## Electron-Beam Lithography

HTA Photomask  
International Radiation Detectors, Inc.  
JD Photo-Tools  
Kaiser Systems, Inc.  
Nalux Co., Ltd.  
Precision Optics Gera  
UCLA California NanoSystems Institute

## Electronic Imaging Components, Equipment, Systems

89 North  
Accurate Engineering Inc.  
AGM Container Controls, Inc.  
Amplification Technologies, Inc.  
Andor Technology  
Applied Optronics  
Axcel Photonics Inc.  
CAEN Technologies, Inc.  
Cambridge Technology, Inc.  
Cascade Laser Corp.  
CMOSIS  
Complete Hermetics  
DALSA  
Deposition Sciences, Inc  
Dexela Ltd.  
DRS Technologies, Inc.  
Duma Optronics Ltd.  
Electronics, Sensors and Photonics KTN  
EPIX, Inc.  
Epner Technology, Inc.  
FJW Optical Systems, Inc.  
FLIR Systems, Inc.  
Fotofab  
Fraunhofer IPMS  
Fraunhofer-Institut für Integrierte Schaltungen IIS  
Gold Dragon Optics Electronic Technology Co., Ltd.  
GRI Pumps  
Headwall Photonics, Inc.  
Hitachi Kokusai Electric America,

Ltd.  
HOLOEYE Photonics AG  
HVM Technology Inc.  
ICA Corporation  
Imaging Solutions Group  
IMEC  
Innovations In Optics, Inc.  
ISP Optics Corporation  
JML Optical Industries Inc.  
Kaiser Systems, Inc.  
Laser Optics, a PPGI company  
Lincoln Laser Co.  
Marlow Industries, Inc.  
Mightex Systems  
New Infrared Technologies  
New Scale Technologies, Inc.  
Noren Products, Inc.  
Nova-Write Inc.  
nPoint, Inc.

Nutfield Technology, Inc.  
Optical Support, Inc.  
OPTICS 1, Inc.  
Opto Diode Corp.  
OptoSigma Corp.  
PhaseView  
Photron  
Precision Glass & Optics  
Proxitronic Industries AG  
Remtec, Inc.  
Rochester Precision Optics LLC  
Satisloh North America Inc.  
SDS Systems Development & Solutions  
Sensors Unlimited-Goodrich ISR Systems  
Servometer  
Shanghai Jiujon Optics Co., Ltd.  
Sofradir EC, Inc.  
Specialised Imaging, Inc.  
Specim, Spectral Imaging Ltd.  
Spectral Instruments Inc.  
SPOT Imaging Solutions  
Stanford Photonics, Inc.  
Sutter Instrument Co.  
Taylor Hobson, A Division of AMETEK  
TEC Microsystems GmbH  
Teledyne Judson Technologies  
Texas Instruments  
Thermo Scientific - CIDTEC  
Toshiba America Information Systems  
UltraVolt, Inc.  
Vision Components GmbH  
Vision Research, A Division of AMETEK  
Wavelength Technology  
Singapore Pte Ltd.

## Electronics, Signal Analysis Equipment

AlliMotion  
ARGES GmbH  
Arroyo Instruments, LLC  
Atseva LLC



Boston Electronics Corp.  
CAEN Technologies, Inc.  
Duma Optronics Ltd.  
e2v  
EKSPALA UAB  
Electronics, Sensors and Photonics KTN  
FEMTO Messtechnik GmbH  
Huizhou Hi-purity Rare Earth Metal Material Co., Ltd.  
HVM Technology Inc.  
Inspired Photonics Inc.  
Lanmark Controls Inc.  
Lumina Power, Inc.  
OEwaves, Inc.  
Pacific Laser Equipment  
Pangolin Laser Systems Inc.  
Philips Technologie GmbH U-L-M Photonics GmbH  
PRIMES GmbH  
SDS Systems Development & Solutions  
SensL Technologies Ltd.  
Stanford Research Systems, Inc.  
TDK-Lambda Americas Inc.  
tec5USA  
TEM Messtechnik GmbH  
VueMetric  
Zurich Instruments

## EUV Lithography

4D Technology Corp.  
AMPHOS GmbH  
Arbor Photonics, Inc.  
ASML Optics  
Berliner Glas KGaA Herbert Kubatz GmbH & Co.  
Element Six  
Harold Johnson Optical Labs.  
Holo-Or Ltd.  
International Radiation Detectors, Inc.  
JD Photo-Tools  
L-3 Communications, Tinsley  
New Source Technology, LLC  
Nitto Optical Co., Ltd./Saled Dept.

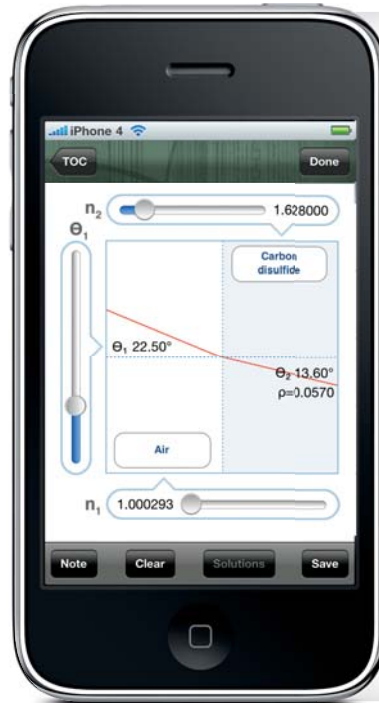
Nova-Write Inc.  
Optimax Systems, Inc.  
SwissOptic AG  
Synopsys, Inc.

## Fiber Optic Components, Equipment, Systems

3S PHOTONICS/Avensys/ITF Labs  
3SAE Technologies, Inc.  
AC Photonics, Inc.  
Accuratus Corp.  
AdValue Photonics Inc.  
Advanced Microoptic Systems GmbH  
Advanced Optics Solutions (AOS) GmbH  
Aerotech, Inc.  
AFL  
Aistana Inc.  
Alphion Corp.  
AOC Technologies, Inc.  
AOFR  
Applied Photonics Inc.  
Arbor Photonics, Inc.  
Archer OpTx, Inc.  
Avantes, Inc.  
Axcel Photonics Inc.  
Blue Sky Research  
Brimrose Corporation of America  
Calmar Laser, Inc.  
Canalaser Technologies Co., Ltd.  
CASIX, Inc.  
CeramOptec Industries, Inc.  
China International Optoelectronics Exposition  
CIP Technologies  
Clear Align  
Clemson University/COMSET  
Coastal Connections  
Collimated Holes, Inc.  
Complete Hermetics  
Compound Semiconductor Technologies Global (CSTG) Ltd.

CRC Press - Taylor and Francis Group LLC  
 Cutting Edge Coatings GmbH  
 Deltronic Crystal/Isowave  
 DenseLight Semiconductors Pte Ltd.  
 Diamond USA Inc.  
 DiCon Fiberoptics, Inc.  
 Diemat, Inc.  
 Doric Lenses Inc.  
 Dyna Technologies, Inc.  
 Electro Optical Components Inc.  
 Electro-Optical Products Corp.  
 Electro-Optics Technology, Inc.  
 Elliot Scientific Ltd.  
 EM4, Inc.  
 Energetiq Technology, Inc.  
 Epner Technology, Inc.  
 ESI-PyroPhotonics Lasers Inc.  
 Esterline CMC Electronics  
 FEMTO Messtechnik GmbH  
 Ferrotec (USA) Corp.  
 Fiber Optic Center, Inc.  
 Fibercore Ltd.  
 Fiberguide Industries, Inc.  
 Fiberlogix International Ltd.  
 Fiberoptic Systems, Inc.  
 Fiberoptics Technology Inc.  
 Fiberpro Inc.  
 FiberTech USA, Inc., Div. of Leoni Fiber Optics  
 FiberTech-RoMack  
 Frankfurt Laser Co.  
 Fraunhofer ILT  
 Fraunhofer Institute for Applied Optics and Precision Engineering IOF  
 Fuzhou Alpha Optics Co., Ltd.  
 GD Optical Competence GmbH  
 General Photonics Corp.  
 Genia Photonics  
 GiGa Concept Inc.  
 Glass & Ceramic Engineered Solutions (GCES)  
 Gooch & Housego  
 Gould Technology, LLC  
 Greenlee/A Textron Company

Grintech GmbH  
 Gulf Photonics  
 Hagitec Co., Ltd.  
 Harz University of Applied Sciences  
 Headwall Photonics, Inc.  
 Hellma USA  
 HemonTech  
 Heraeus  
 Heriot-Watt University  
 High Tech Photonics  
 ICA Corporation  
 IMM Photonics GmbH  
 INCOM, Inc.  
 INDATECH  
 Innolume GmbH  
 Innoptics  
 inno-spec GmbH  
 IQE PLC  
 IR Photonics  
 IRflex Corporation  
 Isomet Corp.  
 ITF Labs/Avensys/3S PHOTONICS  
 iXFiber SAS  
 J&M Analytik AG  
 J. Hauser GmbH & Co. KG  
 JPT Electronics Co., Ltd.  
 JT Ingram  
 Keopsys Inc.  
 Keopsys SA  
 Kohoku Kogyo Co., Ltd.  
 Krell Technologies  
 KYLIA  
 Kyosemi Corporation  
 Laser Diode, Inc.  
 Laser Zentrum Hannover e.V.  
 Leister Technologies, LLC  
 LEONI Fiber Optics GmbH  
 LightComm Technology  
 LightGuideOptics USA, LLC  
 LightSmyth Technologies, Inc.  
 Lockheed Martin Aculight  
 Logitech Ltd.



## SPIE Field Guide App for iPhone®

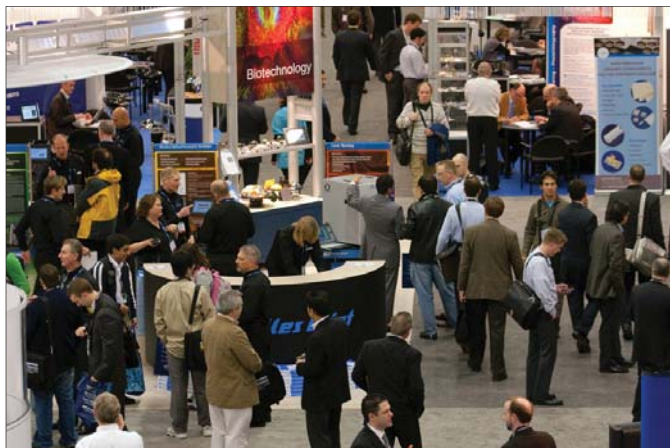


### SPIE Field Guide to Geometrical Optics

Take Field Guides to a new level—usable equations, linked terms, bookmarking, note taking, and interactive figures.



Try out SPIE Field Guide Lite for FREE



M&K Inc.  
 M3D Co.  
 Makino  
 Market Tech, Inc.  
 Marlow Industries, Inc.  
 METALLIFE, Inc.  
 Micro Laser Systems, Inc.  
 MicroCare Corp.  
 Microcertec  
 Micron Optics, Inc.  
 Micropac Industries Inc.  
 Mitsubishi Cable Industries, Ltd.  
 Modu-Laser, LLC  
 MPA Crystal Corp.  
 MY Polymers Ltd.  
 National Institute of Advanced Industrial Science and Technology  
 Neptec Optical Solutions, Inc.  
 New Scale Technologies, Inc.  
 Nextreme Thermal Solutions, Inc.  
 nLight Corporation  
 Norland Products Inc.  
 Nova-Write Inc.  
 NTT Electronics Corp.  
 Nuferr  
 NuPhoton Technologies, Inc.  
 O/E Land Inc.  
 OFS, Specialty Photonics Division  
 OgMentum Incorporated  
 O-m6 Technologies Inc.  
 OP Mount Instrument Inc.  
 OpTek Systems Inc.  
 Optics Technology, Inc.  
 Optikron GmbH  
 Optisiv Ltd.  
 Optiwave Systems Inc.  
 OptoSigma Corp.  
 Optoskand AB  
 OSA - The Optical Society  
 Oxide Corp.  
 OZ Optics Ltd.  
 PD-LD, Inc.  
 PERFOS  
 Photon Control Inc.  
 Photon Gear, Inc.  
 Photonics Industry & Technology Development Association (PIDA)  
 Photop Technologies, Inc.  
 Piezosystem Jena, Inc.  
 PolarOnyx, Inc.  
 Polymicro Technologies, a subsidiary of Molex Incorporated  
 Precision Optics Corp Inc.  
 PROMET International Inc.  
 QGLex Inc.  
 QPhotonics, LLC  
 Redfern Integrated Optics, Inc.  
 Sacher Lasertechnik GmbH  
 SemiNex Corp.  
 Shanghai Optics Inc.  
 Sheaumann Laser Inc.  
 Shin-Etsu Chemical  
 Sinclair Manufacturing  
 Spectra-Mat, Inc.  
 SPI Lasers

# SPIE Photonics West Product Index



SRICO, Inc.  
SSCP USA  
StarOptix  
StellarNet, Inc.  
Sumitomo Electric Industries, Ltd.  
Superlum  
SUSS MicroOptics SA  
Swiss Jewel Co.  
TEC Microsystems GmbH  
tec5USA  
Technobis Group  
Technodiamant USA Inc.  
Teraxion Inc.  
Thatshigh Photoelectric Technology Co., Ltd.  
TransMIT GmbH/Center of Fiber-optic and Industrial Laser Applications (CeFILA)  
Tresky Corp.  
u2t Photonics AG  
Valdor Fiber Optics  
VERTILAS GmbH  
VI Systems GmbH  
VTT Technical Research Centre of Finland  
Vytran LLC  
Western Photonics Technology  
Xactra Technologies  
Xinxiang Baihe O.E. Co., Ltd.  
XiO Photonics B.V.  
Yangtze Optical Fibre and Cable Co., Ltd.  
Yenista Optics S.A.  
Zhejiang ZCN Scientific Co., Ltd.  
Z-LASER Optoelektronik GmbH

## Finished Optics, Filters, & Coatings, Optical Fabrication Equipment

3SAE Technologies, Inc.  
Advanced Microoptic Systems GmbH  
Agilent Technologies, Inc.  
Aixtooling GmbH  
Altos Photonics, Inc.  
Applied Photonics Inc.

Archer OpTx, Inc.  
Arrow Thin Films, Inc.  
asphericon GmbH  
Axsys Technologies - General Dynamics Advanced Information Systems  
AZURE Photonics USA, Inc.  
Beijing Glass Research Institute  
Blue Ridge Optics LLC  
BMV Optical Technologies Inc.  
Bo Xin Photoelectric Co., Ltd.  
Brimrose Corporation of America  
Bte Bedampfungstechnik GmbH  
Carl Zeiss Jena  
Chang Shu JingBo Optical Technology Co., Ltd.  
Changchun New Industries Optoelectronics Technology Co., Ltd.  
China Daheng Group Inc.  
China International Optoelectronics Exposition  
Chroma Technology Corp.  
CLaser Photonics, Inc.  
CODIXX AG  
Coresix Precision Glass, Inc.  
Corning Incorporated  
Covesion Ltd.  
Cryslaser Inc.  
Crystal GmbH  
Crystal Technology, Inc.  
Cutting Edge Coatings GmbH  
CVI Melles Griot  
DAC International, Inc.  
DELTA  
Deposition Sciences, Inc.  
Docter Optics, Inc.  
Dominar, Inc.  
Doric Lenses Inc.  
Dyna Technologies, Inc.  
Edmund Optics  
EIS Optics Ltd.  
EKsMA Optics  
Electro Optical Components Inc.  
Epnor Technology, Inc.  
Evaporated Coatings, Inc.  
Evaporated Metal Films Corporation

Evatec NA  
Fairfield Crystal Technology, LLC  
FEMTOLASERS, Inc.  
ficonTEC Corporation  
Filtech Photonics Co., Ltd.  
Foctek Photonics, Inc.  
Fosta-Tek Optics  
Fuzhou USTRON Optoelectronic Materials Co., Ltd.  
Gavish, Inc.  
Gentec Electro-Optics Inc.  
GigaMat Technologies, Inc.  
Glass & Ceramic Engineered Solutions (GCES)  
Glass Fab Inc.  
Gooch & Housego  
G-S PLASTIC OPTICS  
Gurley Precision Instruments, Inc.  
HangZhou HuiDA Electro Optics Co., Ltd.  
Hardin Optical Company  
HB Optical Technology Co., Ltd.  
HemonTech  
IMPEX HighTech GmbH  
IMT North America Inc.  
Infinite Graphics  
Infinite Optics Inc.  
INGENERIC GmbH  
IR Photonics  
ISP Optics Corporation  
Isuzu Glass Inc.  
JDSU  
JENOPTIK | Optical Systems  
JENOPTIK | Optical Systems  
JML Optical Industries Inc.  
Kaleido Technology  
KERDRY  
Kugler of America LTD  
Kurt J. Lesker Company  
Lambda Research Optics Inc.  
Laser Components Canada, Inc.  
Laser Components DG, Inc.  
Laser Components GmbH  
Laser Components IG, Inc.  
Laser Focus World Japan  
Laser Optics, a PPGI company  
Leica Microsystems GmbH  
LightPath Technologies, Inc.  
LightSmyth Technologies, Inc.  
Luceta Ltd.  
M3D Co.  
Max Levy Autograph, Inc.  
Meller Optics, Inc.  
Metrigraphics, LLC  
MLD Technologies, LLC  
MolTech GmbH  
Moore Nanotechnology Systems LLC  
MPA Crystal Corp.  
MRC a PPGI company  
Multi IR Optoelectronics Co., Ltd.  
Naked Optics Corp.  
Nalux Co., Ltd.  
Navitar

New England Photoconductor Corp.  
Newport Corp.  
Nitto Optical Co., Ltd./Saled Dept.  
North American Coating Laboratories  
Novotech, Inc.  
Ocean Thin Films  
Onyx Optics Inc.  
OPCO Laboratory, Inc.  
Optics Balzers  
OptiGrate Corp.  
Optikron GmbH  
Optimax Systems, Inc.  
OptiPro Systems  
OPTIX Co.  
Opto-Alignment Technology, Inc.  
OptoCrystal Co., Ltd.  
Optometrics Corp.  
Optonetic LLC  
OptoSigma Corp.  
OZ Optics Ltd.  
Pacific Coast Optics  
Pacific Rim Optical  
Paul Pleiger Maschinenfabrik GmbH & Co. KG  
PerkinElmer Analytical Sciences and Laboratory Services (ASLS)  
Perkins Precision Developments LLC  
PFG Precision Optics  
Phoenix Infrared  
Phoenix Optical Technologies Ltd.  
Photon Gear, Inc.  
Photonic Products Group Inc. (PPGI)  
Plasma Process Group  
Polymer Optics, LLC  
PowerPhotonic Ltd.  
Precision Glass & Optics  
Precision Optical  
Precision Photonics Corp.  
QED Technologies, Inc.  
Quality Thin Films, Inc.  
Rainbow Research Optics, Inc.  
Research Electro-Optics, Inc.  
Rising Electro-Optics Ltd.  
Rochester Precision Optics LLC  
Roditi International Corporation Ltd.  
Roth & Rau MicroSystems GmbH  
RPC Photonics, Inc.  
Satisloh North America Inc.  
SCHOTT North America, Inc.  
Semrock, Inc.  
Sill Optics GmbH & Co., KG  
Spanoptic Ltd.  
Special Optics  
Spectrogon US Inc.  
Spectronix Corp.  
Spectrum Scientific, Inc.  
Spectrum Thin Films Inc.  
Strasbaugh  
Sydor Optics, Inc.  
Syntec Optics  
TecOptics, Inc.



Tecport Optics, Inc.  
 Thatshigh Photoelectric  
 Technology Co., Ltd.  
 Tianjin Tengeng Industrial and  
 Trading Co., Ltd.  
 TLC International  
 TwinStar Optics, Coatings, &  
 Crystals  
 Umicore Optical Materials USA  
 Inc.  
 Unioriental Optics Co., Ltd.  
 Vacuum Process Technology LLC  
 (VPT)  
 VENTEON Laser Technologies  
 GmbH  
 VisiMax Technologies, Inc.  
 Wavelength Technology  
 Singapore Pte Ltd.  
 Wuhan TianYu Optical &  
 Electronic Instrument Co., Ltd.  
 Wuhan Zhongji Optical Instrument  
 Co., Ltd.  
 WZWOPTIC AG  
 Yunnan Lincang Xinyuan  
 Germanium Industrial Co., Ltd.  
 Z&Z Optoelectronics Tech. Co.,  
 Ltd.  
 ZC&R Coatings for Optics, Inc.  
 Zygo Corporation

## High Speed Imaging and Sensing

4AD Enterprises, Inc.  
 Advanced Technical Ceramics  
 Company (AdTech Ceramics)  
 AGM Container Controls, Inc.  
 Amplification Technologies, Inc.  
 Andor Technology  
 Applied Optics Group  
 AUREA Technology  
 Axiom Optics  
 Axsun Technologies  
 Axsys Technologies - General  
 Dynamics Advanced  
 Information Systems  
 BaySpec, Inc.  
 Boston Micromachines Corp.  
 Bridger Photonics, Inc.

Brimrose Corporation of America  
 Canon U.S.A.  
 CMOSIS  
 Cooke Corp., The  
 CRI  
 DALSA  
 Dexela Ltd.  
 DongWoo Optron Co., Ltd.  
 DRS Technologies, Inc.  
 e2v  
 Electro-Optical Products Corp.  
 Elforlight Ltd.  
 EPIX, Inc.  
 Excelitas Technologies Corp.  
 Fairchild Imaging  
 FLIR Systems, Inc.  
 Fraunhofer-Institut für Integrierte  
 Schaltungen IIS  
 GRI Pumps  
 Headwall Photonics, Inc.  
 High Q Laser (US), Inc.  
 HVM Technology Inc.  
 Imaging Solutions Group  
 IMRA America, Inc.  
 INDATECH  
 JML Optical Industries Inc.  
 JP Innovations, LLC  
 Kigre, Inc.  
 Kinetic Systems, Inc.  
 Labsphere, Inc.  
 Lambert Instruments Mts  
 Laser Operations LLC/QPC  
 Lasers  
 Lasys Trade Show - Messe  
 Stuttgart  
 Lumencor, Inc.  
 Luna Technologies  
 Mad City Labs, Inc.  
 Micron Optics, Inc.  
 Minus K Technology, Inc.  
 MIRTHER Center  
 National Instruments  
 Navitar  
 NorPix, Inc.  
 Nova-Write Inc.  
 NP Photonics  
 OPCO Laboratory, Inc.  
 OptoElectronic Components

optoSiC GmbH  
 Optotune  
 P&P Optica Inc.  
 Photek Limited  
 Photon Spot Inc.  
 Photon  
 PI (Physik Instrumente) LP  
 Power Technology, Inc.  
 Precision Optics Gera  
 Proxitronic Industries AG  
 Santec USA Corp.  
 SDS Systems Development &  
 Solutions  
 Sensors Unlimited-Goodrich ISR  
 Systems  
 Sino-Galvo (Beijing) Technology  
 Co., Ltd.  
 SIOS  
 Sofradir EC, Inc.  
 Specialised Imaging, Inc.  
 Specim, Spectral Imaging Ltd.  
 SPOT Imaging Solutions  
 Stanford Photonics, Inc.  
 Sutter Instrument Co.  
 Sydor Instruments LLC  
 Technologiegesellschaft fuer  
 Strahlwerkzeuge mbH (TGSW  
 mbH)  
 Texas Instruments  
 ULIS  
 Vision Research, A Division of  
 AMETEK  
 Wuhan Huaray Precision Laser  
 Co., Ltd.  
 Xactra Technologies  
 Xenics

## Illumination Engineering

ASML Optics  
 Breault Research Organization  
 Bte Bedampfungstechnik GmbH  
 Diffractive Optics Ltd.  
 Docter Optics, Inc.  
 Dominar, Inc.  
 Elite Optoelectronics Co., Ltd.  
 Energetiq Technology, Inc.  
 Epitex Inc./Marubeni America  
 Corporation  
 Excelitas Technologies Corp.  
 Fiberoptic Systems, Inc.  
 Forth Dimension Displays Ltd.  
 Fraunhofer IPMS  
 Greenlight Optics, LLC  
 Holo-Or Ltd.  
 Inlight Precision Optics Co., Ltd.  
 Innovations In Optics, Inc.  
 Innovative Photonic Solutions  
 JENOPTIK | Optical Systems  
 JENOPTIK | Optical Systems  
 Kiyohara Optics USA  
 Lambda Research Corp.  
 LightTrans VirtualLab UG  
 LightWorks Optics, Inc.  
 Lumencor, Inc.  
 Mightex Systems



Optical Support, Inc.  
 Optotune  
 Power Technology, Inc.  
 Precision Optics Gera  
 Princeton Optronics  
 ProPhotonix, Ltd.  
 ProSpect Photonics, Inc.  
 Schneider Optics, Inc.  
 Sill Optics GmbH & Co., KG  
 SUSS MicroOptics SA  
 Synopsys, Inc.  
 Technologiegesellschaft fuer  
 Strahlwerkzeuge mbH (TGSW  
 mbH)  
 ZEMAX Development Corp.

## Infrared Sources, Detectors, Systems

Accuratus Corp.  
 AdValue Photonics Inc.  
 Advanced Photonix, Inc.  
 AGM Container Controls, Inc.  
 Amplification Technologies, Inc.  
 Analog Modules, Inc.  
 Artifex Engineering e.K.  
 ASE Optics, Inc.  
 Attodyne Inc.  
 AUREA Technology  
 Ayase America, Inc.  
 B&W Tek, Inc.  
 BaySpec, Inc.  
 Block Engineering/MEMS  
 Boston Electronics Corp.  
 Bridger Photonics, Inc.  
 Cal Sensors, Inc.  
 Cascade Laser Corp.  
 CI Systems, Inc.  
 CIP Technologies  
 Clear Align  
 CorActive High-Tech, Inc.  
 Covision Ltd.  
 CVI Melles Griot  
 DataRay, Inc.  
 Daylight Solutions



# SPIE Photonics West Product Index

Dowa Electronics Materials Co., Ltd.  
DRS Technologies, Inc.  
Edinburgh Instruments Ltd  
Electro Optical Components Inc.  
Electro Optical Industries, Inc.  
Element Six  
Elforlight Ltd.  
Elite Optoelectronics Co., Ltd.  
Epitex Inc./Marubeni America Corporation  
Eptner Technology, Inc.  
ER Precision Optical Corp.  
Esterline CMC Electronics  
EXALOS AG  
Excelitas Technologies Corp.  
Exciton, Inc.  
FASTLITE  
FEMTO Messtechnik GmbH  
Fiberoptic Systems, Inc.  
Firebird Technologies Inc.  
FJW Optical Systems, Inc.  
FLIR Systems, Inc.  
Fraunhofer Heinrich Hertz Institute  
Frontier Optics Inc.  
GPD Optoelectronics Corp.  
Hamamatsu Corp.  
Headwall Photonics, Inc.  
Helia Photonics Ltd.  
Helioworks, Inc.  
Hellma Materials GmbH & Co. KG  
High Tech Photonics  
Huanic Corp.  
ID Quantique SA  
Infrared Laboratories, Inc.  
Infratec Infrared LLC  
Innolume GmbH  
inno-spec GmbH  
Innovative Photonic Solutions  
InPhenix Inc.  
Inrad, a PPGI Company  
International Light Technologies  
IRflex Corporation  
ISP Optics Corporation  
JPT Electronics Co., Ltd.  
JT Ingram  
Kapteyn-Murnane Labs. Inc. (KMLabs)  
Ketek Corp  
Keopsys Inc.  
Kigre, Inc.  
Kyosemi Corporation  
Laser Components Canada, Inc.  
Laser Components DG, Inc.  
Laser Components GmbH  
Laser Components IG, Inc.  
Laser Diode, Inc.  
LaserPoint Srl  
Leister Technologies, LLC  
LightPath Technologies, Inc.  
Lockheed Martin Aculight  
M Squared Lasers Ltd.  
Metrology Concepts LLC  
Micro Photon Devices  
Micro-Hybrid Electronic GmbH

MidDec Scandinavia AB  
MIRTHE Center  
Mitsubishi Electric & Electronics USA, Inc.  
Moore Nanotechnology Systems LLC  
Naked Optics Corp.  
Nalux Co., Ltd.  
Nature Publishing Group  
New England Photoconductor Corp.  
New Infrared Technologies  
Norsk Elektro Optikk AS  
Novotech, Inc.  
On-Trak Photonics, Inc.  
Opnext, Inc.  
OPOTEK, Inc.  
OPTICS 1, Inc.  
Opto Diode Corp.  
OptoElectronic Components  
Pacer USA LLC  
PERFOS  
PerkinElmer Analytical Sciences and Laboratory Services (ASLS)  
PHASICS France  
Phoenix Optical Technologies Ltd.  
Photon Spot Inc.  
Photonic Solutions Ltd.  
Photonics Industries International, Inc.  
PicoQuant GmbH  
PolarOnyx, Inc.  
PRIMES GmbH  
Princeton Optronics  
ProPhotonix, Ltd.  
PRP Optoelectronics Ltd.  
Pyreos Ltd.  
QPhotonics, LLC  
Rainbow Photonics AG  
Reynard Corp.  
RGB Lasersystems GmbH  
Rochester Precision Optics LLC  
Roithner Lasertechnik GmbH  
Santec USA Corp.  
Savvy Optics Corp.  
SCD-Semi Conductor Devices  
Scientech, Inc.  
Sensors Unlimited-Goodrich ISR Systems  
Silicon Sensor International AG  
Smart System Technology & Commercialization Center (STC)  
Sofradir EC, Inc.  
Spectral Evolution  
SPECTRO Inc.  
Stanford Photonics, Inc.  
StellarNet, Inc.  
Sumitomo Electric Industries, Ltd.  
Superlum  
Sydor Instruments LLC  
Teledyne Judson Technologies  
TeraView Ltd.  
UCLA California NanoSystems Institute



ULIS  
Vixar  
Williams Advanced Materials  
World Star Technologies  
Xactra Technologies  
Xenics  
Zomega Terahertz Corp.

## Ion-Beam Lithography

Advance Reproductions Corp.  
IMT North America Inc.  
Kaiser Systems, Inc.  
NTG Neue Technologien GmbH & Co. KG  
Plasma Process Group

## Lasers and Other Light Sources, Laser Accessories, Laser Systems

3S PHOTONICS/Avensys/ITF Labs  
4AD Enterprises, Inc.  
89 North  
AA OPTO-ELECTRONIC  
Access Laser Co.  
Accuratus Corp.  
AdTech Optics, Inc.  
AdValue Photonics Inc.  
Advanced Optowave Corp.  
Advanced Software Laser Design (ASLD)  
Advanced Technical Ceramics Company (AdTech Ceramics)  
AdvR, Inc.  
Aerotech, Inc.  
Agilent Technologies, Inc.  
Aixtooling GmbH  
AKELA Laser Corp.  
Allied Laser Solutions, LLC  
Altos Photonics, Inc.  
American Beryllia, Inc.  
AMPHOS GmbH  
Amplitude Systemes  
Anchor Optics  
Anteryon BV  
Apollo Instruments, Inc.  
Applied Laser Engineering Ltd.  
Applied Optronics  
Applied Photonics Inc.  
Applied Physics & Electronics, Inc.  
Arbor Photonics, Inc.  
ARGES GmbH  
Arroyo Instruments, LLC  
Atseva LLC  
Attodyne Inc.  
Avo Photonics, Inc.  
Axcel Photonics Inc.  
Axsun Technologies  
Ayase America, Inc.  
Azur Light Systems  
B&W Tek, Inc.  
BaySpec, Inc.  
Beamtech Optronics Co. Ltd.  
Beijing Century Sunny Technology Co., Ltd.  
Beijing Glass Research Institute  
Biophotonic Solutions, Inc.  
Block Engineering/MEMS  
Blue Sky Research  
Bo Xin Photoelectric Co., Ltd.  
Bridger Photonics, Inc.  
Bright Solutions srl  
Bristol Instruments, Inc.  
Bruno Laser  
BWT Beijing Ltd.  
Calmar Laser, Inc.  
Cambridge Technology, Inc.  
Canadian Institute for Photonic Innovations-CIPI  
Canadian Photonics Fabrication Centre (CPFC)  
Canalaser Technologies Co., Ltd.  
Cascade Laser Corp.  
CASTON Inc.  
CeramOptec Industries, Inc.  
Changchun New Industries Optoelectronics Technology Co., Ltd.  
China Daheng Group Inc.  
China International Optoelectronics Exposition  
CIP Technologies

CLaser Photonics, Inc.  
 Clear Align  
 Coastal Connections  
 Cobolt AB  
 Coherent Inc.  
 Compound Semiconductor Technologies Global (CSTG) Ltd.  
 Conex Systems Technology, Inc.  
 Continuum  
 CorActive High-Tech, Inc.  
 Covesion Ltd.  
 CQ Laser Technologies Co., Ltd.  
 CRC Press - Taylor and Francis Group LLC  
 CREOL, The College of Optics & Photonics, UCF  
 CryLaS GmbH  
 Crystal GmbH  
 Crystal Technology, Inc.  
 CRYSTECH Inc.  
 CVI Melles Griot  
 DataRay, Inc.  
 Dausinger+Giesen GmbH  
 Daylight Solutions  
 Dayoptics, Inc.  
 DenseLight Semiconductors Pte Ltd.  
 DiCon Fiberoptics, Inc.  
 Dilas Diode Laser, Inc.  
 Directed Light, Inc.  
 DPSS Lasers Inc.  
 Dyna Technologies, Inc.  
 DZ Laser Service, Inc.  
 Eagleyard Photonics GmbH  
 Edinburgh Instruments Ltd  
 Edmund Optics  
 EKSPILA UAB  
 Electro Optical Components Inc.  
 Electro-Optical Products Corp.  
 Element Six  
 Elforlight Ltd.  
 Elite Optoelectronics Co., Ltd.  
 Elliot Scientific Ltd.  
 EM4, Inc.  
 Energetiq Technology, Inc.  
 EOTRON LLC

ESI  
 EXALOS AG  
 Exciton, Inc.  
 FASTLITE  
 Femtochrome Research, Inc.  
 FEMTOLASERS, Inc.  
 Ferrotec (USA) Corp.  
 Fianium Inc.  
 Fibercryst  
 Fiberguide Industries, Inc.  
 FiberTech-RoMack  
 Filtech Photonics Co., Ltd.  
 FJW Optical Systems, Inc.  
 Foreal Spectrum, Inc.  
 Frankfurt Laser Co.  
 Fraunhofer ILT  
 Frontier Optics Inc.  
 Gamdan Optics Inc.  
 General Photonics Corp.  
 Genia Photonics  
 Gentec Electro-Optics Inc.  
 Germanium and Applications Ltd.  
 Gould Technology, LLC  
 GRI Pumps  
 Hagitec Co., Ltd.  
 HC Photonics Corp.  
 Heidelberg Instruments Inc.  
 Helioworks, Inc.  
 Hellma Materials GmbH & Co. KG  
 Hellma USA  
 HemonTech  
 Heriot-Watt University  
 High Q Laser (US), Inc.  
 High Tech Photonics  
 Huanic Corp.  
 IBL Innovative Berlin Laser GmbH  
 ID Quantique SA  
 IMM Photonics GmbH  
 IMPEX HighTech GmbH  
 IMRA America, Inc.  
 Industrial Laser Solutions Japan  
 Infinite Optics Inc.  
 INGENERIC GmbH  
 Inlight Precision Optics Co., Ltd.  
 Innoptics  
 Innovative Photonic Solutions

InPhenix Inc.  
 Inrad, a PPGI Company  
 IPG Photonics Corp.  
 IRflex Corporation  
 Iris AO, Inc.  
 Isomet Corp.  
 ISP System  
 ITF Labs/Avensys/3S PHOTONICS  
 iXFiber SAS  
 J.P. Sercel Associates, Inc. (JPSA)  
 JDSU  
 JenLab GmbH  
 JENOPTIK | Lasers & Material Processing  
 JP Innovations, LLC  
 JPT Electronics Co., Ltd.  
 Kaiser Systems, Inc.  
 Kapteyn-Murnane Labs. Inc. (KMLabs)  
 Kentek Corp  
 Keopsys Inc.  
 Keopsys SA  
 Kigre, Inc.  
 Kimmon Electric US, L.P.  
 KLASTECH - Karpushko Laser Technologies GmbH  
 Konica Minolta Sensing Americas, Inc.  
 Lasence Inc.  
 Laser Components Canada, Inc.  
 Laser Components DG, Inc.  
 Laser Components GmbH  
 Laser Components IG, Inc.  
 Laser Diode, Inc.  
 Laser Focus World Japan  
 Laser Institute of America  
 Laser Operations LLC/QPC Lasers  
 Laser Quantum Ltd.  
 Laser Research Optics  
 Laser Safety Industries  
 Laser Zentrum Hannover e.V.  
 Laser-Compact Co. Ltd.  
 Laser-export Co. Ltd.  
 Laserline Inc.  
 Laserod Inc.  
 Lasertel Inc.  
 LASOS Lasertechnik GmbH  
 Lasys Trade Show - Messe Stuttgart  
 Lee Laser, Inc.  
 Light Conversion Ltd.  
 Lighthouse Photonics Inc.  
 LightPath Technologies, Inc.  
 LightVision Technologies, Corp.  
 LightWorks Optics, Inc.  
 LIMO Lissotschenko Mikrooptik GmbH  
 Lincoln Laser Co.  
 Litron Lasers  
 Lockheed Martin Aculight  
 Luceta Ltd.  
 Lumencor, Inc.  
 Lumera Laser GmbH  
 Lumics Laser

Lumina Power, Inc.  
 Luna Technologies  
 M Squared Lasers Ltd.  
 m2k-laser GmbH  
 Market Tech, Inc.  
 Martek Power Laser Drive, LLC  
 MegaWatt Lasers, Inc.  
 Meller Optics, Inc.  
 Menlo Systems GmbH  
 MeshTel - INTELITE, Inc.  
 METALLIFE, Inc.  
 Micro Electronic Technology Development Application Corp.  
 Micro Laser Systems, Inc.  
 Micron Optics, Inc.  
 Minus K Technology, Inc.  
 MIRTHE Center  
 MLD Technologies, LLC  
 Modu-Laser, LLC  
 Modulight, Inc.  
 MPB Communications Inc.  
 Multiwave Photonics  
 Nanofoot Finland Oy  
 nanoplus Nanosystems and Technologies GmbH  
 Nature Publishing Group  
 Necsul  
 neoLASE GmbH  
 Neptec Optical Solutions, Inc.  
 New Source Technology, LLC  
 Newport Corp.  
 Nextreme Thermal Solutions, Inc.  
 Nichia America Corp.  
 NKT Photonics A/S  
 nLight Corporation  
 NM Laser Products Inc.  
 NoIR  
 Noren Products, Inc.  
 Norland Products Inc.  
 Northrop Grumman Cutting Edge Optronics  
 NP Photonics  
 NTT Electronics Corp.  
 Nuferrn  
 NuPhoton Technologies, Inc.  
 Nutfield Technology, Inc.  
 O/E Land Inc.  
 OEwaves, Inc.  
 Omicron Laserage Laserprodukte GmbH  
 OMRON Corp.  
 Ondax, Inc.  
 Onefive GmbH  
 Onyx Optics Inc.  
 OPOTEK, Inc.  
 OpTek Systems Inc.  
 OptiGrate Corp.  
 Optisiv Ltd.  
 OptiSwitch Technology Corp.  
 Opto-Line, Inc.  
 Optometrics Corp.  
 Optoskand AB  
 OSA - The Optical Society  
 Oxide Corp.  
 OXXIUS SA





# SPIE Photonics West Product Index

- OZ Optics Ltd.  
Pacer USA LLC  
Pangolin Laser Systems Inc.  
PD-LD, Inc.  
PERFOS  
PhaseView  
Philips Technologie GmbH U-L-M Photonics GmbH  
Photodigm, Inc.  
Photon etc.  
Photon Gear, Inc.  
Photon Systems, Inc.  
Photon Technology International, Inc.  
Photonic Products Group Inc. (PPGI)  
Photonic Solutions Ltd.  
Photonics Industries International, Inc.  
PicoQuant Photonics North America, Inc.  
PolarOnyx, Inc.  
Power Technology, Inc.  
PRIMES GmbH  
Princeton Optronics  
ProPhotonix, Ltd.  
PRP Optoelectronics Ltd.  
Pyreos Ltd.  
QD Laser, Inc.  
QGLex Inc.  
Qioptiq  
QPhotonics, LLC  
Quantronix Corp.  
Quantum Technology, Inc.  
Quartus Engineering Incorporated  
Rainbow Photonics AG  
RAYBIUM  
Raydiance, Inc.  
RAYLASE AG  
Redfern Integrated Optics, Inc.  
Remtec, Inc.  
Research Electro-Optics, Inc.  
RGB Lasersystems GmbH  
RGLase LLC  
Rocky Mountain Instrument Co.  
Roithner Lasertechnik GmbH  
Route des Lasers  
Sacher Lasertechnik GmbH  
Santec USA Corp.  
SCANLAB America, Inc.  
SCD-Semi Conductor Devices  
Sciencetech, Inc.  
Scottish Development International  
Scottish Optoelectronics Association  
Scottish Universities Physics Alliance (SUPA)  
SemiNex Corp.  
Shanghai Optics Inc.  
Shasta Crystals  
Sheaumann Laser Inc.  
Silicon Sensor International AG  
Sino-Galvo (Beijing) Technology Co., Ltd.  
SIOS
- Snake Creek Lasers  
Spectra-Mat, Inc.  
Spectronix Corp.  
Sperian Protection  
SPI Lasers  
Standa  
Stanford Photonics Research Center  
Sumitomo Electric Industries, Ltd.  
Superlum  
SUSS MicroOptics SA  
Sutter Instrument Co.  
Suzhou Delphi Laser Co., Ltd.  
Swamp Optics, LLC  
Sydor Instruments LLC  
TDK-Lambda Americas Inc.  
Technical Manufacturing Corp.  
Technobis Group  
Technologiegesellschaft fuer Strahlwerkzeuge mbH (TGSW mbH)  
TecOptics, Inc.  
Teem Photonics  
Telesis Technologies, Inc.  
TEM Messtechnik GmbH  
TeraView Ltd.  
Teraxion Inc.  
TERMIONA LLC  
Termotek AG  
Thatshigh Photoelectric Technology Co., Ltd.  
ThermoTek Inc.  
Thorlabs, Inc.  
Time-Bandwidth Products, Inc.  
Toptica Photonics, Inc.  
Tresky Corp.  
Triad Technology Inc.  
TRUMPF Inc.  
UNIVET srl  
Valdor Fiber Optics  
VENTEON Laser Technologies GmbH  
VERTILAS GmbH  
V-gen Ltd.  
VI Systems GmbH  
Vincent Associates  
Vixar  
Voltage Multipliers Inc.  
Vortran Laser Technology, Inc.  
VueMetrix  
Wavelength Electronics, Inc.  
Wavelength References  
Wavelength Technology Singapore Pte Ltd.  
Western Photonics Technology  
WITCORE Co., Ltd.  
World Star Technologies  
XIO Photonics B.V.  
Xiton Photonics GmbH  
Yelo Ltd.  
Yenista Optics S.A.  
Yokogawa Corporation of America  
Zhejiang ZCN Scientific Co., Ltd.  
Z-LASER Optoelektronik GmbH
- Law Enforcement Technologies**  
Applied Optronics  
DRS Technologies, Inc.  
Frankfurt Laser Co.  
Kaiser Systems, Inc.  
Microcertec  
New Infrared Technologies  
OPTICS 1, Inc.  
OPTIX Co.  
Photon Systems, Inc.  
Sandia National Laboratories  
ULIS  
Xenics
- Life Sciences**  
Advance Reproductions Corp.  
Agilent Technologies, Inc.  
ALIO Industries  
ALPAO  
Alpha Media Group (Physorg.com)  
AMPHOS GmbH  
Amplitude Systemes  
Andor Technology  
Applied Optics Group  
Applied Physics & Electronics, Inc.  
Arroyo Instruments, LLC  
ASML Optics  
Azur Light Systems  
AZURE Photonics USA, Inc.  
Berliner Glas KGaA Herbert Kubatz GmbH & Co.  
Biophotonic Solutions, Inc.  
Blue Sky Research  
China Daheng Group Inc.  
Chroma Technology Corp.  
Cobolt AB  
CRI  
CryLaS GmbH  
Crystal Technology, Inc.  
DALSA  
DELTA  
DPSS Lasers Inc.  
DZ Laser Service, Inc.  
Eagleyard Photonics GmbH  
Edinburgh Instruments Ltd  
Elforlight Ltd.  
Elliot Scientific Ltd.  
EM4, Inc.  
Energetiq Technology, Inc.  
Fairchild Imaging  
FiberTech USA, Inc., Div. of Leoni Fiber Optics  
Genia Photonics  
GratingWorks, USA  
Grintech GmbH  
Hellma Materials GmbH & Co. KG  
Hitachi High Technologies America  
Ibsen Photonics  
ICA Corporation  
Imagine Optic  
IMRA America, Inc.
- Incom, Inc.  
INDATECH  
INGENERIC GmbH  
Iris AO, Inc.  
JenaBusiness  
JenLab GmbH  
JENOPTIK | Lasers & Material Processing  
Kimmon Electric US, L.P.  
Kinetic Systems, Inc.  
Lambert Instruments Mts  
LASOS Lasertechnik GmbH  
Leica Microsystems GmbH  
LEONI Fiber Optics GmbH  
Lighthouse Photonics Inc.  
m2k-laser GmbH  
Mad City Labs, Inc.  
Market Tech, Inc.  
Mightex Systems  
MLOptic Corp.  
Modu-Laser, LLC  
Nanonics Imaging Ltd.  
Nanoscribe GmbH  
Newport Corp.  
NKT Photonics A/S  
NM Laser Products Inc.  
Omicron Laserage Laserprodukte GmbH  
Optikron GmbH  
OXXIUS SA  
P&P Optica Inc.  
PhaseView  
Photon Technology International, Inc.  
PI (Physik Instrumente) LP  
ProSpect Photonics, Inc.  
QD Laser, Inc.  
Raydiance, Inc.  
Raytheon ELCAN Optical Technologies  
RGLase LLC  
Route des Lasers  
SCD-Semi Conductor Devices  
Scottish Universities Physics Alliance (SUPA)  
Sens-Tech Ltd.  
Simphtek Inc.  
Siskiyou Corporation  
Smart System Technology & Commercialization Center (STC)  
Stanford Photonics Research Center  
Steinmeyer, Inc.  
SUSS MicroOptics SA  
Sutter Instrument Co.  
SwissOptic AG  
Technical Manufacturing Corp.  
Technobis Group  
TECNISCO, LTD.  
Teem Photonics  
Texas Instruments  
Toshiba America Information Systems  
tousimis research corporation  
Translume, Inc.

Wasatch Photonics  
 World Star Technologies  
 XiO Photonics B.V.  
 Zeon Chemicals

**Metrology, Inspection and Process Control**

4D Technology Corp.  
 ADIT/Electron Tubes  
 AEP Technology, Inc.  
 Aerotech, Inc.  
 ALIO Industries  
 AMETEK  
 AMO WaveFront Sciences, LLC  
 Applied Surface Technologies  
 Arroyo Instruments, LLC  
 ASML Optics  
 AUREA Technology  
 Axiom Optics  
 Block Engineering/MEMS  
 Blue Sky Research  
 Bridger Photonics, Inc.  
 Brockton Electro-Optics Corp.  
 Canon U.S.A.  
 Carl Zeiss Jena  
 Cobolt AB  
 Corning Incorporated  
 CryLaS GmbH  
 Crystal Technology, Inc.  
 DataRay, Inc.  
 Duma Optronics Ltd.  
 DZ Laser Service, Inc.  
 Eagleyard Photonics GmbH  
 Electro Optical Industries, Inc.  
 Engineered Surface Finishes  
 ESDI (Engineering Synthesis Design, Inc.)  
 Fiberpro Inc.  
 ficonTEC Corporation  
 Filmetrics, Inc.  
 Flemming Tinker, LLC  
 Focal Point, Inc.  
 Forth Dimension Displays Ltd.  
 Fraunhofer IPMS  
 GigaMat Technologies, Inc.  
 GratingWorks, USA  
 G-S PLASTIC OPTICS  
 Heraeus  
 High Q Laser (US), Inc.  
 Hinds Instruments, Inc.  
 Hitachi High Technologies America  
 Imagine Optic  
 Imaging Solutions Group  
 Innovative Photonic Solutions  
 Intellemetrics Global Ltd.  
 Interfiber Analysis  
 J.A. Woollam Co.  
 JCMwave GmbH  
 JT Ingram  
 Keopsys SA  
 Kinetic Systems, Inc.  
 KLASTECH - Karpushko Laser Technologies GmbH

KLATENCOR  
 Konica Minolta Sensing Americas, Inc.  
 Labsphere, Inc.  
 LASOS Lasertechnik GmbH  
 LightWorks Optics, Inc.  
 Luna Technologies  
 Luphos GmbH  
 M Squared Lasers Ltd.  
 Mad City Labs, Inc.  
 Market Tech, Inc.  
 Max Levy Autograph, Inc.  
 Meadowlark Optics  
 Menlo Systems GmbH  
 Metrology Concepts LLC  
 Mightex Systems  
 Mildex, Inc.  
 Minus K Technology, Inc.  
 Modu-Laser, LLC  
 Moeller-Wedel Optical GmbH  
 nanosystec GmbH  
 National Instrument Technology Research Center  
 Navitar  
 nPoint, Inc.  
 NTT Electronics Corp.  
 Omicron Laserage Laserprodukte GmbH  
 Optical Support, Inc.  
 OptiPro Systems  
 Optisiv Ltd.  
 Opto-Alignment Technology, Inc.  
 OptoSigma Corp.  
 Perkins Precision Developments LLC  
 PhaseView  
 PHASICS  
 PHASICS France  
 Photon Gear, Inc.  
 Piezosystem Jena, Inc.  
 Power Technology, Inc.  
 Precision Optics Gera  
 PRIMES GmbH  
 Prior Scientific Inc.  
 PROMET International Inc.  
 ProPhotonix, Ltd.  
 Proxitronic Industries AG  
 Pyreos Ltd.  
 QED Technologies, Inc.  
 Rainbow Photonics AG  
 Redfern Integrated Optics, Inc.  
 Route des Lasers  
 Sacher Lasertechnik GmbH  
 Savimex  
 Savvy Optics Corp.  
 Schneider Optics, Inc.  
 Semiconsoft, Inc.  
 SemiNex Corp.  
 Sensofar-Tech, SL  
 SIOS  
 Smart System Technology & Commercialization Center (STC)  
 Specim, Spectral Imaging Ltd.

Steinmeyer, Inc.  
 StellarNet, Inc.  
 Taylor Hobson, A Division of AMETEK  
 TDK-Lambda Americas Inc.  
 tec5USA  
 TeraView Ltd.  
 Thermo Scientific - CIDTEC  
 Trioptics GmbH  
 Vermont Photonics Technologies Corp.  
 Vision Components GmbH  
 VTT Technical Research Centre of Finland  
 Zeta Instruments  
 Z-LASER Optoelektronik GmbH  
 Zomega Terahertz Corp.  
 Zygo Corporation

## Nanotechnology

Access Optics LLC  
 AEP Technology, Inc.  
 Aerotech, Inc.  
 ALIO Industries  
 Alpha Media Group (Physorg.com)  
 AMETEK  
 AMPHOS GmbH  
 Applied Surface Technologies  
 Atseva LLC  
 Baikowski International Corp.  
 Beijing Bodian Optical Technology Co., Ltd.  
 CEDRAT Technologies  
 Clemson University/COMSET  
 CRC Press - Taylor and Francis Group LLC  
 CREOL, The College of Optics & Photonics, UCF  
 Crosslight Software, Inc.  
 Diffractive Optics Ltd.  
 Elliot Scientific Ltd.  
 Engineered Surface Finishes  
 ESDI (Engineering Synthesis Design, Inc.)  
 Evatec NA  
 Fraunhofer Institute for Applied Optics and Precision Engineering IOF  
 Heidelberg Instruments Inc.  
 Hitachi High Technologies America  
 HTA Photomask  
 IMT North America Inc.  
 Incom, Inc.  
 Innolume GmbH  
 Intlvac  
 IQE PLC  
 Iris AO, Inc.  
 ISP System  
 JCMwave GmbH  
 JENOPTIK I Optical Systems  
 Kapteyn-Murnane Labs. Inc. (KMLabs)  
 Kimmon Electric US, L.P.  
 KLASTECH - Karpushko Laser

Technologies GmbH  
 Kurt J. Lesker Company  
 LightTrans VirtualLab UG  
 Luphos GmbH  
 Mad City Labs, Inc.  
 MICOS USA, LLC  
 Minus K Technology, Inc.  
 MOXTEK, Inc.  
 Nanonics Imaging Ltd.  
 Nanoscribe GmbH  
 National Instrument Technology Research Center  
 Nextreme Thermal Solutions, Inc.  
 nPoint, Inc.  
 NTG Neue Technologien GmbH & Co. KG  
 OPTEG GmbH  
 OWIS GmbH  
 Pacific Laser Equipment  
 Photon etc.  
 PI (Physik Instrumente) LP  
 Piezosystem Jena, Inc.  
 Plasmaterials, Inc.  
 Precitech, Inc., a division of AMETEK  
 Raydiance, Inc.  
 RGLase LLC  
 RSoft Design Group  
 RSP Technology BV  
 Sandia National Laboratories  
 Savimex  
 Scottish Development International  
 Sensofar-Tech, SL  
 Simphotek Inc.  
 SmarAct GmbH  
 Smart System Technology & Commercialization Center (STC)  
 SPECTRO Inc.  
 Spectrum Scientific, Inc.  
 Stanford Photonics Research Center  
 Steinmeyer, Inc.  
 Taylor Hobson, A Division of AMETEK  
 Techmetals, Inc.  
 Technodiamant USA Inc.  
 TERMIONA LLC  
 tousimis research corporation  
 UCLA California NanoSystems Institute  
 Universal Photonics, Inc.  
 VACCO Industries  
 Valley Design Corp.  
 VTT Technical Research Centre of Finland  
 Zurich Instruments

## Non-Optical Lithography

Applied Thin-Film Products  
 Infinite Graphics  
 JD Photo-Tools

# SPIE Photonics West Product Index

## Optical Components

- 3S PHOTONICS/Avensys/ITF Labs  
AA OPTO-ELECTRONIC  
AC Photonics, Inc.  
Access Optics LLC  
AccuCoat, Inc.  
Accumold  
Active Optics Night N Ltd.  
Advanced Microoptic Systems GmbH  
Advanced Thin Films  
AdvR, Inc.  
AFL  
Agilent Technologies, Inc.  
Aixtooling GmbH  
Alphion Corp.  
AMO WaveFront Sciences, LLC  
Anchor Optics  
Anteryon BV  
AOC Technologies, Inc.  
Aperture Optical Sciences Inc.  
Apollo Instruments, Inc.  
Apollo Optical Systems  
APPLIED IMAGE Inc.  
Applied Photonics Inc.  
Archer OpTx, Inc.  
ARGES GmbH  
Arrow Thin Films, Inc.  
asphericon GmbH  
Astro- und Feinwerktechnik Adlershof GmbH  
Axsun Technologies  
Axsun Technologies - General Dynamics Advanced Information Systems  
Ayase America, Inc.  
AZURE Photonics USA, Inc.  
Baikowski International Corp.  
Beamtech Optronics Co. Ltd.  
Beijing Bodian Optical Technology Co., Ltd.  
Berliner Glas KGaA Herbert Kubatz GmbH & Co.  
Biophotonic Solutions, Inc.  
BMV Optical Technologies Inc.  
Bo Xin Photoelectric Co., Ltd.  
Boston Micromachines Corp.  
Boulder Nonlinear Systems, Inc.  
Brimrose Corporation of America  
Bte Bedampfungstechnik GmbH  
Cambridge Technology, Inc.  
Canadian Photonics Fabrication Centre (CPFC)  
Canon U.S.A.  
Carl Zeiss Jena  
Carl Zeiss MicroImaging, Inc.  
Cascade Laser Corp.  
CASIX, Inc.  
CASTON Inc.  
Chang Shu JingBo Optical Technology Co., Ltd.  
Changchun New Industries Optoelectronics Technology Co., Ltd.  
China Daheng Group Inc.  
China Germanium Co., Ltd.  
Chroma Technology Corp.  
CI Systems, Inc.  
Cimcoop Holding Ltd.  
CIP Technologies  
CLaser Photonics, Inc.  
Clear Align  
Collimated Holes, Inc.  
Complete Hermetics  
Compound Semiconductor Technologies Global (CSTG) Ltd.  
Conex Systems Technology, Inc.  
CorActive High-Tech, Inc.  
Coresix Precision Glass, Inc.  
Covesion Ltd.  
CQ Laser Technologies Co., Ltd.  
CRC Press - Taylor and Francis Group LLC  
CRI  
Cristal Laser SA  
Crosslight Software, Inc.  
Cryslaser Inc.  
Crystal GmbH  
Crystal Technology, Inc.  
CRYSTECH Inc.  
Crystran Ltd.  
Cutting Edge Coatings GmbH  
Dayoptics, Inc.  
DELTA  
Deltronic Crystal/Isowave Deposition Sciences, Inc.  
DiCon Fiberoptics, Inc.  
Diffractive Optics Ltd.  
Directed Light, Inc.  
Docter Optics, Inc.  
Dominar, Inc.  
Doric Lenses Inc.  
Dowa Electronics Materials Co., Ltd.  
Dyna Technologies, Inc.  
Edmund Optics  
EIS Optics Ltd.  
EKsMA Optics  
Electro-Optics Technology, Inc.  
Element Six  
Elite Optoelectronics Co., Ltd.  
EM4, Inc.  
Engineered Surface Finishes  
EOTRON LLC  
Epitex Inc./Marubeni America Corporation  
EpiWorks, Inc.  
ER Precision Optical Corp.  
Evaporated Coatings, Inc.  
Evaporated Metal Films Corporation  
ExoTec Precision  
Fairfield Crystal Technology, LLC  
FEMTOLASERS, Inc.  
Fiber Optic Center, Inc.  
Fibercrest  
Fiberlogix International Ltd.  
Fiberpro Inc.  
FiberTech USA, Inc., Div. of Leoni  
Fiber Optics  
FiberTech-RoMack  
Fibertronix AB  
Fisba Optik AG  
Foctek Photonics, Inc.  
Foreal Spectrum, Inc.  
Forth Dimension Displays Ltd.  
Fosta-Tek Optics  
Fotofab  
Frankfurt Laser Co.  
Fraunhofer Heinrich Hertz Institute  
Fraunhofer ILT  
Fraunhofer Institute for Applied Optics and Precision Engineering IOF  
Fraunhofer-Institut für Produktionstechnologie IPT  
Fraunhofer-Institut für Silicatiforschung  
Fresnel Optics GmbH  
Frontier Optics Inc.  
Fuzhou Alpha Optics Co., Ltd.  
Fuzhou USTRON Optoelectronic Materials Co., Ltd.  
Gamdan Optics Inc.  
Gavish, Inc.  
GD Optical Competence GmbH  
General Photonics Corp.  
Genia Photonics  
Germanium and Applications Ltd.  
GiGa Concept Inc.  
Glass & Ceramic Engineered Solutions (GCES)  
Global Communication Semiconductors, Inc.  
Gold Dragon Optics Electronic Technology Co., Ltd.  
Gooch & Housego  
Gould Technology, LLC  
Greenlight Optics, LLC  
Grintech GmbH  
G-S PLASTIC OPTICS  
GT Crystal Systems  
Guild Optical Associates, Inc.  
Gulf Photonics  
Gurley Precision Instruments, Inc.  
Hagitec Co., Ltd.  
Hamamatsu Corp.  
HangZhou HuiDA Electro Optics Co., Ltd.  
Hardin Optical Company  
Harold Johnson Optical Labs.  
Harz University of Applied Sciences  
HB Optical Technology Co., Ltd.  
HC Photonics Corp.  
Helia Photonics Ltd.  
Helioworks, Inc.  
Hellma USA  
Heraeus  
Heriot-Watt University  
HOLOEYE Photonics AG  
Holo-Or Ltd.  
HTA Photomask  
Ibsen Photonics  
IMEC  
IMM Photonics GmbH  
IMPEX HighTech GmbH  
IMT North America Inc.  
Infinite Optics Inc.  
INGENERIC GmbH  
Inlight Precision Optics Co., Ltd.  
Innolume GmbH  
Innovation Photonics  
InPhenix Inc.  
Inspired Photonics Inc.  
IQE PLC  
IR Photonics  
IRD Glass  
Isomet Corp.  
ISP Optics Corporation  
Isuzu Glass Inc.  
ITF Labs/Avensys/3S PHOTONICS  
iXfiber SAS  
J&M Analytik AG  
J. Hauser GmbH & Co. KG  
Japan Cell Co., Ltd.  
JDSU  
JenaBusiness  
JENOPTIK I Optical Systems  
JENOPTIK I Optical Systems  
JML Optical Industries Inc.  
JPT Electronics Co., Ltd.  
Kaiser Optical Systems, Inc.  
Kaleido Technology  
Kaufman & Robinson, Inc.  
Kentek Corp  
KERDRY  
Keting Optical Technology Inc.  
Kinetic Systems, Inc.  
Kiyohara Optics USA  
Kohoku Kogyo Co., Ltd.  
Kugler of America LTD  
KYLIA  
L-3 Communications, Tinsley  
LaCroix Optical Co.  
Lambda Research Optics Inc.  
Lanmark Controls Inc.  
Laser Focus World Japan  
Laser Materials Corp.  
Laser Optics Berlin  
Laser Optics, a PPGI company  
Laser Research Optics  
Laser Zentrum Hannover e.V.  
Lattice Electro Optics, Inc.  
Lattice Materials LLC  
Leica Microsystems GmbH  
Leister Technologies, LLC  
LEONI Fiber Optics GmbH  
LightComm Technology  
LightPath Technologies, Inc.  
LightSmyth Technologies, Inc.  
LightTrans VirtualLab UG  
LightWorks Optics, Inc.  
LIMO Lissotschenko Mikroskopik GmbH  
Lincoln Laser Co.  
Lumencor, Inc.  
Lumics Laser  
M&K Inc.  
m2k-laser GmbH



Max Levy Autograph, Inc.  
 Meadowlark Optics  
 Meller Optics, Inc.  
 METALLIFE, Inc.  
 Metrigraphics, LLC  
 Micro Laser Systems, Inc.  
 Micro Photon Devices  
 Microcertec  
 Micropac Industries Inc.  
 Mitsubishi Cable Industries, Ltd.  
 Mitsubishi Electric & Electronics  
 USA, Inc.  
 MLD Technologies, LLC  
 MLOptic Corp.  
 Moeller-Wedel Optical GmbH  
 MolTech GmbH  
 Moore Nanotechnology Systems  
 LLC  
 Moulded Optics GmbH  
 MOXTEK, Inc.  
 MPA Crystal Corp.  
 MRC a PPGI company  
 Multi IR Optoelectronics Co., Ltd.  
 Naked Optics Corp.  
 Nalux Co., Ltd.  
 National Institute of Advanced  
 Industrial Science and  
 Technology  
 National Instrument Technology  
 Research Center  
 Naval Research Laboratory  
 Navitar  
 Neptec Optical Solutions, Inc.  
 New Imaging Technologies  
 New Scale Technologies, Inc.  
 New Source Technology, LLC  
 Nextreme Thermal Solutions, Inc.  
 Nikon Corp.  
 nLight Corporation  
 North American Coating  
 Laboratories  
 Northrop Grumman SYNOPTICS  
 Novotech, Inc.  
 O/E Land Inc.  
 Ocean Optics, Inc.  
 OFS, Specialty Photonics Division  
 OgMentum Incorporated  
 Ohara Corp.  
 Okamoto Optics Works  
 Olympus America Inc.  
 Ondax, Inc.  
 Onyx Optics Inc.  
 OP Mount Instrument Inc.  
 OPCO Laboratory, Inc.  
 Ophir Optics, LLC  
 OpTek Systems Inc.  
 Optics Balzers  
 Optics Technology, Inc.  
 Optiforms  
 OptiGrate Corp.  
 Optikron GmbH  
 Optimax Systems, Inc.  
 OptiSource, LLC  
 Optiwave Systems Inc.  
 OPTIX Co.

Opto Diode Corp.  
 Opto Precision Pte Ltd.  
 OptoCrystal Co., Ltd.  
 OptoElectronic Components  
 Opto-Line, Inc.  
 Optometrics Corp.  
 Optonetic LLC  
 optoSiC GmbH  
 Optoskand AB  
 Optotune  
 OSA - The Optical Society  
 OWIS GmbH  
 Oxide Corp.  
 Pacer USA LLC  
 Pacific Coast Optics  
 Pacific Laser Equipment  
 Pacific Rim Optical  
 Paul Pleiger Maschinenfabrik  
 GmbH & Co. KG  
 PD-LD, Inc.  
 Perkins Precision Developments  
 LLC  
 PFG Precision Optics  
 Philips Technologie GmbH U-L-M  
 Photonics GmbH  
 Phoenix Optical Technologies Ltd.  
 Phosstech Photonics Ltd.  
 Photon etc.  
 Photon Spot Inc.  
 Photon Technology International,  
 Inc.  
 Photonic Products Group Inc.  
 (PPGI)  
 Photop Technologies, Inc.  
 PicoQuant GmbH  
 PolarOnyx, Inc.  
 Polymer Optics, LLC  
 Polymicro Technologies,  
 a subsidiary of Molex  
 Incorporated  
 PowerPhotonic Ltd.  
 Precision Glass & Optics  
 Precision Optical  
 Precision Optics Corp Inc.  
 Precision Photonics Corp.  
 Princeton Instruments  
 Prior Scientific Inc.  
 PROMET International Inc.  
 QED Technologies, Inc.  
 Qioptiq  
 QPhotonics, LLC  
 Quality Thin Films, Inc.  
 Quantum Technology, Inc.  
 Raicol Crystals Ltd.  
 Rainbow Photonics AG  
 Rainbow Research Optics, Inc.  
 Raytheon ELCAN Optical  
 Technologies  
 Research Electro-Optics, Inc.  
 Reynard Corp.  
 Rising Electro-Optics Ltd.  
 Rochester Precision Optics LLC  
 Rocky Mountain Instrument Co.  
 Roditi International Corporation  
 Ltd.  
 Roithner Lasertechnik GmbH

Route des Lasers  
 RPC Photonics, Inc.  
 RSoft Design Group  
 Rubicon Technology, Inc.  
 Saint-Gobain Crystals  
 Sandia National Laboratories  
 Santec USA Corp.  
 Savimex  
 Savvy Optics Corp.  
 SCANLAB America, Inc.  
 Schneider Optics, Inc.  
 SCHOTT North America, Inc.  
 Semrock, Inc.  
 Servometer  
 Shanghai Jiujon Optics Co., Ltd.  
 Shanghai Optics Inc.  
 Shasta Crystals  
 Shimadzu Corp.  
 Sierra Precision Optics  
 Silicon Sensor International AG  
 Sill Optics GmbH & Co., KG  
 Sino-Galvo (Beijing) Technology  
 Co., Ltd.  
 Siskiyou Corporation  
 SmarAct GmbH  
 Solid State Cooling Systems  
 Space Optics Research Labs,  
 LLC  
 Spanoptic Ltd.  
 Special Optics  
 Spectra-Mat, Inc.  
 Spectrogon US Inc.  
 Spectronix Corp.  
 Spectrum Scientific, Inc.  
 Spectrum Thin Films Inc.  
 SPOT Imaging Solutions  
 SRICO, Inc.  
 Sumitomo Metal Mining Co. Ltd.  
 SUSS MicroOptics SA  
 Swiss Jewel Co.  
 SwissOptic AG  
 Syntec Optics  
 Techmetals, Inc.  
 TECNISCO, LTD.  
 TecOptics, Inc.  
 Teledyne Judson Technologies  
 Tempotec Optics Co., Ltd.  
 Teraxion Inc.  
 Tessera Inc.  
 Thatshigh Photoelectric  
 Technology Co., Ltd.  
 Thorlabs, Inc.  
 Tianjin Tengteng Industrial and  
 Trading Co., Ltd.  
 TLC International  
 Torrey Hills Technologies, LLC  
 Tower Optical Corp.  
 Toyo Glass Co., Ltd.  
 TwinStar Optics, Coatings, &  
 Crystals  
 u2t Photonics AG  
 Union Optic, Inc.  
 Unioriental Optics Co., Ltd.  
 Valdor Fiber Optics  
 Valley Design Corp.

VERTILAS GmbH  
 Vincent Associates  
 Virtual Industries, Inc.  
 VLOC  
 Voltage Multipliers Inc.  
 Vytran LLC  
 Wasatch Photonics  
 Wavelength References  
 Wavelength Technology  
 Singapore Pte Ltd.  
 Western Photonics Technology  
 Williams Advanced Materials  
 WITCORE Co., Ltd.  
 Wordingham Technologies  
 Wuhan Kirn Survey Instrument  
 Co., Ltd.  
 Wuhan TianYu Optical &  
 Electronic Instrument Co., Ltd.  
 Wuhan Zhongji Optical Instrument  
 Co., Ltd.  
 WZWOPTIC AG  
 Xactra Technologies  
 Xi'an Focuslight Technologies  
 Co., Ltd.  
 Xinxiang Baihe O.E. Co., Ltd.  
 Xinxin Opto-Electrical Science  
 and Technology Co., Ltd.  
 XiO Photonics B.V.  
 Yongzhou Haozhi Rare Earth Co.,  
 Ltd.  
 Z&Z Optoelectronics Tech. Co.,  
 Ltd.  
 ZC&R Coatings for Optics, Inc.  
 Zhejiang Quartz Crystal - Optech  
 Co., Ltd.  
 Zygo Corporation

## Optical Detectors

ADIT/Electron Tubes  
 Advanced Photonix, Inc.  
 Amplification Technologies, Inc.  
 Analog Modules, Inc.  
 Andor Technology  
 Applied Photonics Inc.  
 Artifex Engineering e.K.  
 AUREA Technology  
 Boston Electronics Corp.  
 Canadian Photonics Fabrication  
 Centre (CPFC)  
 CI Systems, Inc.  
 CMOSIS  
 Compound Semiconductor  
 Technologies Global (CSTG)  
 Ltd.  
 Crosslight Software, Inc.  
 Crystran Ltd.  
 e2v  
 Electro-Optics Technology, Inc.  
 Epitex Inc./Marubeni America  
 Corporation  
 EpiWorks, Inc.  
 Esterline CMC Electronics  
 FEMTO Messtechnik GmbH  
 Femtochrome Research, Inc.  
 Ferrotec (USA) Corp.  
 Firebird Technologies Inc.

# SPIE Photonics West Product Index

Fraunhofer-Institut für Integrierte Schaltungen IIS  
Gentec Electro-Optics Inc.  
Global Communication Semiconductors, Inc.  
GPD Optoelectronics Corp.  
Hamamatsu Corp.  
Hinds Instruments, Inc.  
ID Quantique SA  
Infrared Laboratories, Inc.  
Infratec Infrared LLC  
International Light Technologies  
International Radiation Detectors, Inc.  
J&M Analytik AG  
KYLIA  
Kyosemi Corporation  
Laser Diode, Inc.  
LaserPoint Srl  
Luphos GmbH  
Menlo Systems GmbH  
Micro Photon Devices  
Micropac Industries Inc.  
MidDec Scandinavia AB  
Mitsubishi Electric & Electronics USA, Inc.  
New England Photoconductor Corp.  
New Infrared Technologies  
Norsk Elektro Optikk AS  
Ocean Optics, Inc.  
On-Trak Photonics, Inc.  
Ophir-Spiricon, LLC  
Opto Diode Corp.  
OptoElectronic Components  
PD-LD, Inc.  
PHASICS  
PHASICS France  
Photek Limited  
Photon Spot Inc.  
Photon Technology International, Inc.  
PicoQuant GmbH  
Proxitronic Industries AG  
RGB Lasersystems GmbH  
Sandia National Laboratories  
Santec USA Corp.  
SCD-Semi Conductor Devices  
Scientech, Inc.  
Scottish Optoelectronics Association  
Scottish Universities Physics Alliance (SUPA)  
SensL Technologies Ltd.  
Silicon Sensor International AG  
Siskiyou Corporation  
Spectral Instruments Inc.  
SPECTRO Inc.  
Star Tech Instruments  
StarOptix  
Swift Glass Company  
Teledyne Judson Technologies  
TEM Messtechnik GmbH  
u2t Photonics AG

## Optical Fibers

3S PHOTONICS/Avensys/ITF Labs  
3SAE Technologies, Inc.  
AdValue Photonics Inc.  
AFL  
Anchor Optics  
Apollo Instruments, Inc.  
Arbor Photonics, Inc.  
Avantes, Inc.  
Beijing Glass Research Institute  
Bright Solutions srl  
Canadian Institute for Photonic Innovations-CIPI  
CeramOptec Industries, Inc.  
Changchun New Industries Optoelectronics Technology Co., Ltd.  
Clemson University/COMSET  
Coastal Connections  
Collimated Holes, Inc.  
CorActive High-Tech, Inc.  
Corning Incorporated  
CREOL, The College of Optics & Photonics, UCF  
ESI-PyroPhotonics Lasers Inc.  
Fiber Optic Center, Inc.  
Fiber Optic Valley AB  
Fibercore Ltd.  
FiberCryst  
Fiberguide Industries, Inc.  
Fiberlogix International Ltd.  
Fiberoptic Systems, Inc.  
Fiberoptics Technology Inc.  
Fibertech Optica  
FiberTech USA, Inc., Div. of Leoni  
Fiber Optics  
FiberTech-RoMack  
Fibertronix AB  
Filtech Photonics Co., Ltd.  
Fraunhofer ILT  
Fraunhofer Institute for Applied Optics and Precision Engineering IOF  
Fuzhou USTRON Optoelectronic Materials Co., Ltd.  
Greenlee/A Textron Company  
Grintech GmbH  
Gulf Photonics  
Helia Photonics Ltd.  
HemonTech  
Heriot-Watt University  
High Tech Photonics  
IMEC  
IMM Photonics GmbH  
Inspired Photonics Inc.  
Interfiber Analysis  
IR Photonics  
IRflex Corporation  
ITF Labs/Avensys/3S PHOTONICS  
iXFiber SAS  
J&M Analytik AG  
JCMwave GmbH  
JenaBusiness

j-fiber GmbH  
JPT Electronics Co., Ltd.  
JT Ingram  
KERDRY  
Kohoku Kogyo Co., Ltd.  
Laser Components Canada, Inc.  
Laser Components DG, Inc.  
Laser Components GmbH  
Laser Components IG, Inc.  
Laser Operations LLC/QPC Lasers  
Laser Optics Berlin  
LEONI Fiber Optics GmbH  
Lumics Laser  
MeshTel - INTELITE, Inc.  
MicroCare Corp.  
Mitsubishi Cable Industries, Ltd.  
MY Polymers Ltd.  
Nature Publishing Group  
Neptec Optical Solutions, Inc.  
NKT Photonics A/S  
Nufern  
Ocean Optics, Inc.  
OFS, Specialty Photonics Division  
OgMentum Incorporated  
O-m6 Technologies Inc.  
OpTek Systems Inc.  
Optiwave Systems Inc.  
Optoskand AB  
OSA - The Optical Society  
PERFOS  
Photon Control Inc.  
Photonics Industry & Technology Development Association (PIDA)  
Polymicro Technologies, a subsidiary of Molex Incorporated  
RAYBIUM  
RSoft Design Group  
Sheaumann Laser Inc.  
SPI Lasers  
SSCP USA  
StarOptix  
Sumitomo Electric Industries, Ltd.  
Tower Optical Corp.  
Toyo Glass Co., Ltd.  
TransMIT GmbH/Center of Fiber-optic and Industrial Laser Applications (CeFILA)  
Unice E-O Services Inc.  
Vortran Laser Technology, Inc.  
Vytran LLC  
Western Photonics Technology  
Xi'an Focuslight Technologies Co., Ltd.  
Yangtze Optical Fibre and Cable Co., Ltd.  
ZEMAX Development Corp.  
Zhejiang ZCN Scientific Co., Ltd.

## Optical Materials and Substrates

4AD Enterprises, Inc.  
Advanced Thin Films

AdvR, Inc.  
American Beryllia, Inc.  
Anteryon BV  
Aperture Optical Sciences Inc.  
Applied Thin-Film Products  
Archer OpTx, Inc.  
AZURE Photonics USA, Inc.  
Baikowski International Corp.  
Beijing Glass Research Institute  
Beijing Guojing Infrared Optical Technology Co., Ltd.  
CASTON Inc.  
China Germanium Co., Ltd.  
Cimcoop Holding Ltd.  
CLaser Photonics, Inc.  
Clemson University/COMSET  
Complete Hermetics  
Conex Systems Technology, Inc.  
Coresix Precision Glass, Inc.  
CQ Laser Technologies Co., Ltd.  
Crystal GmbH  
Crystran Ltd.  
Dayoptics, Inc.  
DELTA  
Deltronic Crystal/Isowave  
Deposition Sciences, Inc.  
Dominar, Inc.  
Dowa Electronics Materials Co., Ltd.  
Dynasil Corporation of America  
Edmund Optics  
EKsMA Optics  
Engineered Surface Finishes  
EpiWorks, Inc.  
ER Precision Optical Corp.  
Excell Technology  
Exciton, Inc.  
Fairfield Crystal Technology, LLC  
FiberCryst  
Firebird Technologies Inc.  
Flemming Tinker, LLC  
Fraunhofer-Institut für Silicatiforschung  
Fuzhou Alpha Optics Co., Ltd.  
Fuzhou USTRON Optoelectronic Materials Co., Ltd.  
Gamdan Optics Inc.  
Gavish, Inc.  
Germanium and Applications Ltd.  
Glass & Ceramic Engineered Solutions (GCES)  
Glass Fab Inc.  
Gooch & Housego  
GT Crystal Systems  
Hardin Optical Company  
HC Photonics Corp.  
Helia Photonics Ltd.  
Hellma Materials GmbH & Co. KG  
Hellma USA  
Heraeus  
Ibsen Photonics  
IMPEX HighTech GmbH  
Infinite Optics Inc.  
IQE PLC  
IRD Glass

- Isomet Corp.  
 Isuzu Glass Inc.  
 Kaleido Technology  
 Kaufman & Robinson, Inc.  
 Kentek Corp  
 Kurt J. Lesker Company  
 L.A. Gauge Company  
 Lambda Research Optics Inc.  
 Laser Materials Corp.  
 Laser Research Optics  
 Lattice Electro Optics, Inc.  
 Lattice Materials LLC  
 Logitech Ltd.  
 Max Levy Autograph, Inc.  
 Meller Optics, Inc.  
 METALLIFE, Inc.  
 Microcertec  
 Mitsui Chemicals America, Inc.  
 MLOptic Corp.  
 MolTech GmbH  
 MPA Crystal Corp.  
 Multi IR Optoelectronics Co., Ltd.  
 MY Polymers Ltd.  
 Naked Optics Corp.  
 Nature Publishing Group  
 Naval Research Laboratory  
 New England Photoconductor Corp.  
 Nikon Corp.  
 North American Coating Laboratories  
 Northrop Grumman SYNOPTICS  
 Novotech, Inc.  
 NuSil Technology  
 Ocean Thin Films  
 Ohara Corp.  
 Okamoto Optics Works  
 OptiSource, LLC  
 OptoCrystal Co., Ltd.  
 Optonetic LLC  
 optoSIC GmbH  
 Optotune  
 OSA - The Optical Society  
 Oxide Corp.  
 Perkins Precision Developments LLC  
 Phoenix Infrared  
 Phoenix Optical Technologies Ltd.  
 Phosctech Photonics Ltd.  
 Photop Technologies, Inc.  
 Plasmaterials, Inc.  
 Precision Glass & Optics  
 Precision Optical  
 Precision Photonics Corp.  
 PRP Optoelectronics Ltd.  
 Quality Thin Films, Inc.  
 Raicol Crystals Ltd.  
 Rainbow Research Optics, Inc.  
 Remtec, Inc.  
 Research Electro-Optics, Inc.  
 Reynard Corp.  
 Rocky Mountain Instrument Co.  
 Roditi International Corporation Ltd.  
 Rubicon Technology, Inc.
- Saint-Gobain Crystals  
 SCHOTT North America, Inc.  
 Scottish Universities Physics Alliance (SUPA)  
 Shanghai Optics Inc.  
 Shasta Crystals  
 Sierra Precision Optics  
 Simphotek Inc.  
 Spectra-Mat, Inc.  
 Spectrogon US Inc.  
 Spectrum Thin Films Inc.  
 SSCP USA  
 Stanford Photonics Research Center  
 Stellar Industries Corp.  
 Stemmerich, Inc.  
 Sumitomo Metal Mining Co. Ltd.  
 Swift Glass Company  
 Swiss Jewel Co.  
 Techmetals, Inc.  
 Technodiamant USA Inc.  
 TECNISCO, LTD.  
 Tianjin Tengteng Industrial and Trading Co., Ltd.  
 Tower Optical Corp.  
 Toyo Glass Co., Ltd.  
 TwinStar Optics, Coatings, & Crystals  
 UCLA California NanoSystems Institute  
 Umicore Optical Materials USA Inc.  
 Unioriental Optics Co., Ltd.  
 Vacuum Engineering & Materials Co., Inc.  
 Valley Design Corp.  
 Virtual Industries, Inc.  
 WITCORE Co., Ltd.  
 Wuhan Kirm Survey Instrument Co., Ltd.  
 WZWOPTIC AG  
 Yongzhou Haozhi Rare Earth Co., Ltd.  
 Z&Z Optoelectronics Tech. Co., Ltd.  
 Zeon Chemicals  
 Zeta Instruments
- Optical Test and Measurement Equipment, Interferometer**  
 4D Technology Corp.  
 Active Optics Night N Ltd.  
 AEP Technology, Inc.  
 AFL  
 Alphon Corp.  
 AMETEK  
 AMO WaveFront Sciences, LLC  
 Anchor Optics  
 Aperture Optical Sciences Inc.  
 Applied Physics & Electronics, Inc.  
 Artifex Engineering e.K.  
 ASE Optics, Inc.
- Atseva LLC  
 Avantes, Inc.  
 Axiom Optics  
 Biophotonic Solutions, Inc.  
 Boulder Nonlinear Systems, Inc.  
 Breault Research Organization  
 Bristol Instruments, Inc.  
 Brockton Electro-Optics Corp.  
 Calmar Laser, Inc.  
 Canalaser Technologies Co., Ltd.  
 Cascade Laser Corp.  
 CI Systems, Inc.  
 Conex Systems Technology, Inc.  
 Crystran Ltd.  
 DataRay, Inc.  
 DiCon Fiberoptics, Inc.  
 Dominar, Inc.  
 Duma Optronics Ltd.  
 Electro Optical Industries, Inc.  
 Elite Optoelectronics Co., Ltd.  
 ESDI (Engineering Synthesis Design, Inc.)  
 ESI  
 Femtochrome Research, Inc.  
 Fiber Optic Center, Inc.  
 Fiberlogix International Ltd.  
 Fiberpro Inc.  
 Fibertronix AB  
 Filtech Photonics Co., Ltd.  
 FJW Optical Systems, Inc.  
 FLIR Systems, Inc.  
 Focal Point, Inc.  
 General Photonics Corp.  
 Gentec Electro-Optics Inc.  
 GiGa Concept Inc.  
 Gooch & Housego  
 Gould Technology, LLC  
 Greenlight Optics, LLC  
 HangZhou HuiDA Electro Optics Co., Ltd.  
 Hinds Instruments, Inc.  
 Hitachi High Technologies America  
 ILX Lightwave Corp.  
 Imagine Optic  
 Infrared Laboratories, Inc.  
 Infratec Infrared LLC  
 Inlight Precision Optics Co., Ltd.  
 inno-spec GmbH  
 InPhenix Inc.  
 Intellemetrics Global Ltd.  
 Interfiber Analysis  
 International Light Technologies  
 ISP System  
 Kaufman & Robinson, Inc.  
 Kinetic Systems, Inc.  
 Kiyohara Optics USA  
 KLA-Tencor  
 Krell Technologies  
 KYLIA  
 Labsphere, Inc.  
 Lambda Research Corp.  
 Lasence Inc.  
 Laser Optics Berlin  
 LaserPoint Srl
- Luna Technologies  
 Lumphos GmbH  
 M3D Co.  
 Metrology Concepts LLC  
 Micron Optics, Inc.  
 Mildex, Inc.  
 Moeller-Wedel Optical GmbH  
 Nanofoot Finland Oy  
 Nanonics Imaging Ltd.  
 National Instrument Technology Research Center  
 National Instruments  
 Nitto Optical Co., Ltd./Saled Dept.  
 nPoint, Inc.  
 NTT Electronics Corp.  
 NuPhoton Technologies, Inc.  
 OgMentum Incorporated  
 Ohara Corp.  
 O-m6 Technologies Inc.  
 On-Trak Photonics, Inc.  
 OP Mount Instrument Inc.  
 Ophir-Spiricon, LLC  
 OPTEG GmbH  
 Optical Support, Inc.  
 Optics Technology, Inc.  
 OptiGrate Corp.  
 Optikos Corp.  
 OptiPro Systems  
 OptoSigma Corp.  
 OXXIUS SA  
 OZ Optics Ltd.  
 Pacific Coast Optics  
 PerkinElmer Analytical Sciences and Laboratory Services (ASLS)  
 PhaseView  
 PHASICS  
 PHASICS France  
 Photon Control Inc.  
 PI (Physik Instrumente) LP  
 PolarOnyx, Inc.  
 Precision Photometrics Ltd.  
 PRIMES GmbH  
 Prior Scientific Inc.  
 PROMET International Inc.  
 ProSpect Photonics, Inc.  
 Rainbow Photonics AG  
 Redfern Integrated Optics, Inc.  
 Reynard Corp.  
 RGBLase LLC  
 Sacher Lasertechnik GmbH  
 Semiconsoft, Inc.  
 Sensofar-Tech, SL  
 SIOS  
 Space Optics Research Labs, LLC  
 Special Optics  
 Spectral Evolution  
 SPECTRO Inc.  
 Spectrogon US Inc.  
 StellarNet, Inc.  
 Swamp Optics, LLC  
 Sydor Instruments LLC  
 Taylor Hobson, A Division of AMETEK  
 tec5USA



# SPIE Photonics West Product Index

Technobis Group  
TEM Messtechnik GmbH  
Thermo Scientific - CIDTEC  
Thorlabs, Inc.  
TransMIT GmbH/Center of Fiber-optic and Industrial Laser Applications (CeFILA)  
Trioptics GmbH  
TwinStar Optics, Coatings, & Crystals  
u2t Photonics AG  
UC Instruments Corp.  
Unice E-O Services Inc.  
Vermont Photonics Technologies Corp.  
V-gen Ltd.  
Voltage Multipliers Inc.  
VTT Technical Research Centre of Finland  
Wavelength References  
Wuhan Huaray Precision Laser Co., Ltd.  
Xi'an Focuslight Technologies Co., Ltd.  
Yelo Ltd.  
Yenista Optics S.A.  
Yokogawa Corporation of America  
Zeta Instruments  
Zhejiang ZCN Scientific Co., Ltd.  
Zygo Corporation

## Optical/Laser Microlithography

Advance Reproductions Corp.  
APPLIED IMAGE Inc.  
Applied Optronics  
Calmar Laser, Inc.  
Cryslaser Inc.  
DPSS Lasers Inc.  
EOTRON LLC  
Fairfield Crystal Technology, LLC  
Fraunhofer-Institut für Silicidforschung  
Heidelberg Instruments Inc.  
Hellma Materials GmbH & Co. KG  
Holo-Or Ltd.  
IMPEX HighTech GmbH  
IMT North America Inc.  
JCMwave GmbH  
JD Photo-Tools  
Kimmon Electric US, L.P.  
Laserod Inc.  
LightSmyth Technologies, Inc.  
LIMO Lissotschenko Mikrooptik GmbH  
Max Levy Autograph, Inc.  
Nanoscribe GmbH  
Nikon Corp.  
Nitto Optical Co., Ltd./Saled Dept.  
NM Laser Products Inc.  
NuPhoton Technologies, Inc.  
Ocean Thin Films  
Okamoto Optics Works  
Optiforms  
Opto-Alignment Technology, Inc.

Photon Gear, Inc.  
Photonics Industries International, Inc.  
Power Technology, Inc.  
PowerPhotonic Ltd.  
Raydiance, Inc.  
Solid State Cooling Systems  
Suzhou Delphi Laser Co., Ltd.  
Synopsys, Inc.  
Teem Photonics  
TeraView Ltd.  
Texas Instruments  
ThermoTek Inc.  
Translume, Inc.  
Wuhan Huaray Precision Laser Co., Ltd.  
Xi'an Focuslight Technologies Co., Ltd.  
Yelo Ltd.

## Optics Manufacturing

4D Technology Corp.  
AC Photonics, Inc.  
Accumold  
Active Optics Night N Ltd.  
Advanced Microoptic Systems GmbH  
Advanced Optowave Corp.  
AFL  
Aixtooling GmbH  
AMO WaveFront Sciences, LLC  
Anchor Optics  
Aperture Optical Sciences Inc.  
Apollo Optical Systems  
APPLIED IMAGE Inc.  
Applied Surface Technologies  
Archer OpTx, Inc.  
Arrow Thin Films, Inc.  
ASML Optics  
asphericon GmbH  
Astro- und Feinwerktechnik Adlershof GmbH  
Avo Photonics, Inc.  
Axsys Technologies - General Dynamics Advanced Information Systems  
AZURE Photonics USA, Inc.  
Beijing Bodian Optical Technology Co., Ltd.  
Beijing Glass Research Institute  
Berliner Glas KGaA Herbert Kubatz GmbH & Co.  
BMV Optical Technologies Inc.  
Breault Research Organization  
Carl Zeiss Jena  
CASTON Inc.  
Chang Shu JingBo Optical Technology Co., Ltd.  
China Germanium Co., Ltd.  
Chroma Technology Corp.  
Cimcoop Holding Ltd.  
CODIXX AG  
Collimated Holes, Inc.  
Conex Systems Technology, Inc.

Contour Fine Tooling  
Coresix Precision Glass, Inc.  
Cristal Laser SA  
Crystal GmbH  
CRYSTECH Inc.  
Crystran Ltd.  
Cutting Edge Coatings GmbH  
CVI Melles Griot  
DAC International, Inc.  
Dayoptics, Inc.  
Diffractive Optics Ltd.  
Docter Optics, Inc.  
Doric Lenses Inc.  
Dyna Technologies, Inc.  
Edmund Optics  
EIS Optics Ltd.  
EK SMA Optics  
Element Six  
Energetiq Technology, Inc.  
Engineered Surface Finishes  
ER Precision Optical Corp.  
Evaporated Metal Films Corporation  
Evatec NA  
ExoTec Precision  
Fairfield Crystal Technology, LLC  
FEMTOLASERS, Inc.  
Fiberoptics Technology Inc.  
FiberTech-RoMack  
ficonTEC Corporation  
Filtech Photonics Co., Ltd.  
Firebird Technologies Inc.  
Fisba Optik AG  
Flemming Tinker, LLC  
Focal Point, Inc.  
Foctek Photonics, Inc.  
Fosta-Tek Optics  
Fraunhofer-Institut für Produktionstechnologie IPT  
Frontier Optics Inc.  
Fuzhou Alpha Optics Co., Ltd.  
Fuzhou USTRON Optoelectronic Materials Co., Ltd.  
Gavish, Inc.  
GD Optical Competence GmbH  
Glass Fab Inc.  
Gold Dragon Optics Electronic Technology Co., Ltd.  
Greenlight Optics, LLC  
G-S PLASTIC OPTICS  
GT Crystal Systems  
Guild Optical Associates, Inc.  
HangZhou HuiDA Electro Optics Co., Ltd.  
Hardin Optical Company  
Harold Johnson Optical Labs.  
HB Optical Technology Co., Ltd.  
Hellma USA  
Heraeus  
Heriot-Watt University  
HOLOEYE Photonics AG  
Holo-Or Ltd.  
HTA Photomask  
Huanic Corp.  
Imagine Optic

Incom, Inc.  
Infinite Optics Inc.  
INGENERIC GmbH  
InPhenix Inc.  
IRD Glass  
ISP Optics Corporation  
Isuzu Glass Inc.  
J. Hauser GmbH & Co. KG  
JenaBusiness  
JML Optical Industries Inc.  
Kaiser Optical Systems, Inc.  
Kaleido Technology  
Kaufman & Robinson, Inc.  
KERDRY  
Keting Optical Technology Inc.  
Kiyohara Optics USA  
Krell Technologies  
Kugler of America LTD  
L.A. Gauge Company  
L-3 Communications, Tinsley  
Lambda Research Optics Inc.  
Laser Components Canada, Inc.  
Laser Components DG, Inc.  
Laser Components GmbH  
Laser Components IG, Inc.  
Laser Optics, a PPGI company  
Laser Research Optics  
Lattice Electro Optics, Inc.  
Lattice Materials LLC  
Leica Microsystems GmbH  
Leister Technologies, LLC  
LightSmyth Technologies, Inc.  
LightWorks Optics, Inc.  
LIMO Lissotschenko Mikrooptik GmbH  
Logitech Ltd.  
Lumics Laser  
M&K Inc.  
Makino  
Meadowlark Optics  
Meller Optics, Inc.  
MicroCare Corp.  
MLoptic Corp.  
Moore Nanotechnology Systems LLC  
MOXTEK, Inc.  
MPA Crystal Corp.  
MRC a PPGI company  
Multi IR Optoelectronics Co., Ltd.  
MY Polymers Ltd.  
Nalux Co., Ltd.  
Naval Research Laboratory  
Navitar  
Nitto Optical Co., Ltd./Saled Dept.  
nLight Corporation  
Norland Products Inc.  
North American Coating Laboratories  
Novotech, Inc.  
Ocean Thin Films  
Okamoto Optics Works  
Onyx Optics Inc.  
OPCO Laboratory, Inc.  
Ophir Optics, LLC  
OPTEG GmbH  
OPTICS 1, Inc.

- Optics Technology, Inc.  
 Optiforms  
 OptiGrate Corp.  
 Optikron GmbH  
 Optimax Systems, Inc.  
 OptiSource, LLC  
 OPTIX Co.  
 Opto Precision Pte Ltd.  
 Opto-Alignment Technology, Inc.  
 Opto-Line, Inc.  
 Optometrics Corp.  
 Optonetic LLC  
 optoSIC GmbH  
 Pacific Coast Optics  
 Pacific Rim Optical  
 PFG Precision Optics  
 Philips Technologie GmbH U-L-M  
 Photonics GmbH  
 Phosstech Photonics Ltd.  
 Photon Control Inc.  
 Photonic Products Group Inc.  
 (PPGI)  
 Photop Technologies, Inc.  
 Plasma Process Group  
 Polymer Optics, LLC  
 PowerPhotonic Ltd.  
 Precision Glass & Optics  
 Precision Optical  
 Precision Optics Corp Inc.  
 Precision Photonics Corp.  
 Precitech, Inc., a division of  
 AMETEK  
 Princeton Instruments  
 QED Technologies, Inc.  
 Qioptiq  
 Quality Thin Films, Inc.  
 R. Mathews Optical Works, Inc.  
 Raicol Crystals Ltd.  
 Rainbow Research Optics, Inc.  
 Raytheon ELCAN Optical  
 Technologies  
 Research Electro-Optics, Inc.  
 Reynard Corp.  
 Rising Electro-Optics Ltd.  
 Rochester Precision Optics LLC  
 Rocky Mountain Instrument Co.  
 RPC Photonics, Inc.  
 RSP Technology BV  
 Rubicon Technology, Inc.  
 Saint-Gobain Crystals  
 Savimex  
 Savvy Optics Corp.  
 SCD-Semi Conductor Devices  
 Schneider Optics, Inc.  
 SCHOTT North America, Inc.  
 Semrock, Inc.  
 Shanghai Jiujon Optics Co., Ltd.  
 Shanghai Optics Inc.  
 Sheumann Laser Inc.  
 Shimadzu Corp.  
 Sierra Precision Optics  
 Sill Optics GmbH & Co., KG  
 Space Optics Research Labs,  
 LLC  
 Spanoptic Ltd.  
 Special Optics
- Spectrogon US Inc.  
 Spectrum Scientific, Inc.  
 Stemmerich, Inc.  
 Swift Glass Company  
 SwissOptic AG  
 Sydor Optics, Inc.  
 Syntec Optics  
 Technodiamant USA Inc.  
 TECNISCO, LTD.  
 TecOptics, Inc.  
 Tecport Optics, Inc.  
 Tempotec Optics Co., Ltd.  
 Thatshigh Photoelectric  
 Technology Co., Ltd.  
 Tianjin Tengeng Industrial and  
 Trading Co., Ltd.  
 Tower Optical Corp.  
 Toyo Glass Co., Ltd.  
 Tresky Corp.  
 TwinStar Optics, Coatings, &  
 Crystals  
 Umicore Optical Materials USA  
 Inc.  
 Unice E-O Services Inc.  
 Union Optic, Inc.  
 Unioriental Optics Co., Ltd.  
 UNIVET srl  
 Vacuum Process Technology LLC  
 (VPT)  
 Valley Design Corp.  
 Varioptic  
 Veeco Instruments Inc.  
 Virtual Industries, Inc.  
 VLOC  
 Vytran LLC  
 Wasatch Photonics  
 Wavelength Technology  
 Singapore Pte Ltd.  
 WITCORE Co., Ltd.  
 Wuhan Huaray Precision Laser  
 Co., Ltd.  
 Wuhan Kirn Survey Instrument  
 Co., Ltd.  
 Wuhan TianYu Optical &  
 Electronic Instrument Co., Ltd.  
 Wuhan Zhongji Optical Instrument  
 Co., Ltd.  
 WZWOPTIC AG  
 Xi'an Focuslight Technologies  
 Co., Ltd.  
 Xinxiang Baihe O.E. Co., Ltd.  
 Xinxin Opto-Electrical Science  
 and Technology Co., Ltd.  
 Yunnan Lincang Xinyuan  
 Germanium Industrial Co., Ltd.  
 Z&Z Optoelectronics Tech. Co.,  
 Ltd.  
 ZC&R Coatings for Optics, Inc.  
 Zhejiang Quartz Crystal - Optech  
 Co., Ltd.  
 Zygo Corporation
- Photonics Equipment  
 Manufacturer**  
 3SAE Technologies, Inc.  
 89 North
- ADIT/Electron Tubes  
 AdValue Photonics Inc.  
 Advanced Optowave Corp.  
 APPLIED IMAGE Inc.  
 Applied Optronics  
 Applied Physics & Electronics,  
 Inc.  
 Applied Surface Technologies  
 Arroyo Instruments, LLC  
 Artifex Engineering e.K.  
 Astro- und Feinwerktechnik  
 Adlershof GmbH  
 Attodyne Inc.  
 Avantes, Inc.  
 Azur Light Systems  
 B&W Tek, Inc.  
 Baikowski International Corp.  
 Block Engineering/MEMS  
 Boston Micromachines Corp.  
 Brimrose Corporation of America  
 Brockton Electro-Optics Corp.  
 Canadian Photonics Fabrication  
 Centre (CPFC)  
 CEDRAT Technologies  
 Cutting Edge Coatings GmbH  
 DAC International, Inc.  
 Dixela Ltd.  
 DongWoo Optron Co., Ltd.  
 DPSS Lasers Inc.  
 DZ Laser Service, Inc.  
 Edinburgh Instruments Ltd  
 Electro Optical Industries, Inc.  
 Electronics, Sensors and  
 Photonics KTN  
 Electro-Optical Products Corp.  
 ESI  
 ESI-PyroPhotonics Lasers Inc.  
 Evatec NA  
 FASTLITE  
 FEMTO Messtechnik GmbH  
 Femtochrome Research, Inc.  
 Fibercryst  
 Fiberguide Industries, Inc.  
 Fibertronix AB  
 ficonTEC Corporation  
 Finetech  
 Focal Point, Inc.  
 Forth Dimension Displays Ltd.  
 GiGa Concept Inc.  
 GigaMat Technologies, Inc.  
 Hamamatsu Corp.  
 Heidelberg Instruments Inc.  
 ID Quantique SA  
 ILX Lightwave Corp.  
 Industrial Laser Solutions Japan  
 Innovative Photonic Solutions  
 Interfiber Analysis  
 International Light Technologies  
 Intlvac  
 IR Photonics  
 Isomet Corp.  
 ISP System  
 JDSU  
 JenLab GmbH  
 Kaiser Optical Systems, Inc.
- Kapteyn-Murnane Labs. Inc.  
 (KMLabs)  
 KLASTECH - Karpushko Laser  
 Technologies GmbH  
 Konica Minolta Sensing Americas,  
 Inc.  
 Krell Technologies  
 Kugler of America LTD  
 Kurt J. Lesker Company  
 KYLIA  
 Labsphere, Inc.  
 Lambert Instruments Mts  
 Lanmark Controls Inc.  
 Laserod Inc.  
 Lighthouse Photonics Inc.  
 Logitech Ltd.  
 Lumina Power, Inc.  
 M Squared Lasers Ltd.  
 M3D Co.  
 Meadowlark Optics  
 Metrology Concepts LLC  
 Micro Laser Systems, Inc.  
 Micron Optics, Inc.  
 Moore Nanotechnology Systems  
 LLC  
 MPB Communications Inc.  
 Nanofoot Finland Oy  
 Nanonics Imaging Ltd.  
 Nanoscribe GmbH  
 nanosystec GmbH  
 New Scale Technologies, Inc.  
 Newport Corp.  
 NKT Photonics A/S  
 Nutfield Technology, Inc.  
 Ocean Optics, Inc.  
 O-m6 Technologies Inc.  
 OP Mount Instrument Inc.  
 OPTICS 1, Inc.  
 Optikos Corp.  
 Optisiv Ltd.  
 OptiSwitch Technology Corp.  
 OPTIX Co.  
 Opto-Alignment Technology, Inc.  
 OWIS GmbH  
 Pangolin Laser Systems Inc.  
 PerkinElmer Analytical Sciences  
 and Laboratory Services  
 (ASLS)  
 Photek Limited  
 Photon Technology International,  
 Inc.  
 Photon  
 Plasma Process Group  
 Precitech, Inc., a division of  
 AMETEK  
 Princeton Instruments  
 Prior Scientific Inc.  
 PRP Optoelectronics Ltd.  
 QGLex Inc.  
 Qioptiq  
 Quantum Technology, Inc.  
 Raydiance, Inc.  
 RGB Lasersystems GmbH  
 Sacher Lasertechnik GmbH  
 Satisloh North America Inc.  
 SDS Systems Development &  
 Solutions

# SPIE Photonics West Product Index

Semiconsoft, Inc.  
SemiNex Corp.  
SensL Technologies Ltd.  
Sens-Tech Ltd.  
Shanghai Jiujon Optics Co., Ltd.  
SIOS  
Siskiyou Corporation  
Sofradir EC, Inc.  
Solid State Cooling Systems  
Specialised Imaging, Inc.  
Specim, Spectral Imaging Ltd.  
Spectronix Corp.  
Sperian Protection  
Standa  
StellarNet, Inc.  
Strasbaugh  
Sumitomo Electric Industries, Ltd.  
Suzhou Delphi Laser Co., Ltd.  
TEC Microsystems GmbH  
tec5USA  
Tecport Optics, Inc.  
TeraView Ltd.  
Teraxion Inc.  
Thermo Scientific - CIDTEC  
Thorlabs, Inc.  
TLC International  
Toshiba America Information Systems  
Toyo Glass Co., Ltd.  
Tresky Corp.  
Unice E-O Services Inc.  
Unioriental Optics Co., Ltd.  
Universal Photonics, Inc.  
Vacuum Process Technology LLC (VPT)  
Veeco Instruments Inc.  
V-gen Ltd.  
Vision Research, A Division of AMETEK  
Vytran LLC  
Wasatch Photonics  
Wavelength Electronics, Inc.  
Yelo Ltd.  
Yenista Optics S.A.  
Z-LASER Optoelektronik GmbH

## Positioning Equipment

Aerotech, Inc.  
Agilent Technologies, Inc.  
ALIO Industries  
AllMotion  
Altos Photonics, Inc.  
ARGES GmbH  
Cambridge Technology, Inc.  
Canon U.S.A.  
CEDRAT Technologies  
China Daheng Group Inc.  
CVI Melles Griot  
Duma Optronics Ltd.  
EKSMA Optics  
Elliot Scientific Ltd.  
ficonTEC Corporation  
Gurley Precision Instruments, Inc.  
ICA Corporation

IKO International, Inc.  
ISP System  
Kugler of America LTD  
Lanmark Controls Inc.  
Lasence Inc.  
M3D Co.  
Mad City Labs, Inc.  
MICOS USA, LLC  
MicroE Systems  
Nanonics Imaging Ltd.  
nanosystec GmbH  
New Scale Technologies, Inc.  
Newport Corp.  
nPoint, Inc.  
Nutfield Technology, Inc.  
On-Trak Photonics, Inc.  
OP Mount Instrument Inc.  
OWIS GmbH  
Pacific Laser Equipment  
PI (Physik Instrumente) LP  
Piezosystem Jena, Inc.  
Prior Scientific Inc.  
Qioptiq  
SCANLAB America, Inc.  
Siskiyou Corporation  
SmarAct GmbH  
Standa  
Steinmeyer, Inc.  
Sutter Instrument Co.  
Technical Manufacturing Corp.  
Technodiamant USA Inc.  
TEM Messtechnik GmbH  
Thorlabs, Inc.  
Tresky Corp.  
Unice E-O Services Inc.  
Xactra Technologies  
Zaber Technologies Inc.  
Zhejiang ZCN Scientific Co., Ltd.

## Resist Technology and Processing

Advance Reproductions Corp.  
Applied Thin-Film Products  
Fotofab  
Fraunhofer-Institut für Silicatforschung  
Gurley Precision Instruments, Inc.  
Infinite Graphics  
Kimmon Electric US, L.P.  
Metrigraphics, LLC  
MidDec Scandinavia AB  
Nanoscribe GmbH  
Photon Systems, Inc.  
TECNISCO, LTD.  
tousimis research corporation

## Sensor & Sensor Systems

3S PHOTONICS/Avensys/ITF Labs  
Active Optics Night N Ltd.  
ADIT/Electron Tubes  
Advance Reproductions Corp.  
Advanced Optics Solutions (AOS) GmbH

Advanced Photonix, Inc.  
AEP Technology, Inc.  
Alphion Corp.  
AMO WaveFront Sciences, LLC  
Amplification Technologies, Inc.  
Analog Modules, Inc.  
Anteryon BV  
Artifex Engineering e.K.  
ASE Optics, Inc.  
AUREA Technology  
Avo Photonics, Inc.  
Ayase America, Inc.  
Bte Bedampfungstechnik GmbH  
CAEN Technologies, Inc.  
Canon U.S.A.  
CEDRAT Technologies  
CI Systems, Inc.  
CIP Technologies  
Clear Align  
CMOSIS  
CODIXX AG  
Complete Hermetics  
CREOL, The College of Optics & Photonics, UCF  
DALSA  
Daylight Solutions  
DELTA  
Dowa Electronics Materials Co., Ltd.  
e2v  
Electro Optical Components Inc.  
Electronics, Sensors and Photonics KTN  
EOTRON LLC  
Esterline CMC Electronics  
Excelitas Technologies Corp.  
Fairchild Imaging  
Femtochrome Research, Inc.  
Ferrotec (USA) Corp.  
Fiberlogix International Ltd.  
Fiberpro Inc.  
FiberTech USA, Inc., Div. of Leoni Fiber Optics  
Fibertronix AB  
Fraunhofer Heinrich Hertz Institute  
Fraunhofer Institute for Applied Optics and Precision Engineering IOF  
Fraunhofer IPMS  
Fraunhofer-Institut für Integrierte Schaltungen IIS  
GD Optical Competence GmbH  
Gould Technology, LLC  
GPD Optoelectronics Corp.  
GratingWorks, USA  
GRI Pumps  
Grintech GmbH  
Gurley Precision Instruments, Inc.  
HangZhou HuiDA Electro Optics Co., Ltd.  
Helioworks, Inc.  
HVM Technology Inc.  
Ibsen Photonics  
ID Quantique SA  
Imaging Solutions Group  
IMEC

INDATECH  
Infrared Laboratories, Inc.  
Infratec Infrared LLC  
inno-spec GmbH  
International Radiation Detectors, Inc.  
Iris AO, Inc.  
ITF Labs/Avensys/3S PHOTONICS  
iXFiber SAS  
JENOPTIK | Optical Systems  
JENOPTIK | Optical Systems  
JLL Technologies LLC  
JP Innovations, LLC  
Keopsys SA  
Kigre, Inc.  
KLA-Tencor  
Konica Minolta Sensing Americas, Inc.  
Kyosemi Corporation  
LaserPoint Srl  
LEONI Fiber Optics GmbH  
Luna Technologies  
Luphos GmbH  
Metrigraphics, LLC  
Metrology Concepts LLC  
Micro Photon Devices  
MicroE Systems  
Micropac Industries Inc.  
MidDec Scandinavia AB  
MIRTHE Center  
Moeller-Wedel Optical GmbH  
Multi IR Optoelectronics Co., Ltd.  
Nanofoot Finland Oy  
Nature Publishing Group  
Naval Research Laboratory  
New England Photoconductor Corp.  
New Imaging Technologies  
New Infrared Technologies  
Nextreme Thermal Solutions, Inc.  
Norsk Elektro Optikk AS  
NP Photonics  
NTT Electronics Corp.  
Nufern  
Ocean Optics, Inc.  
Ocean Thin Films  
On-Trak Photonics, Inc.  
OPCO Laboratory, Inc.  
Ophir-Spiricon, LLC  
OptiSwitch Technology Corp.  
Opto Diode Corp.  
OWIS GmbH  
OZ Optics Ltd.  
P&P Optica Inc.  
Pacer USA LLC  
Pacific Laser Equipment  
PERFOS  
PHASICS  
PHASICS France  
Philips Technologie GmbH U-L-M Photonics GmbH  
Photek Limited  
Photon Control Inc.  
Photron  
Precision Optics Gera  
ProSpect Photonics, Inc.



Pyreos Ltd.  
 QD Laser, Inc.  
 QPhotonics, LLC  
 Redfern Integrated Optics, Inc.  
 Sandia National Laboratories  
 Scientech, Inc.  
 Scottish Development International  
 Scottish Optoelectronics Association  
 SDS Systems Development & Solutions  
 Semiconsoft, Inc.  
 SemiNex Corp.  
 SensL Technologies Ltd.  
 Sensors Unlimited-Goodrich ISR Systems  
 Sens-Tech Ltd.  
 Silicon Sensor International AG  
 SmarAct GmbH  
 Smart System Technology & Commercialization Center (STC)  
 Snake Creek Lasers  
 Specialised Imaging, Inc.  
 Specim, Spectral Imaging Ltd.  
 Spectral Instruments Inc.  
 Spectrum Scientific, Inc.  
 SRICO, Inc.  
 Star Tech Instruments  
 StarOptix  
 Taylor Hobson, A Division of AMETEK  
 Tessera Inc.  
 Translume, Inc.  
 TransMIT GmbH/Center of Fiber-optic and Industrial Laser Applications (CeFILA)  
 Trioptics GmbH  
 ULIS  
 Valdor Fiber Optics  
 VERTILAS GmbH  
 Wavelength Electronics, Inc.  
 Wavelength References  
 Yokogawa Corporation of America  
 Zhejiang Quartz Crystal - Optech Co., Ltd.  
 Zomega Terahertz Corp.

## Services and Publications (Including Professional Societies)

Advanced Imaging Magazine/  
 Cygnus Business Media  
 Alpha Media Group (Physorg.com)  
 Applied Optics Group  
 Breauld Research Organization  
 Canadian Institute for Photonic Innovations-CIPI  
 CRC Press - Taylor and Francis Group LLC  
 CREOL, The College of Optics & Photonics, UCF  
 Electro Optics Magazine  
 Florida Photonics Cluster  
 IOP Publishing Ltd.

Laser Institute of America  
 Laser Optics Berlin  
 LightTrans VirtualLab UG  
 LIMO Lissotschenko Mikrooptik GmbH  
 Messe München GmbH  
 OptecNet Deutschland e.V.  
 OptoIndex  
 Optronics Co., Ltd. (The)  
 Photonics Media  
 Photonics-Sourcing  
 Physics Today  
 Quebec Photonic Network  
 Scottish Universities Physics Alliance (SUPA)  
 Spectroscopy Magazine  
 SPIE Career Center  
 Springer  
 Technologiegesellschaft fuer Strahlwerkzeuge mbH (TGSW mbH)  
 TSB Innovationsagentur Berlin GmbH

## Software

Active Optics Night N Ltd.  
 AllMotion  
 ARGES GmbH  
 Beijing Century Sunny Technology Co., Ltd.  
 Breauld Research Organization  
 COMSOL, Inc.  
 Crosslight Software, Inc.  
 Electro Optical Industries, Inc.  
 ESDI (Engineering Synthesis Design, Inc.)  
 Excell Technology  
 Fraunhofer-Institut für Produktionstechnologie IPT  
 Infinite Graphics  
 Inspired Photonics Inc.  
 JCMwave GmbH  
 JLL Technologies LLC  
 KLA-Tencor  
 Lambda Research Corp.  
 Lanmark Controls Inc.  
 LASCAD  
 Laser Institute of America  
 LightTrans VirtualLab UG  
 Moeller-Wedel Optical GmbH  
 Nanofoot Finland Oy  
 National Instruments  
 NorPix, Inc.  
 Optiwave Systems Inc.  
 OptoElectronic Components  
 Pangolin Laser Systems Inc.  
 Photon Design  
 Photon Engineering, LLC  
 Roth & Rau MicroSystems GmbH  
 RSoft Design Group  
 Satisloh North America Inc.  
 SCANLAB America, Inc.  
 Semiconsoft, Inc.  
 Simphotek Inc.  
 SPOT Imaging Solutions  
 Stanford Photonics, Inc.

Synopsys, Inc.  
 Trioptics GmbH  
 Vision Components GmbH  
 Vortran Laser Technology, Inc.  
 VueMetrix  
 Yelo Ltd.  
 ZEMAX Development Corp.

## Solar and Alternative Energy

Accuratus Corp.  
 Arbor Photonics, Inc.  
 Crosslight Software, Inc.  
 Deposition Sciences, Inc  
 Electronics, Sensors and Photonics KTN  
 EOTRON LLC  
 EpiWorks, Inc.  
 Epner Technology, Inc.  
 ESI-PyroPhotonics Lasers Inc.  
 Firebird Technologies Inc.  
 Fotofab  
 GD Optical Competence GmbH  
 Germanium and Applications Ltd.  
 GigaMat Technologies, Inc.  
 GRI Pumps  
 High Q Laser (US), Inc.  
 Innovations In Optics, Inc.  
 IQE PLC  
 Isuzu Glass Inc.  
 JDSU  
 JENOPTIK | Lasers & Material Processing  
 Kaufman & Robinson, Inc.  
 Keting Optical Technology Inc.  
 Konica Minolta Sensing Americas, Inc.  
 Kyosemi Corporation  
 Laserod Inc.  
 Lattice Materials LLC  
 Marlow Industries, Inc.  
 Moulded Optics GmbH  
 Noren Products, Inc.  
 Nova-Write Inc.  
 Nutfield Technology, Inc.  
 OFS, Specialty Photonics Division  
 OpTek Systems Inc.  
 Optisiv Ltd.  
 Pacific Rim Optical  
 Photon etc.  
 Photonics Industries International, Inc.  
 Photonics Industry & Technology Development Association (PIDA)  
 Plasma Process Group  
 Plasmaterials, Inc.  
 Precitech, Inc., a division of AMETEK  
 Quartus Engineering Incorporated  
 Remtec, Inc.  
 Servometer  
 Spectral Evolution  
 Spectronix Corp.  
 Stanford Photonics Research Center

Suzhou Delphi Laser Co., Ltd.  
 Techmetals, Inc.  
 Technobis Group  
 UCLA California NanoSystems Institute  
 Vacuum Process Technology LLC (VPT)  
 Vision Components GmbH  
 Western Photonics Technology  
 Williams Advanced Materials  
 Wuhan Huaray Precision Laser Co., Ltd.  
 Yunnan Lincang Xinyuan Germanium Industrial Co., Ltd.  
 ZEMAX Development Corp.  
 Zeta Instruments  
 Zurich Instruments

## Vacuum, Cooling, Gas Handling Equipment

AEP Technology, Inc.  
 ALIO Industries  
 Astro- und Feinwerktechnik Adlershof GmbH  
 Evatec NA  
 High Tech Photonics  
 Huizhou Hi-purity Rare Earth Metal Material Co., Ltd.  
 JT Ingram  
 KELK Ltd.  
 Kurt J. Lesker Company  
 Lattice Electro Optics, Inc.  
 Leybold Optics USA, Inc.  
 Marlow Industries, Inc.  
 NTG Neue Technologien GmbH & Co. KG  
 Pyreos Ltd.  
 Roth & Rau MicroSystems GmbH  
 Servometer  
 SmarAct GmbH  
 Tecport Optics, Inc.  
 TERMIONA LLC  
 ThermoTek Inc.  
 Vacuum Process Technology LLC (VPT)

## Wafer Handling Automation

Excell Technology  
 GEL-PAK  
 GigaMat Technologies, Inc.  
 J.P. Sercel Associates, Inc. (JPSA)  
 MICOS USA, LLC  
 Steinmeyer, Inc.

## X-Ray Lithography

Aperture Optical Sciences Inc.  
 Flemming Tinker, LLC  
 International Radiation Detectors, Inc.  
 JD Photo-Tools  
 L-3 Communications, Tinsley  
 NM Laser Products Inc.



Through collaboration, companies large and small steer the latest innovations toward practical relevance in the global marketplace.

SPIE Corporate Membership enhances your organization by providing significant discounts on:

**SPIE exhibitions\*** | **SPIE Digital Library subscriptions**  
**Advertising rates** | **Mailing lists** | **Recruitment services**

Corporate Membership includes 3 SPIE Individual Memberships

\*Corporate Members receive a 15% discount on exhibit space at SPIE Exhibitions.

2d3 Inc.  
 4D Technology Corp.  
 89 North  
 A\*STAR National Metrology Ctr.  
 ABB Analytical Measurement  
 Abet Technologies, Inc.  
 Absolute Coating  
 ABTech, Inc.  
 Access Laser Co.  
 Accuratus Corp.  
 Active Optics NightN Ltd.  
 Adimec Electronic Imaging, Inc.  
 AdTech Ceramics  
 Advanced Microoptic Systems  
 GmbH  
 Advanced Optowave Corp.  
 Advanced Research Corp.  
 Aerotech, Inc.  
 AFL  
 Agilent Technologies, Inc.  
 ALIO Industries  
 Alson E. Hatheway Inc.  
 Alternative Vision Corp.  
 Altos Photonics, Inc.  
 American Micro Detection  
 Systems, Inc.  
 AMO GmbH  
 Ampex Data Systems Corp.  
 Amplification Technologies, Inc.  
 Amplitude Laser  
 Andor Technology Ltd  
 Andover Corp.  
 Anteryon B.V.  
 AOS GmbH  
 Apollo Instruments, Inc.  
 Apollo Optical Systems, Inc.  
 Applied Image, Inc.  
 Applied Physics & Electronics,  
 Inc.  
 Applied Technology Associates  
 Archer OpTx, Inc.  
 Ariel Optics, Inc.  
 Arrow Thin Films, Inc.

Arroyo Instruments, LLC  
 Artemis Optical Ltd.  
 Asahi Spectra USA Inc.  
 ASD, Inc.  
 ASML US, Inc.  
 ATOP Laser, Inc.  
 Avantes, Inc.  
 Avo Photonics, Inc.  
 Ayase America Inc.  
 B&W Tek, Inc.  
 Beamtech Optronics Co. Ltd.  
 Beijing Glass Research Institute  
 Beijing Guojing Infrared Optical  
 Technology Co., Ltd.  
 Berliner Glas U.S.  
 BigC.com  
 Blue Ridge Optics, LLC  
 Bodkin Design & Engineering,  
 LLC  
 Boston Electronics Corp.  
 Boston Micromachines Corp.  
 Boulder Imaging Inc.  
 Boulder Nonlinear Systems, Inc.  
 BPE e.K.  
 Brandywine Photonics LLC  
 Breault Research Organization,  
 Inc.  
 Brewer Science, Inc.  
 Bristol Instruments, Inc.  
 Bruno Laser  
 BWT Beijing Ltd.  
 Calmar Laser  
 Cambridge Technology, Inc.  
 Carl Zeiss, Inc.  
 Cascade Laser Corp.  
 CASTON Inc.  
 CEITEC S.A.  
 CeramOptec Industries, Inc.  
 China Daheng Group, Inc.  
 China Germanium Co., Ltd.  
 Chroma Technology Corp.  
 CI Systems, Inc.  
 Clear Align

Coastal Connections  
 Coherent, Inc.  
 Cohu, Inc.  
 College of Optical Sciences, The  
 Univ. of Arizona  
 Continuum, Inc.  
 CorActive High-Tech Inc.  
 Corning Incorporated  
 CREOL, The College of Optics  
 and Photonics, Univ. of  
 Central Florida  
 Cristal Laser S.A.  
 CrystaLaser  
 CVI Melles Griot  
 Cyantek Corp.  
 DALSA Corp.  
 DataRay Inc.  
 Davidson Optronics Inc.  
 Davis Marketing International  
 Daylight Solutions Inc.  
 DeltaNu  
 Deltronic Crystal Industries, Inc.  
 Deposition Sciences, Inc.  
 Diemat, Inc.  
 Digidat, Inc.  
 DILAS Diode Laser, Inc.  
 Directed Light, Inc.  
 Docter Optics, Inc.  
 DRS Technologies, Inc.  
 Dyna Technologies, Inc.  
 Dynasil Corp.  
 E.R. Precision Optical Corp.  
 e2v technologies plc  
 Edmund Optics Inc.  
 EIS Optics Ltd.  
 Electro Optical Components, Inc.  
 Electro Optical Industries, Inc.  
 Electro-Optical Imaging, Inc.  
 Elliot Scientific Ltd.  
 EM4, Inc.  
 EMD Chemicals Inc.  
 Energetiq Technology, Inc.  
 Engineering Synthesis Design,  
 Inc.  
 EPIX, Inc.

Epner Technology Inc.  
 ET Precision Optics Inc.  
 Evaporated Coatings, Inc.  
 Evaporated Metal Films Corp.  
 Exalos AG  
 Excell Technology  
 Exciton, Inc.  
 Explore Scientific, LLC  
 FALCON ELECTRO-TEK PVT.  
 LTD.  
 FEMTOLASERS, Inc.  
 Fianium Ltd.  
 Fiberguide Industries, Inc.  
 Fibertech Optica, Inc.  
 FiberTech USA, Inc.  
 Firebird Technologies Inc.  
 FJW Optical Systems, Inc.  
 FlatFrog Labs. AB  
 Flexible Optical B.V.  
 FLIR Advanced Imaging  
 Systems, Inc.  
 FLIR Systems, Inc.  
 FluxData, Inc.  
 FOCtek Photonics, Inc.  
 Foreal Spectrum, Inc.  
 Frankfurt Laser Co.  
 Fresnel Technologies Inc.  
 Fuzhou Alpha Optics Co., Ltd.  
 GE Intelligent Platforms  
 General Dynamics Axsys  
 Technologies  
 Genie Lens Technologies, LLC  
 Gentec Electro-Optics Inc.  
 Georgia Tech Research Institute  
 Glass Fab, Inc.  
 Gooch & Housego Plc  
 Gooch & Housego, Cleveland  
 Gooch & Housego, Melbourne  
 Gooch & Housego, Norderstedt  
 Gooch & Housego, Orlando  
 Gooch & Housego, Torquay  
 Grintech GmbH  
 G-S Plastic Optics  
 Gudeng Precision Industrial Co.,  
 Ltd.

# MAKE SPIE YOUR PROFESSIONAL SOCIETY

[spie.org/corporate](http://spie.org/corporate)



Gulf Photonics, Inc.  
Hamamatsu Corp.  
HamaTech APE GmbH & Co. KG  
Hardin Optical Co.  
HC Photonics Corp.  
Headwall Photonics Inc.  
Heidelberg Instruments Inc.  
Hellma USA, Inc.  
Heraeus Quartz America LLC  
High Q Laser (US), Inc.  
Hinds Instruments, Inc.  
Hitachi High Technologies  
America, Inc.  
Hofstadter Analytical Services,  
LLC  
HOLOEYE Photonics AG  
Holographix LLC  
Hong Kong Productivity Council  
HOYA Corp. USA  
Image Engineering Dietmar  
Wüller  
Imagine Optic Inc.  
Imaging Solutions Group  
Imperx Inc.  
IMRA America, Inc.  
Incom Inc.  
Infinite Optics Inc.  
Infrared Systems Development  
Corp.  
Infratec Infrared LLC  
INGENERIC GmbH  
Innolume GmbH  
Innovation Photonics  
Innovations in Optics, Inc.  
Innovative Photonic Solutions  
InPhenix, Inc.  
Inspectrology LLC  
Institut für Mikrotechnik Mainz  
GmbH  
Institute for Infocomm Research  
Integrated Optical Services Corp.  
International Radiation Detectors,  
Inc.  
Intevac Photonics, Inc.  
Intevac Vision Systems  
IO Industries, Inc.

IPG Photonics Corp.  
IRCAM GmbH  
IRD Glass  
IRflex Corp.  
Isomet Corp.  
Isuzu Glass, Inc.  
ITF Labs./Avensys Tech  
Janos Technology, Inc.  
JDSU  
JENOPTIK Optical Systems  
GmbH  
JENOPTIK Optical Systems, Inc.  
Jenoptik Optical Systems, Inc.  
JSR Micro, Inc.  
Kapteyn-Murnane Labs., Inc.  
Kentek Corp.  
Kigre, Inc.  
KiloLambda Technologies, Ltd.  
Kinetic Systems, Inc.  
Kugler of America Ltd.  
L-3 Communications Cincinnati  
Electronics  
L-3 Communications Tinsley  
Labs, Inc.  
Labsphere, Inc.  
LaCroix Optical Co.  
Lambda Research Corp.  
Lambda Research Optics, Inc.  
Lanmark Controls Inc.  
Laser Components IG, Inc.  
Laser Focus World  
Laser Institute of America  
Laser Operations LLC / QPC  
Lasers  
Laser Optics, Inc.  
Laser S.O.S. USA, Inc.  
Laser Safety Industries  
Laser-Compact Co. Ltd.  
Laser-Export Co. Ltd.  
Lasertel, Inc.  
Laservision USA  
LASOS Lasertechnik GmbH  
Lattice Electro Optics, Inc.  
Leister Technologies LLC  
LEONI Fiber Optics, Inc.  
Leybold Optics USA, Inc.  
Light Age, Inc.

LightGuideOptics USA, LLC  
LightPath Technologies, Inc.  
LightVision Technologies, Corp.  
LightWorks Optics, Inc.  
Lockheed Martin Aculight  
LT Ultra Precision Optics, LLC  
Luxel Corp.  
Mad City Labs., Inc.  
Market Tech, Inc.  
Max Levy Autograph, Inc.  
MegaWatt Lasers, Inc.  
Metrology Concepts LLC  
MICOS USA, LLC  
Micro Care Corp.  
Micro Laser Systems, Inc.  
Mildex, Inc.  
Mindrum Precision, Inc.  
Minus K Technology Inc.  
MLD Technologies, LLC  
Molecular Imprints, Inc.  
MPA Crystal Corp.  
MPB Communications Inc.  
Multi IR Optoelectronics Co., Ltd  
Multisorb Technologies, Inc.  
Multiwave Photonics  
Naked Optics Corp.  
NANO-UV SAS  
National Aperture, Inc.  
National Institute of Standards  
and Technology  
New England Optical Systems  
New England Photoconductor  
Corp.  
New Mexico Optics Industry  
Association  
New Scale Technologies, Inc.  
New Source Technology, LLC  
NKT Photonics A/S  
nLIGHT Corp.  
nLIGHT Corp., Lohja  
nLIGHT Corp., Shanghai  
NoIR Laser Co., LLC  
Noren Products Inc.  
NorPix Inc.  
Northrop Grumman Cutting Edge  
Optronics  
Nova Sensors  
Novotech, Inc.

NP Photonics, Inc.  
nPoint, Inc.  
Nufern  
Ocean Optics, Inc.  
Ocean Thin Films, Inc.  
Oclaro, Inc.  
OFS  
Ohara Corp.  
Olympus America Inc.  
Omega Optical, Inc.  
Ondax, Inc.  
Ontar Corp.  
Opgal Optronics Industries Ltd.  
Ophir-Spiricon, LLC  
Optec S.p.A.  
Opti Temp, Inc.  
Optical Research Associates  
Optical Support, Inc.  
OPTICS 1, Inc.  
Optiforms  
Optikos Corp.  
Optimax Systems, Inc.  
OptiPro Systems  
Optisiv Ltd.  
OptiSource, LLC  
OptiSwitch Technology Corp.  
Optiwave Systems Inc.  
OptiWorks, Inc.  
Optometrics Corp.  
OptoSigma Corp.  
Optotune  
Oxxius SA  
OZ Optics Ltd.  
Pacific Coast Optics  
Pacific Laser Equipment  
Pacific Silicon Sensor Inc.  
Pavilion Integration Corp.  
PFG Precision Optics, Inc.  
Photon Design  
Photon Engineering LLC  
Photon Technology International,  
Inc.  
Photonic Products Group, Inc.  
Photonics Industries  
International, Inc.  
Photonic-Sourcing  
PHOTONIS USA  
Photop Technologies, Inc.


*Continued Next Page* ➔



# SPIE Corporate Members

Photron USA, Inc.  
PI (Physik Instrumente) L.P.  
PicoQuant Photonics North America, Inc.  
piezosystem jena, Inc.  
Plasma-Therm LLC  
PolarOnyx, Inc.  
Polymicro Technologies, A Subsidiary of Molex Incorporated  
Povolzhskaya State Academy of Telecommunications and Informatics  
Power Technology, Inc.  
Precision Asphere, Inc.  
Precision Glass & Optics  
Precision Photonics Corp.  
Precision Rapid Etch  
Princeton Instruments  
PriTel Inc.  
PROMET International Inc.  
ProSpect Photonics, Inc.  
PVP Advanced EO Systems, Inc.  
QED Technologies, Inc.  
Qioptiq S.A.S.  
Qoniac GmbH  
Quimbaya Resources Exploration SAS  
Radiation Monitoring Devices, Inc.  
Raicol Crystals Ltd.  
Rainbow Research Optics, Inc.  
Raptor Photonics Ltd.  
Raytheon Co.  
Raytheon ELCAN Optical Technologies  
Redfern Integrated Optics, Inc.  
Redondo Optics, Inc.  
Research Electro-Optics, Inc.  
Reynard Corp.  
RGLase LLC  
Rice Camera Technologies, Inc.  
Riegl USA Inc.  
Rochester Precision Optics, LLC  
Rocky Mountain Instrument Co.  
Rolyn Optics Co.  
RPC Photonics, Inc.  
RPMC  
RSoft Design Group, Inc.  
Rubicon Technology Inc.  
S.D.S. Systems Development & Solutions  
Sacher Lasertechnik GmbH  
Salem Distributing Co.  
Sangat Precision Machining & Grinding  
Santa Barbara Infrared, Inc.  
Satisloh North America Inc.  
Savvy Optics Corp.  
SCANLAB America, Inc.  
SCD Semiconductor Devices  
Schneider Optical Machines Inc.  
Schneider Optics, Inc.  
SCHOTT North America, Inc.  
Scientific Solutions, Inc.  
Scintec Corp.  
Semrock Inc.  
SensL  
Sensofar-Tech, S.L.  
Sensors Unlimited, Inc., part of Goodrich Corp.  
Shanghai Optics Inc.  
Shasta Crystals  
Sheaumann Laser, Inc.  
Sill Optics GmbH & Co. KG  
Simphotek Inc.  
Siskiyou Corporation  
Space Optics Research Labs., LLC (SORL)  
Sparkle Optics Corp.  
Specim Spectral Imaging Ltd.  
Spectralus Corp.  
Spectrogon AB  
Spectrogon UK Ltd.  
Spectrogon US, Inc.  
Spectrum Scientific, Inc.  
Spica Technologies, Inc.  
Stanford Computer Optics, Inc.  
Star Tech Instruments  
StellarNet, Inc.  
Strategic Polymer Sciences, Inc.  
Surface Optics Corp.  
Sutter Instrument Co.  
Syntec Optics  
TEC Microsystems GmbH  
tec5USA, Inc.  
Techmetals, Inc.  
Technical Manufacturing Corp.  
Technische Informationsbibliothek und Univ. Hannover  
TecOptics, Inc.  
Telops  
Tempotec Optics Co., Ltd.  
Tessera, Inc.  
The Cooke Corp.  
The Hong Kong Polytechnic Univ.  
The Univ. of New Mexico  
Thermo Fisher Scientific Inc.  
Thorlabs Inc.  
Time-Bandwidth Products AG  
TLC International  
TOPTICA Photonics Inc.  
Tower Optical Corp.  
Translume, Inc.  
Trex Advanced Materials  
TRIOPTICS GmbH  
TRUMPF Inc.  
TwinStar Optics Coating & Crystals  
Tydex  
Umicore Optical Materials USA, Inc.  
Umicore Thin Film Products  
Union Optic, Inc.  
Univ. of Rochester  
Universal Photonics Inc.  
Ural Optical and Mechanical Plant  
Veeco Instruments Inc.  
Vision Systems Technology, LLC  
Vixar  
Volpi USA  
VORTRAN Laser Technology, Inc.  
VueMetrix  
Wavelength Electronics, Inc.  
Western Photonics Technology  
Williams Advanced Materials  
Wordingham Technologies  
World Star Tech  
WZW-Optic AG  
XEI Scientific, Inc.  
Xenics NV  
XYALIS  
Z & Z Optoelectronics Tech. Co., Ltd.  
Zaber Technologies Inc.  
Zeta Instruments  
Z-LASER Optoelektronik GmbH  
Zomega Terahertz Corp.  
Zygo Corporation

# Think New Technology



Micro PMT  
MEMS  
Enhanced Silicon  
Nanoimprinting

Visit our Booth at **Photonics West 2011**

Booth **#1313**

Hamamatsu incorporates the latest technologies and techniques, such as MEMS and CMOS technologies, to develop photonics products with improved characteristics. **Products with higher sensitivity. Faster speed. Lower noise. Better performance.** Whether you're looking for detectors, image sensors, cameras, light sources, or complete turnkey solutions, look to Hamamatsu technology for high-quality products.

Visit us online at: <http://sales.hamamatsu.com/pwest>



**HAMAMATSU**  
PHOTON IS OUR BUSINESS

Toll-free: USA 1-800-524-0504 • Europe 00 800 800 800 88



World's Largest Inventory of Optical Components



# Edmund optics | america

OPTICS AND OPTICAL INSTRUMENTS CATALOG | SPRING 2011



FIND OUT  
HOW YOU  
CAN BE A  
SUPERHERO!

MEET  
REAL LIFE  
SUPERHEROES!



SEE SUPERHERO  
SOLUTIONS &  
DEMOS!

# SUPER SERVICE

ARE YOU READY FOR THE TRANSFORMATION?  
YOU CAN BE AN OPTICS SUPERHERO TOO!

JOIN US AT BOOTH 1214

[www.edmundoptics.com](http://www.edmundoptics.com)