### **Exhibition Guide**

Moving Technology to Market™

### **SPIE** Photonics West

Photonics West Exhibition: 26 – 28 January 2010

### **BiOS**\*

BiOS Exhibition: 23 – 24 January 2010

The Moscone Center | San Francisco, California, USA





## Redesigned... Relaunched... Remarkable!

Welcome to the NEW AND IMPROVED OptoIQ. Designed to meet the ever-growing demand for trusted, relevant content in the optoelectronics and photonics industry, **OptoIQ** now offers new navigation, new search functionality, and more content from four of the most respected media brands in the marketplace: *Laser Focus World, BioOptics World, Industrial Laser Solutions,* and *Vision Systems Design.* 

Getting the information you need has never been easier. Come see a demo at Photonics West! Booth #1801 Or log on to OptolQ.com today!



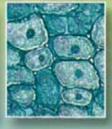


















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Visions



### **SPIE** Photonics West



SPIE is an international society advancing an interdisciplinary approach to the science and application of light.



### **BiOS**\*

### South Hall A

Saturday 23 January
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### **Special Events**

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### North and South Halls

Tuesday 26 January         10:00 am to 5:00 pm           Wednesday 27 January         10:00 am to 5:00 pm           Thursday 28 January         10:00 am to 4:00 pm
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SPIE Job Fair
Laser 50th Anniversary Celebration
Advertisers

### **Exhibition Hours**

### **BiOS Exhibition**

The Moscone Center, South Hall A Saturday 23 January ..... 12:00 to 5:00 pm Sunday 24 January .... 10:00 am to 5:00 pm

### **Photonics West Exhibition**

The Moscone Center, North and South Halls Tuesday 26 January ... 10:00 am to 5:00 pm Wednesday 27 January. 10:00 am to 5:00 pm Thursday 28 January... 10:00 am to 4:00 pm

### **Onsite Registration and Information Hours**

### North Lobby

Saturday 23 January	7:00 am to 5:00 pm
Sunday 24 January	7:15 am to 5:00 pm
Monday 25 January	7:00 am to 5:00 pm
Tuesday 26 January	7:30 am to 5:00 pm
Wednesday 27 January	7:30 am to 5:00 pm
Thursday 28 January	7:30 am to 4:00 pm

### 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.

### Cash Lunches and Exhibition Concessions

Cash concessions will be available at The Moscone Center Saturday through Thursday.

Visit the Exhibition Concessions located in the exhibition halls on Tuesday-Thursday. They will serve hot and cold snacks, beverages, deli-type sandwiches, salads, hot entrees, and pastries and will be open during exhibition hours.

### **Course Materials Desk**

### Located in the SPIE Registration Area

### Open during Registration hours

If you have registered to attend a course or workshop, please stop by the Course Materials Desk to pick up your course notes and to find out where the class will be located. Allow enough time to walk to course locations. Pickup the latest Education Services catalog to see the many courses SPIE has available at the symposia, on video, DVD, and CD-ROM; and to discover the opportunities of customized In-Company courses.

### Student Members save 50% on course registration

Proof of full-time student status is required; please include your student ID number or proof of student status with your registration. Offer applies to undergraduate/graduate students who are enrolled full time and have not yet received a Ph.D.

### **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, print out the results, and be on your way in no time!

### **Exhibit Tracker**

A new feature at SPIE Photonics West is the Exhibit Tracker Service. Attendees who have their badges scanned by exhibitors utilizing the official show vendor lead retrieval machines, will receive a full report of the booths they've visited about 3 weeks post event.

### Policies

### **Underage Persons on Show Floor**

For safety and insurance reasons, only children over the age of 12 accompanied by an adult will be allowed in the exhibition area during open exhibition hours.

### **Unauthorized Solicitation**

Unauthorized solicitation in the Exhibition Hall is prohibited. Any nonexhibiting 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.

### Audio/Video/Digital Recording Policy

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

# **ImageMaster®**

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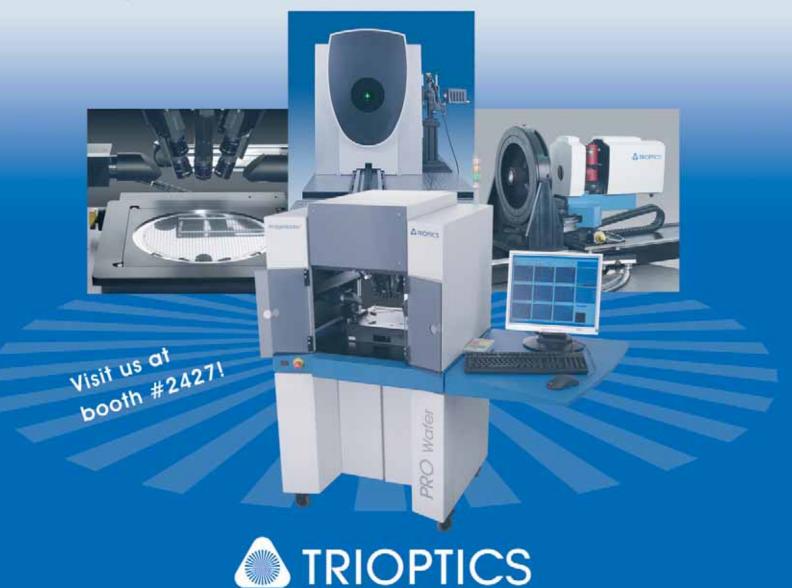
**R&D** Line

**Production Line** 

**Universal Line** 

### In any spectral range UV - VIS - IR

The most complete line of MTF-equipment for complete characterization of lenses and optical systems. Ultra fast for production testing, ultra accurate for lab and research, leadership in testing mobile phone and digital cameras.



### SPIE Onsite Services

### **SPIE Marketplace and Souvenirs**

Outside North Exhibit Hall · Open during Registration hours The SPIE Marketplace is your source for the latest SPIE Press books, Proceedings, and Educational and Professional Development materials. Become a Member of SPIE, explore the Digital Library, and take home a souvenir.

### **Job Fair**

### The Moscone Center, North Hall, Exhibit Level

### **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 http://spie.org/pr.

### **Internet Access**

Concourse (Exhibit Level)

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.

### **Business Services**

### **Moscone Business Center**

### North End, Concourse

(Exhibit Level, under main stairs/escalator)

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.

### **SPIE Message Center**

Urgent messages only will be taken during registration hours Saturday through Thursday by calling 415-905-1000.

### Luggage/Package Storage and Coat Check

### Room 134 (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.

### **Concierge Desk**

### North Lobby

A Concierge Desk will be open during registration hours for sightseeing, shopping, and restaurant information.

### **Housing Desk**

### North Lobby

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

### Play Khet - the Laser Game



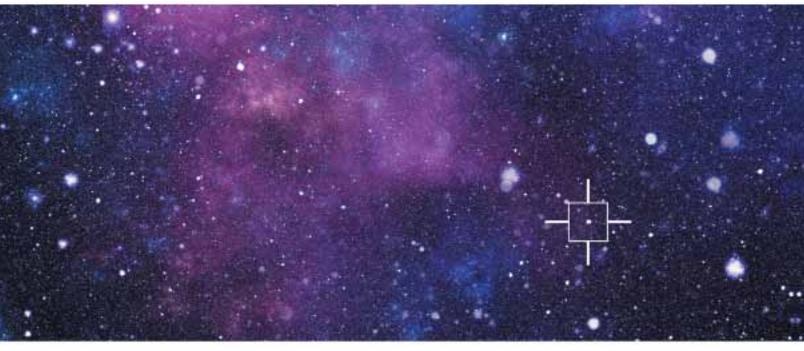


### Share optics with your kids!

Khet helps teach basic optics while playing an enjoyable chess-like game. Meet the members of Innovention Toys, an independent game maker, at Booth 4012. Khet games can be purchased at the SPIE Marketplace.

- World Khet Tournament on Wednesday 2:30 to 5:00 pm in the Exhibit Hall North, Booth 4012.
- Get supplemental educational materials for using Khet in the classroom

# Where's the Hidden Planet?



### Don't see it? We can. With CODE V Beam Synthesis Propagation, you can too. Go to www.opticalres.com/bsp to find out how.

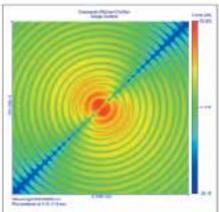
CODE V's Beam Synthesis Propagation<sup>™</sup> (BSP), developed for NASA to detect Earth-sized planets outside our solar system, delivers groundbreaking accuracy and ease of use for beam propagation analysis.

 Simplified setup. BSP's unprecedented Pre-Analysis feature determines recommended settings for accurate results, making it the easiest-to-use beam propagation tool on the market, and saving countless hours in setup.

### O P T I C A L R E S E A R C H ASSOCIATES

- Efficient, accurate answers. BSP's advanced and highly efficient algorithms can produce more accurate results more quickly than any other commercially available beam propagation tool.
- Comprehensive design support. BSP is fully integrated with CODE V, providing the most fully featured optical design and analysis environment available — for both planet hunting and down-to-earth applications.

Why compromise with another heam propagation tool when you can get the right answers more easily with BSP?

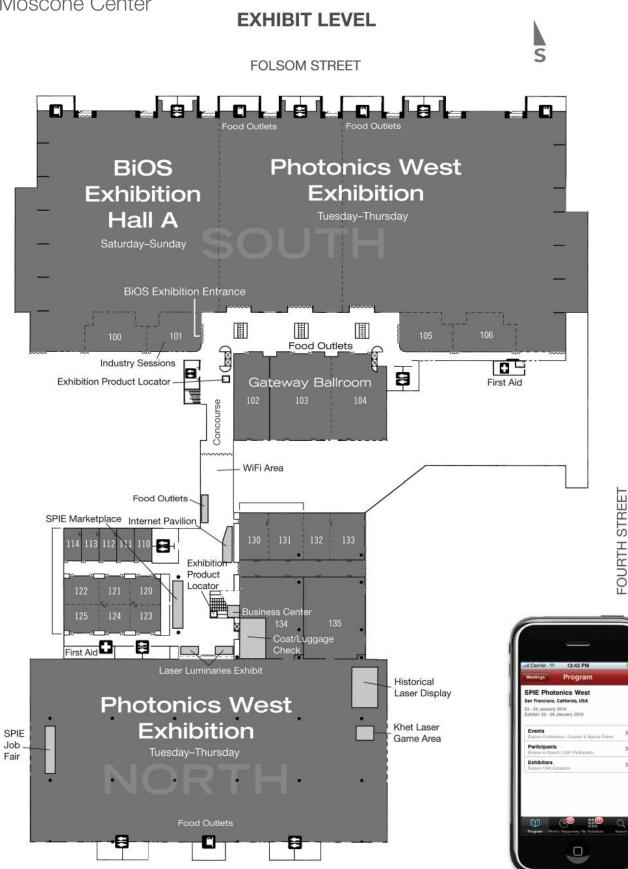


BSP supports full-vector field propagation. This decibel-scale plin shows the Z-component of the focal plane intensity of a Ritchey-Chrétien telescope for linearly pularized light.

Corporate Headquarters: 3280 East Foothill Boulevard, Pasadena, CA 91107-3103 (626) 795-9101 Pax (626) 795-0184 E-mail: info@opticalres.com Web: www.opticalres.com Officer: Tucson, AZ | Westborough, MA



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MISSION STREET

THIRD STREET

### PW Booth #906 BIOS Booth #8906

See our Demo on Solar Cell Inspection Wed., Jan. 27th - 11:30 AM South Hall A, Demo Area 1



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SPIE Courses

### **BUILD YOUR EXPERTISE**

with courses and workshops taught by leaders in the field-bring yourself up to date on the hottest technologies or learn the fundamentals to expand your skills and value to your organization.

SPIE has hand picked some of the top minds from academia and industry to lead a variety of courses at SPIE Events.

### **Register for a course:**

- Take advantage of the industry's best instructors
- Further your career through ongoing education
- Earn CEUs for your continuing education

#### **Continuing Education Units**



SPIE has been approved as an authorized provider of CEUs by IACET, The International Association for Continuing Education and Training (Provider #1002091). In obtaining this approval, SPIE has demonstrated that it complies with the ANSI/IACET Standards which are widely recognized as standards of good practice.

#### Money-back Guarantee

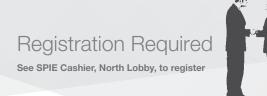
We are confident that once you experience an SPIE course for yourself you will look to SPIE for your future education needs. However, if for any reason you are dissatisfied, SPIE will gladly refund your money. We just ask that you tell us what you did not like; suggestions for improvement are always welcome.

SPIE reserves the right to cancel courses due to insufficient pre-registration.

### **Nano/Biophotonics**

Sun	SC463	Biophotonics (Prasad) 8:30 am to 5:30 pm, \$650 / \$760	
Sun	SC309	Fluorescent Markers: Usage and Optical System Optimization (Levi) 8:30 am to 12:30 pm, \$350 / \$405	
Sun	SC461	<b>Bio-Optical Detection Systems</b> ( <i>Levi</i> ) 1:30 to 5:30 pm, \$350 / \$405	
Sun	SC982	Fluorescent Detection: System Design and Tradeoffs (Beach, Flowers) 1:30 to 5:30 pm, \$350 / \$405	
Tues	SC727	<b>Nanoplasmonics</b> ( <i>Stockman</i> ) 8:30 am to 5:30 pm, \$575 / \$685	
Bion	nedical	Spectroscopy, Microscopy, and Imaging	
Sun	SC981	Biomedical Fiber Optic Sensors and Applications (Mendez, McLaughlin) 1:30 to 5:30 pm, \$350 / \$405	
Mon	SC865	<b>Microscope Design</b> ( <i>Seward</i> ) 8:30 am to 12:30 pm, \$350 / \$405	
Mon	SC978	Light Microscopy (Tkaczyk) 1:30 to 5:30 pm,	

- Tues SC979 **Fundamentals of Three-Dimensional Optical** Microscopy (Javidi, Martinez-Corral) 8:30 am to (NEW) 5:30 pm, \$575 / \$685
- Tues SC868 **Optical Design for Biomedical Imaging** (Liang) 8:30 am to 12:30 pm, \$350 / \$405



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### Applications

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

Photonics West Booth #2601

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### **SPIF** Courses

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

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

### **Clinical Technologies and Systems**

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

#### Photonic Therapeutics and Diagnostics

Mon SC702 Optics and Optical Quality of the Human Eye (Roorda) 1:30 to 5:30 pm, \$350 / \$405

### Laser Micro-/Nanoengineering

- Mon SC689 Introduction to MicroMachining Using Lasers (Schaeffer) 8:30 am to 12:30 pm, \$350 / \$405
- Mon SC743 Micromachining with Femtosecond Lasers (Nolte) 1:30 to 5:30 pm, \$350 / \$405

### **Laser Applications**

Tues 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

### Semiconductor Lasers and LEDs

Sun	SC877	Introduction to High Power Diode Laser Technology ( <i>Roh</i> ) 8:30 am to 12:30 pm, \$350 / \$405	
Sun	SC747	Semiconductor Optoelectronic Device Fundamentals (Linden) 8:30 am to 5:30 pm, \$575 / \$685	
Mon	SC977	<b>Fundamentals of Laser Beam Profile Measurements</b> ( <i>Rypma</i> ) 8:30 am to 12:30 pm, \$350 / \$405	
Mon	SC052	<b>Light-Emitting Diodes</b> ( <i>Schubert</i> ) 8:30 am to 12:30 pm, \$415 / \$470	
Tues	SC053	Testing and Reliability of Semiconductor Lasers (Lear) 1:30 to 5:30 pm, \$350 / \$405	
Wed	SC011	Design of Efficient Illumination Systems (Cassarly) 8:30 am to 12:30 pm, \$350 / \$405	
Wed	SC974	Interconnection and Splicing of High-Power Optical Fibers (Yablon) 8:30 am to 12:30 pm, \$350 / \$405	
Wed	SC448	Diode Lasers: How to Select the Best Laser for Your Application (Linden) 1:30 to 5:30 pm, \$350 / \$405	
Wed	SC958	LED & Solid-State Lighting tandardization (Jiao) 1:30 to 5:30 pm, \$350 / \$405	

### **Nonlinear Optics**

- Mon SC931 Applied Nonlinear Frequency Conversion (Paschotta) 8:30 am to 5:30 pm, \$575 / \$685
- SC974 Interconnection and Splicing Wed of High-Power Optical Fibers (Yablon) 8:30 am to (NEV 12:30 pm, \$350 / \$405

### Laser Source Engineering

- SC752 Solid State Laser Technology (Hodgson) 8:30 am to Sat 5:30 pm, \$575 / \$685
- SC744 Ultrafast Fiber Lasers (Fermann) 8:30 am to Sun 12:30 pm, \$350 / \$405
- SC748 High-Power Fiber Sources (Nilsson) Sun 1:30 to 5:30 pm, \$350 / \$405
- Mon SC931 Applied Nonlinear Frequency Conversion (Paschotta) 8:30 am to 5:30 pm, \$575 / \$685
- Fundamentals of Laser Beam Profile Measurements Mon SC977 (Rypma) 8:30 am to 12:30 pm, \$350 / \$405 (NEW)
- Mon SC861 The Basics of Physics and Engineering of Lasers (Kalisky) 8:30 am to 5:30 pm, \$575 / \$685
- SC984 Mon Fiber Amplifiers (Digonnet) 1:30 to 5:30 pm, \$350 / \$405 (NEW)
- Tues SC818 Laser Beam Quality (Paschotta) 8:30 am to 12:30 pm, \$350 / \$405
- Introduction to Ultrafast Technology (Trebino) Tues SC746 1:30 to 5:30 pm, \$350 / \$405
- WS972 Basic Laser Technology (Sukuta) 8:30 am to Wed 12:30 pm, \$300 / \$355 (NEW)
- SC974 Interconnection and Splicing Wed of High-Power Optical Fibers (Yablon) 8:30 am to (NEW) 12:30 pm, \$350 / \$405
- Wed SC860 Resonator Design for Solid State Lasers (Paschotta) 8:30 am to 5:30 pm, \$575 / \$685

### Devices/Applications/Reliability

Mon SC976 Building Robust MEMS/MOEMS Reliability Systems (McKillop) 8:30 am to 12:30 pm, \$350 / \$405 NEW

#### **Micro/Nanofabrication**

- Mon SC689 Introduction to MicroMachining Using Lasers (Schaeffer) 8:30 am to 12:30 pm, \$350 / \$405
- Mon SC743 Micromachining with Femtosecond Lasers (Nolte) 1:30 to 5:30 pm, \$350 / \$405
- Thurs SC532 Micro- and Nanofluidics - Technology and Applications (Gärtner) 8:30 am to 12:30 pm, \$350 / \$405

### **Optical Communications: Systems and Sub-systems**

Tues 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

### Nanotechnologies in Photonics

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



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### **SPIE** Courses

### **Photonic Integration**

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

### **Optoelectronic Materials and Devices**

- Sun SC747 Semiconductor Optoelectronic Device Fundamentals (Linden) 8:30 am to 5:30 pm, \$555 / \$685
- Mon SC984 **Fiber Amplifiers** (*Digonnet*) 1:30 to 5:30 pm, \$350 / \$405
- Wed SC547 Terahertz Wave Technology and Applications (Zhang) 8:30 am to 12:30 pm, \$350 / \$405

### **Optics and Optical Engineering**

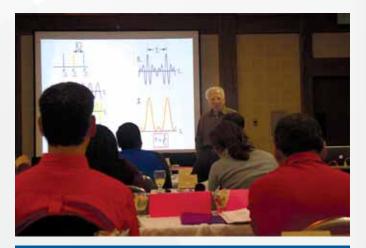
oput	o una i	
Sun	SC935	<b>Introduction to Lens Design</b> ( <i>Bentley</i> ) 8:30 am to 12:30 pm, \$350 / \$405
Sun	SC212	<b>Modern Optical Testing</b> ( <i>Wyant</i> ) 8:30 am to 12:30 pm, \$380 / \$435
Mon	SC156	<b>Basic Optics for Engineers</b> ( <i>Ducharme</i> ) 8:30 am to 5:30 pm, \$410 / \$730. <b>NOTE:</b> This course is also available in online format. For more information, visit http://spie.org/education.
Mon	SC983	Integration of Optical and Mechanical Design (Doushkina) 8:30 am to 5:30 pm, \$575 / \$685
Mon- Tues	SC003	Practical Optical System Design - EXPANDED 2-DAY FORMAT ( <i>Fischer</i> ) 8:30 am to 5:30 pm, \$1135 / \$1390
Mon	SC321	Thin Film Optical Coatings (Macleod) 8:30 am to 5:30 pm, $$575 / $685$
Mon	SC702	<b>Optics and Optical Quality of the Human Eye</b> ( <i>Roorda</i> ) 1:30 to 5:30 pm, \$350 / \$405
Tues	SC690	Optical System Design: Layout Principles and Practice ( <i>Greivenkamp</i> ) 8:30 am to 5:30 pm, \$680 / \$790
Tues	SC206	Polarized Light: A Practical Hands-on Introduction (Fisher) 8:30 am to 5:30 pm, \$575 / \$685
Tues	SC017	Principles of Fourier Optics and Diffraction (Gaskill) 8:30 am to 5:30 pm, \$700 / \$810
Tues	SC384	The Design of Plastic Optical Systems (Schaub) 1:30 to 5:30 pm, \$350 / \$405
Wed	WS972	Basic Laser Technology (Sukuta) 8:30 am to 12:30 pm, \$350 / \$405
Wed	SC011	Design of Efficient Illumination Systems (Cassarly) 8:30 am to 12:30 pm, \$350 / \$405
Wed	SC552	Aspheric Optics: Design, Fabrication, and Test (Fischer) 1:30 to 5:30 pm, \$435 / \$490

### **Optomechanics**

	~	Integration of Optical and Mechanical Design (Doushkina) 8:30 am to 5:30 pm, \$575 / \$685
Tues- Wed	S(NEW)O	Introduction to Optical Alignment Techniques (Ruda) 8:30 am to 5:30 pm, \$1050 / \$1305
Tues	SC015	Structural Adhesives for Optical Bonding (Daly) 8:30 am to 12:30 pm, \$350 / \$405
Wed	SC781	<b>Optomechanical Analysis</b> ( <i>Hatheway</i> ) 8:30 am to 5:30 pm, \$575 / \$685

### Standards

TuesSC700Understanding Scratch and Dig Specifications<br/>(Aikens) 1:30 to 5:30 pm, \$420 / \$475WedSC863Understanding ISO-10110: The Optics Drawing<br/>Standard (Aikens) 8:30 am to 5:30 pm, \$575 / \$685

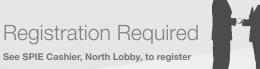


### **INDUSTRY WORKSHOPS**

### **Fundamental Optics**

Sun	SC747	Semiconductor Optoelectronic Device Fundamentals (Linden) 8:30 am to 5:30 pm, \$575 / \$685	
Mon	WS609	<b>Basic Optics for Non-Optics Personnel</b> ( <i>Harding</i> ) 1:30 to 4:00 pm, \$150 / \$200. <b>NOTE:</b> This course is also available in online format. For more information, visit http://spie.org/education.	
Wed	WS972	Basic Laser Technology (Sukuta) 8:30 am to 12:30 pm, \$300 / \$355	
Business, Patents + IP			
Mon	WS936	Project Management for Rapid Product Development ( <i>Hinkle</i> ) 8:30 am to 12:30 pm, \$300 / \$355	
Tues	WS973	Valuation of Closely Held Technology Companies, Product Lines and Intellectual Property ( <i>Smith</i> ) 8:30 am to 12:30 pm, \$300 / \$355	
Tues	WS971	Pursuing Patents In A Changing World (Honeyman) 1:30 to 5:30 pm, \$300 / \$355	
Wed	WS933	Complying with the ITAR: A Case Study (Scarlott, Moss) 1:30 to 5:30 pm, \$300 / \$355	
Professional Development			
Sun		Hit-the-Target Laser Activity Workshop (Sparks)	

- Sun WS985 Hit-the-larget Laser Activity Workshop (Sparks) New 8:30 to 11:30 am, \$20 / \$40
- Mon WS897 Effective Technical Presentations (Doumont) 8:30 am to 12:30 pm, \$75 / \$125
- Mon WS908 Effective Scientific Papers (Doumont) 1:30 to 5:30 pm, \$75 / \$125



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### 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.

### Silicon Photonics and Optical Interconnects

Room 101 (Exhibit Level) Tuesday 26 January ..... 2:00 to 3:00 pm *Panel Moderator:* **Peter Hallett,** SPIE

Panel Members:

HEWLETT-PACKARD LABS. Ray Beausoleil, HP Fellow

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

SUN CORP. Ashok Krishnamoorthy, Distinguished Engineer

LUXTERA Marek Tlalka, Vice President of Marketing

ONECHIP PHOTONICS Andy Weirich, Vice President of Product Line Management

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.

### Hot Markets in Photonics: Solar

Room 101 (Exhibit Level) Tuesday 26 January ..... 3:30 to 4:30 pm *Industry Speakers:* 

NAVIGANT CONSULTING Paula Mints, Associate Director, Energy Practice

#### CLEAN TECHNOLOGY and SUSTAINABLE INDUSTRIES ORGANIZATION Patricia Glaza, Executive Director/CEO

Even with severe market challenges in 2009, new solar energy technology and market development are unstoppable. For makers of lasers, optical coatings, thin-film materials and metrology equipment, this represents opportunity. From core optical engineering to nanotechnology, materials science to funding and economic policy, there is always more to learn and gamechanging developments are happening every month. These speakers bring a forward-looking understanding of market and technology trends on path to widespread commercialization. Join this session to gain a better sense of the direction of solar technology, worldwide markets, and opportunities for business.

### **Open to All Attendees**

EXHIBITION VISITORS, EXHIBITORS, AND TECHNICAL CONFERENCE ATTENDEES Booth #: 4801

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### Industry Events

### Executive Perspectives on the World of Optics and Photonics

Room 101 (Exhibit Level) Wednesday 27 January.... 2:00 to 3:00 pm 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 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.

### The Making of an Industry: 50 Years of the Laser and Beyond

Room 103/104 (Exhibit Level) Wednesday 27 January..... 3:30 to 4:30 pm *Panel Moderator:* 

Andrew Brown, SPIE Senior Director, Global Business Development

Panel Members:

JDSU-LASERS Will Grossman, Chief Technical Officer

COHERENT

Allan Ashmead, Director Strategic Marketing

NEWPORT SPECTRA-PHYSICS James Kafka, Director Research and Development

NORTHROP GRUMMAN Jackie Gish, Special Assistant and Liaison, Emerging Technology and Systems

With the operation of Ted Maiman's ruby laser on May 16, 1960, the race to demonstrate the first laser was over, but the race to build an industry based on the laser had only just begun. In the short, 50 years since that demonstration, the laser has proven to be an essential tool in a plethora of applications in industries, including manufacturing, energy, medicine, communications, research, and more. Join us to hear from technology leaders about milestones in their company evolution, the people that made it happen, and where the industry is heading in the next 50 years.

### Birth of an Industry: 50 Years of Lasers

Room 102

Thursday 28 January..... 9:15 to 9:45 am



Jeff Hecht, Contributing Editor, Laser Focus World

Jeff Hecht is a contributing editor to Laser Focus World and author of several books including Beam: The Race to Make the Laser, City of Light:

The Story of Fiber Optics, Understanding Lasers, Understanding Fiber Optics and Laser: Light of a Million Uses. In this session open to all technical attendees, exhibitors and exhibition visitors, Hecht will describe important events, companies and technologies that have led to the creation of the global laser industry – with insights about what's over the horizon.



### Crosslight Software Tutorial on Optoelectronic Device Simulation

Thursday 28 January . 8:30 am to 12:30 pm To register for the tutorial and receive a free Crosslight Software software training license, please e-mail your contact information to piprek@nusod.org. More information on the tutorial is available at http://www. nusod.org/crosslight10pw.html.

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.) 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 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).

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

http://www.nusod.org/crosslight10pw. html



Route des Lasers



# French American Meeting for Photonics Innovation

Learn about exciting new R&D projects and form international partnerships with French companies!

### Save the date ! Tuesday January, 26th, 2010 4.30 p.m. - 6.30 p.m. + Meet and Greet with Coffee + Cocktail Hour Westin Hat 50 Third St Westin Hotel **50 Third Street** San Francisco

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### Industry Workshops

### Semiconductor Optoelectronic Device Fundamentals

SC747

Course level: Introductory CEU .65 \$575 / \$685 USD Sunday 8:30 am to 5:30 pm

This provides a review of the basics of semiconductor materials, with primary emphasis on their optoelectronic properties. The motion of electrons and holes is discussed, and photon absorption and generation mechanisms are presented. The course examines basic device structures such as quantum wells and quantum dots, Bragg reflectors, cascade devices, distributed feedback devices, avalanching, tunneling, and various electro-optic effects..

Instructor: Kurt Linden has over 35 years of practical experience in the design, development, manufacture, testing, and application of a broad range of semiconductor optoelectronic devices, he is a pioneer in the development of visible, infrared, and far-infrared devices, and has recently been involved with their incorporation into operational systems. He is currently a senior scientist at the Spire Corporation.

### **Fundamental Optics**

### Basic Optics for Non-Optics Personnel

Course level: Introductory

CEU .20 \$150 / \$200 USD Monday 1:30 to 4:00 pm

This course will provide the technical manager, sales engineering, marketing staff, or other nonoptics 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.

Instructor: **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, including engineering workshops on machine vision, metrology, NDT, and interferometry used by vendors and system houses to train their own engineers.

**NOTE:** This course is also available in online format. For more information, visit http://spie. org/education.



### **Basic Laser Technology**

Come hear leaders in the industry discuss challenges and opportunities. Receive

technical training from

photonics industry.

the brightest minds in the

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.

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

### Project Management for Rapid Product Development

WS936

Course level: Intermediate CEU .35 \$300 / \$355 USD Monday 8:30 am to 12:30 pm

Product development by its very nature is tumultuous. It is affected by changing technologies and customer requirements, global competitiveness, multi-site development teams and other factors. This half-day course is designed to meet the specific needs of engineering leads who must deliver results in challenging environments. You'll learn the most important aspects of project management for reducing cycle time by applying proven methods and tools to your product development process.

Instructor: **Gary Hinkle** is president and founder of Auxilium, Inc. His experience includes a broad variety of management and staff assignments with small, medium, and large companies involved in the development and manufacturing of high-tech products.

### 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.

Instructor: 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. Business, Patents + IP

### Pursuing Patents In a Changing World

WS971

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

The global recession, a more conservative USPTO (in terms of granting patents), and looming patent reform are changing the way patents should be pursued. For example, cost effectiveness is becoming more important than what may be ideal from a legal standpoint.

This course tackles these challenges by first presenting a checklist of questions a business should consider before investing resources in a patent. For example, is the invention something that lends itself to useful patent coverage? Have you or others engaged in conduct that will bar patenting? Can your business establish ownership of the patent rights? Do other appropriate IP alternatives, i.e., Trade Secrets, exist which are better from a business standpoint? Does the possible scope of the patent (determined after engaging in patentability research) make its filing cost effective?

Instructor: Marshall Honeyman is a patent attorney in Overland Park, Kansas (Kansas City metro) where he is Of Counsel to the law firm of Lathrop and Gage, L.L.P.

### Complying with the ITAR: A Case Study

WS933

IFV

#### 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.

Instructors: Kerry Scarlott is a partner at Posternak Blankstein & Lund LLP, where he focuses his practice on business law and international trade. He is an expert in advising technology-based companies on how to effectively and efficiently navigate U.S. export control laws and regulations.

**Ian Moss** concentrates his practice on international trade regulation with emphasis on export controls and economic sanctions. He counsels existing and start-up business ventures on foreign trade matters arising under the jurisdiction of various U.S. governmental agencies, including the Departments of Commerce, State, Treasury, and Defense.



### Innovative New Products Recognized at SPIE Photonics West

### The Prism Awards for Photonics Innovation Banquet and Award Ceremony

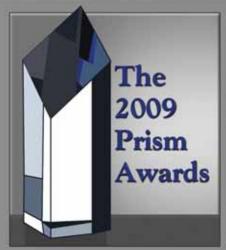
Wednesday 27 January 2010 Hilton San Francisco Union Square 6:30 pm Cocktail Reception 7:00 pm Dinner and Awards Ceremony Seating Limited · Tickets required · Business Attire

Attend the Gala Event This event brings together industry leaders, top executives and scientists in a once-a-year opportunity to discover what's new and exciting in the photonics industry.

### Which Finalists will be Winners? Attend the banquet and find out.

- Aerotech
- Agilent Technologies
- BaySpec Inc.
- Electronic Housekeeper
- GE Healthcare
- General Resonance LLC
- Hamamatsu Corp.
- High Q Laser Innovation GmbH
- InfraTec Infrared LLC
- Innovations in Optics Inc.
- IRphotonics
- Laser Operations LLC QPC Lasers
- Lasers
- Lehighton Electronics Inc.
- LightLab Imaging Inc

- Linden Photonics
- Nanonics Imaging Ltd.
- National Semiconductor
- National Tsing Hua University
- Novelx
- OEwaves Inc.
- Olympus America
- OneChip Photonics
- Photometrics
- QED Technologies
- Semrock Inc.
- Shasta Crystals
- Swamp Optics
- VI Systems GmbH



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Tickets may be purchased at the SPIE cashier, North Lobby.

Individual seats: \$75 Table of ten: \$750 per table Table of eight: \$600 per table

Table of six: \$450 per table



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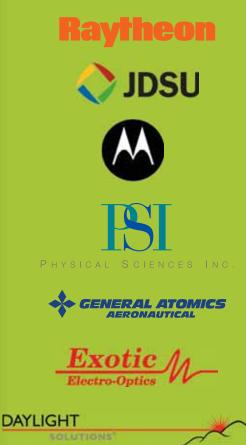
### **Job Fair** Two Days Only

North Hall, The Moscone Center Tuesday 26 January · 10:00 am to 5:00 pm Wednesday 27 January · 10:00 am to 5:00 pm

Whether you are looking for a better job, re-entering the workforce or just starting your career, the SPIE Career Center and Photonics West Job Fair are both great places 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



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### **SPIE Career Center**

### spie.org/careercenter



### Celebrate the GOLDEN ANNIVERSARY OF THE

### at SPIE Photonics West.

50 years ago, on 16 May 1960, the first laser was fired by Theodore Maiman. Since that time the laser has enabled some of the greatest innovations of our time. Join SPIE in paying tribute to the laser.

SPIE





### Laser Luminary Display

Outside the entrance to the North Exhibition Hall

Visit the Laser Luminary Display located outside the entrance to the North Exhibition Hall and see historic images and artifacts from past years, watch archival video footage, and see an overview of current applications and future possibilities.

### The Laser: A 50-Year Retrospective

The Moscone Center, North Hall, Exhibit Level

Walk the floor of the laser equipment display and see how laser technologies have evolved through the years. From some of the earliest lasers to recent laser innovations, companies from across the industry are contributing archival equipment and their most recent developments to create a display that presents the evolution of the laser over the past five decades.

### For more information visit: spie.org/advancingthelaser

Advancing The Laser efforts are supported by:

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### Moving Technology to Market™

Exhibition Dates: 23–24 January 2010 Conference Dates: 23-28 January 2010 The Moscone Center San Francisco, California, USA

The BiOS Exhibition features the newest, most cutting-edge biomedical optics and biophotonics technologies.





South Hall A

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### **SPIE International Headquarters**

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### BiOS Product Demonstrations - South Hall A – Demo Area 1

	Saturday 23 January	Sunday 24 January
10:30 am	EXHIBITION CLOSED	Advances in Lasers for Biological Imaging David Armstrong, Coherent Inc. Key to future advances in multiphoton biological imaging is the ability to work with a wider range of fluorophores, to increase data acquisition speed, and to improve data signal-to-noise ratio.
11:30 am	EXHIBITION CLOSED	Silicon Photomultipliers for Large Area Detection Dr. Carl Jackson, SensL Solid state detectors are the future in low light sensing: Detector, sub- system and system solutions for Analytical Instruments, Homeland Security, Nuclear Medicine and Industrial applications.
12:30 pm	High Performance Optical Filters and Components for Biotechnology Bryan Herbst, SCHOTT North America, Inc. SCHOTT offers high performance interference and glass filters tailored to your specifications. The optical filter portfolio is complemented by our precision optical components such as prisms, lightguides and cylindrical and aspherical lenses made from our own high quality optical glasses.	Ultrafast Ultracompact System for Life Science Applications Robert Braunschweig, Amplitude Laser Inc. We present our Mikan ultrafast compact diode pumped laser and its proven and potential results for applications such as multiphoton microscopy, cell dissection and other life science applications.
1:30 pm	Thermal Spot Curing at Your Fingertips Ruben Burga, IRphotonics Thermal spot curing reduces the number of steps and time (seconds instead of tens of minutes) needed for the curing of epoxy while delivering pinpoint and accurate control for temperature sensitive substrates.	
2:30 pm		Lumencor Light Engines Claudia Jaffe, Lumencor, Inc. Solid state lighting will be demonstrated for bioanalytical applications in the life sciences. Two, four, seven color light engines and complete illumination & imaging subsystems will be highlighted.

### SPIE thanks the following BiOS sponsors for their generous support

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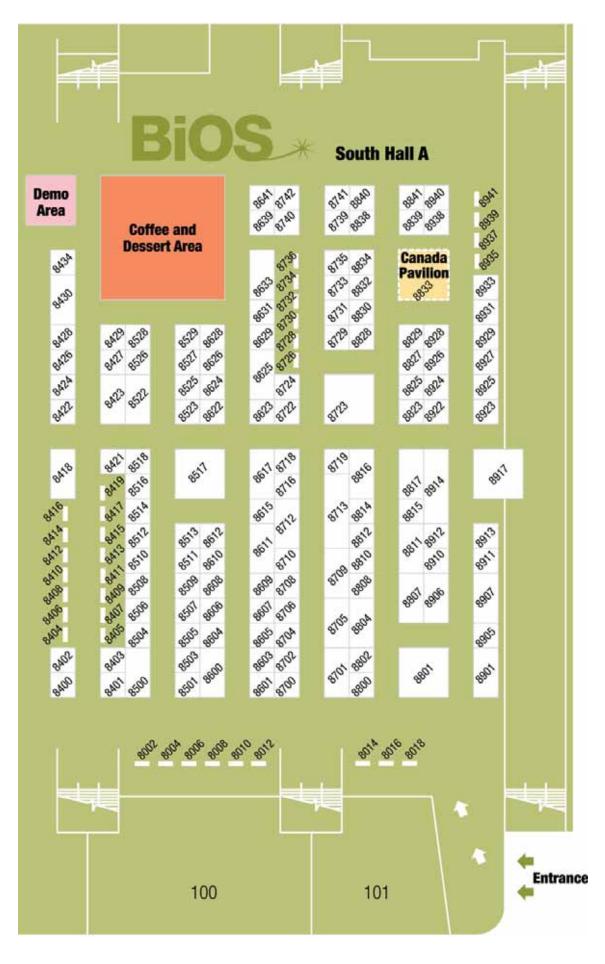
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SSCP USA. Stanford Computer Optics, Inc. Stanford Photonics, Inc. StellarNet, Inc. StockerYale, Inc. SUPERLUM. Sutter Instrument Co. tec5USA, Inc. Teledyne Judson Technologies Texas Instruments Thorlabs, Inc. Time Bandwidth Products, Inc. Toptica Photonics, Inc. Translume, Inc. Varian, Inc. Vixar. Vytran LLC. Western Photonics Technology. World Star Technologies	#8633 #8409 #8419 #8010 #8603 #8417 #8719 #8421 #8422 #8817 #8701 #8418 #8703 #8500 #8517 #8704 #8901 #804 #8014 #804 #804
SSCP USA	#8633 #8409 #8419 #8010 #8603 #8417 #8719 #8421 #8422 #8817 #8701 #8418 #8703 #8500 #8517 #8704 #8901 #804 #8014 #804 #804



### 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 15 December 2009

### **4AD Enterprises, Inc.**

#8623

#8510

SPIE Corporate

19462 Jasper Hill Rd, Trabuco Canyon, CA, 92679 949/216-9012; fax 949/666-5837 sales@4adinc.com; www.4adinc.com

#### New Product: DPSS lasers for upgrading Maldi-TOF systems to kHz operation.

Elforlight pulsed and CW DPSS lasers are sold and serviced in North America by 4AD ("For add") Enterprises. Includes SLM, side band free lasers for Raman spectroscopy, kHz pulsed lasers for Maldi TOF, and other high performance lasers. 4AD also develops lasers for specialty medical and lidar applications. Provides fiber optic switches and related set-ups to advance experimental set-ups into commercially viable systems. Works closely with university researchers on emerging opportunities. Contact: Bob Tamosaitis, Sales Manager, bob@4adinc.com.

### 89 North

SPIE Corporate

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

89 North<sup>™</sup>, an employee-owned company, designs and manufactures innovative light sources for fluorescence imaging. The Photofluor® II is a high-power fluorescence light source with unsurpassed output stability, enabling quantitative fluorescence imaging. A 200W self-aligning metal halide lamp makes imaging the dimmest samples easy. With adapters for all major microscopes, the Photofluor® II is a perfect addition to any live-cell imaging system. Contact: Chris Baumann, Director of Sales and Marketing, sales@89north.com.

### Agilent Technologies, Inc.

#### #8708

#8609

5301 Stevens Creek Blvd, Santa Clara, CA, 95051-7204 408/553-2114: fax 408/553-2372 www.agilent.com

### **ALPAO**

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

#### New Product: ALPAO will present its new Adaptive Optics Control System named ACE (Alpao Control Engine).

ALPAO designs full Adaptive Optics Systems and deformable mirrors. Its solutions satisfy the applications such as: Astronomy, Vision science, Defense, Low power laser applications. ALPAO's unique technology offers many benefits such as: The largest strokes available on the market, permitting huge corrections, One of the highest bandwidth, A large variety of deformable mirrors, from 9 to 40mm of diameter, A best in class control software (built on Labview, MatLab, C/C++). Contact: Frederic Rooms, CEO, frederic.rooms@alpao.fr; Samuel Perraud, Sales Director, samuel. perraud@alpao.fr.

### Alphion Corp.

SPIF Corporate

196 Princeton Hightstown Rd, Princeton Junction, NJ, 08550 609/936-9001; fax 609/936-9002

soa@alphion.com; www.alphion.com

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

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

2100 Stewart Ave, Wausau, WI, 54401 715/845-9283: fax 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 promoting research, education and high standards of clinical care in the field of medical laser applications. The Society has taken the lead in formulating standards and guidelines for establishing safe, effective laser programs in hospitals and other institutions, and has recommended standards for medical laser training programs.

### Amplitude Laser

SPIE Corporate

One Broadway 14th Fl, Cambridge, MA, 02142 617/401-2195; fax 617/758-4101

info@amplitude-laser.com; www.amplitude-systemes.com

New 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 diodepumped ultrafast lasers for scientific and industrial applications. Products include high energy oscillators (t-Pulse series), amplifiers (s-Pulse series) and fiber amplifiers (Satsuma and Tangerine series). Contact: Robert Braunschweig, US Sales Manager, rbraunschweig@amplitude-laser.com.

### **Andor Technology Plc**

SPIE Corporate

425 Sullivan Ave Ste 3, South Windsor, CT, 06074 860/290-9211; fax 860/290-9566 l.fiore@andor.com; www.andor.com

#### New Product: Clara with Sony® ICX285 sensor; ideally suited to high-resolution cell microscopy and OEM applications.

Andor Technology develops and manufactures high performance light measuring solutions. Our expertise in confocal microscopy systems, CCD, interline, iCCD, and sCMOS sensors delivers the best turn-key solutions for your light measuring problems. Our products and solutions enable a customer base of both the scientific research and industrial communities, in applications spanning a wide range of physical and biological sciences. Visit www.andor.com for the most current specifications and product news. Contact: Gene Marino, Marketing. g.marino@andor.com; Laura Fiore, Marketing, I.fiore@andor.com.

### Andover Corp.

### SPIF Corporate

4 Commercial Dr, Salem, NH, 03079-2800 603/893-6888; fax 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 ISO 9001:2000 registered. Contact: Rob Pursel, Sr. Optical Coating Engineer, rpursel@andovercorp.com; Phil Clark, Technical Sales, pclark@ andovercorp.com.

### Applied Image, Inc.

SPIE Corporate

1653 E Main St, Rochester, NY, 14609-7090 585/482-0300; fax 585/288-5989 info@appliedimage.com; www.appliedimage.com

New Product: T-20-LC Low Contrast USAF-1951 charts in low contrast values of 5%, 35%, 80% and 94% Transmission.

"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 rulings and other imaged components on various substrate materials for today's complex photonics needs. Now offering Imatest software with Applied targets for analyzing image quality. APPLIED IMAGE, where image concepts become reality. Contact: Paul Anderson, Panderson@appliedimage.com; Luke Hobson, Lhobson@appliedimage.com.

### Asahi Spectra USA Inc.

SPIE Corporate Member

23505 Crenshaw Blvd Ste 229, Torrance, CA, 90505 310/530-5855; fax 310/530-1739 info@asahi-spectra.com; www.asahi-spectra.com

New Product: Long life white light source and Solar simulator.

A leading designer and manufacture of precise optical filters and lighting instruments, we serve a wide range of markets, including medical diagnostics, environmental monitoring, imaging, semiconductor and aerospace. Our newest innovations include high-performance filters for UV applications and long life light source. We welcome your OEM inquiries and custom engineering questions. Contact: Takeshi Fujii, Vice President Sales, tfujii@asahi-spectra.com.

### Avo Photonics, Inc.

SPIE Corporate

700 Business Center Dr Ste 125, Horsham, PA, 19044 215/441-0107; fax 215/441-9219

sales@avophotonics.com; www.avophotonics.com

#### New Product: Photonic Design and Manufacturing Services for Military, Medical, and Telecom Components.

Avo Photonics provides Custom Design and advanced Contract Manufacturing services to opto-electronic customers in the medical, military, aerospace, communications, and industrial markets. Avo's Packaging services provide customers with support throughout all stages of the product lifecycle - Concept thru Prototype and into Production. Avo Photonics' personnel and equipment are an extension of its customer's business, providing transparent services at the low to high volumes required. Contact: Neal Stoker, Vice President Sales and Marketing, nstoker@avophotonics.com; Jalla Atkins, Office Manager, jatkins@avophotonics.com.

### #8622

#8722

#8815

#8910

#8405

#8810

#8626

#8801

### Axsun Technologies

1 Fortune Dr, Billerica, MA, 01821 978/262-0049: fax 978/262-0035 kmooney@volcanocorp.com; www.axsun.com

### B&W Tek, Inc.

SPIE Corporate

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

#### New Product: Voyage is a confocal Raman microscope system designed to deliver true confocality and flexibility.

B&W Tek is an advanced instrumentation company producing optical spectroscopy and laser instruments for biomedical, physical, chemical, and research communities. With a strong vertical integration capability, B&W Tek also provides custom product development, design, and manufacturing. B&W Tek strives for versatility and innovating solutions. The ISO 9001 & ISO 13485 certified facility and the patented technologies ensure high quality products, consistently proven and growing every day. Contact: Meg Kakade, Marketing Coordinator, info@bwtek.com.

### **Barr Associates Inc.**

### #8601

#8832

#8408

SPIE Corporate

2 Lyberty Way, Westford, MA, 01886 978/692-7513: fax 978/692-7443 barr@barrassociates.com; www.barrassociates.com

Barr Associates, Inc. is a leading manufacturer and supplier of optical interference filters/coatings (UV through Far-IR) in large or small volume for commercial, defense, space/aerospace and scientific applications. Barr offers precision coating solutions supporting all of the traditional filter types, plus Rugate Notch, Multi-Band, Ultra-narrow-Bandpass and Linear Variable, High Reflectors, Patterned-coatings, ITO, Metal (Solderable), Filter-Arrays, and filters for Image-quality applications. Contact: George Minott, Business Development, Commercial Applications, gminott@ barrassociates.com; Ali Smaikiewicz, President, ali@barrassociates.com.

### **BaySpec**, Inc.

SPIE Corporate

101 Hammond Ave, Fremont, CA, 94539 510/661-2008; fax 510/661-2009 sales@bayspec.com; www.bayspec.com

New Product: Our SafeInspec<sup>™</sup> Handheld Raman Analyzer shows high sensitivity and repeatability in a ruggedized form.

BaySpec, Inc., founded in 1999 with 100% manufacturing in the San Francisco Bay Area in the heart of the Silicon Valley, is a vertically integrated spectral sensing company. We design, manufacture and market advanced spectral sensing instruments for the homeland defense, pharmaceuticals, biomedical, test and measurement, fiber sensing, NIR spectroscopy, and optical telecom industries. Contact: Tracy Daniel, tdaniel@bayspec.com.

### **Bid-Service LLC**

225 Willowbrook Rd, Freehold, NJ, 07728 732/863-9500; fax 732/863-1255

sales@bidservice.com; www.bidservice.com

Bid Service buys and sells high quality, refurbished equipment used in the scientific industry. We also offer added value, through system upgrades, and custom applications. All equipment is fully serviced by our in-house technical staff and is backed by our 30 day return policy and 90 day parts warranty. Free catalog is available upon request. Contact: Robert Murphy, Sales Manager, bobm@bidservice.com; Roger Shupe, General Manager, roger@bidservice.com.

#### **VICENTIAL PARTNER**

### **BioOptics World**

98 Spit Brook Rd, Nashua, NH, 03062 603/891-9231; fax 603/891-9290 katrinaf@pennwell.com; www.bioopticsworld.com

### **Bioptigen Inc.**

104 T.W. Alexander Dr Bldg 2, Durham, NC, 27709 919/314-5500; fax 919/314-5501 sdoct@bioptigen.com; www.bioptigen.com

### **Boston Electronics Corp.**

SPIE Corporate

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

#### **Boulder Nonlinear Systems, Inc.** #8415

Corporate Member

450 Courtney Way, Lafayette, CO, 80026 303/604-0077; fax 303/604-0066 sales@bnonlinear.com; www.bnonlinear.com

#### New Product: Spatial Light Modulator with PCI, DVI, and PCIe Drivers.

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, Sales, kelly@bnonlinear.com; Kipp Bauchert, Solutions Engineering, kipp@bnonlinear.com

### **Breault Research Organization**

#8922

### SPIE Corporate

6400 E Grant Rd Ste 350, Tucson, AZ, 85715 800/882-5085; fax 520/721-9630 info@breault.com: www.breault.com

#### New Product: BIO Toolkit<sup>™</sup> for ASAP<sup>®</sup> - A new optical software toolkit for creating human tissue phantoms and eye models.

BRO is an optical engineering firm of global reach and reputation. BRO's optical software products, including the industry-standard ASAP® 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: Michelle White, Software Sales Administrator, mwhite@breault.com; Michael Frate, Business Development Manager (Engineering), mfrate@breault.com.

### **Becker & Hickl GmbH**

#8914

Nahmitzer Damm 30, Berlin, Germany, 12277 49 30 787 5632; fax 49 30 787 5734 info@becker-hickl.com; www.becker-hickl.com

#8911

#8709

#8507

#8710

#8914

### Calmar Laser, Inc.

### #8529

www.crystech.com

SPIE Corporate Member

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

### New Product: High power low dispersion optical fiber amplifier for ultra short pulses.

Leading manufacturer of ultrafast fiber laser system for 14 years; pulse energy >10uJ, average power >10W. OEM seed femtosecond fiber lasers at 1.5 $\mu$ m/1 $\mu$ m/0.78 $\mu$ m, 10, 25, 40 and 100(s) GHz picosecond fiber laser, low dispersion high power EDFA/YDFA for short pulses, bit rate multiplier. Applications: biomedical imaging and multi photon microscopy, vision correctional surgery, defense, micro-machining, telecommunications, testing and measurement. Contact: Peter Hu, Director Sales and Marketing, peter.h@calmarlaser.com; Claire Chen, VP of Marketing, claire.c@calmarlaser.com.

### Cambridge Technology, Inc.

SPIE Corporate

#8913

25 Hartwell Ave, Lexington, MA, 02421 781/541-1600; fax 781/541-1601 scanners@cambridgetechnology.com; www.cambridgetechnology.com

### New Product: New high-stability galvos, controllers, application software packages, digital servos and scan heads.

Cambridge Technology, the world's leading supplier of galvanometer solutions for industry and laser microscopy such as confocal microscopes, OCT, multi-photon microscopy, LSOs, etc. Our patented galvanometer technology and servo driver architectures provide high-speed, smooth, linear, low-jitter, constant velocity line sweeps enabling clear, crisp, accurate images from your application making Cambridge Technology the choice supplier among leading microscope companies and research institutions. Contact: David Freihofer, Director, Sales & Marketing, davidf@camtech.com.

### **Canada Pavilion**

#8833

#8506

#8804

1200 Montreal Rd M-50, Ottawa, ON, Canada, K1A 0R6 613/991-2060; fax 613/993-7250 sadiq.hasnain@nrc-cnrc.gc.ca

### **Carl Zeiss Microlmaging, Inc.**

One Zeiss Dr, Thornwood, NY, 10594 800/233-2343; fax 914/681-7445 micro@zeiss.com; www.zeiss.com/micro

Carl Zeiss offers a broad range of research microscopes, digital cameras and image analysis software. Carl Zeiss is also an excellent resource as an OEM/VAR Partner, whether for individual components or complete systems. Contact: Becky Hohman, Product Manager, bhohman@zeiss.com

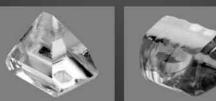
### **CeramOptec Industries, Inc.**

SPIE Corporate Member

515 Shaker Rd, East Longmeadow, MA, 01028 413/525-0600; fax 413/525-0611

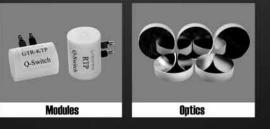
salesengineering@ceramoptec.com; www.ceramoptec.com Leader in the production of specialty optical fiber, assemblies, bundles, fused end bundles, vacuum products and capillary tubing. CeramOptec produces all silica fibers for use from 190nm-2500nm with NA's from 0.06 to 0.53; PCS, hard polymer clad silica, silver halide and capillary tubing. Custom bundles and assemblies for use from the deep UV to the Mid IR. Replacement bundles and assemblies for most spectrometer and UV curing systems. Quality from preform manufacture to finished product. Contact: Kevin Bakhshpour, Sales Director, kevinb@ceramoptec. com; Cheryl Provost, Industrial Scientific Sales Engineer, cheryl.provost@ ceramoptec.com.





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### Changchun New Industries OptoelectronicsTech. Co., Ltd.

#8012

#8516

#8527

No 668 Chuangxin Rd, High-tech Zone, Changchun Jilin, China, 130012

86 431 85603799; fax 86 431 431 87020258 sales@cnilaser.com; www.cnilaser.com

Changchun New Industries, founded in 1996, is a specialist designer and manufacturer of high quality solid-state and diode laser sources. The factory is located in High-Tech Zone of Changchun City and covers 12000 square meters of engineering laboratories and workshops. With strong research team, CNI has the ability to offer standard and customized lasers for the clients. They are widely being used in all fields, such as industrial integrated systems, medical science and so on. Contact: Lu Wang, Sales Manager, amer@cnilaser.com; Ava Zheng, Salesman, sales@cnilaser.com.

### **Chroma Technology Corp**

SPIE Corporate

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

Chroma Technology Corp. is an employee-owned company that specializes in the design and manufacture of precision optical filters and coatings. Our filters have been developed for myriad applications from 220-2600nm. For each of these applications we provide the greatest accuracy in color separation, optical quality and signal purity. We provide application engineering support, short cycle times and are as comfortable designing and manufacturing custom filters as we are our catalog items. Contact: Mark Kfoury, OEM Sales, mkfoury@chroma.com; Kelly Stockwell, OEM Sales Engineer, kstockwell@chroma.com.

### **Coastal Connections**

2368 Eastman Ave Ste 11, Ventura, CA, 93003 805/644-5051; fax 805/653-5110 sales@coastal.con.com: www.coastal.con.com

### New Product: Fiber Probes engineered and built with PM, SM and MM fibers including filters on individual fibers.

Coastal Connections is the leading provider of engineered fiber optic cables and terminations in the USA specializing in short wavelengths (400-1310nm) and custom solutions for all environments including fibers for arterial catheters. Offering fiber and ferrule polishing at any angle along with SM, PM, MM and high power cables for the biomedical industry. Contact our experienced staff to discuss your unique requirements. www.coastalcon.com. 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; fax 46 8 545 912 31 info@cobolt.se; www.cobolt.se

### **Coherent Inc.**

SPIE Corporate Member

5100 Patrick Henry Dr, Santa Clara, CA, 95054 408/764-4000; fax 408/764-4646

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, excimer, ion, tunable-dye, YAG, YLF, and ultrafast lasers. Contact: Robert Bohorquez, Advanced Technical Sales, Tech.Sales@coherent.com, Idexei Markevitch, Advanced Technical Sales, Tech.Sales@coherent.com.

### **Control Development, Inc.**

2633 Foundation Dr, South Bend, IN, 46628 574/288-7338; fax 574/288-7339 sales@controldevelopment.com; www.controldevelopment.com

### New Product: CDI's spectrophotometer's patented referencing scheme makes it easy to use and maintain calibration.

Control Development, Inc. is a manufacturer of compact, rugged, high performance spectrometers. Products cover the spectral range from UV to NIR. Broad choice of silicon and InGaAs detector based spectrometers provide several price performance points for end users. Spec32 application software, LabView VIs, Actixe X control and DLLs are free with every spectrometer. Dedicated systems for Raman spectroscopy and on-line process control feature patented self referencing and calibration schemes. Contact: Promit Das, Vice President, das@controldevelopment. com; Jane Hoffman, Office Manager, janeh@controldevelopment.com.

### The Cooke Corp.

SPIE Corporate Member

6930 Metroplex Dr, Romulus, Ml, 48174 248/276-8820; fax 248/276-8825 info@cookecorp.com; www.cookecorp.com

New Product: pco.edge sCMOS camera, 5.5 megapixels, low readout noise, high frame rates and high image dynamics.

Cooke provides scientific high-performance (12-16 bit), high-speed (>55fps) CCD, ICCD, emCCD, and CMOS cameras. Model pco.edge camera system, based on the new scientific CMOS. sCMOS technology simultaneously offers extremely low noise, high QE, rapid frame rates, high resolution, wide dynamic range and large FOV. Suited for ion imaging and single molecule detection in studies of live processes using Calcium imaging, time lapse microscopy, FRET/FRAP, TIRF and chemi- and bio-luminescence techniques. Contact: Murad Karmali, VP Sales, murad. karmali@cookecorp.com; Steve Daicos, President, steved@cookecorp.com.

### **CrystaLaser**

#8505

#8528

#8503

#8931

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

### **CVI Melles Griot**

SPIE Corporate Member

200 Dorado PI SE, Albuquerque, NM, 87123 505/296-9541; fax 505/298-9908 optics@cvimellesgriot.com; www.cvimellesgriot.com

CVI Melles Griot is excited to be your photonic technology partner! Visit us at booth #8528. Learn how our new lasers can help you deliver faster, better results – cost effectively. See our new customizable, high precision line of IR optics available in a wide variety of IR materials. Pick up our new All Things Photonic - The Technical Guide to help solve your optical engineering problems. Visit us at www.cvimellesgriot.com and learn how to make your project a success!

### DenseLight Semiconductors Pte Ltd. #8802

6 Changi North St 2, Singapore, Singapore, S498831 65 6415 4488; fax 65 6415 4468 info@denselight.com; www.denselight.com

New Product: Superluminescent light emitting diodes; Ultra narrow linewidth single frequency laser.

DenseLight is a leading developer and manufacturer of InP and GaAs based optoelectronics devices and photonic solutions for photonicssensing (fiberoptic, industrial monitoring, environmental, chemical, homeland-security), biomedical imaging, telecom/datacom transmission and tests. Current products: Superluminescent LEDs, ELEDs, Ultra narrow linewidth single-frequency laser modules. Contact: Hong Teng Wong, Vice President Sales and Marketing, htwong@denselight.com.

32

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#8434

### **DiCon Fiberoptics, Inc.**

SPIE Corporate

1689 Regatta Blvd, Richmond, CA, 94804 510/620-5000; fax 510/620-4100 sales@diconfiber.com; www.diconfiber.com

### New Product: 1 $\times$ N optical switches in visible and NIR wavelength ranges for cost-effective solutions.

With 23 years of experience, Dicon Fiberoptics designs and manufactures fiber optic components and LED products for biomedical and microscopy applications. Our compact, durable and extremely reliable MEMS optical switches and VOA products are ideal for biomedical applications such as OCT and laser scanning confocal microscopy. Dicon LED's microscope illuminators and custom OEM LED arrays provide specific wavelength spectra for biomedical and illumination applications. Contact: Brian Chiang, Director Sales, bic@diconfiberoptics.com; Sales, sales@ diconfiberoptics.com.

### Edinburgh Instruments Ltd.

#8706

#8834

2 Bain Sq, Kirkton Campus, Livingston, United Kingdom, EH54 7DQ 44 1506 425 300; fax 44 1506 425 320 sales@edinst.com; www.edinst.com

### New Product: Picosecond Pulsed Diode Lasers and LEDs. No driver required. Compact. Wavelength range of 265-805nm.

World-Leader of advanced, research-grade, modular fluorescence spectrometers and infrared gas lasers, Edinburgh Instruments has been custom manufacturing for 39 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: Nicholas Leeson, Sales Engineer, nicholas.leeson@edinst.com; Robbie Thomas, Sales and Marketing Manager, robbie.thomas@edinst.com.

### **Edmund Optics**

SPIE Corporate Member

101 E Gloucester Pike, Barrington, NJ, 08007-1380 856/547-3488; fax 856/573-6233 sales@edmundoptics.com; www.edmundoptics.com

#### New Product: Edmund Optics Bandpass, Edge, and Rugate Notch Filters for biotech 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: Allan Kreutzer, VP of Global Sales, sales@edmundoptics.com; Marisa Edmund, VP of Marketing and Communications, sales@edmundoptics.com.

### #8735 Electro Optical Components Inc.

#### SPIE Corporate Member

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

### New Product: Inno-spec compact spectometers; Micro-Hybrid pyroelectric detectors; FEMTO low noise amplifiers.

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>); interference filters (IR to UV); E-O modulators; beam shapers and many other key E-O components. Contact: Sales, info@eoc-inc.com.

### EM4, Inc.

SPIE Corporate Member

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

EM4, the premiere US manufacturer of high reliability, hermetically packaged, fiber pigtailed and free space optoelectronic components and subsystems for harsh environments: terrestrial, marine and aerospace. Featured products include 100 mW DFB lasers (C and L band, 5 GHz direct mod); 10W multimode pump lasers (780nm-980nm); 800mW SM pump lasers (915nm-1064nm); <10 ns rise/fall time Acousto-Optic Modulators (530nm, 1060nm and 1550nm); 20 GHz detectors; high power fiber coupled isolators. Contact: Basil Garabet, CEO, bgarabet@em4inc. com; Winn Gatewood, CSR, wgatewood@em4inc.com.

### Energetiq Technology, Inc.

7 Constitution Way, Woburn, MA, 01801 781/939-0763; fax 781/939-0769 www.energetiq.com

### EXALOS AG

SPIE Corporate Member

Wagistr 21, Schlieren, Switzerland, CH-8952 41 43 444 60 90; fax 41 43 444 60 99 sales@exalos.com; www.exalos.com

### New Product: Superluminescent Light Emitting Diodes (SLEDs).

EXALOS AG, an ISO 9001:2000 certified company, is the world-leading company in broadband light sources based on Superluminescence, covering the visible and near-infrared wavelength range. Superluminescent Light Emitting Diodes (SLEDs) are used in various fields

of applications and have distinct characteristics compared to laser diodes or LEDs. The Company has its headquarters in Switzerland. Contact: Gene Covell, Vice President Sales, covell@exalos.com; Uwe Achatz, Vice President Strategic Marketing, achatz@exalos.com.

### EXFO Life Sciences & Industrial Division #8808

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

### FemtoLasers, Inc.

SPIE Compare One Mifflin Place, 119 Mount Auburn St Ste 400, Cambridge, MA, 02138 971/456-9920; fax 971/456-9922

infofli@femtolasers.com; www.femtolasers.com New Product: FEMTOPOWER™ V - ultrafast 2-stage Ti:Sa mJ

### amplifier system including 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<sup>™</sup> 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: Andreas Isemann, President, infofili@femtolasers.com.

### **Fianium Inc.**

SPIE Corporate Member **#8423** 

#8501

#8526

#8907

858 W Park St, Eugene, OR, 97401 541/343-6767; fax 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 significant improvements in performance of imaging instruments, including confocal and STED microscopes, FLIM and flow-cytometry systems. Based on compact, maintenance free ultrafast fiber lasers, the supercontinuum systems offer a versatile laser source for many bio-medical applications. Contact: Ted Naugler, Sales Manager, ted.naugler@ fianium.com.

### ★ GENERAL REFRESHMENT SPONSOR Fiberguide Industries, Inc.

SPIE Corporate Member

1 Bay St, Stirling, NJ, 07980-1529 908/647-6601; fax 908/647-8464 info@fiberguide.com; www.fiberguide.com

### New Product: Solarization Resistant Fibers from Fiberguide Industries.

Manufacturer of multimode, single mode and graded index optical fibers from the UV-IR. Design and engineer assemblies with widest range of custom and standard endfittings/connectors, outer jackets to tailor a product to technical and economic requisites; high density 2D arrays, V-Groove arrays designed for optical switches, WDM/DWDM and arrayed active devices; reflection/backscattering probes for measuring specular or diffuse reflection from a surface FDA registered as Contract Manufacturer. Contact: Patrick Fung, Western Regional Sales Manager, pfung@fiberguide.com; Gary Churchill, Eastern Regional Sales Manager, gchurchill@fiberguide.com.

### **Fibertech Optica**

SPIE Corporate Member

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

Designer and manufacturer of high power laser cables, patchcords, pigtails, spot-to-line converters, bundles and reflectance probes, vacuum feedthrough, linear and spaced v-groove arrays. Spectral bands coverage from deep UV to MIR. Manufacturer of specialty multimode all-silica, HCS, PCS, Hard Clad all-silica fibers. Surgical laser fibers for KTP and Nd:YAG plus side-fire fibers available! Contact: Jeff Dupuis, Sales & Marketing Manager, jeffdup@fto.ca; info@fto.ca.

### **Fibertronix AB**

Håstaholmen 4, Hudiksvall, Sweden, SE-824 12 46 650 55 6607; fax 46 650 18 002 sales@fibertronix.com; www.fibertronix.com

### New Product: Fibertronix launches range of specialty fibers for medical application 80µm SM and MM, at BIOS show.

Fibertronix AB develops and manufactures specialty optical fibers and fiber based solutions, targeting applications primarily in the medical, military, fiber sensors, high power lasers and avionics industry. Our products: Polyimide, high temp acrylate and hermetic coated, pure core, high NA, large core, radiation hard, rare-earth doped, micro-structured custom fibers and preforms. Contact: Saeed Rehman, VP, saeed@ fibertronix.com.

### Foreal Spectrum, Inc.

#8624

#8807

SPIE Corporate Member

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

New Product: High power, high brightness LED illuminators that directly replace conventional light sources.

Foreal is a supplier of optical coatings, optical modules, and LEDillumination 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 illuminators, and Stereo and Mini-projectors are designed for optimum brightness/cost/compactness, leveraging our optics design and manufacturing expertise. Contact: Claire Nippress, Director Sales & Marketing, clairen@forealspectrum.com, sales@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

### New Product: FLC presents high power 3W line laser diode modules for industrial applications.

FLC supplies CW single mode, DFB, DBR and broad area laser diodes and Quantum Cascade Lasers (370nm to 1µm with 1mW-15W), pulse IR laser diodes, superluminescent diodes in 650nm - 2300nm wavelength 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, green, yellow and blue DPSS lasers, laser diode collimating and focusing optic, mid-IR 1.7µm-4.3µm LED. Contact: Dr. Vsevolod Mazo, Sales Director, dr.v.mazo@frlaserco.com; Sabine Ruettinger-Besemer, Sales Assistant, sabine.ruettinger-besemer@ frlaserco.com.

### Fresnel Technologies Inc.

**#8400** 

SPIE Corporate

101 W Morningside Dr, Fort Worth, TX, 76126 817/926-7474; fax 817/926-7146 info@fresneltech.com; www.fresneltech.com

Manufactures molded plastics, Fresnel lenses, and related optical components, as well as IR-transmitting materials and optics made from them. Specialities include lens arrays for passive infrared applications, diffusers and microlens arrays for illumination, and optics for environmental monitoring at 3.4 micrometers. Services now include in-house coatings and metrology. Design assistance, diamond machining, and complete tooling for prototyping to production also available. Contact: Nelson E. Claytor, Ph.D., President, nclaytor@fresneltech. com; Richard N. Claytor, Ph.D., Founder and Member of Technical Staff, rclaytor@fresneltech.com.

### #8937

#### General Photonics Corp. #8610

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

#### New Product: High speed polarizationstabilized wavelength swept laser. Available as instrument or OEM module.

General Photonics is the industry leader in polarization management and delay/timing control. Its OCT division applies that expertise to develop standard and custom components, modules, and test and measurement instruments for optical coherence tomography and other medical imaging applications. Products include wavelength-swept lasers, optical probes, polarization controllers, automatic polarization tracking modules, variable delay lines, and OCT grade passive components. Contact: Ben Chen, OCT Division Manager, bchen@ generalphotonics.com; Febian Bahari, Sales, fbahari@generalphotonics.com.

#### **Genia Photonics**

#### #8833

1111 Lapierre St, Montréal, QC, Canada, H8N 2J4 514/364-0162; fax 514/759-3763 info@geniaphotonics.com; www.geniaphotonics.com

#### New Product: Innovative Fiber Laser Technology offering a new Synchronised Programmable Laser and Medical Probe.

Genia Photonics is at the forefront of a new wave of medical and biotechnology laser applications. 5 product lines: Programmable Lasers, Synchronized Programmable Lasers, MOPAs, Frequency-Doubled Programmable Lasers, and Medical Probes. Patented technology based upon an innovative picosecond pulsed fiber laser design. All-In-One: Control of Wavelength, Power, and Pulse Timing. Electronically controlled and Fully Programmable no moving parts. Potential for Imaging, Diagnostic and Treatment. Contact: Joseph Salhany, VP, R&D and Product Management, joseph.salhany@ geniaphotonics.com; Alain Villeneuve, CTO, alain. villeneuve@geniaphotonics.com.

#### **Gooch & Housego**

#### formerly ChromoDynamics Inc. #8608

4632 36th St, Orlando, FL, 32811 407/422-3171; fax 407/648-5412 info@olinet.com;

www.goochandhousego.com

#### New Product: HSi-400.

Gooch & Housego (formerly ChromoDynamics, Inc.) brings state-of-the-art optical imaging techniques to today's medical challenges. The company supplies revolutionary spectral imaging tools based on acousto-optics to critical application areas, such as biological and medical research. Contact: Alexandre Fong, Sr. Vice President, afong@olinet.com.



#### **Goodrich ISR Systems**

SPIE Corporate Member

3490 US Rte 1 - Bldg 12, Princeton, NJ, 08540-5914 609/520-0610; fax 609/520-0638 sui\_info@goodrich.com; www.sensorsinc.com

## New Product: Goodrich ISR Systems' SWIR Linescan Cameras Ideal for Optical Coherence Tomography.

Goodrich ISR Systems, formerly Sensors Unlimited, Inc. (www.sensorsinc. com) manufactures a complete line of shortwave infrared (SWIR) imaging and detection products for defense, industrial and medical applications. Our extensive selection of InGaAs-based cameras include fast framing and high resolution shortwave infrared models, SWIR linescan imagers, focal plane arrays and more. Our imaging products feature CameraLink outputs, standard lens mounts and require no cooling. Contact: Robert Struthers, Director, Sales & Marketing, Robert.Struthers@goodrich.com; Karen Jeffers, Marketing Communications Specialist, Karen.Jeffers@goodrich.com.

#### **Grintech GmbH**

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 medical imaging, fiber optics, sensor technology, telecommunication and laser diode beam shaping. Contact: Anke

Kraeplin, info@grintech.de; Herbert Stuermer, info@grintech.de.

#### Hamamatsu Corp.

SPIE Corporate

360 Foothill Rd, Bridgewater, NJ, 08807-2932 908/231-0960; fax 908/231-1539 sales@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, CCD cameras, and light sources. Hamamatsu Photonics also offers specialized systems for semiconductor inspection, NDT, and drug discovery and other biomedical applications. Contact: Gus Asencios, gasencios@hamamatsu.com.

#### **Headwall Photonics**

SPIE Corporate

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

## New Product: High Efficiency Hyperspec SWIR imaging spectrometer covering spectral range of 900-2500nm.

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 & 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, Inc.

SPIE Corporate

#8906

#8508

#8713

#8628

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

#### New Product: MCS Flex Spectrometer modules-small, light weight for a variety of applications.

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/PGS Miniature Spectrometer modules covering 190-2200nm in combination (16 bit S/N); Tec5 Interface electronics for display/readout of PDAs and CCDs. Custom designs of all products. Contact: Dan Fields, dfields@hellmausa.com; Eugene Friedmann, efriedmann@hellmausa.com.

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

SPIE Corporate Member

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

High Q Laser is a leading manufacturer of ultrafast all-diode-pumped, pico- and femtosecond oscillators and regenerative amplifiers. All lasers are based on direct diode-pumping and semiconductor saturable absorber mirror (SESAM) modelocking. High Q Laser systems are compact and modular. Sealed-off technology guarantees long lifetime and reliability. In addition High Q Laser (US) offers APE products for ultrafast pulse diagnostic, management and wavelength conversion (e.g. OPO for CARS & SRS). Contact: Alex Lang, Sales and Technical Support Manager, alex.lang@highq-us.com.

#### **High Tech Photonics**

#8905

#8700

23 Alafaya Woods Blvd, Oviedo, FL, 32765 800/335-5582; fax 888/335-5587 jim@jtingram.com; www.ht-photonics.com

## New Product: Fiber Optics UV VIS NIR MIDIR accessories couplers focus heads collimators light sources detectors.

Fiber Optic components for use in the UV VIS NIR and MIDIR. Fiber optic accessories including couplers, focus heads, collimators, fiber coupled light sources in the UV VIS NIR MIDIR. Fiber optic probes for spectroscopy and sensors fiber coupled detectors in the UV VIS NIR. Contact: Jim Ingram, Jim@jtingram.com.

#### id Quantique SA

Chemin de la Marbrerie 3, Carouge Geneva, Switzerland, 1227 41 22 301 83 71; fax 41 22 301 83 79 sales@idquantique.com; www.idquantique.com

#### Imagine Eyes

18 rue Charles de Gaulle, Orsay, France, 91400 33 1 64 86 15 66

Ivabre@imagine-eyes.com; www.imagine-eyes.com Imagine Eyes applies its unique expertise in wavefront metrology and adaptive optics to focus on researchers' needs for precision ophthalmic diagnostic instruments and components. Key products: mirao 52-e Electromagnetic Deformable Mirror, HASO 32-eye wavefront sensor, and CASAO Adaptive Optics software. Contact: Laurent Vabre, Sales & Applications Manager, Ivabre@imagine-eyes.com.

#### #8817

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#8734

## Business Development Manager, pierre.talbot@ino.ca.

#### InPhenix Inc.

#### 250 N Mines Rd, Livermore, CA, 94551 925/606-8809: fax 925/606-8810

InPhenix Corporation is a leading developer and manufacturer of Indium-Phosphide (InP) and Gallium Arsenide (GaAs) based active optoelectronic chips, devices and modules for the telecom, datacom, defense, biomedical and industrial markets. InPhenix's products include Semiconductor Optical Amplifiers (SOAs), Superluminescent Light Emitting Diodes (SLEDs), Fabry-Perot Lasers and Photodetectors. Contact: Ken Chang, Sales Manager, kchang@inphenix.com; Steve Vitkovsky, Sales Manager, svitkovsky@inphenix.com.

Dirac House Temple Back, Bristol, United Kingdom, BSI 6BE 44 (0) 117 929 7481; fax 44 (0) 117 930 1178

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

1200 Montreal Rd Bldg M50, Ottawa, ON, Canada, K1A 0R6 613/741-4513; fax 613/741-9986

The leader in optical filter solutions, Iridian Spectral Technologies designs and manufactures optical filters with the best transmittance, deepest blocking, and steepest edges available, to provide more signal with less background. Our filters address needs in applications including fluorescence microscopy, Raman spectroscopy, and flow cytometry among others. We specialize in customizing optical filter solutions to meet your needs but also offer commonly used standard filters. Contact: Jason Palidwar, Sales Engineer, jason.palidwar@iridian.ca; sales@iridian.ca.

### **IRphotonics**

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

#### New Product: The iCure AS200 is an inline thermal spot curing system delivering faster and stronger cures.

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. For more information, visit www.irphotonics.com Contact: Ruben Burga, VP Sales, rburga@irphotonics.com; Antoine Kasprzak, Director of Business Development, akasprzak@irphotonics.com.

## Imagine Optic

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

New Product: MICAO: The first universal plug and play adaptive optics system for biological microscope.

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 in domains including pure science, life sciences, industrial quality control, space and defense and semiconductors. Contact: Jerome Ballesta, US Sales Manager, jballesta@ imagine-optic.com; Samuel Bucourt, President & CEO, sbucourt@ imagine-optic.com.

#### IMM Photonics GmbH

Ohmstr 4, Unterschleissheim, Germany, 85716 49 89 3214120; fax 49 89 32141211

sales@imm-photonics.de; www.imm-photonics.de IMM Photonics GmbH - Competence in Laser Technology, Optoelectronic and Fiberoptic - is one of the leading supplier with own development and production department. Products: Laser Diodes, Laser Diode Modules, Laser Diode Collimators, Solid-State Laser DPSS, Special LED's Filter, LED Point-light Collimators, Driver-IC's, Aspherical Precision Glasoptics, LED optics, Video Inspector for fiber optic connectors, Laser Power Meter, Fibertester FIBERPOINT<sup>®</sup>, Adapter for FIBERPOINT<sup>®</sup> Fiber Optic Components. Contact: Sales, sales@imm-photonics.de.

#### **IMRA America, Inc.**

SPIE Corporate

1044 Woodridge Ave, Ann Arbor, MI, 48105-9774 734/930-2560; fax 734/930-9957 lasers@imra.com: www.imra.com

IMRA America, Inc. is a globally active company dedicated to the leading edge in ultrashort pulse fiber laser technology for commercial and research applications. IMRA's turn-key fiber lasers combine state-of-the-art design with ultracompact packaging, high stability, and maintenance-free operation. They are designed for use in material research and processing, surface texturing, spectroscopy, and bio-medical diagnostics and surgery. Contact: IMRA Lasers, Sales and Marketing, lasers@imra.com.

#### Innolume GmbH

Konrad-Adenauer-Allee 11, Dortmund, Germany, 44263 49 231 47730 200; fax 49 231 47730 250 info@innolume.com; www.innolume.com

## Innovative Photonic Solutions

SPIE Corporate

4260 US Rte 1 Ste 3, Monmouth Junction, NJ, 08852 732/355-9301; fax 732/355-9300 srudder@innovativephotonics.com; www.innovativephotonics.com

#### New Product: IPS's M-Type laser modules enable development in the lab and easy transition into OEM systems.

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 630 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; John Connolly, President & CEO, jconnolly@innovativephotonics.com.

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#### INO #8734

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2740 rue Einstein, Sainte Foy, QC, Canada, G1P 4S4 418/657-7006: fax 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,

sales@inphenix.com; www.inphenix.com

**IOP Publishing** 

info@optics.org; www.optics.org

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: Fiona Walker, Exhibitions Manager, fiona.walker@iop.org.

Iridian Spectral Technologies

www.iridian.ca

#8732

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#### ISS, Inc.

1602 Newton Dr, Champaign, IL, 61822 217/359-8681; fax 217/359-7879 iss@iss.com; www.iss.com

#### JDSU

SPIE Corporate

430 N McCarthy Blvd, Milpitas, CA, 95035 408/546-5000; fax 408/546-4300 info@jdsu.com; www.jdsu.com

JDSU is one of the world's largest independent producers of optical thin film filters, coatings and components. JDSU Custom Optics Product Group (originated as the Optical Coating Laboratory, Inc - OCLI in 1948) continues to advance optical coating innovation. We have a diverse portfolio, including standard and custom ultraviolet (UV), visual, and infrared (IR) filters as well as custom polarization components, serving the most demanding needs of the biomedical instrumentation market. Contact: Chris Vomvolakis, Marketing Manager, chris.vomvolakis@jdsu.com.

#### **JenLab GmbH**

**#8428** 

#8736

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#8905

#8933

#8401

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

#### JENOPTIK Laser, Optik, Systeme GmbH -Business Unit Microoptics

Göschwitzer Str 25, Jena, Germany, 07745 49 3641 65 8478; fax 49 3641 65 2443

microoptics@jenoptik.com; www.jenoptik-los.com

JENOPTIK Microoptics Business Unit develops and manufactures customized assemblies and optical modules for a variety of applications in industry, semiconductor fabrication, ophthalmology and the security and defense sector. Flexibility of design, manufacturing know-how and a special base of in-house technologies are the assets to providing high performance optical components. Contact: microoptics@jenoptik.com.

#### **JENOPTIK Laserdiode GmbH**

Goeschwitzer Str 29, Jena, Germany, 07745 49 3641 65 4300; fax 49 3641 65 4392 jold@jenoptik.com; www.jold.com

New Product: Diode laser modules and stacks for medical applications.

JENOPTIK Laserdiode GmbH is one of the worldwide leading providers of high-end diode lasers for industrial use in medical applications. Since 1993 the company has been developing and manufacturing high-power diode lasers that have been setting new standards in technology. Jenoptik has control over the entire technology chain for diode lasers ranging from epitaxial layer structures, laser bars, diode laser packages, vertical and horizontal stacks, fiber-coupled and high-brightness diode lasers. Contact: Dr. Detlev Wolff, Manager Sales & Marketing, detlev. wolff@jenoptik.com; Thomas Wittschirk, Regional Sales Manager, thomas. wittschirk@jenoptik.com.

#### JT Ingram Sales and Marketing

23 Alafaya Woods Blvd, Oviedo, FL, 32765 800/335-5582

jim@jtingram.com; www.jtingram.com

## New Product: Fiber Optics UV VIS NIR MIDIR accessories couplers focus heads collimators light sources detectors.

Fiber Optic components for use in the UV VIS NIR and MIDIR. Fiber optic accessories including couplers, focus heads, collimators, fiber coupled light sources in the UV VIS NIR MIDIR. Fiber optic probes for spectroscopy and sensors fiber coupled detectors in the UV VIS NIR. Contact: Jim Ingram, Jim@jtingram.com.

#### Kaiser Optical Systems, Inc.

371 Parkland Plaza, Ann Arbor, Ml, 48103 734/665-8083; fax 734/665-8199 sales@kosi.com; www.kosi.com

## New Product: Kaiser is a leader in the design and production of Raman analyzers and components for spectroscopy.

Raman analyzer installation locations include R&D, Pilot plant, manufacturing, and QA/QC. Pharmaceutical PAT applications include reaction monitoring, API production, polymorphic form quantitation, drug product unit operations, and end product testing. Other Applications areas for RamanRxn Systems analyzers include biotech, semiconductors, nanotechnology, petrochemical, polymers, and specialty chemical. Contact: lan Lewis, Marketing Manager, lewis@kosi.com.

#### Kapteyn-Murnane Labs. Inc.

#8008

#8830

SPIE Corporate Member

1855 S 57th Ct, Boulder, CO, 80301 303/544-9068; fax 303/821-2284 sales@kmlabs.com; www.kmlabs.com

New Product: Swift: new, robust, sealed-box, Ti:sapphire oscillator with computerized tuning, <12fs, >3nJ pulses.

Versatile, robust research tools: reliable high peak/average power amplifier systems and cost-effective turnkey oscillators. Dragon/ RedDragon multipass amplifiers produce 1-20kHz, <25-100fs pulses at up to 10W in one stage and up to 50W or 20mJ in two stages. Our highpower CEP and Extreme UV systems are proven in leading international research facilities. Wyvern regenerative amplifiers are elegant single-box turnkey moderate and high-power systems. Contact sales@kmlabs.com, 303.544.9068. Contact: Jackie Inskeep, New Business Manager, sales@ kmlabs.com; Iain McKinnie, CEO, imcKinnie@kmlabs.com.

#### KLASTECH - Karpushko Laser Technologies GmbH

#8403

#8412

SPIE Corporate

Konrad-Adenauer-Allee 11, Dortmund, Germany, 44263 49 231 47730 640; fax 49 231 47730 630 info@klastech.de; www.klastech.de

## New Product: The Verve: the world's smallest 100mW CW 266nm DPSS laser. SLM, air cooled and sealed for life.

KLASTECH specializes in the manufacture of an entirely new and completely revolutionary range of CW Diode Pumped Solid State (DPSS) lasers. Powered by our patented iMAT technology our lasers are available at 1064nm, 693.4nm, 532nm, 488nm and 266nm. Our technology inherently delivers lasers that produce Pitch Perfect, 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 Madin, CSO, c.madin@ klastech.de; Nicole Steinkretzer, Sales and Marketing Coordinator, n.steinkretzer@klastech.de.

#### Kohoku Kogyo Co., Ltd. (Japan)

1623 Takatsuki, Takatsuki-Cho Ika-Gun, Shiga, Japan, 529-0241 81 749 85 6260; fax 81 749 85 3215

sales@kohokuamerica.com; www.kohokukogyo.co.jp

## New Product: multihole hole ferrules, hermetically sealed fiber feedthrough.

Kohoku Kogyo developed unique capilary molding process to make multi hole ferrules. Based on this technology, Kohoku makes in Japan and China single and multichannel pigtails, fiber arrays, hermetically sealed fiber arrays and feedthrough, hermetically sealed PM fiber arrays, multihole ferrules from silca, zirconia and alumina. Kohoku has sales offices in Japan and US (Kohoku America). Contact: Boris Reichman, President Kohoku America Inc., breichman@kohokuamerica.com; Boris Reichman, breichman@kohokuamerica.com.

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#### Laser Quantum Ltd.

**#8404** 

Emery Court Vale Rd, Stockport Cheshire, United Kingdom, SK4 3 GL 44 161 975 5300; fax 44 161 975 5309 info@laserquantum.com; www.laserquantum.com

#### **Laser Safety Industries**

**#8827** 

6311 Cambridge St, Minneapolis, MN, 55416 952/405-6947; fax 952/405-6949 info@lasersafetyindustries.com; www.lasersafetyindustries.com

#### **Laservision USA**

#8430

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595 Phalen Blvd, Saint Paul, MN, 55130 800/393-5565; fax 651/357-1830 info@lasersafety.com; www.lasersafety.com

Laservision is the market wide leader in laser safety. Products are distributed across the globe to customers in medicine, industry, research, and manufactures. There is a wide range of products including, laser safety goggles, glasses and face shields, windows, barriers, signs, training, and accessories. Contact: Rich Greene, Sales Director, r.greene@ lasersafety.com; Huyen Vu, Sales and Marketing Director, h.vu@ lasersafety.com.

## Light Age, Inc.

#8925

#8629

#8416

500 Apgar Dr, Somerset, NJ, 08873 732/563-0600; fax 732/563-1571 www.lightage.com

Light Age, Inc. develops, manufactures and markets solid-state laser systems for aesthetic procedures and medical device research and development. Standard laser products, FDA approved, include new ultra compact Q-Clear<sup>™</sup> for treatment of age spots, pigmented lesions and tattoos, the Epicore<sup>™</sup> for hair removal, and Ta2Eraser<sup>™</sup> for tattoo removal. Jackie Carpenter, jccarpenter@lightage.com; Ado Umezawa, Vice President of Business Development, aumezawa@lightage.com

#### **Lighthouse Photonics**

520 E Weddel Dr Ste 14, Sunnyvale, CA, 94089 408/752-0740 www.lighthousephotonics.com

New Product: Sprout is a breakthrough in low-noise performance for high-power CW green DPSS lasers.

Innovative DPSS lasers for research, life sciences and industry. Sprout is a breakthrough in low-noise performance for high-power CW green DPSS lasers. Up to 10W at 532nm in a near-perfect TEMoo mode with incredibly low noise and impressive power stability. Sprout is designed for applications such as pumping Ti:Sapphire lasers: femtosecond, picosecond and CW. Sprout is a unique blend of performance and value. Visit our booth and see Sprout running. Contact: John MacKay, CEO, ism@liahthousephotonics.com.

#### LIMO Lissotschenko Mikrooptik GmbH

Bookenburgweg 4, Dortmund, Germany, 44319 49 231 222 41 0; fax 49 231 222 41 140 kontakt@limo.de; www.limo.de

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#### **Lockheed Martin Aculight**

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22121 20th Ave SE, Bothell, WA, 98021 425/482-1100; fax 425/482-1101 info.dp-ms2-bothell@Imco.com; www.aculight.com

Lockheed Martin Aculight designs, develops and manufactures lasers and laser-based systems for medical research and OEM apps operating from ultraviolet to mid-infrared. Our technologies address unique operating parameters and wavelengths for Otolaryngology, Neurology, Opthalmology and general surgical apps. The latest med research device is an infrared nerve stimulator that provides higher resolution, non-contact and artifact-free nerve stimulation for research apps that is unachievable with electrical methods. Contact: Mark Bendett, Research Science Senior Manager, mark.bendett@Imco.com.

#### Lumencor, Inc.

#### #8512

#8413

#8625

#8816

15250 NW Greenbrier Parkway, Beaverton, OR, 97006 503/530-1008; fax 503/536-6741 info@lumencor.com; www.lumencor.com

## New Product: Powerful, solid state light engines are illumination subsystems for bioanalytical instruments.

Lumencor manufactures light engines and offers optics expertise to provide high performance illumination for a broad range of bioanalytical instruments including fluorescence microscopes. Solid state sources yield power comparable to that of an arc lamp in discrete bands throughout the UV-Vis-NIR. Intense, pure, stable, durable, switchable light is produced from a compact, axially aligned unit for end users and OEMs. Complete optical systems for quantitative analysis are now available. Contact: Claudia Jaffe, V.P. Business Development, claudia.jaffe@lumencor.com.

#### **Lumics Lasers**

Carl-Scheele-Str 16, Berlin, Germany, 12489 49 30 6780676 0 infoDE1@lumics.com: www.lumics.com

infoDE1@lumics.com; www.lumics.com

## New Product: Up to Seven Wavelengths in One Laser for Medical Use.

Lumics GmbH in Berlin produces laser diodes (single and multimode) and systems based on single emitter, direct diode technology; manufactured under ISO 9000 conditions. We like your ideas. Contact: Mathias Milstrey, Sales Manager, mathias.milstrey@lumics.com; Lee Branst, Sales Manager, lee.branst@lumics.com.

#### Mad City Labs, Inc.

SPIE Corporate

2524 Todd Drive, Madison, WI, 53713 608/298-0855; fax 608/298-9525 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 PicoQ sensor technology and closed loop control. Our PicoQ sensors yield systems with low drift and superior stability. System attributes include picometer resolution, high speeds, real time position sensing. Suitable for microscopy, imaging, metrology and beam steering applications. Custom/OEM specialists. Contact: Technical Sales, sales@madcitylabs.com; International Sales, mclgen@madcitylabs.com.

#### Max Levy Autograph, Inc.

SPIE Corporate Member

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

#### New Product: Bifilar Arrays.

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: photo lithography, electroforming, photochemical etching, film products, micro-contouring/machining, and NIST traceable calibration services. Contact: Tom Cinque, Sales Manager, tom@maxlevy.com; Dave Metzger, Senior Engineer, dmetzger@maxlevy.com.

#### **McGraw-Hill**

2 Penn Plaza, New York, NY, 10121 212/904-5964; fax 21/904-5422 www.mhproffessional.com; www.accessengineeringlibrary.com

#### New Product: The McGraw-Hill Biophotonics book series!

McGraw-Hill enables success in complex global industries by structuring the most current information into concise and authoritative resources. Visit our booth to see our line of biophotonics and optics books, and take advantage of our 30% show discount, special giveaways, and more. Contact: Mike McCabe, 212-904-5386, michael\_mccabe@mcgraw-hill.com.

#### Medical Laser Report

#8710

#8736

#8935

98 Spit Brook Rd, Nashua, NH, 03062 603/891-0123; fax 603/891-0574 kathyb@pennwell.com; www.laserfocusworld.com

#### **MEMS Optical Inc.**

SPIE Corporate

205 Import Cir, Huntsville, AL, 35806 256/859-1886; fax 256/859-5890 info@memsoptical.com; www.memsoptical.com

MEMS Optical, Inc. is a leading supplier and manufacturer of high performance refractive and diffractive microoptics. MEMS Optical continues to develop and improve microoptics applications through the use of grayscale technology and other proprietary processes. Contact: info@memsoptical.com.

#### **Menlo Systems GmbH**

#8723

Am Klopferspitz 19, Martinsried, Germany, 82152 49 89 189 166 0; fax 49 89 189 166 111 sales@menlosystems.com; www.menlosystems.com

## New Product: Fiber-coupled 1030-nm fs laser for cell manipulation and multiphoton nanosurgery, handheld SHG unit.

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; Brent Wheelock, North American Field Engineer, b.wheelock@menlosystems.com.

#### **Michelson Diagnostics**

#### #8612

11A Grays Farm Production Village, Grays Farm Rd, Orpington, Kent, United Kingdom, BR5 3BD +44 208 308 1695; fax +44 121 275 6237 enquires@md-ltd.co.uk; www.michelsondiagnostics.com

## New Product: VivoSight scanner with hand-held probe - in vivo, real time OCT images of tissue microstructure.

Michelson Diagnostics is a leading innovator in the design and delivery of Multi-Beam Optical Coherence Tomography (OCT) products for scientific research and healthcare imaging. Our VivoSight OCT scanner provides clear images of surface tissue microstructure at hitherto unseen resolution, in vivo and real time. Our EX1301 OCT Microscope offers research applications in material science, tissue engineering, art restoration and cancer, the best commercially available sub-surface OCT images. Contact: Gordon McKenzie, Medical Applications Director, gordon.mckenzie@md-Itd.co.uk; Jon Holmes, CEO, jon.holmes@md-Itd.co.uk.

#### **MICOS USA, LLC**

#8639

#8912

#8504

SPIE Corporate Member

15375 Barranca Pkwy Ste G-101, Irvine, CA, 92630 949/480-0538; fax 949/480-0538

admin@micosusa.com; www.micosusa.com

Founded in 1990, MICOS supplies micro and nano-positioning equipment with a focus on the research market. We offer a full range of precision positioners and control electronics as well as complete system integration services. Additionally, MICOS is known as the premier supplier for vacuum to 10-10 mbar, clean room and extreme temperature applications. Contact: Manfred Schneider, info@micosusa.com.

#### Micro Laser Systems, Inc.

SPIE Corporate Member

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

#### New Product: Stabilized diode lasers at various wavelengths.

We are a manufacturer of high performance Free Space and Fiber Coupled Diode Laser Systems ranging from 375nm to 1600nm and output powers to 490mW. Most lasers operate in a single longitudinal mode with narrow linewidth and high stability. They are routinely used in confocal microscopy, Raman spectroscopy, optical trapping/ manipulation, fluorescence excitation and cancer diagnostics. Semicustom and custom laser/optical systems and fiber optic systems are routinely manufactured for OEM users. Contact: Norma Adachi, Marketing, norma@microlaser.com.

#### **Micro Photon Devices (MPD)**

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

MPD's 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, nick.bertone@ optoecomponents.com.

#### Mitsubishi Cable Industries, Ltd.

6F new Kousai Bldg, 4-1 Marunouchi 3-Chome Chiyoda-ku, Tokyo, Japan, 100-8303

81 3 3216 3947; fax 81 3 3216 3999

james-stevens@comcast.net; www.mitsubishi-cable.co.jp Mitsubishi Cable Industries is Japan's leading supplier of Silica Core, Silica and/or Polymer Clad Optical Fiber for medical applications. We can supply USP Class 6 certified raw fiber, cable assemblies and fiber bundles to meet your specifications. In addition our engineers will work with you to provide solutions for your most demanding applications requirements. Visit our booth to discuss your needs with our engineers. Contact: James Stevens, US Fiber Optics Marketing Manager, James-Stevens@comcast.net.

#### **MPB Communications Inc.**

#8631

#8728

#8429

<u>#8977</u>

SPIE Corporate Member

147 Hymus Blvd, Pointe-Claire, QC, Canada, H9R 1E9 514/694-8751; fax 514/694-6869 info@mpbc.ca; www.mpbcommunications.com

Since 1977, MPBC has been manufacturing high-performance photonic products for the military, telecommunications, industrial and research markets. MPB products include the world's smallest Excimer Lasers; Raman Fiber Lasers and Amplifiers; Visible Polarized Yellow/Green/ Orange/Red, Ytterbium, Erbium-Ytterbium, and Passively Mode-Locked Fiber Lasers; high-power EFAs, C- and L- Band Erbium Broadband Sources, CombSources, FBGs, etc. Contact: Claudette Linton, Account Executive, claudette.linton@mpbc.ca; Kim Boumansour, Account Executive, kim.boumansour@mpbc.ca.

#### **Multiwave Photonics**

SPIE Corporate

Rua Eng Frederico Ulrich 2650, Moreira da Maia, Portugal, 4470-605

351 22 9408260; fax 351 22 9408261 jsalcedo@multiwavephotonics.com; www.multiwavephotonics.com

## New Product: Broadband ASE Source for OCT offering a 70 nm spectral range.

Multiwave develops and manufactures innovative pulsed fiber lasers that operate at 1064 nm and 1550 nm. These lasers offer wide operating ranges from single-shot to MHz, high pulse stability with zero laser leakage between laser pulses and uniquely flexible customization capabilities, for applications such as advanced materials processing, ranging and imaging. Multiwave also manufactures other types of allfiber optical sources and amplifiers for scientific, industrial and medical applications. Contact: Dr. Andrew Held, Vice President of Sales and Marketing, aheld@multiwavephotonics.com; Dr. Jose R. Salcedo, CEO, jsalcedo@multiwavephotonics.com.

#### National Aperture, Inc.

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16 Northwestern Dr, Salem, NH, 03079 603/893-7393; fax 603/893-7857 sales@nationalaperture.com; www.nationalaperture.com

#### **Newport Corp.**

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1791 Deere Ave, Irvine, CA, 92606-4814 949/863-3144; fax 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<sup>®</sup> Filters, New Focus<sup>™</sup>, Oriel<sup>®</sup> Instruments, Richardson Gratings<sup>™</sup> and Spectra-Physics<sup>®</sup> Lasers. One company, the brands you trust. Contact: Tom Miller, Sr. Director North America Inside Sales and Customer Support, tom.miller@newport.com.

#### **NKT Photonics A/S**

#### #8518

#8633

SPIE Corporate Member

Blokken 84, Birkeroed, DK, Denmark, 3460 45 4348 3900; fax 45 4348 3901 enquiry@nktphotonics.com; http://www.nktphotonics.com

#### **NOIR LaserShield**

#8523

6155 Pontiac Trl, South Lyon, Ml, 48178 734/769-5565; fax 734/769-1708 david.bothner@noirlaser.com; www.noirlaser.com

## New Product: All LaserShield filters now available as 100x200x3mm windows.

NoIR LaserShields provide industry-defining protection and visibility with an eye on comfort and wear-ability. With 80+ filters and a frame to fit any face, there's a LaserShield for every user and every application. Utilizing specialized narrowband peak absorbers rather than broadband generalized dyes, LaserShields absorb specific laser lines at high Optical Densities without sacrificing visibility. LaserShields are made in the USA and are CE-Certified for the world of laser applications. Contact: David W. Bothner, Marketing Director, david.bothner@noirlaser.com.

#### Novacam Technologies Inc.

#### #8833

277 Lakeshore Rd, Pointe-Claire, QC, Canada, H9S 4L2 514/694-4002; fax 514/630-6420 info@novacam.com; www.novacam.com

#### **NP Photonics**

#8427

9030 S Rita Rd, Tucson, AZ, 85747 520/799-7400; fax 520/799-7403 info@npphotonics.com; www.npphotonics.com

NP Photonics, a leading fiber laser company, manufactures some of the most stable lasers in the world for fiber sensing, LIDAR and R&D markets. Based on their specialty glass technology the company has developed narrow-linewidth fiber lasers with output powers up to 5W, as well as a family of advanced broadband ASE Sources for testing and medical application. Contact: Christine Spiegelberg, Director of Marketing and Sales: Spiegelberg@npphotonics.com, cspiegelberg@npphotonics.com; Craig Henry, Sales Manager, chenry@npphotonics.com.

#### Nufern

SPIE Corporate

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

Nufern<sup>®</sup> is a leading U.S. manufacturer of specialty optical fibers, fiber lasers and amplifiers serving diverse markets. Current products include over 300 standard fibers and range from sub-assemblies to complete turn-key fiber lasers and amplifiers. From its headquarters in East Granby, Conn., USA, Nufern's integrated fiber and fiber laser teams also provide rapid and cost-effective OEM fiber laser design, assembly and contract manufacturing services. Contact: Fernando Martins, Customer Service Manager, fmartins@nufern.com; Violet D'Antonio, Customer Service Specialist, vdantonio@nufern.com.

#### **Ocean Optics, Inc.**

SPIE Corporate Member

830 Douglas Ave, Dunedin, FL, 34698-5761 727/733-2447; fax 727/733-3962 info@oceanoptics.com; www.oceanoptics.com

New Product: NeoFox oxygen-sensing options include benchtop, handheld and self-adhesive patches for packaging.

Ocean Optics, creator of the world's first miniature spectrometer, provides a variety of research and OEM spectroscopy and chemicalsensing options for medical diagnostics and life sciences. Our highsensitivity spectrometers are great for analysis of blood, tissue and other biological samples, while our fiber optic chemical sensors measure oxygen and pH in various environments. Products can be configured for lab or process environments, and are ideal for embedding into OEM devices. Contact: Monde Qhobosheane, Director of Sensors Business, Monde.Qhobosheane@oceanoptics.com; Jorge Macho, Jorge.Macho@ oceanoptics.com.

#### **Oclaro**

SPIE Corporate

2584 Junction Ave, San Jose, CA, 95134 408/383-1400; fax 408/919-1501 info@oclaro.com; www.oclaro.com

The Advanced Photonics Solutions Division of Oclaro serves multiple markets spanning, medical, high power materials processing to consumer. Leveraging its innovative technology, state of the art wafer fabs and high-quality volume manufacturing, Oclaro offers world leading products in high power laser diodes, bio-instrumentation filters and VCSELs.

#### OFS Fitel, LLC - Specialty Photonics Div. #8607

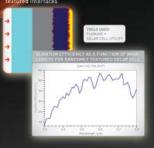
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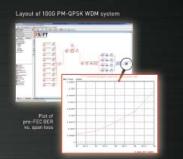
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#### **Omega Optical, Inc.**

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info@omegafilters.com; www.omegafilters.com

Omega Optical offers standard and custom high performance optical filters for fluorescence applications in life science and biomedical industries. The optical filters are manufactured as both hard surface and protected soft coatings. The extensive range of products includes bandpass, longpass/shortpass, rejection bands, dichroic beamsplitters/ mirros, neutral density, and laser line. Contact: Ruth Gorham-Houle, VP of Business Development, rgorham@omegafilters.com; William Hill, Business Development, whill@omegafilters.com.

#### **Onefive GmbH**

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

#### New Product: Onefive's new Katana is a versatile ps laser with uJ pulse energies at variable repetition rates.

Onefive is a global supplier of industry-ready, low-noise picosecond and femtosecond pulsed lasers as well as tunable narrow-linewidth singlefrequency lasers. The air-cooled lasers are as user-friendly as a laser pointer and exhibit guaranteed 24/7 operation. Wavelengths between 257-1600nm and repetition rates from single-shot/pulse on demand to GHz are available. The tunable single-frequency lasers exhibit kHz linewidth. Onefive lasers are ideal for industrial and scientific applications. Contact: Gabriel Spuehler, CTO, contact@onefive.com; Lukas Krainer, CEO, contactus@onefive.com.

#### **OneLight Corp.**

#8514 314-1755 W Broadway Ave, Vancouver, BC, Canada, V6J 4S5 604/731-7496; fax 604/731-6948 sales@onelightcorp.com; www.onelightcorp.com

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#### **Optimax Systems, Inc.**

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sales@optimaxsi.com; www.optimaxsi.com

Optimax is dedicated to small volume, high quality, and quick delivery of precision optical components. Specializing in aspheres, cylinders, planooptics and spheres, manufactured to customer-supplied specifications. With more than 100 opticians, we enjoy a good challenge, call us! Optimax Systems, Inc. 6367 Dean Parkway, Ontario, NY 14519, Tel: 877-396-7846, Fax: 585-286-1033, www.optimaxsi.com. Contact: Bob Martin, QA Manager, bmartin@optimaxsi.com; Rick Plympton, VP Sales, rick@ optimaxsi.com.

#### **Optimum Technologies, Inc.**

68 West St, Southbridge, MA, 01550 508/765-8100; fax 508/765-8101 www.optimum-tech.com

OTI specializes in optical technologies for life sciences and offers full product development services, including prototyping, verification, validation, and early stage production. Recent design projects have included spectrometry, fluorescent measurement systems, optical blood analyzers, fiber optic probe instrumentation, laser systems, endoscopes, electro-optic imaging systems, LED illumination systems, OCT systems and custom microscopy systems. FDA/ISO-compliant. Contact: Paul White, Sales Manager, pwhite@optimum-tech.com.

#### **OptoElectronic Components (OEC)**

#### #8504

#8414

SPIE Corporate

28 Des Lilas, Kirkland, QC, Canada, H9J 4A7 514/694-0336; fax 514/694-8535 nick.bertone@optoecomponents.com; www.optoecomponents.com

Supplier of single photon counting detector modules with 30ps timing resolution from Micro Photon Devices. These detectors have high detection efficiency, low dark counts and are very robust. Picosecond event timers and software from PicoQuant, the Picoharp300 and the HydraHarp are very powerful and versatile because each channel is independent and each channel can "Time-tag" the photon. Contact: Nick Bertone, President, sales@optoecomponents.com; Natalie Raymond, Marketing, natalie.raymond@optoecomponents.com.

#### **OXXIUS**

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

New Product: 473, 532, 561 nm CW, SLM and low noise lasers, up to 300 mW 488 nm, 50 mW laser diode module.

Oxxius manufactures innovative solid-state lasers for industrial and scientific applications. Its compact laser modules, featuring wavelengths in the visible and near-UV spectrum, have outstanding performance with market-leading power levels. The SLIM line features a monolithic resonator technology that ensures excellent power, wavelength and pointing stability along with true single-frequency emission. Available wavelengths are 375, 405, 445, 473, 488, 532 and 561 nm. Contact: Pascal Voluer, Director of Sales, pvoluer@oxxius.com; Nicolas Feat, Sales Manager, Americas, nfeat@oxxius.com.

#### **OZ Optics Ltd.**

SPIE Corporate Member

West Carleton Industrial Park, 219 Westbrook Rd, Carp, ON, Canada, KOA 1LO 613/831-0981; fax 613/836-5089 sales@ozoptics.com; www.ozoptics.com

#### New Product: OZ Optics can now offer up to 50W power handling 1064nm isolators at very competitive prices.

High Power Component/Isolator/Combiner/Patchcord/Connectors/ Intelligent Tunable Laser Diode Source/Safety Interlocks/Shutters/Optical Coatings, Laser to Fiber Delivery Components, Adjustable Collimators/ Focusers, Polarization Maintaining Components, PM/SM/MM Fused Fiber Couplers, Polarization Maintaining Patchcords/Connectors/Splitters, Polarized Sources, Polarization Rotators/Controllers/Analyzers, Polarizers Extinction Ratio Meter, Turnkey Laser Diode Sources, Fiber Optic Sensors, U Brackets Contact: Omur Sezerman, CEO & President, sales@ozoptics.com.

#### **Pavilion Integration Corp.**

SPIF Corporate

2380 Qume Dr, San Jose, CA, 95131 408/453-8801; fax 408/453-8802 www.pavilionintegration.com

#### **Photometrics**

3440 E Britannia Dr, Tucson, AZ, 85706 520/889-9933 info@photomet.com; www.photomet.com

Photon Engineering, LLC

520/733-9557; fax 520/733-9609

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: Caroyln Johnson, Sales, carolynj@photonengr.com; Donata Pfisterer, Sales, donatap@photonengr.com.

#### Photon etc

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

#### New Product: Tunable Laser Source from UV to NIR with sub-nm FWHM as calibration tool or excitation source.

Photon etc. develops and manufactures spectroscopic instruments for fluorescence, Raman, and photoluminescence applications. Based on a recently patented technology, our filters deliver narrow bandwidths from UV to NIR. Coupled with a supercontinuum source, our Laser Line Filters allow a new broadband tunable source which is a unique calibration tool and a precise excitation source for nano- to bio-material samples. Our main products also include Hyperspectral Imager, Tunable and Notch Filter. Contact: Bernard-Alexandre Gaulin, International Sales Coordinator, bagaulin@photonetc.com; Sébastien Blais-Ouellette, President, sbo@ photonetc.com.

#### Photon Gear, Inc.

245 David Pkwy, Ontario, NY, 14519 585/265-3360; fax 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.

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440 S Williams Blvd Ste 106, Tucson, AZ, 85711

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#8829

#### Photon Technology International, Inc.

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

## New Product: EasyRatioPro w/WarpDrive is a complete imaging system for collection and analysis of scientific data.

Photon Technology International (PTI) is a 25-year-old fluorescence technology company that designs, manufactures and markets proprietary electro-optical instruments. PTI products are used world-wide for research, health care, quality control, environmental science, etc. PTI distinguishes itself in the photomaps industry by devoting its resources exclusively to the technology of fluorescence instrumentation and by providing exceptional technical and application-specific support. Contact: John McCord, North American Sales Manager, john@pti-nj.com; Ira Saltiel, Vice-President, Sales, ira@pti-nj.com.

#### **Photonics Media**

#8522

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#### **Photonics Online**

#8939

#8917

2591 Wexford Bayne Rd Ste 305, Sewickley, PA, 15143 724/940-7555 www.photonicsonline.com

### PI (Physik Instrumente) LP

SPIE Corporate Member

16 Albert St, Auburn, MA, 01501 508/832-3456; fax 508/832-0506 www.pi-usa.us

## New Product: XYZ Piezo Microscopy Stage, Ultra-Precision Piezomotor; 8mm Micromotor; Fast Steering Mirror.

Nanopositioning, Hexapods, ultra-precision motion control and piezo stage positioning systems for OEM and research. Piezo Stages; Nanopositioning Systems; 6-Axis Hexapod Alignment Systems, Piezo Stages for Microscopy; Lens Positioners; Fast Steering Mirrors/Active Optics; Long-Life Multilayer Piezo Actuators; Ceramic Linear Motors, Piezo Drivers and Digital Controllers; Micropositioning Actuators, Stages and Motion Controllers; MicroMotion Robots for Automated 3D to 6D Photonics Alignment. Contact: Jim Gareau, VP of Sales & Business Development, info@pi-usa.us; David Steinberg, Director of Sales -Western Region, info@pi-usa.us.

#### **PicoQuant GmbH**

Rudower Chaussee 29, Berlin, Germany, 12489 49 30 6392 6560; fax 49 30 6392 6561

nick.bertone@optoecomponents.com; www.picoquant.com Photon Counting Instrumentation product lines include Time-Correlated Single Photon Counting (TCSPC) electronics and detectors (PMT, SPAD), 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: Nick Bertone, Nick.Bertone@ picoquant-usa.com.

### PicoQuant Photonics North America, Inc. #8500

SPIE Corporate Member

61 Union St, Westfield, MA, 01085 413/562-6161; fax 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, Vice President, alain.bourdon@picoquant-usa.com.

#### PolarOnyx, Inc.

SPIE Corporate Member

470 Lakeside Dr Ste F, Sunnyvale, CA, 94085 408/245-9588; fax 408/245-9587 jianliu@polaronyx.com; www.polaronyx.com

New Product: 1) High power super continuum source; 2) High power MHz fs fiber laser; 3) High power green laser.

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

## Polymicro Technologies A Subsidiary of Molex Incorporated #8823

SPIE Corporate Member

18019 N 25th Ave, Phoenix, AZ, 85023-1200 602/375-4100; fax 602/375-4110

polymicrosales@molex.com; www.polymicro.com

## New Product: Dual-clad optical fibers for high power laser; highly stable low loss UV fiber (~<200nm).

Polymicro manufactures large-core, multimode, step-index fused silica optical fibers with polyimide, acrylate, silicone and custom buffers; hard polymer clad fibers; dual clad fibers; highly stable UV fibers; hollow silica waveguides; fiber optic cables and assemblies; high temperature flexible fused silica capillaries; square capillaries; light guiding capillaries; custom precision silica and quartz rod and tubing pieces; custom shaped rod and tubing; multilumen tubing; telecom ferrules and sleeves. Contact: Joe Zhou, Fiber Optic Product manager, PolymicroSales@molex.com.

#8812

#### Power Technology, Inc.

#### #8800

#8729

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

#### **Princeton Instruments**

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3660 Quakerbridge Rd, Trenton, NJ, 08619-1208 609/587-9797; fax 609/587-1970

info@princetoninstruments.com; www.princetoninstruments.com Princeton Instruments is the proven choice for high-performance CCD cameras, spectroscopy systems and optical coatings for research and industrial applications. Acton Series spectrographs provide limitless flexibility and performance, while the new PI-MAX 3 is a faster, smarter intensified CCD with a variety of sensors for imaging and spectroscopic applications. Contact: Jack Mills, US Sales Manager, jmills@ princetoninstruments.com; Antoinette O'Grady, European Sales Manager, aogrady@princetoninstruments.com.

#### **Prior Scientific Inc.**

#### #8929

#8716

80 Resevoir Park Dr, Rockland, MA, 02370 781/878-8442; fax 781/878-8736 info@prior.com; www.prior.com

#### New Product: The PL-200 Slide Loader System is a high speed automated slide loading system.

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: John Commesso, Marketing, jcommesso@prior.com.

#### Qioptig

SPIE Corporate

78 Schuyler Baldwin Dr, Fairport, NY, 14450 585/223-2370 info@qioptiqlinos.com; www.qioptiqlinos.com

#### New Product: iFLEX2000 laser diode module with integrated drive and temp. control, single-mode fiber delivery.

Qioptig delivers sophisticated optical and photonic components, OEM sub-assemblies, instruments and systems for a wide range of applications in biotech, X-ray, ophthalmology, medical, lithography and scientific research applications. Expertise in: optics manufacture; electro-optics; lasers; laser optics; fiber coupled lasers; fiber optics; microscopes; inspection lenses; digital radiography, UV-Vis-IR imaging; display technologies and more. Contact: Dennis Chepulis, Technical Sales Manager, dennis.chepulis@gioptiglinos.com; Fiona Evans, North American Sales Manager, fiona.evans@point-source.com.

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### **Ouebec Photonic Network**

111 rue Lapierre BP 128, LaSalle, QC, Canada, H8N 2J4 514/368-1677; fax 514/368-2098 francoiselee@photoniquequebec.ca;

www.photoniquequebec.ca

The Quebec Photonic Network (QPN) is a non-profit organization whose mandate is to accelerate the advancement of Optics - Photonics Industry in the province of Quebec by serving as an information hub and providing its members with commercialization and networking services. The QPN acts as a coordinator and a representative for all companies, governmental agencies, organizations and individuals involved in the development of applications of this industry. Contact: Michel Têtu, President, CEO, michel.tetu@photoniquequebec.ca; Françoise Lee, Membership Relations, francoiselee@photoniquequebec.ca.

#### **Reynard Corp.**

SPIE Corporate

1020 Calle Sombra, San Clemente, CA, 92673-6227 949/366-8866; fax 949/498-9528 sales@reynardcorp.com; www.reynardcorp.com

Revnard supplies custom/stock optical components, filters and thin

film coatings 0.2µm to 50µm (UV-FAR IR) to demanding specs for medical, military, aerospace and telecom applications. Other services: Optical & Mech Fab, Photolithography Patterns, Environmental Testing and Sub-Assembly. Our expertise with gradient filters, beam splitters and fluorescent coatings enables us to stay on the leading edge of technological advancements through research partnerships, commercial development programs and internal R&D. Contact: Beth Kinchyk, Sales Manager, beth@revnardcorp.com; George Murray, Senior Account Executive, gmurray@reynardcorp.com.

#### Santec USA Corp.

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

Santec is a global photonics engineering company and a leading manufacturer of Tunable Lasers. Optical Test and Measurement Products. and Optical Components. Santec's advanced tunable laser, HSL-2000, was developed by Santec for OCT applications. Featuring high power. wide tuning, fast scan rates and more, the HSL-2000 offers a high specification laser to achieve high resolution 3-D imaging and high resolution real time 2-D imaging. Santec also offers a complete OCT system, IVS-2000. Contact: Max Chang, Sales Engineer (Eastern USA), max@santec.com; Jonathan Evans, Sales Engineer (Western USA), jonathan@santec.com.

#### SCANLAB America, Inc.

#### SPIE Corporate Member

100 Illinois St Ste 200, St Charles, IL, 60174 630/797-2044: fax 630/797-2001 info@scanlab-america.com; www.scanlab-america.com

#### New Product: Galvanometers dvnAXIS T & dvnAXIS de M: SCANcube 8.5. intelliSCAN de 14 & intellicube 10 scan heads.

Manufactures high performance galvanometer scanners and galvanometer-based scanning systems for deflection and positioning of laser beams in up to three dimensions. Offers solutions for industry, science, medicine and biomedical applications. The product range includes high end galvanometer scanners also based on digital encoder technology, digital and analog driver technology, scan heads, control electronics and custom subassemblies for 1D, 2D and 3D scanning applications. Contact: Dale A. Sabo, Vice President Sales & Marketing, d.sabo@scanlab-america.com; Andreas Engelmayer, Technical Sales, a.engelmayer@scanlab.de.



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SCHOTT, a leading precision component provider with a broad portfolio spanning precision pressed, CNC-machined, polished and coated optical components using SCHOTT's high-performance materials such as optical glass, synthetic fused silica, IR material and other specialty glasses. Our high performance filters, made of color glass or thin film coatings, as well as cutting edge precision optical components reflect our capabilities and enable solutions for Bios, Life Science and Analytic applications. Contact: Steve Sokach, Director of Sales & Marketing, steve.sokach@us.schott. com; Marlene Deily, Promotions Manager, marlene.deily@us.schott.com.

#### Semrock, Inc.

SPIE Corporate

3625 Buffalo Rd Ste 6, Rochester, NY, 14624 585/594-7000; fax 585/594-3898 semrock@idexcorp.com; www.semrock.com

New Product: Semrock Multiband Laser filter sets - optimized for fluorescence imaging and solid-state lasers.

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 wellknown center of optics. Visit Semrock and our products at www.semrock. com. Contact: filters@idexcorp.com.

#### SensL Technologies Ltd.

SPIE Corporate

Lee House Riverview Business Park, Blackrock Cork, Ireland 353 21 4350442; fax 353 21 4350447 sales@sensl.com; www.sensl.com

#### New Product: SPMArray4: 4 side scalable silicon photomultiplier array: sensitive and compact low light detection.

Solid state detectors are the future in low light sensing: SensL provides a full range of detector, sub-system and system level expertise to work with its customers in Analytical Instruments, Homeland Security, Nuclear Medicine and Industrial applications. The performance of SensL's solidstate detectors surpasses current standard detectors such as the PMT, APD and PIN detectors. Contact: Judy Hopkins, International Sales & Marketing Executive, jhopkins@sensl.com.

#### Specim Spectral Imaging Ltd.

SPIE Corporate

Teknologiantie 18 A, Oulu, Finland, 90570 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 for ground and airborne applications in UV, VNIR, SWIR and thermal spectral ranges. We provide solutions to the most demanding applications in laboratory, field and remote sensing. Contact: Teija Pakanen, Key Account Coordinator, teija.pakanen@specim.fi; Jouni Jussila, Product Manager, jouni.jussila@specim.fi.

#### Spectra-Physics

SPIF Corporate

3635 Peterson Way, Santa Clara, CA, 95054 408/980-4300; fax 408/980-5537 sales@spectra-physics.com; www.newport.com

#### Spectrecology

SPIE Corporate

460 Boulder Falls Ln, Jasper, GA, 30143 727/230-1697; fax 866/929-7990 info@spectrecology.com; www.spectrecology.com

#### SSCP USA

400 Atrium Dr #151N, Somerset, NJ, 08873 732/271-0350; fax 732/348-9496 www.sscpusa.com

#### New Product: Ultra low index UV cured material - 1.364. Gives 0.5 NA used with silica.

Manufactures both standard and special purpose fiber coatings primary/secondary, ink, ribbon matrix, and low index coating materials. Special purpose products include: high Tg secondary coatings; low index polymer claddings, with index ranging from 1.363 to 1.4525 at 850 nm, for silica core fibers and high optical power applications, and for recoating stripped fiber. Newest PC product has 1.363 index. Special low and high index adhesives are also available. Contact: Timothy Clark, Marketing Director, timothyeclark@sscpcorp.com.

#### Stanford Computer Optics, Inc.

#8010

SPIE Corporate Member

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

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

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

## Stanford Photonics, Inc.

#8603

1032 Elwell Ct Ste 104, Palo Alto, CA, 94303 650/969-5991; fax 650/969-5993

info@stanfordphotonics.com; www.stanfordphotonics.com

#### New Product: Software: real time strip charting and recording of ROI data. All cameras/speeds.

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

#### #8633

#8409

#8419

#8811

#8018

#8712

#### StellarNet, Inc.

#### SPIF Corporate

14390 Carlson Cir, Tampa, FL, 33626 813/855-8687; fax 813/855-0394 contactus@stellarnet.us; www.stellarnet.us

#### StockerYale, Inc.

SPIE Corporate

32 Hampshire Rd, Salem, NH, 03079-4204 603/893-8778; fax 603/893-5604 lasers@stockeryale.com; www.stockeryale.com

#### New Product: StockerYale's Lasiris™ Green PowerLine 532nm laser available in 50mW up to 200mW.

StockerYale is an independent designer and manufacturer of structured light lasers, LED modules, and fluorescent lighting products, as well as specialty optical fibers and phase masks for industry leading OEMs. Contact: Sales, Sales Department, lasers@stockeryale.com.

#### SUPERLUM

#8421

#8422

#8417

#8719

Unit 1F Eastlink Business Park, Carrigtwohill, Cork, Ireland 353 21 453 3666: fax 353 21 453 30 26 sales@superlum.ie; www.superlumdiodes.com

#### New Product: New Product: Miniature, OEM, 100 nm wide SLD Light Sources with 10 mW power at 850 nm.

Founded in 1992 with the introduction of SLD (SLED) module at 820 nm we have continued to develop Broadband Light Sources to offer a whole range of innovative solutions to the worldwide market. Superluminescent Diodes for cutting edge OCT technologies, fiber-optic gyros, atomic force microscopy, fiber-optic sensors and other optical tests and measurements applications. Broadband SOA and gain modules with extreme outstanding parameters. Widely tunable/swept laser sources. Contact: Vladimir R. Shidlovski, VP Sales and Marketing, support@ superlum.ie.

#### Sutter Instrument Co.

SPIE Corporate

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

#### New Product: The Lambda XL is a stable, broad spectrum light source - expected bulb life of 10,000 hours.

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, stepper-motor controlled SmartShutter, and motorized X-Y translator. Our P-2000 is the premier NSOM fiber tip puller. With over 30 years of motor control and CNC machining experience, we are able to design and deliver versatile, robust optical products at affordable prices. Contact: Alexth Cooper, Sales & Marketing, alex@sutter. com; Jack Belgum, PhD, Executive VP, R&D, jack@sutter.com.

tec5USA, Inc. SPIF Corporate

80 Skyline Dr, Plainview, NY, 11803 516/653-2000; fax 516/939-0555

info@tec5USA.com; www.tec5USA.com New Product: Electronics for Hamamatsu S11071 CCD Array with

USB and Ethernet Interfaces.

High-quality products for spectroscopy, light sources, light guides, fiberoptic 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 soft-ware support. Custom designed components and systems. Contact: Gert Noll, General Manager, gert.noll@tec5usa.com; Dan Fields, General Manager, dan.fields@tec5usa.com.

**Teledyne Judson Technologies** 

#8701

SPIE Corporate

221 Commerce Dr, Montgomeryville, PA, 18936-9641 215/368-6900; fax 215/362-6107 www.teledynejudson.com

A global designer/manufacturer in the IR Sensor market specializing in FPAs (InGaAs, InSb, and HgCdTe) and photodetectors (Ge, InGaAs, InAs, InSb, PbS(e), and HgCdTe), packaging/cooling, electronics, and optics. We deliver solutions for industrial, military, and space markets. An InGaAs camera and a Polarimetric camera developed for commercial application will be demonstrated. Contact: George Gasparian, Sales/ Applications Engineer, ggasparian@teledynejudson.com; Joseph Kimchi, Vice President, Engineering, jkimchi@teledynejudson.com.

#### Texas Instruments

MS 3900, 7839 Churchill Way, Dallas, TX, 75251 214/567-2121; fax 214/567-5106 dlpwwe@list.ti.com; www.ti.com

DLP® Products, a division of Texas Instruments, creates world-class digital technology allowing electronics manufacturers, scientists, and

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#### Thorlabs, Inc.

SPIE Corporate

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

Thorlabs is a leading designer and manufacturer of photonics equipment for research, manufacturing, and biomedical applications. Founded in 1989, Thorlabs is headquartered in Newton, New Jersey with over 500 employees at manufacturing and sales offices throughout the United States, United Kingdom, Germany, France, Sweden, Japan, and China. For information, visit www.thorlabs.com. Contact: Sales at Thorlabs, sales@thorlabs.com.

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#### Time Bandwidth Products, Inc.

61 Union St. Westfield, MA, 01085 413/564-0610; fax 413/564-0611

sales-usa@time-bandwidth.com; www.tbwp.com

Time-Bandwidth Products manufactures passively mode-locked tunable and fixed pico and femtosecond DPSS lasers using our patented SESAM© 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, Vice President of Marketing & Sales, alain.bourdon@tbwp.com.

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#### **WETER BOARD SPONSOR Toptica Photonics, Inc.**

#### #8517

#8901

#8004

#8500

SPIE Corporate

1286 Blossom Dr Ste 1, Victor, NY, 14564 585/657-6663; fax 877/277-9897 office@toptica-usa.com; www.toptica-usa.com

#### New Product: The new FemtoFiber pro: Hands-off operation with maximum flexibility and highest performance.

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#### Translume, Inc.

SPIE Corporate

655 Phoenix Dr, Ann Arbor, Ml, 48108 734/528-6371; fax 734/528-6334 ericjacobson@traslume.com; www.translume.com

#### Varian, Inc.

SPIE Corporate Member

2700 Mitchell Dr. Walnut Crrek, CA, 94598 800/926-3000

custcare@varianinc.com; www.varianinc.com

Varian, Inc. will be displaying recent advances in Ultraviolet through Mid Infared spectroscopy products. The Cary 50 is ideally suited to measure samples by a variety of fiber optic probes. Also on display will be FT-IR microscopy and imaging instrumentation. Visit with our applications specialist to discuss your measurement needs. Contact: Jim Steensrud, UV Product Specialist, jim.steensrud@varianinc.com.

#### Vixar

SPIE Corporate Member

15350 25th Ave N Ste 110, Plymouth, MN, 55447 763/746-8045; fax 763/746-8048 mhibbsbrenner@vixarinc.com; www.vixarinc.com

New Product: Laser scanning arrays IR VCSEL with integrated PD.

Vixar is the leading independent designer and manufacturer of Vertical Cavity Surface Emitting Lasers (VCSELs). Our expertise includes the design and manufacturing of high performance VCSELS for volume applications. Our VCSEL based solutions reduce power consumption in handheld or body worn devices, improve the range or precision of motion control or timing sensors, enhance the quality of office peripherals and vehicle/home networks. Contact: Mary Hibbs-Brenner, CEO, mhibbsbrenner@vixarinc.com; Bouchaib Nessar, Business Development, bnessar@vixarinc.com.

#### Vytran LLC

1400 Campus Dr W, Morganville, NJ, 07751 732/972-2880 info@vytran.com; www.vytran.com

#### Western Photonics Technology

SPIE Corporate Member

626 S Sierra Vista Ave Ste 101, Alhambra, CA, 91801 626/289-1686; fax 626/289-1048 info@wptec.com; www.wptec.com

#### New Product: Precision cemented lens, borescope and endoscope.

Headquarters in USA and factories in China. 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, high temperature borescope, endoscope), lasers (CTH:YAG laser, Nd:YAG laser), hologram (hologram label). Contact: Roger Xie, North American Manager, info@wptec.com; Alison, info@wptec.com.

#### World Star Technologies

SPIE Corporate Member

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

#### New Product: New Compact Computer Controlled Laser from 405 nm to 1064 nm 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 enable applications previously considered unachievable. Contact: Emily Hodgkinson, Customer Support, emily@worldstartech.com; Cetin Karakus, CTO, info@worldstartech.com.

#### **Xenics**

SPIE Corporate

Ambachtenlaan 44, Leuven, Belgium, 3001 32 161 38 99 00; fax 32 161 38 98 01 sales@xenics.com: www.xenics.com

#### New Product: High-speed NIR linescan World's fastest InGaAs camera for medical OCT Fever detection.

Xenics is Europe's only designer and manufacturer of NIR InGaAs arrays (2D & linear). In addition we design and manufacture advanced infrared cameras based on InGaAs, HgCdTe (MCT), InSb, and other detector technologies. Contact: Piet van Riel, Sales Manager, piet.vanriel@xenics. com; Bob Grietens, CEO, bob.grietens@xenics.com.

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#8611

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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, ergonometric, 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







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#### Astronomy

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ALPAO Asahi Spectra USA Inc. B&W Tek. Inc. Barr Associates Inc. Edinburgh Instruments Ltd. **Genia Photonics** Gooch & Housego formerly ChromoDynamics Inc. Headwall Photonics High Q Laser (US). Inc. Lockheed Martin Aculight Lumencor, Inc. **Michelson Diagnostics Multiwave Photonics** Ocean Optics, Inc. Optimum Technologies, Inc. Photon etc Semrock, Inc. Sutter Instrument Co.

#### Communications

Alphion Corp. Avo Photonics, Inc. Calmar Laser, Inc. DenseLight Semiconductors Pte Ltd. DiCon Fiberoptics, Inc. Grintech GmbH MPB Communications Inc. Onefive GmbH SSCP USA

#### Displays

Boulder Nonlinear Systems, Inc. Texas Instruments Western Photonics Technology

#### Distributor or Reseller

Frankfurt Laser Co. IMM Photonics GmbH

#### Electron-Beam Lithography

JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Microoptics MEMS Optical Inc.

#### Electronic Imaging Components, Equipment, Systems

89 North ALPAO Andor Technology Plc Avo Photonics, Inc. Cambridge Technology, Inc. Carl Zeiss Microlmaging, Inc. **IRphotonics** Michelson Diagnostics PicoQuant Photonics North America, Inc. SensL Technologies Ltd. Specim Spectral Imaging Ltd. Stanford Photonics, Inc. StockerYale. Inc. Sutter Instrument Co. Teledyne Judson Technologies Texas Instruments Varian, Inc.

#### Electronics, Signal Analysis Equipment

SensL Technologies Ltd. tec5USA, Inc.

#### Fiber Optic Components, Equipment, Systems

Alphion Corp. Avo Photonics. Inc. BaySpec, Inc. CeramOptec Industries. Inc. Coastal Connections Control Development, Inc. DenseLight Semiconductors Pte Ltd. DiCon Fiberoptics. Inc. EM4, Inc. EXALOS AG Fiberguide Industries. Inc. Frankfurt Laser Co. General Photonics Corp. Genia Photonics Grintech GmbH Hellma USA. Inc. **High Tech Photonics IMM Photonics** GmbH Iridian Spectral Technologies **IRphotonics** JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Microoptics JT Ingram Sales and Marketing Kohoku Kogyo Co., Ltd. (Japan) Lockheed Martin Aculight MEMS Optical Inc. Micro Laser Systems, Inc. Mitsubishi Cable Industries, Ltd. MPB Communications Inc. Nufern OZ Optics Ltd. Photon Gear. Inc. **PicoQuant Photonics North** America, Inc. PolarOnyx, Inc. Polymicro Technologies A Subsudiary of Molex Incorporated Qioptiq Santec USA Corp. SSCP USA StockerYale, Inc. SUPERLUM tec5USA, Inc. Thorlabs, Inc. Varian, Inc.

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

Western Photonics Technology

Andover Corp. Asahi Spectra USA Inc. Barr Associates Inc. Chroma Technology Corp CVI Melles Griot Edmund Optics Foreal Spectrum, Inc. Fresnel Technologies Inc. Iridian Spectral Technologies Max Levy Autograph, Inc. Newport Corp. Omega Optical, Inc. OZ Optics Ltd. Photon Gear, Inc. Reynard Corp. Semrock, Inc.



## High Speed Imaging and Sensing

Andor Technology Plc Boulder Nonlinear Systems, Inc. Carl Zeiss MicroImaging, Inc. CeramOptec Industries, Inc. Goodrich ISR Systems Hamamatsu Corp. Headwall Photonics High Q Laser (US), Inc. InPhenix Inc. Lumencor, Inc. Mad City Labs, Inc. **Onefive GmbH OptoElectronic Components** (OEC) Photon Technology International, Inc. PI (Physik Instrumente) LP Santec USA Corp. SensL Technologies Ltd. Specim Spectral Imaging Ltd. Stanford Computer Optics, Inc. Stanford Photonics, Inc. Sutter Instrument Co. **Texas Instruments** Thorlabs, Inc. Varian. Inc. Xenics

#### Illumination Engineering

Asahi Spectra USA Inc. Breault Research Organization Changchun New Industries OptoelectronicsTech. Co., Ltd. Fiberguide Industries, Inc.

### **BiOS Product Index**

Foreal Spectrum, Inc. Lumencor, Inc. Optimum Technologies, Inc. Photon Engineering, LLC

#### Infrared Sources, Detectors, Systems

B&W Tek, Inc. **Changchun New Industries** OptoelectronicsTech. Co., Ltd. DenseLight Semiconductors Pte Ltd. Electro Optical Components Inc. EXALOS AG Frankfurt Laser Co. Fresnel Technologies Inc. Goodrich ISR Systems **High Tech Photonics** Innovative Photonic Solutions InPhenix Inc. JT Ingram Sales and Marketing Micro Photon Devices (MPD) Nufern Onefive GmbH Photon etc **PicoQuant GmbH** PolarOnyx, Inc. Reynard Corp. Santec USA Corp. SUPERLUM Teledyne Judson Technologies Toptica Photonics, Inc. Varian, Inc. Vixar **Xenics** 

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

4AD Enterprises, Inc. 89 North Amplitude Laser Andor Technology Plc Avo Photonics, Inc. B&W Tek, Inc. BaySpec, Inc. Calmar Laser, Inc. Cambridge Technology, Inc. Changchun New Industries OptoelectronicsTech. Co., Ltd. Chroma Technology Corp



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> Semrock, Inc. StockerYale, Inc. SUPERLUM Sutter Instrument Co. Thorlabs, Inc. Time Bandwidth Products, Inc. Toptica Photonics, Inc. Vixar World Star Technologies

#### Law Enforcement Technologies Frankfurt Laser Co.

#### Life Sciences

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#### Metrology, Inspection and Process Control

Amplitude Laser Calmar Laser, Inc. Fibertech Optica Headwall Photonics High Q Laser (US), Inc. High Tech Photonics Innovative Photonic Solutions JT Ingram Sales and Marketing KLASTECH - Karpushko Laser Technologies GmbH Mad City Labs, Inc. Max Levy Autograph, Inc. Michelson Diagnostics Onefive GmbH OXXIUS Photon Gear, Inc. Specim Spectral Imaging Ltd. tec5USA, Inc. Toptica Photonics, Inc.



#### Nanotechnology

Amplitude Laser Bid-Service LLC Boulder Nonlinear Systems, Inc. Kapteyn-Murnane Labs. Inc. Kohoku Kogyo Co., Ltd. (Japan) Mad City Labs, Inc. Max Levy Autograph, Inc. PI (Physik Instrumente) LP Prior Scientific Inc.

#### Non-Optical Lithography

Applied Image, Inc. Bid-Service LLC

#### **Optical Components**

4AD Enterprises, Inc. ALPAO Alphion Corp. Andover Corp. Applied Image, Inc. Barr Associates Inc. BaySpec, Inc. Boulder Nonlinear Systems, Inc. Cambridge Technology, Inc. Carl Zeiss MicroImaging, Inc. CeramOptec Industries, Inc. Changchun New Industries OptoelectronicsTech. Co., Ltd. Chroma Technology Corp **CVI Melles Griot DenseLight Semiconductors Pte** Itd. DiCon Fiberoptics, Inc. Edmund Optics Electro Optical Components Inc. EM4, Inc. FemtoLasers. Inc. Foreal Spectrum, Inc. Fresnel Technologies Inc. Grintech GmbH Hellma USA. Inc. IMM Photonics GmbH InPhenix Inc.

## **BiOS Product Index**

Iridian Spectral Technologies **IRphotonics** JDSU JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Microoptics Kohoku Kogyo Co., Ltd. (Japan) Max Levy Autograph, Inc. MEMS Optical Inc. Micro Laser Systems, Inc. Micro Photon Devices (MPD) Omega Optical, Inc. Optimax Systems, Inc. **OptoElectronic Components** (OEC) OZ Optics Ltd. Photon Technology International, Inc. PicoQuant GmbH Princeton Instruments Qioptiq Reynard Corp. Santec USA Corp. SCANLAB America, Inc. SCHOTT North America, Inc. -Advanced Optics SSCP USA Vixar Western Photonics Technology

#### **Optical Detectors**

Electro Optical Components Inc. Goodrich ISR Systems Hamamatsu Corp. Hellma USA, Inc. Menlo Systems GmbH Micro Photon Devices (MPD) OptoElectronic Components (OEC) PicoQuant GmbH Teledyne Judson Technologies Thorlabs, Inc. Varian, Inc.

#### **Optical Fibers**

CeramOptec Industries, Inc. **Coastal Connections** Fiberquide Industries, Inc. Fibertech Optica **Genia Photonics High Tech Photonics** IMM Photonics GmbH INO **IRphotonics** JT Ingram Sales and Marketing Mitsubishi Cable Industries, Ltd. NP Photonics Nufern Polymicro Technologies A Subsudiary of Molex Incorporated SSCP USA tec5USA, Inc.

#### Optical Materials and Substrates

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#### Optical Test and Measurement Equipment, Interferometer

Alphion Corp. B&W Tek. Inc. Boulder Nonlinear Systems, Inc. Breault Research Organization Calmar Laser, Inc. DiCon Fiberoptics, Inc. EXALOS AG General Photonics Corp. KLASTECH - Karpushko Laser Technologies GmbH Light Age, Inc. **Michelson Diagnostics** Micro Photon Devices (MPD) MPB Communications Inc. OXXIUS PI (Physik Instrumente) LP PolarOnyx, Inc. Prior Scientific Inc. Reynard Corp. StockerYale, Inc. tec5USA, Inc. Toptica Photonics, Inc.

#### Optical/Laser Microlithography

Applied Image, Inc. Changchun New Industries OptoelectronicsTech. Co., Ltd. JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Microoptics KLASTECH - Karpushko Laser Technologies GmbH Light Age, Inc. Max Levy Autograph, Inc. MEMS Optical Inc. Photon Gear, Inc. PicoQuant Photonics North America, Inc. Texas Instruments

#### Optics Manufacturing

Andover Corp. Breault Research Organization CeramOptec Industries, Inc. Chroma Technology Corp CVI Melles Griot DiCon Fiberoptics, Inc. Edmund Optics EM4. Inc. FemtoLasers, Inc. Foreal Spectrum, Inc. Fresnel Technologies Inc. Headwall Photonics Hellma USA, Inc. **IRphotonics** JDSU JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Microoptics MEMS Optical Inc. Newport Corp. NOIR LaserShield Omega Optical, Inc. Optimax Systems, Inc. Optimum Technologies, Inc. Princeton Instruments Qioptiq Reynard Corp. SCHOTT North America, Inc. -Advanced Optics Western Photonics Technology

#### Photonics Equipment Manufacturer 89 North

Avo Photonics, Inc. B&W Tek. Inc. Calmar Laser, Inc. Control Development, Inc. **CVI Melles Griot** Edinburgh Instruments Ltd. Fiberquide Industries, Inc. Hamamatsu Corp. Innovative Photonic Solutions Kapteyn-Murnane Labs. Inc. Micro Laser Systems, Inc. MPB Communications Inc. **Multiwave Photonics** Newport Corp. Ocean Optics, Inc. Photon Technology International, Inc PolarOnyx, Inc. Princeton Instruments Prior Scientific Inc. Qioptia SensL Technologies Ltd. Specim Spectral Imaging Ltd. Stanford Photonics, Inc.

#### Positioning Equipment

Bid-Service LLC Cambridge Technology, Inc. Edmund Optics Mad City Labs, Inc. Newport Corp. PI (Physik Instrumente) LP Prior Scientific Inc. SCANLAB America, Inc. StockerYale, Inc. Sutter Instrument Co. Thorlabs, Inc.

#### Resist Technology and Processing Bid-Service LLC

#### Sensor & Sensor Systems

ALPAO Alphion Corp. Control Development, Inc. Electro Optical Components Inc. Goodrich ISR Systems Hamamatsu Corp. **Headwall Photonics** Imagine Eyes INO InPhenix Inc. NP Photonics Nufern Ocean Optics, Inc. **OptoElectronic Components** (OEC) OZ Optics Ltd. Photon Engineering, LLC **PicoQuant GmbH** SensL Technologies Ltd. Specim Spectral Imaging Ltd. Vixar Xenics

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Tuesday 26 January ..... 10:00 am to 5:00 pm Wednesday 27 January .....10:00 am to 5:00 pm Thursday 28 January .....10:00 am to 4:00 pm

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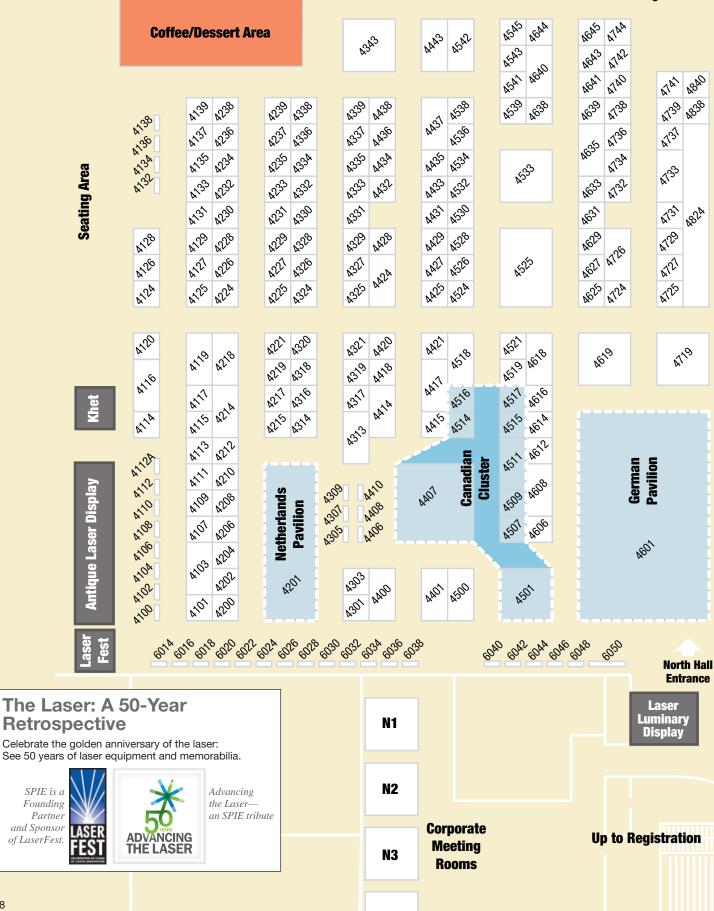
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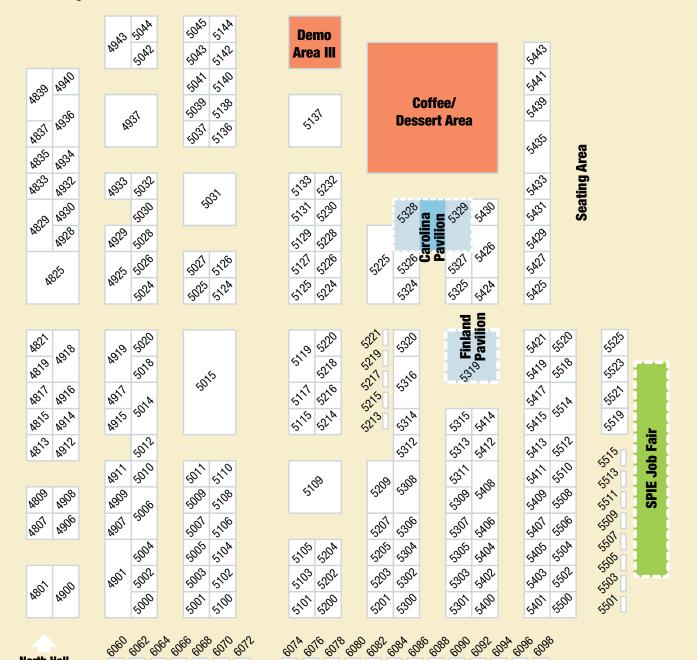
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## Product Demonstrations - South Hall – Demo Area I

	Tuesday 26 January	Wednesday 27 January	Thursday 28 January
10:30 am	Novel Materials for Laser Components Dr. Angela Hohl-AbiChedid, SCHOTT North America, Inc. SCHOTT will present new materials for lasers used in medical, industrial and defense applications. Complementary precision optical components are being introduced as well.	Tiny 2.8V Piezo Motor Enable High Performance Phone Cameras David A. Henderson, New Scale Technologies, Inc. New piezoelectric motors, driver IC & motion systems enable high performance >8 mega pixel mobile phone cameras to achieve <5 millimeters height, micrometer precision, <150 mW power and 2.8V operation.	Selecting Optimum Off-the- Shelf Lenses and Accessories for Machine Vision Applications Thomas Thöniß (Thoeniss), Qioptiq Selecting the optimum lens is a typical demand in machine vision applications. MachVis enables the user to choose the optimum lens with given parameters easily and quickly by software.
11:30 am	OPS Lasers: State and Application of a Pioneering Technology Dr. Volker Pfeufer, Coherent Inc. OPS lasers come with wavelength flexibility, power scalability, low noise, excellent beam parameters, reliability, lifetime. They are used e.g. in life sciences, digital imaging, forensic, inspection.	Inspection of Photovoltaics with SWIR Imaging Don Pancza or Doug Malchow, Goodrich ISR Systems, formerly Sensors Unlimited, Inc. 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.	Micro-Optics for LED Collimation Dr. Steffen Reichel, SCHOTT North America, Inc. SCHOTT has developed micro-optics that vastly improve the light intensity and efficiency of LED's. Specifically designed components and glasses focus the wide angle of emission by LED's.
12:30 pm	<ul> <li>High Powered Fused Fiber Laser Components</li> <li>Dr. Baishi Wang, Vytran LLC</li> <li>Presentation will include:</li> <li>1) Describe component fabrication techniques.</li> <li>2) Fiber fusion Fabrication technology of fused fiber components for 1kW laser and beyond.</li> <li>3) Application examples.</li> </ul>	Structural Chemical Nanocharacterization/Raman AFM Interface Aaron Lewis, Nanonics Imaging Ltd. 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.	
1:30 pm	IR Subsystem for Gas Analysis Brian C. Elias, Cal Sensors, Inc. Four channel quadrant IR detector assembly with discreet spectral filters assembled and operating with a fast pulse rate emitter and new drive electronics.	Laser Microprocessing Using Ultrafast Diode Pumped Lasers Robert Braunschweig, Amplitude Laser Inc. We present novel ultrafast diode pumped lasers used for micromachining application. The systems presented are a high energy Regen amplifier and a high power fiber amplifier.	
2:30 pm	Silicon Photomultipliers for Large Area Detection Dr. Carl Jackson, SensL Solid state detectors are the future in low light sensing: Detector, sub-system and system solutions for Analytical Instruments, Homeland Security, Nuclear Medicine and Industrial applications.	BeamGage, Laser Beam Analysis Software Dr. Kevin Kirkham, Ophir-Spiricon Come see what the next generation of Laser Beam Analysis Software can do that others cannot; BeamGage. Takes advantage of new Microsoft techniques and the intranet.	
3:30 pm	<b>ZERODUR</b> <b>Dr. Thomas Westerhoff,</b> SCHOTT North America, Inc. Newest investigation on ZERODUR bending strengths, CTE homogeneity and CTE modeling together with data on space heritage and improvements in machining processes allow for more sophisticated ZERODUR application and light weighted mirror designs.	Solarization Resistant N-BK7 for CPV Dr. Steffen Reichel, SCHOTT North America, Inc. SCHOTT develops optical glasses stabilized against solarization. Concentrator photovoltaic (CPV) needs glass that withstands high concentrated sun light without solarization (reduction in transmission).	
4:30 pm	LINOS Microbench: Build Your Experiment on High- Performance Optomechanics Andreas Hädrich, Qioptiq LINOS Microbench is established as high- performance opto-mechanical construction kit in many laboratories over decades. This presentation will show its uniqueness, precision and latest developments.		

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## Product Demonstrations - South Hall – Demo Area II

	Tuesday 26 January	Wednesday 27 January	Thursday 28 January
10:30 am	Novel g2T-Scan-System Improves Structuring of Solar Cells Dr. Oliver Homburg, LIMO Lissotschenko Mikrooptik GmbH This new laser patterning system combines Gaussian-to-TopHat conversion with scanning technology based on galvo mirrors. The strong improvement of solar cell performance is demonstrated in detail.	Economical Picosecond Laser Material Processing Antoine Kevorkian, Teem Photonics Passively Q-switched lasers can provide, from the IR to the UV, can achieve material processing results comparable to more expensive ultrafast lasers, at nanosecond laser costs of ownership.	Requirements of Optical Systems and Camera Modules for Industrial and Medical Applications Dr. Rainer Schuhmann, Berliner Glas KGaA Today, optical systems and camera modules are added to optical devices e.g. (3D) measurements, inspection and medical devices. Berliner Glas focuses on these requirements and the necessary manufacturing technologies.
11:30 am	Thermal LED Measurements, That are Fast and Easy Yang Wang, Labsphere Labsphere introduces the OrbOptronix developed ETO Thermal LED Measurement System, specifically designed to measure the changes in LED properties at different temperature variables and ranges.	New Compact Colorimeter Thierry Berthou, Silios Technologies Based on its new generation of customized compact DVF spectrometers, SILIOS Technologies has developed a mini colorimeter with 7 to 10 discrete wavelengths ranging from 400nm to 700nm.	What's New in Image-Pro Plus Version 7.0 Nick Beavers, Media Cybernetics Image-Pro Version 7.0 image analysis software accelerates research and offers new live acquisition / processing tools as well as faster image handling and multi-dimensional acquisition improvements.
12:30 pm	The Optometronic 4000 <sup>™</sup> Photonics Workstation David Lewis, Nanonics Imaging Ltd. Characterize photonic devices from Si waveguides to plasmonic/photonic band gap structures with AFM/NSOM/Far-field for full lightwave characterization of nano/micro structures.	Advances in Laser, Solar-Cell, and Tera-hertz Simulations by RSoft Matthew Frank, RSoft Design Group RSoft Design Group is the market leader in simulations for advanced photonic, semiconductor, and electromagnetic applications. We will demonstrate the latest application developments for solar cells, tapered lasers, and tera-hertz frequency based devices. The demonstration will include specific devices, applications, and results.	
1:30 pm	mini-Z: Applied THz Spectroscopy Thomas Tongue, Zomega Terahertz Corp. Come see the mini-Z, the worlds smallest commercial THz spectrometer, perform real time chemical identification and material characterization.	Lumencor Light Engines Claudia Jaffe, Lumencor, Inc. Solid state lighting will be demonstrated for bioanalytical applications in the life sciences. Two, four, seven color light engines and complete illumination and imaging subsystems will be highlighted.	
2:30 pm	Cost-effective and Large Stroke Deformable Mirror Frederic Rooms, ALPAO The Hi-Speed DM37 features all the performances of the Hi-Speed Series within a compact size (7.5mm): large stroke (35µm for astigmatism and focus wavefront), high linearity and fast settling time.	MICAO Jerome Ballesta, Imagine Optic Micao is the first universal AO system dedicated to image enhancement available for any standard microscope frame and wide type of microscope applications.	Precise Optical Component Assembly Stefan Krey, TRIOPTICS GmbH TRIOPTICS presents the OptiCentric® modules for the ultimate PC-controlled precision in cementing and bonding of lenses and lathe centering of lens barrels in economic volume production.
3:30 pm	Short Pulse Fiber Lasers for Micro-Processing Philippe Metivier, EOLITE Systems Application of "rod-type" fiber Laser solutions for micro-processing applications offering sub-10ns pulse durations and high throughput (150W@80kHz at 1030nm, 50W@100kHz at 515nm).	New, Novel CCD and EMCCD Technology Ravi Guntupalli, Princeton Instruments Princeton Instruments introduces exciting new CCD / EMCCD technology that will considerably advance scientific camera capabilities in numerous applications.	
4:30 pm		Electro- and Magneto-optic Products and Applications Dr. Stefan Balle, Qioptiq An introductory course will be given on the principle of operation and applications of electro- and magneto-optic components with an outlook on new developments relevant to the field of laser engineering.	





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## Product Demonstrations - North Hall – Demo Area III

	Tuesday 26 January	Wednesday 27 January	Thursday 28 January
10:30 am	Advanced Splicing Applications Doug Duke, AFL Telecommunications AFL will present special techniques for advanced splicing applications including new processes for LDF fibers and glass shaping.	Advanced MEMS Scanning Mirror Modules: MicroScan and LAMDA Dr. Thilo Sandner, Fraunhofer IPMS Fraunhofer IPMS presents the flexible 1D micro scanner module MicroScan and LAMDA - the prototype of a new large aperture 1D MEMS scanner module especially designed for laser radar systems.	Accelerate Your Innovation in Compound Semiconductor Devices John Reid, Cedova Photonics, MiPlaza Philips Research Highlights MiPlaza Cedova Photonics pure play foundry processing expertise in III-V compound semiconductors, wavelength 650-2000 nm and complimentary services in packaging, testing & characterization.
11:30 am	All-Silica Er-Yb Dual- Clad Fiber for High Power Amplifiers Dr. Chris Emslie, Fibercore Ltd. We will be discussing the innovative, all-silica design, performance, reliability, ease-of-use and cost-effectiveness of CP1500Y - used in thousands of high power CATV & FTTx amplifiers since 1999.	New Generation Solarization Resistant Fiber "j-Ultrasol" Developed by j-fiber GmbH Dr. Ralitsa Rosenow, j-fiber GmbH j-fiber has developed a solarization resistant fluorine doped step index fiber "j-Ultrasol" for long life and ultra high transmission stability under UV exposure especially in the critical < 230 nm range.	Zing! - Broadband Single Polarization Fiber Reborn Dr. Chris Emslie, Fibercore Ltd. After 17 years Fibercore is reintroducing Zing! We will discuss how we have used our vast experience in PM fiber manufacture to produce a Polarizing Fiber with true, broadband, Real-World performance.
12:30 pm	Thermal Spot Curing at Your Fingertips Ruben Burga, IRphotonics Thermal spot curing reduces the number of steps and time (seconds instead of tens of minutes) needed for the curing of epoxy while delivering pinpoint and accurate control for temperature sensitive substrates.	Non-ceramic Aluminum Peltier Andrey Zykin, TERMIONA LLC Unique non-ceramic Peltier - hot side up to 350C, units of any shapes, with holes, large sizes (up to 400X300 mm), very easy to assemble – no lapping, no polishing, no torque controlled tools required.	Compact, Slitless, Lensless, Alignment Free Spectrometer Dr. Ali Adibi, ProSpect Photonics, Inc. We show compact, slitless, low-cost, and alignment free holographic spectrometers for diffuse source spectroscopy. Holography gives capability for customized spectrometers without adding costs.
1:30 pm	Design Features Allow Laser Diodes In Critical Applications Doug Wilner, Vortran Laser Technology Advances in diode modular technology pay dividends in performance. Beam combining and steering through environmentally controlled laser diode modules allow users ease in setup and long term stability.	Gas Cells, Properties and Applications Stephen Blazo, Wavelength References Gas cells have a spectra that in addition to being the inspiration for quantum mechanics have a myriad of uses in optical instrumentation and sensing.	6W CW Diodes at 14xx and 15xx David Bean, SemiNex Corporation Products at 6+ watts will be demonstrated at 14XX and 15XX nm and technology and market applications explained.
2:30 pm	Fiber Optical Switches single- multimode Lars Leininger, Ph.D., LEONI Fiber Optics LEONI's optical fiber switches are designed for demanding applications in optical measurement (Spectroscopy, Laser scanning microscopy, multichannel optical tests of optoelectronic devices).	Innovations in Light Paul Blackborow, Energetiq Technology Introduction to Energetiq's laser driven light sources for use in analytical instruments. The stable, long life, high-brightness light sources have broadband output from 170nm through the visible.	
3:30 pm	Fly-cutter, Optical and Functional Surfaces Meinrad Schirmeister, Kugler of America LTD Product spectrum with emphasis on Flycutters, application samples for optical surfaces/functional surfaces produced on such machining systems.	3D Tactile Scanning of Aspheric Lenses Patrick Nugent, Mahr Federal Inc. Critical to the production of lenses is the control of all steps in the production process. Innovative technology for the 3D measurement of aspheric lenses allows topographical analysis of all stages.	
4:30 pm	Phoenix Swept Tunable Lasers by Luna: From Photonic Metrology to Optical Sensing Dr. Brian Soller, Luna Technologies Lasers with high speed, mode-hop-free tuning over the C-band. Low noise and integrated NIST- traceable wavemeter. Models for optical test, inertial navigation, laser ranging, spectroscopy, interferometry	How to Build High Power UV Lasers at LOW COST Dr. Santanu Basu, Sparkle Optics Corporation UV lasers are needed for high speed precision material processing. Sparkle Optics will show how to build 10 W UV lasers at \$50,000 and 20 W UV lasers at \$65,000 using Rotary Disks. 650 714 8733.	

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Metrology Concepts LLC       #2423         Meyer Burger Technology Ltd.       #4116         MICOS USA.       #4619         Micro Care Corp.       #1136         Micro Laser Systems, Inc.       #912         Micro Photon Devices (MPD)       #4908         Microcertec       #1823         Micro-Hybrid Electronic GmbH.       #1900         Micropac Industries Inc.       #4629         Micropac Industries Inc.       #4629         Micropac Industries Inc.       #4629         Micropac Industries Inc.       #4633         Mildex, Inc.       #1116         Mindrum Precision, Inc.       #922         Minus K Technology, Inc.       #5020         MIRTHE Center, Princeton       university         University       #4633         Mitsubishi Cable Industries, Ltd.       #4221         Mitsubishi Electric & Electronics       USA, Inc.         USA, Inc.       #4640         Mitsui Chemicals America, Inc.       #5312         MLD Technologies, LLC       #5007         MLOPTIC Corp.       #2624
Metrology Concepts LLC       #2423         Meyer Burger Technology Ltd.       #4116         MICOS USA.       #4619         Micro Care Corp.       #1136         Micro Laser Systems, Inc.       #912         Micro Photon Devices (MPD)       #4908         Microcertec       #1823         Micro Systems       #1201         Micro-Hybrid Electronic GmbH.       #1900         Micro Optics, Inc.       #4629         Micropac Industries Inc.       #4629         Micropac Industries Inc.       #4629         Micropat Industries Inc.       #4629         Micropat Industries Inc.       #4633         Mildex, Inc.       #1116         Mindrum Precision, Inc.       #922         Minus K Technology, Inc.       #5020         MIRTHE Center, Princeton       University       #4633         Mitsubishi Cable Industries, Ltd.       #4221         Mitsubishi Electric & Electronics       USA, Inc.       #4640         Mitsui Chemicals America, Inc.       #5312         MLD Technologies, LLC       #5007         MLOPTIC Corp.       #2624         Modu-Laser, LLC.       #5414
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# 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 2009.

#### **3Bridge Consultancy Ltd.**

Lakeside, Newbridge Rd, Standlake, Witney, United Kingdom, OX29 7QB 44 7768 278 212

www.3bridgeconsultancy.com

We advise photonics businesses on profitable revenue growth, fund raising and M&A. We believe that revenue and value growth come through a clear understanding of technology, markets and customers and how they impact on your financial results. Our broad experience allows us to move seamlessly between these to optimise the end result. Our approach is to become an integral member of our client's team and so deliver lasting value through clear strategic vision and effective implementation. Contact: Steve Turley, Director & Founder, steve. turley@3bridgeconsultancy.com.

#### **3S PHOTONICS**

**#1823** 

#4131

Route de Villejust, Nozay, France, 91625 33 1 69 80 57 50; fax 33 1 69 80 58 83 sales@3Sphotonics.com; www.3Sphotonics.com

3S PHOTONICS is the leading world manufacturer of laser chips, optical discrete modules and components for telecommunication networks. It designs, develops, manufactures and commercializes active components powered by in-house III-V optoelectronic chips based on both Gallium Arsenide (GaAs) and Indium Phosphide (InP) technologies and passive components using Fiber Bragg Gratings (FBG).

#### **3SAE Technologies, Inc.**

#4443

#623

318 Seaboard Ln Ste 212, Franklin, TN, 37067 615/778-8812; fax 615/778-8816 www.3sae.com

# New Product: Ring of Fire Wide Area Plasma product line provides versatility for large diameter fiber processing.

3SAE Technologies, Inc. is a company with focus and expertise in developing and marketing new fiber optic tools and technologies for optical fiber fusion splicing and related applications. 3SAE holds multiple patents and awards related to optical fiber preparation and splicing. Our products are used at many of the world's leading photonics, aerospace, military research facilities, universities, municipalities and large fiber optic network providers. Contact: sales@3sae.com.

#### 4AD Enterprises, Inc.

SPIE Corporate Member

19462 Jasper Hill Rd, Trabuco Canyon, CA, 92679 949/216-9012; fax 949/666-5837 info@4adinc.com; www.4adinc.com

#### New Product: DPSS laser for nitrogen laser replacement.

4AD ("for add") sells and services Elforlight DPSS lasers in North America, as well as fiber optic components such as switches, and harmonic conversion modules. Collaborates with university researchers on product commercialization via SBIR and other funding. Focuses on high performance products for 24/7 use, low noise, ultra narrow linewidth, and advanced medical and lidar applications. Leading provider of lasers for photo acoustic imaging, and other bio-medical developments. Contact: Bob Tamosaitis, Sales Manager, bob@4adinc.com.

# 4D Technology Corp.

#### SPIE Corporate Member

3280 E Hemisphere Loop Ste 146, Tucson, AZ, 85706 520/294-5600; fax 520/294-5601

info@4dtechnology.com; www.4dtechnology.com

New Product: The compact PhaseCam 6000 for fast, vibrationinsensitive on-machine metrology and other applications.

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; Stephen L. Martinek, Director of Worldwide Sales, steve.martinek@4dtechnology.com.

#### 89 North

SPIE Corporate Member

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

89 North<sup>™</sup>an employee-owned company, designs and manufactures innovative light sources for fluorescence imaging. The Photofluor<sup>®</sup> II is a high-power fluorescence light source with unsurpassed output stability, enabling quantitative fluorescence imaging. A 200W self-aligning metal halide lamp makes imaging the dimmest samples easy. With adapters for all major microscopes, the Photofluor<sup>®</sup> II is a perfect addition to any live-cell imaging system. Contact: Chris Baumann, Director of Sales and Marketing, sales@89north.com.

#### Abet Technologies, Inc.

SPIE Corporate Member

168 Old Gate Ln, Milford, CT, 06460 203/540-9990; fax 203/301-0059

sales@abet-technologies.com; www.abet-technologies.com Abet Technologies manufactures a complete range of products for solar cell PV-IV testing. Products include ASTM and IEC compliant steady state solar simulators with wattages from 150 watts to 3kW and illuminated fields from 35mm diameter to 300mm diameter, test stations from simple manual load to pneumatic, temperature stabilized, vacuum chuck models, standards compliant software, calibrated reference cells and a range of electronic loads for low and high current cells. Contact: Allen Smith, asmith@abet-technologies.com.

#### Abrisa Industrial Glass, Inc.

#1740

200 S Hallock Dr, Santa Paula, CA, 93060 805/525-4902; fax 805/421-5434 www.abrisa.com

Abrisa fabricates glass and coatings for lighting, electronic, optics, and industrial applications. We meet customer's requirements for color, light transmission, and temperature control. Abrisa customizes new systems or retrofits your existing systems. Fabrication includes machining, edging, polishing, glass strengthening, precision coatings, screenprinting, and specialty Clean Room packaging. Contact: Randy Ray, VP Sales and Marketing, rray@abrisa.com.

#### Absolute Coating

#### SPIE Corporate

415 Gus Hipp Blvd, Rockledge, FL, 32955 321/637-9170; fax 321/637-9172 astan@absolutecoating.com; www.absolutecoating.com

# New Product: We manufacture thin film coatings, optics and laser materials.

The principals of Absolute Coating all possess at least 25 years of experience in the design and deposition high damage, high performance thin film coatings. Absolute supports prototype development and volume manufacturing. We partner with our customers, starting with specification and design feasibility through to high level production. Contact: Paul Szczepanski, President, pszcz@absolutecoating.com; Angela Stanley, Production Manager, astan@absolutecoating.com.

#### AC Photonics, Inc.

2302 Walsh Ave, Santa Clara, CA, 95051 408/986-9828; fax 408/986-0188 sales@acphotonics.com; www.acphotonics.com

New Product: Sapphire, CaF2 crystal lens, micro proof prisms.

AC Photonics is an OEM for fiber optic components and integrated modules including: Switches, Photodiodes, DWDM, CWDM, MWDM, Hybrids, GFF, PM Products, Circulators, Isolators, Collimators, WDM, Couplers, Patch-cords, FTTx, Grin-Lens, Optical Lens, Prisms, etc. AC offers competitive pricing, on-time delivery, reliable quality, and supportive customer care. Contact: George Gu, Components Sales, sales@ acphotonics.com; Steve Becker, Sales VP, steveb@acphotonics.com.

#### Access Laser Co.

SPIE Corporate Member

917 134th Street SW, Unit A1, Everett, WA, 98204 425-582-8674; fax 425/582-8679 access@accesslaserco.com; www.accesslaserco.com

New Product: Automated wavelength selection, programmable up

to 5 lines at a time. Stabilized power on each line.

Maker of RF excited CO2/CO lasers for industry, surgery and instrument. Wavelength: 9-11 and 5.2-6 µm. Power: 100 mw to 50 w. Super-pulse peak power to 120 wa. Lasers feature portable battery operated, stabilized, tunable, computerized wavelength tuning and stabilization, Q-switched, high speed modulated. Flexible design enables rapid customization. Quality and functionality are our main strengths. Thousands of our lasers are in production lines, clinics, and laboratories worldwide. Contact: Yong Zhang, Sales Manager, yzhang@accesslaserco. com; Adam Chace, Sales Engineer, achace@accesslaserco.com.

### Access Optics LLC

SPIE Corporate Member

2001 N Willow Ave, Broken Arrow, OK, 74012 918/294-1234; fax 918/294-1236 info@accessoptics.com; www.accessoptics.com

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#### Accina, Inc.

1 Innovation Way Ste 100, Newark, DE, 19711 302/894-1151; fax 302/894-9021 yaping.liu@ymtonline.com; www.accina.com

New Product: Nonlinear Crystal, Precision Optics, Scintillation Crystals & Arrays, Precision Industrial Sapphire & Ruby Components.

Accinia supplies scintillation crystals and arrays, precision optics and optoelectronic components. We supply a broad array of both standard and customized, quality, high-performance components with a competitive price and short lead times. Contact: Yaping Liu, CEO, yaping. liu@ymtonline.com; Adrienne Ferrell, VP Business Development, adrienne. ferrell@ymtonline.com.

#### AccuCoat, Inc.

111 Humboldt St, Rochester, NY, 14609 585/288-2330; fax 585/288-2331 alan@accucoatinc.com; www.accucoatinc.com

AccuCoat Inc. is a supplier of thin film coatings on plastic, metal, glass and a variety of other components. Producing a wide variety of antireflective, beamsplitter, hot and cold mirror, ITO, filter and metallic 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 515/964-5741; fax 515/964-5742 micromolding@accu-mold.com; www.accu-mold.com

#### New Product: High Precision Multi-Lens Micro Molding.

Accumold is a high-tech manufacturer of precision micro, small and lead frame injection molded plastic components. Utilizing processes developed from our Micro-Mold<sup>®</sup> technology, we design, build and produce unique molds and parts efficiently for a variety of markets that include Micro Electronics, Optics and Medical. Contact: Aaron Johnson, Sales, ajohnson@accu-mold.com.

#### Accuratus Corp.

SPIE Corporate Member

35 Howard St, Phillipsburg, NJ, 08865 908/213-7070; fax 908/213-7069 info@accuratus.com: www.accuratus.com

New Product: Fused silica materials for lasers, optics, fiber optics.

Supply precision ceramic components to the industry. Custom diffuse reflectors for lasers, IPL and other high energy light sources. Supply fused silica, boron nitride, MACOR, alumina and mullite standard products for fabrication. We can also fabricate these materials. Many other ceramics and glasses stocked for fast delivery. Contact: Lorraine Simonof, Customer Service Manager, Iorraine@accuratus.com; Bruce Cunningham, Marketing Manager, bruce@accuratus.com.

#### #4737

#716

#4943

#5204

#### Active Optics - Night N (opt) Ltd. # Sudostroitelnaya Str 18 Bldg 5, Moscow, Russia, 115407

7 499 6188171; fax 7 499 6188171 adopt@nightn.ru; www.activeoptics.ru

#### New Product: Low-cost tiny deformable mirror.

Active Optics - Night N (opt) 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, kud@nightn.ru; Julia Sheldakova, sheldakova@nightn.ru.

# Acton Optics & Coatings/ Princeton Instruments

SPIE Corporate

15 Discovery Way, Acton, MA, 01720 978/263-3584; fax 978/263-5086

info@actonoptics.com; www.actonoptics.com

Acton Research optics and coatings have been the standard in high performance ultraviolet (UV) optics since 1961. Acton Optics & Coatings continues the tradition providing the highest performing optical components and optical subassemblies available to a diverse array of industries, including the Medical, Semiconductor, Materials Processing, Analytic Instrumentation, Aerospace and Defense markets.

#### **AdTech Ceramics**

511 Manufacturers Rd, Chattanooga, TN, 37405 423/755-5400 sales@adtechceramics.com; www.adtechceramics.com

#### **AdTech Optics, Inc.**

SPIE Corporate

18007 Cortney Ct, City of Industry, CA, 91748 626/956-1000; fax 626/810-0292 it@atoptics.com; www.atoptics.com

# New Product: We will present our new DFB quantum cascade laser for single mode operation for sensing applications.

AdTech Optics designs, engineers, and manufactures mid-IR semiconductor lasers based on Quantum Cascade technology. Home to a respected team of dedicated engineers and scientists, AdTech has partnered with the world's leading academic institutions and has contributed to the scientific development of the emerging quantum cascade (QC) technology with numerous "firsts and bests" in laser design and manufacturing, setting unprecedented performance milestones. Contact: Mariano Troccoli, Director, mariano.troccoli@atoptics.com; Mary Fong, CEO, mary.fong@atoptics.com.

#### **AdValue Photonics Inc.**

4585 S Palo Verde Rd Ste 405, Tucson, AZ, 85714 520/790-5468; fax 520/747-4024 sales@advaluephotonics.com; www.advaluephotonics.com

#### New Product: 2 Micron Fiber Lasers.

AdValue Photonics develops and manufactures 2-micron fiber lasers, 2-mciron broad band ASE source, and passive fiber components. AdValue Photonics innovative fiber light sources are empowered by its proprietary gain fibers, which are fabricated in-house. Contact: Shibin Jiang, President, sjiang@advaluephotonics.com.



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#### Advance Reproductions Corp.

#3046

100 Flagship Dr, N. Andover, MA, 01845 978/685-2911; fax 978/685-1771 sales@advancerepro.com; www.advancerepro.com

Advance Reproductions Corp. offers Full-Service Photolithography Services, including photomasks on Glass or Quartz substrates coated with chrome or iron oxide. The plates can range from very small plates up to 32" square with features resolvable down to 1µm. Complete CAD Services and Photoplotting on mylar available. Contact: Steve Alaimo, Sales Manager, stevea@advancerepro.com; Don Robinson, Technical Account Manager, drobinson@advancerepro.com.

#### **Advanced Glass Industries**

**#734** 

PO Box 60467, 1335 Emerson St, Rochester, NY, 14612 585/458-8040; fax 585/458-8087

agi@advancedglass.net; www.advancedglass.net

Manufacturer of molded and precision machined glass products. Services include custom molding, annealing, slumping, sawing, grinding, CNC machining, generating, edging, waterjet cutting. Protype to production quantities. Products include Optical glass, Filter glass, Fused Quartz, and Fused Silica. Contact: Henry Louis, Sales Manager, hank@advancedglass. net; Tony Marino, President, tm@advancedglass.net.

#### Advanced Imaging Magazine

3030 Salt Creek Ln, Arlington Heights, IL, 60051 847/454-2700; fax 847/454-2759 www.advancedimaging.com

#### Advanced Laser Diode Systems A.L.S. GmbH

Schwarzschildstr 6, Photonic Center, Berlin, Germany, 12489 49 30 6392 6520; fax 49 30 6392 6521 info@alsgmbh.de; www.alsgmbh.de

# New Product: Pilas: Versatile 20ps to few nanossecond laser diode with excellent pulse and jitter properties.

Advanced Laser Diode Systems is a manufacturer of simple picosecond laser diode systems with pulse durations of 20ps - few ns, low timing jitter and wavelengths between 375 and 1600nm. Variable repetition rates from single shot/pulse on demand to 120MHz are available and the systems can be triggered externally. Pulse peak powers up to the Watt level are available, in free space or fiber output. The lasers are compact, flexible, easy to use with turnkey operation and have a competitive price. Contact: Boris Khoury, boris.khoury@alsgmbh.de.



#### Advanced Microoptic Systems GmbH #1337

Lebacher Str 6A, Saarbruecken, Germany, 66113 49 681 400 0030; fax 49 681 400 0032 leleko@amus.de: www.amus.de

New Product: Monolithic fused silica plate with several arrays providing same focal distance and different pitch.

Design, development, fabrication of the refractive 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, various materials. Contact: Vladimir Leleko, Sales Manager, leleko@amus.de.

#### Advanced Optics Solutions (AOS) GmbH #4227

Ammonstr 35, Dresden, Germany, 01067 49 351 4960193; fax 49 351 4960194 info@aos-fiber.com; www.aos-fiber.com

# New Product: In-line fiber optic ultra narrow-band filter based on FBG, filters optical lines of 0.5GHz FWHM.

AOS provides fiber optical components for the telecommunications market as well as for optical sensor applications, mainly based on the Fiber Bragg Grating technology. The company utilizes its 10 years expertise to provide sophisticated products, quality services and innovative technologies to both of its business fields. Contact: Torsten Thiel, info@aos-fiber.com; Johann Meissner, info@aos-fiber.com.

#### **Advanced Optowave Corp.**

#### #4635

#1906

SPIE Corporate Member

113 Comac St, Ronkonkoma, NY, 11779 631/750-6035; fax 631/803-4445 info@a-optowave.com; www.a-optowave.com

#### New Product: 50WGreenCW, 70WGreen, 30W355nm, 5W355nm.

Advanced Optowave Corporation is a premium quality manufacturer of diode pumped solid state lasers for industrial and scientific applications Our lasers are compact and rugged with exceptional levels of reliability in the demanding operational environment. Optowave extensive product family provides a wide variety of characteristics for the extensive requirements of the global marketplace. Our lasers feature ease of maintenance as well as user friendly operation. Contact: Jay Zhao, CEO-Chief Physicist, jay@a-optowave.com; Joe Rizzo, COO- Director/ Marketing, joerizzo@a-optowave.com.

#### **Advanced Photonix, Inc.**

1240 Avenida Acaso, Camarillo, CA, 93012-8754 805/987-0146; fax 805/484-9935 sales@advancedphotonix.com; www.advancedphotonix.com

New Product: Optically filtered ultraviolet GaP Photo Detector

designed to replace conventional SiC detectors.

Advanced Photonix, Inc. is a leading supplier of Opto-Electronic solutions. Our solutions are based on our patented Silicon Large Area Avalanche Photodiode (LAAPD), PIN photodiode, FILTRODE<sup>®</sup> detectors and LED assemblies. API manufactures and designs high performance standard and custom opto devices, x-ray detectors, UV and blue-enhanced high-speed and low-noise silicon PIN photodiodes. Includes single-element and multi-element arrays, bi-cells, quadrants, and hybrids (Filter/Amplifier). Contact: Adam Tabakian, Director of Sales, atabakian@ advancedphotonix.com.

#### **Advanced Research Corp.**

SPIE Corporate Member

4459 White Bear Pkwy, White Bear Lake, MN, 55110 651/789-9000; fax 651/789-9199 info@arcnano.com; www.arcnano.com Contact: Matt Dugas, CEO, mdugas@arcnano.com.

#### **Advanced Thin Films**

5733 Central Ave, Boulder, CO, 80301 720/494-4194; fax 720/652-9948 info@atfilms.com; www.atfilms.com

# New Product: High performance coatings at 2.94 microns, components/hardware for frequency stabilized lasers.

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 over 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: Scot Davidson, Sales Engineer, scot@atfilms.com; Rob Patterson, Vice President of Technical Sales, rob@atfilms.com.

#### AdvR, Inc.

2310 University Way Bldg 1-1, Bozeman, MT, 59715 406/522-0388; fax 406/522-0387 info@advr-inc.com; www.advr-inc.com

# New Product: High speed, programmable, electro optic switch with single fiber input into 5x7 fiber array.

AdvR develops, fabricates, and sells engineered photonic structures by altering non linear optic crystals via poling, ion exchange, and other methods for both bulk and waveguide applications. Primary materials include KTP, SLT, LN. In addition, these structures can be supplied as packaged devices, such as frequency conversion modules, modulators, switches, deflectors, lasers, etc. Pulsed, CW, UV, visible, and IR performance. AdvR teams with Defense contractors on SBIR developments. Contact: Bob Tamosaitis, Sales Manager, Bob@advr-inc. com; Elizabeth Noonan, Development Manager, noonan@advr-inc.com.

#### Aegis Technology Inc.

12630 Westminister Ave, Santa Ana, CA, 92703 714/265-1238; fax 714/554-5511

management@aegistech.net; www,brazing.aegistech.net

Aegis Technology provides Brazing, Hermetic seals, Packaging manufacturer/Engineer services. Products include: 1). A full line of Hermetic Photonic Packages, RF Feedthrough and RF Packages, Sensor Headers, Hybrid IC Packages. 2). Vacuum Viewport: Sapphire, BK10, Quartz, ZnSe, Caf2 windows mounted on S steels, Titanium, Nickel flanges. 3). Laser Diodes Packages. Aegis Technology specializes in the development of advanced technologies from the initial concept to the finished product. Contact: Bob Liu, Account Manager, management@ aegistech.net, bobliu@aegistech.net.

#623

#4739

#4133

#### Aerotech, Inc.

SPIF Corporate

101 Zeta Dr, Pittsburgh, PA, 15238-2897 412/963-7470; fax 412/963-7459 sales@aerotech.com; www.aerotech.com

Aerotech manufactures automated alignment, positioning, and motion control systems and components for 24/7 manufacturing. Products include optical mounts and gimbals; a complete line of single- and multiaxis photonic/fiberoptic 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.

#### AF Optical Inc.

45268 Industrial Dr, Fremont, CA, 94538 510/623-9716; fax 510/623-9726

sales@afoptical.com; www.afoptical.com

New Product: Optoform instructional videos: Find the inventor in vou.

Manufacturer of Optoform system: An opto-mechanical erector set for rapid prototyping. Optoform consists of hundreds of components for microscopy, interferometery, biomedical, and fiber optics, and laboratory setups. Highly illustrated user's manual, and youtube instructional videos are available to guide new users how to prototype their new ideas. Contact: Ali Afshari, CEO, sales@afoptical.com.

#### AFL Telecommunications

SPIF Corporate

PO Box 3127, Spartanburg, SC, 29304 864/486-7219; fax 864/433-5363 www.afltele.com

AFL is an industry leader providing fiber optic products, engineering expertise and integrated services to various industries. AFL's product line consists of optical connectivity, fusion splicers and test equipment as well as fiber management systems, closures, fiber optic cable and accessories. AFL serves a diverse mix of industry segments that include service providers, OEMs, government and defense, oil and gas, biomedical as well as premise networking and utility. Contact: Mike Hetrick, National Sales Manager, michael.hetrick@afltele.com; Greg Pickeral, Product Manager, greg.pickeral@afltele.com.

#### Agilent Technologies

5301 Stevens Creek Blvd, Santa Clara, CA, 95051-7204 www.agilent.com

#### Agiltron, Inc.

#4438

15 Cabot Rd, Woburn, MA, 01801-1003 781/935-6500; fax 781/935-2040 www.agiltron.com

#### New Product: High Power, Nano-speed fiber optic components; Infrared Detectors; Raman Spectrometers.

Agiltron offers industrial leading optical communication and sensing solutions with a broad portfolio of components/sub systems. Agiltron also offers MEMS fabrication, component packaging, and testing services. Contact: Charley Huang, Sales Manager, charleyh@agiltron.com; Jing Zhao, CEO, jzhao@agiltron.com.

#### AGM Container Controls, Inc.

#### #4127

3526 E Fort Lowell Rd, Tucson, AZ, 85716 520/881-2130 sales@agmcontainer.com; www.agmcontainer.com

#### AIM Specialty Materials

25 Kenney Dr. Cranston, Rl, 02920 401/463-5605; fax 401/463-0203 info@aimspecialty.com; www.aimspecialty.com

AIM Specialty Materials offers solders for Photonic Packaging applications such as fiber/ferrule soldering, die attach, TEC soldering, fiber positioning package sealing and thermal management. Solders are available with melting points ranging from 60°C to 300°C. Indium and Gold/Tin solders are available as wire, ribbon, paste and preforms in many sizes and purities. AIM's technical staff is available to assist you with custom designed solutions to your sealing issues. Contact: Brian O'Neill, Sales Manager, boneill@aimspecialty.com.

#### AIST-NT Inc.

353 Bel Marin Keys Blvd Ste 7-8, Novato, CA, 94949 415/884-9500; fax 415/884-9500 info@aist-nt.com; www.aist-nt.com

#### Aistana Inc.

1549 Brookvale Dr Unit 3, San Jose, CA, 95129 408/329-7911; fax 866/628-8556 szhong@aistana.com; www.aistana.com

#### New Product: PM or Non-PM Tap/Isolator/Filter Wavelength Division Multiplexer Hybrid Components.

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 and 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. Contact: Shelly Zhong, szhong@aistana.com; Peter Ji, pji@aistant.com.

# Aixtooling GmbH

Steinbachstr 17, Aachen, Germany, 52074 49 241 8904 499; fax 49 241 8904 6499 info@aixtooling.de; www.aixtooling.com

New Product: Design, production and test of molds for precision glass molding of complex optical components.

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: Mr. Bernd Bresseler, Managing Partner, bernd.bresseler@aixtooling.de; Guido Pongs, Managing Partner, guido.pongs@aixtooling.de.

#### AKELA Laser Corp.

2031 US Hwy 130 Ste G, Monmouth Junction, NJ, 08852 732/305-7105 info@akelalaser.com; www.akelalaser.com

#5024

#4837

#6046

#4601

#4233

#1241

#1430

#### #4518

#### Alfalight

SPIE Corporate Member

1832 Wright St, Madison, Wl, 53704 608/240-4800; fax 608/240-4801 www.alfalight.com

# New Product: High-performance wavelength-stabilized pump laser diodes for micro-lasers and fiber lasers.

Alfalight, Inc. is a market-proven developer and manufacturer of highly efficient and reliable high-power diode lasers for industrial, defense, and telecommunications markets. The company's advanced Aluminum-Free Active region (ALFA) diode lasers and Wavelength Stabilization Technology (WST) enable industry-leading efficiency, reliability, power and brightness. Alfalight's high-power diode laser product line features chips on carrier, fiber-coupled single emitters and combined power modules. Contact: Carter Hand, Sales Manager, chand@alfalight.com; Tom Steele, Sales Manager, tsteele@alfalight.com.

#### **ALIO Industries, Inc.**

SPIE Corporate

11919 W I-70 Frontage Rd N #119, Wheat Ridge, CO, 80033 303/339-7500; fax 303/339-7501

www.alioindustries.com

# New Product: Nano Precision Air Counter Balanced Compact Linear Motor Z.

ALIO is a world leading manufacturer of True Nano<sup>™</sup> motion systems. ALIO's performance meets or exceeds specifications for today's demanding applications and comes with NIST traceable proof. ALIO has over 250 standard products to meet customer's needs. Contact: Dan Crews, Vice President, danc@alioindustries.com; Sales, sales@ alioindustries.com.

#### **Allied Laser Solutions**

#1618

#340

#1823

#2038

#2231

61 Union St, Westfield, MA, 01085 413/562-4040; fax 413/562-6167

sales@als-sales.com; www.alliedlasersolutions.com Allied Laser Solutions is the exclusive distributor for Fine Adjustment, a

German manufacturer of narrow linewidth 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, CEO, arb@alliedlasersolutions.com.

#### AllMotion

29504 Union City Blvd, Union City, CA, 94587 510/471-4000; fax 510/471-4003 info@allmotion.com; www.allmotion.com

#### **ALPAO**

2217 Route de Meylan, Biviers, France, 38330 33 4 76 63 55 05; fax 33 4 76 54 45 32 frederic.rooms@alpao.fr; www.alpao.fr

#### New Product: ALPAO will present its new Adaptive Optics Control System named ACE (Alpao Control Engine).

ALPAO designs full Adaptive Optics Systems and deformable mirrors. Its solutions satisfy the applications such as: Astronomy, Vision science, Defense, Low power laser applications. ALPAO's unique technology offers many benefits such as: The largest strokes available on the market, permitting huge corrections, One of the highest bandwidth, A large variety of deformable mirrors, from 9 to 40mm of diameter, A best in class control software (built on Labview, MatLab, C/C<sup>++</sup>). Contact: Frederic Rooms, CEO, frederic.rooms@alpao.fr; Samuel Perraud, Sales Director, samuel. perraud@alpao.fr.

#### **Alpes Lasers SA**

Passage Max-de-Meuron 1-3, Neuchatel, Switzerland, 2001 41 32 729 9510; fax 41 32 721 3619 info@alpeslasers.ch; www.alpeslasers.ch

#### Alphion Corp.

SPIE Corporate Member

196 Princeton Hightstown Rd, Princeton Junction, NJ, 08550 609/936-9001; fax 609/936-9002 soa@alphion.com; www.alphion.com Alphion<sup>®</sup> develops, manufactures, and markets photonic components,

subsystems, and GPON systems. Alphion serves the FTTx, medical imaging, test & measurement, fiber optic sensing, and telecommunications markets. The QLight<sup>®</sup> product family consists of SOA-based technology including extended PON amplifiers, broad-band sources, nanosecond lossless photonic switches, gain elements for tunable lasers, and advanced integrated photonic devices. Contact: Mario Pinto, Director, Sales, soa@alphion.com; Christopher Peterson, Vice President, Marketing, soa@alphion.com.

#### **ALTECHNA Co., Ltd.**

Konstitucijos Ave 23C-604, Vilnius, Lithuania, LT-08105 370 52725738; fax 370 52723704 info@altechna.com; www.altechna.com

# New Product: IBS advanced dielectric coatings, DPSS YB:YAG Q-switched laser, LD driver (pulsed and CW), Axicons.

ALTECHNA is Lithuanian company with more than 13 years experience in photonics and its R&D department. ALTECHNA is a supplier of laser optics, crystals, equipment, lasers and microfabrication systems. Our products are designed to meet the challenges of both: research and industrial production as well as actual or future requirements. Close cooperation with international and local business partners helps us to provide high quality and custom-oriented Hi-Tech solutions. Contact: Aurimas Galinis, General Manager, info@altechna.com; Dainius Balkauskas, Sales Engineer, dainius@altechna.com.

### **Altos Photonics, Inc.**

SPIE Corporate Member

201 S Wallace Ste B2C, Bozeman, MT, 59715 406/545-2147; fax 866/658-7357

sales@altosphotonics.com; www.altosphotonics.com Altos Photonics offers pulsed solid-state lasers and tunable systems for research and industrial application, as well as related components and accessories. Laser components include UV and IR optics, non-linear crystals (BBO, KTP, ZGP, KYW, KGW, etc), optical mounts, USB-controlled

stages, and laser safety glasses. Altos Photonics sells and services products from EKSPLA, EKSMA, Light Conversion & Standa. Contact: Lucian Hand, President, Altos Photonics, sales@altosphotonics.com.

### Ambios Technology, Inc.

100 Pioneer St, Santa Čruz, CA, 95060 831/429-4200; fax 831/427-1160 Ifullagar@ambiostech.com; www.ambiostech.com

#### New Product: New Q-View White Light Interferometer/SPM.

Ambios Technology, Inc. is a provider of world class high resolution surface measurement and visualization systems to academic and industrial research customers across the globe. In addition to surface profilometers, the company manufactures scanning white light interferometers and (AFM/SPM) scanning probe microscopes. Contact: Lauren Fullagar, Sales and Marketing Administrator, Ifullagar@ambiostech. com; Rick Olds, Sales and Marketing Manager, rolds@ambiostech.com.

#### **#914**

#4541

#1823

#4732

#### American Beryllia, Inc.

#5326

#2415

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16 First Ave, Haskell, NJ, 07420 973/248-8080; fax 973/248-8012 info@americanberyllia.com; www.americanberyllia.com

American Beryllia Inc. is a leading worldwide manufacturer of Beryllium Oxide ceramic (BeO) heat sinks, laser bores, 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. Visit us 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, getzy@americanberyllia.com; Dino Nicoletta, President, dnicoletta@ americanberyllia.com.

#### **AMETEK HCC Industries**

SPIE Corporate Member

4232 Temple City Blvd, Rosemead, CA, 91770 626/443-8931 www.hccindustries.com

New Product: Vertical Seals - TO headers, Platforms, Crystal Bases.

Ametek HCC, the leader in high reliability hermetic packaging and interconnects. Packages and headers for Infrared, Microprocessor, and Optoelectronic applications; Connectors for harsh environments; Hermetic Fiber-Optic Connectors; Specialty Items - Windows and Lids. Capabilities: custom engineering, prototyping, production. Businesses: HCC Aegis, Glasseal Products, General Ceramics, Hermetic Seal Corp, Sealtron and Ametek SCP. Contact: George McCormack, Director, North American Sales, george.mccormack@ametek.com; Rob Winterburn, Strategic Marketing Manager, rob.winterburn@ametek.com.

#### **AMETEK Precitech, Inc.**

SPIE Corporate Member

44 Blackbrook Rd, Keene, NH, 03431 603/357-2511; fax 603/358-6174 www.precitech.com

Precitech manufactures ultra precision diamond machining systems for single point diamond turning, precision grinding and diamond milling of spherical, aspheric and non-axes symmetric (freeform) optics, optical molds and precision mechanical components. We also provide metrology systems for form measurement and associated OEM components. Contact: Jon Harman, Global Sales and Marketing Manager, jon.harman@ ametek.com; Chris Stroshine, North American Sales Manager, chris. stroshine@ametek.com.

#### **AMETEK Taylor Hobson, Inc.**

SPIE Corporate Member

1725 Western Dr, West Chicago, IL, 60185 630/621-3099; fax 630/231-1739 taylor-hobson.sales@ametek.com; www.taylor-hobson.com

# New Product: Form Talysurf PGI-Blu: 3D Surface Profiler. Talysurf CCI-Lite: Non-contact 3D Surface Profiler.

Taylor Hobson is a leading supplier of both contact and non-contact surface metrology instruments used to measure the surface form, finish, and mid-frequency waviness of apsheric optics, as well as other highprecision engineered surfaces and micro-structures. Taylor Hobson also provides a full line of Micro-Alignment Telescopes and Autocollimators used used in various optical alignment applications. Contact Jeff Brown, Regional Sales Manager, Jeff.Brown@ametek.com.



# **AMETEK Vision Research**

#### #2415

100 Dey Rd, Wayne, NJ, 07470 973/696-4500; fax 973/696-0560 www.visionresearch.com

Vision Research designs and manufactures high-speed digital imaging systems. Vision Research 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<sup>™</sup>. For additional information regarding Vision Research, please visit www.visionresearch. com. Contact: Chris Kerr, Director of National Sales, Chris.Kerr@ametek. com; Larry Vladic, Sales, Larry.Vladic@ametek.com.

### AMF Optics, Inc.

#5131

30 Nashua St, Woburn, MA, 01801 781/933-6125; fax 781/933-6420 www.amfoptics.com

A.M.F. Optics, Inc. is a manufacturer of precision optical components. Prototype through production quantities of cylindrical and spherical lenses, prisms, windows, mirrors and flats. Provider of UV-VIS-IR materials, diamond turned components including aspheres, spherical lenses, and metal mirrors. Supplier of polishing services and mold repair for stainless steel injection molds. Contact: Jeffrey Kenton, CEO, jkenton@amfoptics. com; Robert Lafreniere, President, bob@amfoptics.com.

#### AMO WaveFront Sciences, LLC

14820 Central Ave SE, Albuquerque, NM, 87123 505/275-4747: fax 505/275-4749 info@wavefrontsciences.com: www.wavefrontsciences.com

#### New 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<sup>™</sup> also presents advantages to most optical test requirements traditionally addressed by interferometry. Contact: Hairong Lei, Sales Representative, hairong.lei@amo.abbott.com.

#### **Amonics Ltd.**

#### #5519

#2105

U 1807-4 18F Perfect Industrial Bldg, 31 Tai Yau St, San Po Kong Kowloon, Hong Kong 852 2428 9727; fax 852 2428 9704 contact@amonics.com; www.amonics.com

#### New Product: Femto-second Fiber Laser, Narrow Linewidth Laser, High Power EDFA, Raman Laser.

Amonics is the industry's specialist in the design and production of sub-system level devices, including EDFA, Raman Laser for various communication networks including Optical Burst Mode, OCDMA, FTTH, CATV, Ethernet, PON, Sonet/SDH and WDM. We have extensive experience with the development of high power fiber laser and femtosecond laser. Contact: Dr. Peter Chan, VP of Sales and Marketing, peter@ amonics.com; Isabel Liu, Sales Executive, isabel@amonics.com.

#### Amplification Technologies, Inc.

1400 Coney Island Ave, Brooklyn, NY, 11230 718/951-8021: fax 718/951-8030 sales@ampti.net; www.amplificationtechnologies.com

#### **AMPLITUDE Systemes**

6 Allee du Doyen G. Brus, Pessac, France, 33600 33 5 5646 4060; fax 33 5 5646 0694 info@amplitude-systemes.com; www.amplitude-systemes.com

#### New Product: s-Pulse HP<sup>2</sup> is a product of the s-Pulse product line: 2mJ energy per pulse and 8W average power.

Manufactures diode-pumped ultrafast lasers systems. Products range from Picosecond to femtosecond oscillators and amplifiers based on crystal and/or fiber technology. Main features of these advanced lasers: high reliability, compact size and high performance. Scientific and industrial applications include micromachining, multiphoton microscopy, laser ablation, refractive surgery. Contact: Vincent Rouffiange, Sales and Marketing Manager, info@amplitude-systemes.com; Robert Braunschweig, US Sales Manager, info@amplitude-systemes.com.

#### **Amplitude Technologies**

2-4 Rue du bois Chaland, CE 2926 Lisses, Evry, France, 91029 33 6 85609626

fcanova@amplitude-technologies.com; www.amplitudetechnologies.com

#### New Product: TRIDENT: the new, versatile femtosecond amplifier for application. Peak power up to the TW!

Amplitude Technologies mission is to produce robust and reliable ultraintense femtosecond systems with the best performances, from the point of view of pulse duration, temporal contrast, and spatial beam quality. Our engagement in performances continues after the delivery and our collaboration with the customer guarantees laser specification. Contact: Federico Canova, USA Sales Manager, fcanova@amplitude-laser.com.

#### AMTRON GmbH

Neustr 26, Würselen, Germany, 52146 49 2405 479890; fax 49 2504 4798920 info@amtron.net:

#### New Product: CM100: The paper-back format that packs 5 kW ultra-compact and flexible laser-diode controller.

Amtron GmbH develops and markets high-quality laser-diode controllers, laser-diode turnkey systems and pyrometry solutions. Clients include laser manufacturers, system integrators and research and development specialists using Amtron systems in machining or medical technology. Apart from high-end products with integrated process control, simple applications are also catered for by Amtron models which never-the-less feature all of the necessary functions for deployment in industry. Contact: Mr. Hans-Dieter Gehlen, info@amtron.net.

#### Analog Modules, Inc.

126 Baywood Ave, Longwood, FL, 32750-3426 407/339-4355; fax 407/834-3806 ami@analogmodules.com; www.analogmodules.com

#### New Product: Model 762 - OEM Seed Laser Diode Driver Assembly.

Founded in 1979, Analog Modules is an ISO 9001 certified company located in Longwood, (Orlando) FL where 62 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, kpacy@analogmodules.com; Bruce Soileau, Product Manager, bsoileau@analogmodules.com.

#### Anchor Optics

101 E Gloucester Pike, Barrington, NJ, 08007 856/573-6865; fax 856/573-6272 sales@anchoroptics.com; www.anchoroptics.com

New 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 guickly becoming the preferred supplier for commercial quality optics. Contact: David Henz, Product Line Manager, sales@anchoroptics.com.

# Andor Technology

#### SPIE Corporate Member

425 Sullivan Ave Ste 3, South Windsor, CT, 06074 860/290-9211; fax 860/290-9566 l.fiore@andor.com; www.andor.com

#### New Product: Clara with Sony® ICX285 sensor; ideally suited to high resolution cell microscopy and OEM applications.

Andor Technology develops and manufactures high performance light measuring solutions. We use our CCD, interline, iCCD, and sCMOS sensors expertise to develop the best turn-key solutions for your light measuring problems. Our products and solutions enable a customer base of both the scientific research and industrial communities. in applications spanning a wide range of physical and biological sciences. Visit www. andor.com for the most current specifications and product news. Contact: Gene Marino, Marketing, g.marino@andor.com; Laura Fiore, Marketing, l.fiore@andor.com.

#### #4601

#2123

#1308

#801

#5504

#1607

#### Andover Corp.

SPIE Corporate Member

4 Commercial Dr, Salem, NH, 03079-2800 603/893-6888; fax 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 ISO 9001:2000 registered. Contact: Rob Pursel, Sr. Optical Coating Engineer, rpursel@andovercorp.com; Phil Clark, Technical Sales, pclark@andovercorp.com.

#### Anson Optical Products Co., Ltd.

#3040

#610

#2326

#622

Rm 605 6/F Decca Industrial Center, 12 Kut Shing St, Chaiwan, Hong Kong

852 27570168; fax 852 2796268

info@ansonoptical.com.hk; www.ansonoptical.com.hk

New Product: Optics for LED application.

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 aspherical, cylindrical, frensel components, modules and mirrors. Contact: Raymond Law, Marketing Manager, raymond@ansonoptical.com.hk; Monica Chan, Administration Officer, admin@ansonoptical.com.hk.

#### **Anteryon BV**

SPIE Corporate Member

Zwaanstr 2a Bldg RAB, Eindhoven, The Netherlands, 561 CA 31 40 25 61 500; fax 31 40 25 61 518

info@anteryon.com; www.anteryon.com

Anteryon provides innovative high-tech optical solutions from design to mass production level. The core technologies of Anteryon are glass replication, surface structuring and opto-mechanical/opto-electronic assembly. Combining the core technologies we are able to produce i.e. wafer level camera objectives, aspherical lenses and lens arrays, lasers, planar optics and mastering substrates. For more information, please check our website: www.anteryon.com. Contact: Julia Hew, Sales Manager USA, usa@anteryon.com; Peter Timmerman, Sales Manager Asia, asia@anteryon.com.

### AOC Technologies, Inc.

6690 Amador Plaza Rd #110, Dublin, CA, 94568 925/875-0808; fax 925/875-0878 neilsantos@aoctech.com; www.aoctech.com

New Product: Tunable Lasers and Integrated Tunable Lasers.

Founded in 1999, AOC Technologies success has been fueled by its aggressiveness and capability to rapidly respond to our customer demands. We specialize in cost effective, on time to market and leading edge full turnkey and vertical integration services for complex Opto-Electonics manufacturing. Our 10,0000 sq meters state of the art and ISO 9001/14001 manufacturing facility in Wuhan "Optical Valley" of China accommodates low to high volume allocated production line. Contact: Neil Santos, VP. of Sales & Marketing, neilsantos@aoctech.com; Gordon Gu, President & CEO, gordongu@aoctech.com.

#### APE - Angewandte Physik und Elektronik GmbH

Plauener Str 163-165 Haus N, Berlin, Germany, 13053 49 30 98601130; fax 49 30 986011333 ape@ape-berlin.de; www.ape-berlin.com

APE GmbH develops and manufactures measurement devices and other accessories for ultrafast laser systems. The company is one of the international market leaders in ultrafast diagnostics and offers precision, quality and service from autocorrelators to wavelength measurement, from acoustooptics to synchronously pumped optical parametric oscillators (OPOs). APE instruments are in use in scientific institutions and research centers all over the world. Contact: Edlef Buettner, Managing Director, edlef\_buettner@ape-berlin.de; Jan Popien, Managing Director, jan\_popien@ape-berlin.de.

# Apollo Instruments Inc.

SPIE Corporate Member

55 Peters Canyon Rd, Irvine, CA, 92606 949/756-3111

contact@apolloinstruments.com; www.apolloinstruments.com

New Product: High-power, high-brightness FIBER LASER SYSTEM; Features: 200W, M2<1.1, collimated output, CW.

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. Contact: Peter Wang, Sales Manager, contact@apolloinstruments.com.

#### Apollo Optical Systems, Inc.

330 Clay Rd, Rochester, NY, 14623 585/272-6170; fax 585/272-6177 info@apollooptical.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.

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#2111

#1037



#### Applied Image, Inc.

SPIF Corporate

1653 E Main St, Rochester, NY, 14609-7090 585/482-0300; fax 585/288-5989 info@appliedimage.com; www.appliedimage.com

New Product: T-20-LC Low Contrast USAF-1951 charts in low contrast values of 5%, 35%, 80% and 94% Transmission.

"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 rulings and other imaged components on various substrate materials for today's complex photonics needs. Now offering Imatest software with Applied targets for analyzing image quality. APPLIED IMAGE, where image concepts become reality. Contact: Paul Anderson, panderson@appliedimage.com; Luke Hobson, lhobson@appliedimage.com.

#### Applied Laser Engineering Ltd.

Molesey Business Center, Central Ave, West Molesey Surrey, United Kingdom, KT8 2QZ

44 208 941 1101; fax 44 208 783 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 Optronics**

#4813

#6066

#4321

**#722** 

111 Corporate Blvd Bldg J, South Plainsfield, NJ, 07080 908/753-6300; fax 908/753-4041 sales@applied-optronics.com; www.applied-optronics.com

Applied Optronics is a high power laser diode manufacturer of CW and pulsed laser diodes, multi-element laser diode modules and arrays. We offer the widest array of wavelengths in the industry from 620nm to greater than 2 microns. Contact: Ernest Sirkin, General Manager, ernie. sirkin@applied-optronics.com; Dennis Tishinin, Director of Engineering, denis.tishinin@applied-optronics.com.

#### **Applied Surface Technologies**

15 Hawthorne Dr. New Providence, NJ, 07974 908/464-6675

co2clean@co2clean.com; www.co2clean.com

We will demonstrate the CO<sub>2</sub> Snow Jet - a simple, yet novel surface cleaning process that can remove particles of all sizes (visible down to 0.03 microns) and also organic residues. Bring your samples for a demonstration. The CO2 snow cleaning process works well for many wafers, ceramics, metals, substrates, optics - both coated and uncoated, analytical samples (AFM, XPS), diamond turned optics and many other applications. The Snow Jet process is solvent-free, nondestructive, and residue-free. Contact: Robert Sherman, President, roberts@co2clean.com.

#### Applied Thin-Film Products 3439 Edison Way, Fremont, CA, 94538

510/661-4287: fax 510/661-4250 franco@thinfilm.com; www.thinfilm.com

APPLIED THIN-FILM PRODUCTS (ATP) is a leading Thin-Film Manufacture for a wide range of materials and metalization schemes. Substrates are fabricated from Alumina, ALN, BEO, Fused Silica, Quartz, Ferrite's, and Hi-K Dielectrics. Metalizations range from standard Tan/TiW/ Au to films including Nickel, Palladium and Platinum. Circuit features can include fine pitch conductors, integrated resistor, hollow plated vias, solid filled vias, double-sided patterning and pre-deposited Gold/Tin (AuSn). Contact: Franco Pietroforte, Vice President, fpietroforte@thinfilm.com; Ryan Nguyen, Sales Engineer, rnguyen@thinfilm.com.

#### APS Optics

42257 Trover Ave, Fremont, CA, 94539-5144 510/656-9295; fax 510/353-1109 apsoptics@usa.net; www.apsoptics.com

#### New Product: Aspheric lens, Optical Crystals, Axicones, **Retroreflectors**, Fiber Optics,

Established in 1993, Consulting, Design and production of the complicated optical units and components, night vision sights, etc. Contact: Arkadiy Farberov, General Manager, apsoptics@usa.net; Sofiya Zalan, Production Manager, sofiyaz@yahoo.com.

#### Archer OpTx, Inc.

SPIE Corporate

3412 Enterprise Dr, Rowlett, TX, 75088 972/463-8001 sales@archeroptx.com: www.archeroptx.com

#### New Product: MicroAsphere/MicroArray-ultra precision molded glass 0.25mm to 1.5mm OD using PerfectLens™ process.

PerfectLens<sup>™</sup> and MicroAsphere<sup>™</sup> and MicroArray<sup>™</sup> - 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, Director of Sales, kevin.mitchell@archeroptx.com; Colby Freeman, Inside Sales Manager, colbycfreeman@archeroptx.com.

#### ARGES GmbH

#2610

Werk 4, Wackersdorf, Germany, 92442 49 9431 7984 0; fax 49 9431 7984 300 info@arges.de; www.arges.de

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 Hoesl, Sales & Marketing, info@arges.de; Cornelia Oppitz, Sales, info@arges.de.

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#3014

www.optotaiwan.com

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台北國際光電週系列活動

# June 9-11, 2010

Taipei World Trade Center 台北世界貿易中心



#### OPTO Taiwan 國際光電大展

The 19th Int1 Optoelectronics Exposition

#### Exhibita

Compound Semiconductor Optice/Ectoretics Devices Optice/Ectoretics Optice/Optice/Optice/Ectoretics Laser Applications Vecuary Costing Procision. Instrument / Equipment

#### Concurrent Exposition

Display Taiwan 2010 台澳中國際示器展 The 12th Inth Flat Parel Display Supposition





#### LED Lighting Taiwan LED照明展

The 6th Int'l LED Lighting Exposition

Exhibits LED Lighting Fature LED Applications Package / Module Epi Wafer, Chip Motorials Processing Equipment

#### Organizer



財團法人光電科技工業協進會 Photonics Industry & Technology Development Association 台北市10091篇系編約二級九級五編 57, No.9, Roosevelt Road, Sec.2, Taipei 10093, Taiwan Tell: +886-2-2351-4026 Fax: +886-2-2396-8513

SOLAR 2010

SOLAR Taiwan

Solar Integrated Products and Applications Photovoltaic(PV) System and Installation PV Module

太陽光電展

Production Equipment PV Program

Photovoltaic Exposition

The 4th Int'l

Exhibits

Solar Call Materials



#### OPTICS Taiwan 精密光學展

The 4th Int'l Precision Optics Exposition

Exhibits Optical Lenses / Module Optical Components Costing Products Optical Materials Monufacturing Equipment

[Overseas contact] Fanela Hsiao (ext. 805) E-mail: extibiti@mail.pida.org.tw Allan Lee (ext. 850) E-mail: allen@mail.pida.org.tw [合発地版]

建筑市 小说 lext. 603) E-mail : ginger@mail.pida.org.tw 新言葉 小道 lext. 6050 E-mail : cathy@mail.pida.org.tw

#### Argus International, Ltd.

108 Whispering Pines Dr Ste 110, Scotts Valley, CA, 95066 831/461-4700; fax 831/461-4701 info@argusinternational.com; www.argusinternational.com

New Product: ZnSe Lens, WL: 10.6 microns, EFL: ±1%, CA: 98%,

New Product: 2nSe Lens, WL: 10.6 microns, EFL: ±1%, CA: 98%, CT: (±005mm), DIA: 2–200 +0/-0.1 mm.

Argus International, Ltd. is an experienced manufacturer of custom optics for industry, science, university 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: Nick Colligan, International Sales & Marketing Manager, nick@argusinternational.com; Pennie Smyth, Government Procurement Manager, pennie@argusinternational.com.

#### **Argyle International Inc.**

SPIE Corporate Member

254 Wall St, Princeton, NJ, 08540 609/924-9484; fax 609/924-2679 info@argyleoptics.com; www.argyleoptics.com

# New Product: Argyle International is now making Micro-lenses, diameter 1mm to 4mm for custom applications.

Since 1993, Argyle International Inc has been supplying optical components to its customers worldwide. Located in Princeton, New Jersey, Argyle runs its own optics factory in China, combining an American contact point with highest quality and best pricing. We manufacture a full range of lenses, prisms, windows and general optics including coatings for UV, VIS and IR. All work is custom. We specialize in prototypes, but we have full production capabilities. Contact: Arthur Gillman, President, AGillman@ArgyleOptics.com; Lian Shentu, Vice President, LShentu@ArgyleOptics.com.

#### **Arroyo Instruments**

SPIE Corporate Member

373 Front St Ste B, Grover Beach, CA, 93433 805/481-6684; fax 805/481-6628 sales@arroyoinstruments.com; www.arroyoinstruments.com

New Product: New Pak series controllers for low cost and

embedded applications.

Arroyo Instruments is a supplier of leading edge laser diode drivers, temperature controllers, and laser diode fixtures. We offer both bench top and OEM power supplies in a wide range of power levels, and our LaserMount fixtures are available for c-mount, HHL, TO-3, butterfly, DIL, mini-DIL, and TO-can devices. Contact: Paul Corr, President, pcorr@ arroyoinstruments.com.

#### Asahi Spectra USA Inc.

SPIE Corporate Member

23505 Crenshaw Blvd Ste 229, Torrance, CA, 90505 310/530-5855; fax 310/530-1739 info@asahi-spectra.com; www.asahi-spectra.com

New Product: Long life white light source and Solar simulator.

A leading designer and manufacture of precise optical filters and lighting instruments, we serve a wide range of markets, including medical diagnostics, environmental monitoring, imaging, semiconductor and aerospace. Our newest innovations include high-performance filters for UV applications and long life light source. We welcome your OEM inquiries and custom engineering questions. Contact: Takeshi Fujii, Vice President Sales, tfujii@asahi-spectra.com.

#### **ASML Optics**

SPIE Corporate

#4737

#1002

#5220

#815

3900 Lakeside Dr, Richmond, CA, 92867 510/222-2310; fax 510/222-2357 information@asml.com; www.asml.com

ASML Optics is a manufacturer of extreme precision optical components and systems for a broad range of commercial applications, serving customers worldwide. Provides Design-to-Image<sup>™</sup> solutions including optical and mechanical design, optical fabrication and coating, assembly and system qualification, and distinct customer benefits with Asphere Advantage<sup>™</sup> technology and PerfectWave<sup>™</sup> metrology. Contact: Mark Bigelow, VP Sales, mark.bigelow@asml.com; Cynthia Houston, Account Manager, cynthia.houston@asml.com.

#### asphericon GmbH

**#4601** 

#4601

#4201

Wildenbruchstr 15, Jena, Germany, 07745 49 3641 675 600; fax 49 3641 675 606 sales@asphericon.com; www.asphericon.com

New Product: asphericon SPA acylinders, asphericon SPA UVgrade fused silica, precision optics from 1mm diameter.

asphericon has become an independent and acknowledged specialist for aspherical components. The company success is based on patented technologies for manufacturing aspheres in various precision levels. These comprehensive state-of-the-art control technologies, in combination with both standardized tools and 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: Mr. Stefan Klinzing, Sales Manager, s.klinzing@asphericon.com.

#### Astro- und Feinwerktechnik Adlershof GmbH

Albert-Einstein-Str 12, Berlin, Germany, 12489 49 30 6392 1000; fax 49 30 6392 1002 f.ruhl@astrofein.com; www.astrofein.com

Astro- und Feinwerktechnik Adlershof GmbH has high skills and experience in optoelectrical and mechanical equipment in the area of aerospace are well applied for special machinery, scientific instruments, measurement and inspection stations, and transportation for sensitive devices and sensor technology applications. We have a broad experience in designing, manufacturing and testing of structures and housings, focal plane technology, vacuum technology and cryogenic engineering. Contact: Friederike Ruhl, Head Business Development, f.ruhl@astrofein. com; Mandy Wilke, Assistant CEO, m.wilke@astrofein.com.

#### Astron

PO Box 2, Dwingeloo, Netherlands, 7990 AA 31 521 595286; fax 31 521 597332 www.astron.nl

# New Product: ASTRON-NOVA is working on the development of large array based radio- and optical-IR telescopes.

NOVA-ASTRON both have their mission to make discoveries in astronomy happen, via the development of novel and innovative technologies and to carry out front-line astronomical research. At the Photonics West, we show our latest developments on infrared spectroscopic systems (http://www.astron.nl/r-d-laboratory/competence-and-support-groups/ mechanical-design/mechanics) for the worlds most advanced space and ground-based telescopes. Additonally we show our photonics beamforming demonstrators. Contact: Ronald G.B. Halfwerk, Technology Transfer Officer, halfwerk@astron.nl; Ramon Navarro, Competence Manager Optical Systems, navarro@astron.nl.

#### ► PROMOTIONAL PARTNER

#### AT-Fachverlag GmbH/Photonik

Saarlandstr 28, Fellbach, Germany, 70734 49 711 952 9510; fax 49 711 952 95199 schoene@at-fachverlag.de; www.photonik.de

#### Attodyne Inc.

60 St George St, Toronto, ON, Canada, M5S 1A7 4106/946-0107; fax 410/768-4505 sales@attodynelasers.com; www.attodynelasers.com

New Product: Hybrid fiber/solid-state amplified picosecond lasers. Robust, compact, and affordable.

Attodyne makes picosecond-pulsed lasers for both medical, industrial and research applications. Attodyne offers standard products and custom laser solutions to researchers, system integrators and original equipment manufacturers. Attodyne's revolutionary laser platform resolves the cost, size and reliability constraints that have limited the adoption of high power ultrafast-pulsed lasers into many markets. Contact: General Inquiries, info@attodynelasers.com; Sales, sales@attodynelasers.com.

### Automation Engineering Inc. (AEI)

299 Ballardvale St Ste 3, Wilmington, MA, 01887 978/203-2018; fax 978/658-1050

sales@aeiboston.com; www.aeiboston.com

AEi is a leading supplier of high-precision, flexible automation systems across the optoelectronics, medical devices, consumer products, mobile phones, aerospace and defense, and other worldwide markets. AEi provides comprehensive design for manufacturing, process development, and pre-production build services, in addition to complete turnkey automated manufacturing stations and lines. For more information on AEi's precision automation systems, visit http://www.aeiboston.com. Contact: Andre By, Chief Technology Officer, aby@aeiboston.com; Justin Roe, Chief Operating Officer, jroe@aeiboston.com.

#### Avantes, Inc.

SPIE Corporate Member

9769 W 119th Dr Ste 4, Broomfield, CO, 80021 303/410-8668; fax 303/410-8669 infousa@avantes.com; www.avantes.com

Avantes manufactures portable spectrometer systems, light sources, fiberoptic cables and probes, and accessories for UV/VIS/NIR measurement from 200-2200 nm. Systems include choice various detector arrays and communication options including USB, USB2, Wireless, and RS232. Avantes welcomes custom engineering questions and OEM inquiries. Avantes has thousands of spectrometers in the field and experienced specialists to help find your Solutions in Spectroscopy<sup>®</sup>.

### Avensys Tech/ITF Labs

#4500 #4500

400 Blvd Montpellier, Montreal, QC, Canada, H4N 2G7 514/748-4848; fax 514/744-2080

info@avensystech.com; www.avensystech.com Avensys Tech's products range from pump/signal combiners for state-

Averisys tech's products range from pump/signal combiners for stateof-the-art fiber lasers and amplifiers; to miniaturized DPSK/DQPSK demodulator for the 10G and 40G communication systems and fiber Bragg grating. ITF Labs spearheads both development manufacturing of kW-class fiber laser components, fiber-based sensors and custom turnkey design of ultra-reliable fiber-optic systems and prototyping services. It also develops demodulators for next generation communication systems (100G). Contact: Christian Lafrance, Director, Sales & Marketing, clafrance@avensys.com; Hélène Stievenard, Internal Sales Manager, hstievenard@avensys.com.

#### **AVERNA**

75 Belfast Rd, Carrickfergus, United Kingdom, BT38 8BX 44 2893 357300 www.averna.com

# Avo Photonics, Inc.

SPIE Corporate Member

700 Business Center Dr Ste 125, Horsham, PA, 19044 215/441-0107; fax 215/441-9219 nstoker@avophotonics.com; www.avophotonics.com

# New Product: Photonic Design and Manufacturing Services for Military, Medical, and Telecom Components.

Avo Photonics provides Custom Design and advanced Contract Manufacturing services to opto-electronic customers in the medical, military, aerospace, communications, and industrial markets. Avo's packaging services provide customers with support throughout all stages of the product lifecycle – Concept thru prototype and into production. Avo Photonics' personnel and equipment are an extension of its customer's business, providing transparent services at the low to high volumes required. Contact: Neal Stoker, Vice President Sales and Marketing, nstoker@avophotonics.com; Jalla Atkins, Office Manager, jatkins@ avophotonics.com.

#### **Axcel Photonics Inc.**

#2604

<u>#4998</u>

**#910** 

45 Bartlett St, Marlborough, MA, 01752 508/481-9200; fax 508/481-9261

sales@axcelphotonics.com; www.axcelphotonics.com

New Product: 808nm 10W 200µm on thick C-Mount; 976nm 10W 90µm on submount.

Manufactures single-mode and multi-mode high power diode lasers. Standard and custom products from 780nm to 1080nm with up to 30W output from a single chip. Available as chips, sub-mounts and modules with fiber or window output. Applications include DPSS, medical, printing, spectroscopy, telecom, etc. Contact: Tom Yang, VP of Sales, sales@ axcelphotonics.com.

#### **Axsun Technologies**

1 Fortune Dr, Billerica, MA, 01821 978/262-0049; fax 978/262-0035 info@axsun.com; www.axsun.com

# AXT, Inc.

4281 Technology Dr, Fremont, CA, 94538 510/438-4700; fax 510/353-0668 sales@axt.com; www.axt.com

AXT manufactures substrates for wireless communications, lighting display applications, and fiber optic communications applications. The company offers semi-insulating and semi-conducting substrates made from gallium arsenide and indium phosphide. It has germanium substrates used in satellite and terrestrial solar cells and for optical applications. AXT uses a proprietary vertical gradient freeze technology to manufacture the substrates. Contact: John Cerilli, VP Global Sales and Marketing, sales@axt.com; Lisa Tan, Customer Service Manager, lisa. tan@axt.com.

#314

#### 93

#4101

#4824

#5136

#2224

#2525

#1723

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#1304

#### Ayase America, Inc.

SPEcorporate 3080 Olcott St Ste 210D, Santa Clara, CA, 95054 408/988-5277; fax 408/988-5278 tjang@ayaseamerica.com; www.ayasecorporation.com

New Product: 635, 650, 660, 808, 780, 850nm LDs in 3.3 and 5.6mm TO-can, collimation & line generation 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. Contact: Jeff Hsu, Manager of Sales and Marketing, jhsu@ ayaseamerica.com; tjang@ayaseamerica.com.

#### **Azur Light Systems - ALPhANOV**

351 cours de la Libération, Talence Cedex, France, 33403 33 5 40 00 69 76; fax 33 5 40 00 64 07 nicholas.traynor@alphanov.com; www.alphanov.com

#### **AZURE Photonics USA Inc.**

SPIE Corporate Member

7036 Dublin Blvd, Dublin, CA, 94568 925/833-8288; fax 925/833-8708

marketing@azurephotonicsus.com; www.azurephotonics.com

Azure is an ISO 9001:2000 certified leading professional designer and manufacturer of customized optics. Azure Photonics USA Inc. has engineers to provide on-site, timely and better service to meet the expanding needs of our clients in the North America. With our strong R&D team in the US and modern manufacturing facilities in China, Azure enjoys the advantage of most up-to-date technology and the competitive labor cost, resulting in cost-saving for our clients world-wide. Contact: Fiorina Shen, Vice Executive President, marketing@azurephotonicsus.com; David Weng, sales@azurephotonicsus.com.

#### General REFRESHMENT SPONSOR B&W Tek, Inc.

SPIE Corporate

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

# New Product: Voyage™ is a Confocal Raman Microscope system featuring flexibility, versatility and ease of use.

B&W Tek is an advanced instrumentation company producing optical spectroscopy and laser instruments for biomedical, physical, chemical and research communities with a strong vertical integration capability. B&W Tek also provides custom product development, design and manufacturing. The ISO 9001 & ISO 13485 certified facility and the patented technologies ensure high quality products, consistently proven and growing every day. Contact: Meg Kakade, Marketing Coordinator, info@bwtek.com.

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#### **Baden-Württemberg International**

Willi-Bleicher-Strasse 19, Stuttgart, Germany, 70174 49 711 22787 0; fax 49 711 22787 22 info@bw-i.de: www.bw-invest.de

Baden-Württemberg International is the economic development agency of the state of Baden-Wuerttemberg. Our goal is to promote our location worldwide. Our work includes a wide range of tasks: facilitating international cooperation between companies through market development efforts in key world markets; marketing Baden-Wuerttemberg as a location for business, science, research, and universities and helping foreign companies establish facilities in Baden-Wuerttemberg. Contact: Cornelia Frank, Executive Manager North America, cornelia.frank@bw-i.de.

#### Baikowski/Konoshima

6601 Northpark Blvd Ste H, Charlotte, NC, 28216 704/587-7100; fax 704/587-7106

qyuminami@baikowski.com; www.baikowski.com

New Product: Transparent Ceramic Laser Medium Nd YAG, Yb YAG, Nd  $Y_2O_3$ , Yb  $Y_2O_3$ ; Composite design and flow tube.

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 world-wide sales network. Contact: Q. Yuminami, Sales Manager, qyuminami@baikowski.com.

#### Barr Associates, Inc.

**#601** 

#832

#6014

#4601

SPIE Corporate Member

2 Lyberty Way, Westford, MA, 01886 978/692-7513; fax 978/692-7443

barr@barrassociates.com; www.barrassociates.com

Barr Associates, Inc. is a leading manufacturer and supplier of optical interference filters/coatings (UV through Far-IR) in large or small volume for commercial, defense, space/aerospace and scientific applications. Barr offers precision coating solutions supporting all of the traditional filter types, plus Rugate Notch, Multi-Band, Ultra-narrow-Bandpass and Linear Variable, High Reflectors, Patterned-coatings, ITO, Metal (Solderable), Filter-Arrays, and filters for Image-quality applications. Contact: George Minott, Business Development, Commercial Applications, gminott@ barrassociates.com; Ali Smajkiewicz, President, ali@barrassociates.com.

#### **BaySpec**, Inc.

SPIE Corporate Member

101 Hammond Ave, Fremont, CA, 94539 510/661-2008; fax 510/661-2009 sales@bayspec.com; www.bayspec.com

New Product: Handheld Raman Analyzer, HazMat ID-1064, specifically targeted for measurement of hazardous materials.

BaySpec, Inc., founded in 1999 with 100% manufacturing in the San Francisco Bay Area in the heart of the Silicon Valley, is a vertically integrated spectral sensing company. We design, manufacture and market advanced spectral sensing instruments for the homeland defense, pharmaceuticals, biomedical, test and measurement, fiber sensing, NIR spectroscopy, and optical telecom industries. Contact: Tracy Daniel, tdaniel@bayspec.com.

#### BeamExpander.com

#322

24 Pleasant Cir, Canton, MA, 02021 781/255-1063: fax 781/459-0087 info@beamexpander.com; www.beamexpander.com

#### New Product: Large Apertures and Custom Designs.

Beamexpander.com specializes in fixed and variable magnification ratio beam expanders for all popular laser wavelengths. We offer a wide range of standard products as well as custom designs and exceptional customer service at highly competitive pricing. Delivery of most designs is from stock, often shipping same day. Contact: Phil Barrows, President, phil@beamexpander.com.

#### Beamtech Optronics Co., Ltd.

#4509

#914

#4301

#4930

SPIE Corporate

5320 Lackner Crescent, Richmond, BC, Canada, V7E 5Z9 604/725-1817: fax 604/277-9070

beamtech@shaw.ca: www.beamtech-laser.com

#### New Product: Melar100 Nd:Glass MOPA system: 100J at 1053nm, 20ns, as pump source of Ti:Sapphire in IOP of CAS.

Beamtech began to develop Nd:Glass and Nd:YAG high energy laser systems in 2005. We have successfully delivered more than 10 units of high energy laser systems since then. These high energy laser systems are primarily used for pumping Ti:Sapphire scientific research and laser peening industrial applications. Contact: Xiaonian Fan, Overseas Marketing Director, fxn@beamtech-laser.com; Fang Zhang, President, fang@beamtech-laser.com.

#### Becker & Hickl GmbH

Nahmitzer Damm 30, Berlin, Germany, 12277 49 30 787 5632; fax 49 30 787 5734 info@becker-hickl.com: www.becker-hickl.com

#### Beijing Century Sunny Technology Co., Ltd.

No 65 Jiancai W Rd, Xi Sangi Haidian District, Beijing, China, 100096

86 10 82937456; fax 86 10 82930969 info@century-sunny.com; www.century-sunny.com

#### New Product: 3-axis laser scanning system-3Dscanhead-300-15D with maximum scanning area up to 1280mm.

BCST is devoted to the development, manufacturing and after sales services of galvanometer scanning system, control board and software. With years of experience in this area, BCST stands out with its state-ofthe-art technology and excellent services. Currently, BCST has seven types of scanners available, and USB control board and software available, great performance/price ratio has made BCST well received in the market. Contact: Amy Wei, Sales Assistant, info@century-sunny.com; Jacqueline Wang, Overseas Technical Support, sales1@century-sunny.com.

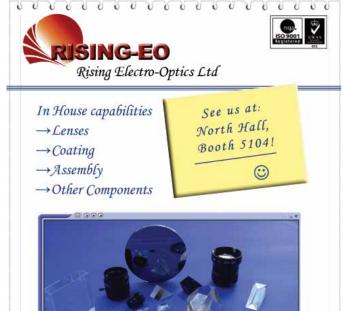
### Beijing Delfa Optoelectronics Inc.

Rm 503 Bldg 2 Fuhai Bldg, No 17 Daliushu Rd, Haidian District Beijing, China, 100081 86 10 62129087; fax 86 10 62128017

sales@delfa.com.cn; www.delfa.com.cn

New Product: Aspheric lenses made by Ge, Si, ZnSe, etc.; microlenses and large lenses diameter over 300mm.

Beijing Delfa Optoelectronics Inc. is a leading China based supplier of advanced optical components and opto-electronic systems serving opto-electronics and R&D markets. We have been designing and manufacturing series single optical elements and multi lenses systems and coatings, including visible and IR image systems, and opto-electronic devices for several years. Contact: Mr. Frank Liu, Managing Director, frankliu@delfa.com.cn.



DODO A: 1st Floor, Bldg24#, Jinshan Fuwan Industrial Park, Fuzhou 350002, China T:+86-591-8334-9016 F:+86-591-8330-0646

E : marketing@rising-eo.com H://www.rising-eo.com

Focus Optics, Rising Together!

#### Beijing Glass Research Institute #2500. 2501

No. 5 Xingguang 4 Ave, Opto-Mechatronics Industrial Park Zhongguancun Science Park, Tongzhou District Beijing, China, 101111

86 10 81508384; fax 86 10 81508608 bgri@bgri.com; www.bgri.com

#### New Product: Calcium Fluoride Crystal & Polarization-Maintaining **Optical Fiber.**

Founded in 1960, BGRI has been growing by contributing to domestic and international projects in diverse areas of science and industry. Many R&D projects are consecutively taken into Production. R&D laboratories and business divisions of Synthetic Crystal, Optical Fiber, Special Glass, Optical Thin Film were established. Commitment to development of the optical material technology, we are working in close collaboration with customers on providing high quality products and satisfactory support. Contact: Gao Feng, Vice Director, bgri@bgri.com; Zhao Liyuan, bgri@bgri.com.

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#### **Beijing Guojing Infrared Optical** Technology Co., Ltd.

SPIE Corporate

2 Xin Jie Kou Wai St, Beijing, China, 100088 86 10 82240015; fax 86 10 82241053 wjx@guojing-tech.com; www.guoing-tech.com

#### New 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 Germanuim, CVD ZnS, CVD ZnSe, and Germanium Tetrachloride. Contact: Zhou Lin, Vice Sales Manager, zl@guojing-tech.com.

#### **Beiiing Opto-Electronics** Technology Co., Ltd. (BOET)

No 11 Institute No 4 Jiuxiangiao Rd, Chaoyang District, Beijing, China, 100015 86 10 84561199; fax 86 10 84562777 sales@oet.com.cn; www.oet.com.cn

#### **Benchmark Electronics**

#5502

#5319

#4114

#2500. 2501

#4325

3535 Technology Dr NW, Rochester, MN, 55901 507/535-4000; fax 507/535-4828 www.bench.com

#### BENEO

Ensimmäinen Savu, Vantaa, Finland, 01510 358 9 7599 530; fax 358 7599 5310 info@beng.com; www.beneg.com

#### New Product: Atomic Layer Deposition, nano manufacturing, optical coatings for 3D, engineered materials.

Beneg is a supplier of industrial equipment and technology for global markets. Beneg is turning innovations into success by providing nanotechnology enabled functional coating applications for cleantech and renewable energy areas especially in glass, photovoltaics and emerging thin films markets. Beneg solutions are based on Atomic Layer Deposition (ALD) and proprietary atmospheric nHALO® & nAERO aerosol coating technologies. Contact: Jukka Kohtala, Sales Manager, jukka.kohtala@beneq.com; Arto Pakkala, Sales and Marketing Director, arto.pakkal@beneq.com.

#### **Berkelev Nucleonics Corp.**

2955 Kerner Blvd, San Rafael, CA, 94901 415/453-9955; fax 415/453-9956 info@berkeleynucleonics.com; www.berkeleynucleonics.com

#### 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.adlershof.de

WISTA-MANAGEMENT GMBH 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 like the Centre for Materials and Microsystems and the Centre for Photovoltaics with some 8.000 sam each. Photonic production companies are also highly welcome to build up their own facility here on fully developed real estate properties between 1,500 sqm up to 30,000 sqm - of course supported by our expertise.

#### **Berliner Glas US**

SPIF Corporate

117 Underwood Rd, Williamsburg, VA, 23185 757/229-9368; fax 757/229-5213 www.berlinerglas.com

#### New Product: BERLINER GLAS will show CAD/CAM systems for diverse medical or industrial applications, optical systems for 3-D inspection and optical key components.

Berliner Glas US offers a wide range of optical solutions. Engineering: systems engineering, optical/mechanical design, coating design; Key-Components: lenses, plano/prism optics, microstructures, gratings, special coatings; Assemblies: optical/opto-mechanical assemblies, lens systems: Systems: opto-mechanical systems, electro-optical systems, integration of optics, mechanics, electronics. Additionally, Berliner Glas supports the semiconductor industry with flat chucking solutions. Contact: Fred Doss, Sales Manager Precision Optics, fdoss@berlinerglasus.com; Martin F. Wenzler, President, mwenzler@ berlinerglasus.com.

#### **Bid-Service LLC**

225 Willowbrook Rd, Freehold, NJ, 07728 732/863-9500; fax 732/863-1255

bidservice@monmouth.com; www.bidservice.com Bid Service buys and sells high quality, refurbished equipment used in the scientific industry. We also offer added value, through system upgrades, and custom applications. All equipment is fully serviced by our in-house technical staff and is backed by our 30 day return policy and 90 day parts warranty. Free catalog is available upon request. Contact: Robert Murphy, Sales Manager, bobm@bidservice.com; Roger Shupe, General Manager, roger@bidservice.com.

#### BigC.com

20655 S Western Ave Ste116, Torrance, CA, 90744 310/618-9990; fax 310/618-9996 sales@bigc.com; www.BigC.com

#### **Biophotonic Solutions, Inc.**

1401 E Lansing Dr Ste 112, East Lansing, MI, 48823 517/580-4075

info@biophotonicsolutions.com; www.biophotonicssolutions.com BioPhotonic Solutions Inc. produces and sells disruptive technology that revolutionizes the ultrafast laser industry. BSI's MIIPS technology unlocks the potential of femtosecond lasers by automatically optimizing laser pulse duration at the target. MIIPS won 2009 PhAST/LFW Award and the Prism Award (2008 finalist). MIIPS serves three functions: accurate pulse characterization, pulse compression, and optimization. In addition allows arbitrary pulse shaping - with a simple click of a button.

### Blue Ridge Optics LLC

118 Center St, Bedford, VA, 24523 540/586-8526; fax 540/586-8527

# justin@blueridgeoptics.com; www.blueridgeoptics.com

#### **Blue Sky Research**

1537 Centre Pointe Dr, Milpitas, CA, 95035 408/941-6068; fax 408/941-6069 sales@blueskyresearch.com; www.blueskyresearch.com

#6080



#3022

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#### **BMV Optical Technologies Inc.**

26 Concourse Gate, Ottawa, ON, Canada, K2E 7T7 613/228-2442; fax 613/228-4003 tmillen@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 sapplire

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 Optics, Ltd.

#### #4407

**#914** 

#840

#4407

76 Pettibone Sq, Toronto, ON, Canada, M1W 2J2 416/3057033; fax 416/880-7850 sales@bxoptic.com; www.bxoptic.com

New Product: Specialized in the production of high precision optical components, coating and optical design.

BoXin Optics Co., Ltd.'s factory is ChangChun BoXin Photoelectric Co., Ltd. in China which is a leading manufacturer of precision optical components for the industrial, medical, scientific, instrumentation, military, and mechanical equipments. The products include spherical lenses, cylindrical lenses, aspherical lenses, windows, prisms, and toroidal lens etc whose material can be optical glass, crystals. We can also do the coating, optical lens and optical system. Contact: Jack Hu, General Manager, jack@bxoptic.com; Magie Miao, Vice-General Manager, magie@bxoptic.com.

#### **Boston Electronics Corp.**

SPIE Corporate Member

91 Boylston St, Brookline, MA, 02445 800/347-5445; fax 617/731-0935 boselec@boselec.com; www.boselec.com

Specialists in photodetectors, in related light sources and in signal processing of detector outputs. Think of us for Single Photon Counting (TCSPC), for MCT IR detectors and for Quantum Cascade IR Lasers. Contact: Fred Perry, fsp@boselec.com.

#### **Boston Micromachines Corp.**

SPIE Corporate Member

30 Spinelli Pl, Cambridge, MA, 02138-1046 617/868-4178; fax 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 for imaging biological tissue and to enhance images blurred by the earth's atmosphere. They are widely used in astronomy, laser beam shaping, microscopy, vision science, and a variety of defense applications. BMC also offers custom-designed manufacturing services. Contact: Ron Chin, Sales Engineer, rchin@bostonmicromachines. com; Michael Feinberg, Director of Product Marketing, mrf@ bostonmicromachines.com.

Boulder Nonlinear Systems, Inc.

#### SPIE Corporate Member

450 Courtney Way, Lafayette, CO, 80026 303/604-0077; fax 303/604-0066 info@bnonlinear.com; www.bnonlinear.com

# New Product: Spatial Light Modulator with PCI, DVI, and PCIe Drivers.

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, Sales, kelly@bnonlinear.com; Kipp Bauchert, Solutions Engineering.

#### Bordeaux Route des Lasers

37 ave du Général de Larminat, Bordeaux, France, 33001 33 5 57 57 84 83; fax 33 5 56 24 06 39

alpha@2adi.aquitaine.fr; www.routedeslasers.com The Route des Lasers competitiveness cluster gathers industry, research

Aquitaine. It is dedicated to facilitate optics and lasers sector in Bordeaux, Aquitaine. It is dedicated to facilitate optics and lasers technology development and diffusion, primarily laser systems and their applications, metrology and imaging and innovating physics, in industrial sectors such as: aeronautics, health, vision, chemistry, food industries, electronics. The ALPhA association is the cluster's governing body. Contact: Françoise Metivier, Project Manager, alpha@2adi.aquitaine.fr; Gabrielle Marre, Project Manager, alpha@2adi.aquitaine.fr.

### **Breault Research Organization**

SPIE Corporate Member

6400 E Grant Rd Ste 350, Tucson, AZ, 85715 520/721-0500; fax 520/721-9630 info@breault.com; www.breault.com

New Product: ASAP<sup>®</sup> 2010 - Releasing early 2010 with new features and enhancements to be unveiled at Photonics West.

BRO is an optical engineering firm of global reach and reputation. BRO's optical software products, including the industry-standard ASAP<sup>®</sup>, 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: Michael Frate, Business Development Manager (Engineering), mfrate@breault.com.

# **Bright Solutions SRL**

#4824

#2227

#1723

#1023

Via Artigiani 27, Cura Carpignano, Italy, 27010 39 0382 583091; fax 39 0382 583690

g.piccinno@brightsolutions.com; www.brightsolutions.it

# New Product: 300ps SLM 10kHz and 20kHz lasers, IR, green, UV, eyesafe.

Bright Solutions is an Italian firm specializing in DPSS lasers for marking, machining, lidar, and other uses. Their specialty is shorter pulsed lasers than most other firms offer. Most of the products have pulses in the single digit ns or shorter. Custom development! Attractive prices. Contact: Giuliano Piccinno, Preisident, info@brightsolutions.it.

#### **Brimrose Corp. of America**

#19 Loveton Circle, Sparks, MD, 21152-9201 410/472-7070; fax 410/472-7960 office@brimrose.com; www.brimrose.com

New Product: AOTF Hyperspectral/Broadband Imagers. Hyperspectral or broadband imaging using the same instrument.

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, Chief Technology Officer, jsoos@brimrose.com; Daniel Yang, Sales Representative, zyang@brimrose.com.

#### **Bristol Instruments, Inc.**

SPIE Corporate Member

7647 Main Street Fishers, Victor, NY, 14564 585/924-2620; fax 585/294-2623 info@bristol-inst.com; www.bristol-inst.com

# New 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 350 nm to 11.0  $\mu$ 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: Brian Samoriski, President, bsamoriski@bristol-inst.com; Walter Hersom, Sales Manager, whersom@bristol-inst.com.

#### **Brockton Electro-Optics Corp.**

#4134

#505

#1017

#732

50 Central Square Ste 3, Bridgewater, MA, 02324 508/559-9958; fax 508/861-0214

sales@brocktoneo.com; www.brocktoneo.com

Brockton Electro-Optics Corp manufacturers laser stabilizers/noise-eaters, power controllers and laser modulation systems for UV/VIS/NIR/IR, using liquid crystal cells and other E-O modulators. Long term DC power stability is better than 0.03%. Standard, custom and OEM models are available. Contact: John Lescinskas, President, sales@brocktoneo.com.

#### **Brooks Automation Inc.**

15 Elizabeth Dr, Chelmsford, MA, 01804 978/262-2400 www.brooks.com

Brooks is a leading worldwide provider of automation, vacuum and instrumentation solutions to the global semiconductor and related industries. The company's advanced offerings in hardware and services are critical to customers where equipment productivity and availability are essential for successful manufacturing. Brooks' products and global services are used in virtually every fab in the world as well as in a number of diverse industries outside semiconductor manufacturing. Contact: Bob Willis, Sales Manager, robert..villis@brooks.com; Paul Lanoue, Sales Manager, paul.lanoue@brooks.com.

#### **Bruker Optics Inc.**

19 Fortune Dr, Billerica, MA, 01821 978/439-9899; fax 978/663-9177 info@brukeroptics.com; www.brukeroptics.com

Bruker Optics is a world leading spectroscopy company providing application specific and research grade spectroscopy solutions for government, industrial and university laboratories. Featuring the SureSpectrum imaging spectrographs, Bruker Optics addresses multichannel spectroscopy market with instrumentation delivering superior image quality and a complete line of spectroscopy accessories. Contact: Dick Merk, Product Manager, Dispersive Systems Division, dick.merk@brukeroptics.com.

#### **Brush Ceramic Products**

#4400

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6100 S Tucson Blvd, Tucson, AZ, 85706 520/746-0699; fax 520/294-8906 bosales@brushceramics.com: www.brushceramics.com

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 AIN. Standard or custom configurations. Contact: Lee Vandermark, Sales Manager, lee\_vandermark@brushceramics.com; Debbie Handley, Sales and Marketing Rep, dhandley@brushceramics.com.

#### Brush Wellman Inc.

14710 W Portage River S Rd, Elmore, OH, 43416 419/862-4173

www.berylliumproducts.com

New Product: New high-modulus metal matrix non-beryllium material - fully compatible with Aluminum alloys.

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: Tom Parsonage, Marketing Manager, tom\_parsonage@ brushwellman.com.

#### Bte Bedampfungstechnik GmbH

Am Ganzacker 2, Elsoff, Germany, 56479 49 2664 9960 26; fax 49 2664 99060 60 service@bte-born.de; www.bte-born.de

Bte Bedampfungstechnik is a coating company. We offer components for optical, medical, sensor and illumination applications. Contact: Peter Enders, Sales Manger, Penders@bte-born.de; Dr.Franz-Josef Urban, Sales, dr.urban@bte-born.de.

# **BWT Beijing Ltd.**

SPIE Corporate Member

Fengtai District, 5th No 4 A Hangfeng Rd, Beijing, China, 100070 86 10 83681053; fax 86 10 83681077 sales@bwt-bj.com; www.bwt-bj.com

#### New Product: 808nm & 980nm=>30W@105µm or 200µm.

BWT Beijing LTD (BWT), a manufacturer which specially dedicates in packaging of fiber pigtailed semiconductor lasers and detectors. BWT has strong ability to produce high stable semiconductor laser module of optical fiber output with various powers, wavelengths, and packages. BWT also provides specialized products for customers and OEM services. Contact: sales@bwt-bj.com.

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# Arizona the original optics valley.

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Kiyohara Optics USA Hedwood City, CA Boolh #1028 www.koptic.jp

#### Exhibiting Members (Arizona Cluster)

AdValue Photonics, Inc. Doctor Optics, Inc. Enerech USA Laseriet, Inc. Lincoln Laser Corp. University of Arizona. College of Optical Sciences



#### Cal Sensors, Inc.

5460 Skylane Blvd, Santa Rosa, CA, 94928 707/545-4181; fax 707/545-5113 info@calsensors.com; www.calsensors.com

New Product: See our high-speed emitter and newly developed pulsed driver circuit in action.

Cal Sensors is the world's leading supplier of lead sulfide (1-3 micron) and lead selenide (3-5 micron) infrared photodetectors. Common applications are gas analysis. We offer single element devices, as well as 256 element devices in hermetically sealed packages. We also offer IR emitters in both steady state and pulsable versions. Contact: Patricia Elias, Sales Engineer, patti@calsensors.com; Weylin Pigg, Sales Territory Manager, weylin@calsensors.com.

#### Calmar Laser, Inc.

#### **#529**

#2600

SPIE Corporate Member

755 N Pastoria Ave, Sunnyvale, CA, 94085 408/733-7800; fax 408/733-3800 contacts@calmarlaser.com; www.calmarlaser.com

New Product: 780nm band up to 500mW femtosecond fiber laser OEM or desktop systems.

Leading manufacturer of ultrafast fiber laser system for 14 years; pulse energy >20µJ, average power >10W. OEM seed femtosecond fiber lasers at 1.5µm /1µm/0.78µm, 10, 25, 40 and 100(s)GHz picosecond fiber laser, Low dispersion high power EDFA/YDFA for short pulses, bit rate multiplier. Applications: biomedical imaging and multi photon microscopy, vision correctional surgery, defense, micro-machining, telecommunications, testing and measurement. Contact: Peter Hu, Director of Sales and Marketing, peter.h@calmarlaser.com; Claire Chen, VP of Marketing, claire.c@calmarlaser.com.

#### Cambridge Technology, Inc.

#1201

#4407

SPIE Corporate Member

25 Hartwell Ave, Lexington, MA, 02421 781/541-1600; fax 781/541-1601 scanners@cambridgetechnology.com; www. cambridgetechnology.com

# New Product: New high-stability galvos, controllers, application software packages, digital servos and scan heads.

Cambridge Technology, the world's leading supplier of galvanometer solutions for industry and laser microscopy such as confocal microscopes, OCT, multi-photon microscopy, LSOs, etc. Our patented galvanometer technology and servo driver architectures provide highspeed, smooth, linear, low-jitter, constant velocity line sweeps enabling clear, crisp, accurate images from your application making Cambridge Technology the choice supplier among leading microscope companies and research institutions. Contact: David Freihofer, Director, Sales & Marketing, davidf@camtech.com; Mike Fitts, Director, General Scanning Solutions, mfitts@camtech.com.

#### **Canada Pavilion**

1200 Montreal Rd M-50, Ottawa, ON, Canada, K1A 0R6 613/993-6040 sadiq.hasnain@nrc-cnrc.gc.ca;

#### Canadian Institute for Photonic Innovations (CIPI)

2375 rue de la Terrasse local 2117, Université Laval, Québec, QC, Canada, G1V 0A6

418/656-3084; fax 418/656-2995

cipi@cipi.ulavla.ca; www.cipi.ulaval.ca

The mission of the Canadian Institute for Photonic Innovations is to bring university researchers together with public sector and industrial partners in a network with state-of-the-art facilities in order to stimulate innovations in photonics and promote their exploitation to generate wealth and enhance the quality of life for Canadians. Contact: Nathalie Kinnard, Communication's Coordinator, nathalie.kinnard@cipi.ulaval.ca.

#### **Canadian Photonics Consortium**

200-2625 Queensview Dr, M-50, Ottawa, ON, Canada, K2B 8K2

michael\_scott@rogers.com; www.photonics.ca

CPC is the voice of the entire Canadian Photonics community. Our members include companies, academia & consortia, gov. laboratories & agencies (fed. & prov.). We bring together business, academic & gov. leaders. We involve scientists, engineers, management consultants & experts in law & finance - anyone who has a business or scientific interest in the future success of the Canadian Photonics industry. We aim to establish Canada as the place for business success in Optics & Photonics. Contact: Michael Scott, Executive Director, Michael\_scott@rogers.com.

#### Canadian Photonics Fabrication Centre #4515

1200 Montreal Rd, M-50, Ottawa, ON, Canada, K1A 0R6 613/990-4624

info@cpfc.gc.ca; http://www.cpfc.gc.ca

CPFC is a semiconductor foundry specializing in active and passive photonic devices in InP, GaAs, and silicon, and electronic devices in GaN. We "bridge the gap" between R&D and commercialization of photonics in a wide range of industries. Our state-of-the-art facility and experienced team provide industrial grade semiconductor foundry solutions for active and passive photonic applications, ranging from discrete devices to complete photonic integrated circuits (PICs). Contact: info@cpfc.ca.

#### Canon U.S.A. Inc.

#5125

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One Canon Plaza, Lake Success, NY, 11042 516/328-5000; fax 516/328-4601 www.canon.com

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#### Carl Hanser Verlag GmbH & Co. KG

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Kolbergerstr 22, Munich, Germany, 81679 49 89 99830 0; fax 49 89 984809 info@hanser.de; www.hanser.de

New Product: The journal LASER+PHOTONICS targets developers of optical, optoelectronic and laser systems.

#### Carl Zeiss Microlmaging, Inc.

#4115

One Zeiss Dr, Thornwood, NY, 10594 800/233-2343; fax 914/681-7445 micro@zeiss.com; www.zeiss.com/materials

#### Carolinas Photonics Consortium #5328, 5329

Grigg Rm 235/Univ of N Carolina Charlotte, 9201 University City Blvd, Charlotte, NC, 28269 704/687-8117 www.carolinasphotonics.com

## Cascade Laser Corp.

SPIE Corporate

#### **#5043**

101 N Elliot Rd, Newberg, OR, 97132 503/554-1926; fax 503/554-8285

New 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 Corp.**

**#43** 

SPIE Corporate Member

1225 E Hunter Ave, Santa Ana, CA, 92705 714/543-9777; fax 714/543-4394 sales@c-optical.com; www.c-optical.com

New Product: ITO and IMITO.

Our IOPLAS-IITM ion-assisted deposition processes give us the flexibility to apply coatings at low temperatures for plastic fibers and other delicate substrates. We can also generate coatings with greater packing densities to handle very high laser damage thresholds. To add to these capabilities, Cascade Optical has also developed manufacturing processes to apply our coatings to: plastics, polymers, semi-conductors, lenses, mirrors, crystals, metals (even diamond-turned surfaces), and ceramics. Contact: Brendon Faught, Engineering Sales Manager, bfaught@c-optical.com; Ken Romo, VP/General Manager, kromo@c-optical.com.

#### CASIX, Inc.

#824

20 Fuxing St, Fuxing Investment District, Fuzhou Fujian, China, 350014 86 591 83610148; fax 86 591 8362 1248 marketing@casix.com; www.casix.com

# New Product: We can supply IR-Cut filter, high flatness products, Si&Ge Components, RGB combiner and so on.

CASIX, is a wholly owned subsidiary of Fabrinet company. We focus on developing and manufacturing high quality crystal, precision optics components and optical sub-assemblies for different market application. We have launched a comprehensive quality control system and a strict management system. We're certified for ISO9001 in 1998 and ISO14001 in 2006 and OHSAS18001 in 2009. Meanwhile we have carried into execution of the Enterprise Resources Management System. Contact: Marketing@casix.com.

#### 

#### EXHIBITION MAP/RESTAURANT GUIDE SPONSOR CASTECH Inc.

#4909

155 Yangqiao West Rd, Fuzhou Fujian, China, 350002 86 591 8371055; fax 86 591 8371153 sales@castech.com: www.castech.com

# New Product: 1. Single/dual crystal BBO Q-switch; 2. Nd:YVO<sub>4</sub>, length>60mm; 3. Segmented Growth YVO<sub>4</sub>/Nd:YVO<sub>4</sub>; 4. TGG.

CASTECH INC. was founded in 1988. It is devoted to the development, manufacturing and marketing of nonlinear optical crystals, laser crystals, laser optics and laser components. CASTECH's products are widely used in the field of laser and optical communication. Contact: Freeman Zhang, Manager, sales@castech.com; Tanny Tang, Marketing & Sales Manager, sales@castech.com.

#### **CASTON Inc.**

SPIE Corporate Member

71 Fuguang Rd, Jin'an District, Fuzhou Fujian, China, 350014 86 591 83995661; fax 86 591 83629871 sales@fz-caston.com; www.fz-caston.com

# New Product: LBO, BBO, KTP, LiNbO<sub>3</sub>, KDP, DKDP, Nd:YVO<sub>4</sub>, Nd:YAG, Composite Crystals, Oven & Temperature.

With 16 years professional technique on growth and fabrication of NLO crystals (especially LBO/BBO), CASTON Inc. is a world leading manufacturer in the area of synthetic crystals. CASTON is capable of supplying large quantities of LBO/BBO crystals with top quality, high damage threshold and competitive prices, for both OEM and R&D customers. Contact: Jason Weng, Sales Manager, sales@fz-caston.com; Jolin Zheng, Sales Assistant, sales@fz-caston.com.

#### CDGM Glass Company USA #4316

3495 Winton PI Bldg D Ste 2, Rochester, NY, 14623 585/427-8730; fax 585/427-0800 john@cdgmglass.com; www.cdgmglass.com

#### **CEDRAT Technologies**

15 chemin de Malacher, Meylan, France, 38240 33 4 7690 5045

actuator@cedrat.com; www.cedrat.com

New Product: Amplified Piezoelectric Actuators APA-30µXS, APA-150XXS, APA-400MML and X-120S linear stage.

Cedrat Technologies is a high tech SME of Cedrat group and is specialized in mechatronic engineering. Micro and nano positioning, fast and precise actuation, generation and active control of vibrations, active and adaptive optics, fast tool servo, micro-scanning, fast shutters. Contact: Thomas Maillard, Technical Sales Engineer, actuator@cedrat.com.

# **CeNing Optics Co., Ltd.**

#2500.2501

#4418

9-306 ChangLe bei Rd 68, Fuzhou Fujian, China, 350011 86 591 8733 8232; fax 86 591 8733 4595 sales@cn-optics.com; www.cn-optics.com

#### **Centronic LLC**

16203 Park Row Dr Ste 110, Houston, TX, 77084 281/578-7900 info@centronic.us: www.centronic.us

# SPIE Job Fair Special 2-Day Event

Tuesday 26 January | 10:00 am to 5:00 pm Wednesday 27 January | 10:00 am to 5:00 pm

Presented by the SPIE Career Center See us in the North Hall.

**#5142** 



#### CeramOptec Industries, Inc.

#### #804

SPIF Corporate

515 Shaker Rd, East Longmeadow, MA, 01028 413/525-0600; fax 413/525-1112

salesengineering@ceramoptec.com; www.ceramoptec.com Leader in the production of specialty optical fiber, assemblies, bundles, fused end bundles, vacuum products and capillary tubing. CeramOptec produces all silica fibers for use from 190nm-2500nm with NA's from 0.06 to 0.53; PCS, hard polymer clad silica, silver halide and capillary tubing. Custom bundles and assemblies for use from the deep UV to the Mid IR. Replacement bundles and assemblies for most spectrometer and UV curing systems. Quality from preform manufacture to finished product. Contact: Kevin Bakhshpour, Sales Director, kevinb@ceramoptec.com; Cheryl Provost, Industrial Scientific Sales Engineer, cheryl.provost@ ceramoptec.com.

#### **Changchun New Industries Optoelectronics** Tech. Co. Ltd. #838

No. 668 Chuangxin Rd, High-Tech Zone, Changchun, China, 130012

86 431 87018678; fax 86 431 87020258 sales@cnilaser.com; www.cnilaser.com

#### New Product: CNI developed OEM laser module core at different wavelengths.

Changchun New Industries (CNI) founded in 1996, located in Changchun, CHINA, is a leading manufacturer of solid-state and diode laser systems. Our products include green laser, blue laser, yellow laser, red laser, RGB laser, infrared laser, UV laser, single longitudinal mode laser and Q-switched laser systems. CNI lasers are specifically designed for OEM, scientific, industrial and instrumentation use. Contact: Lu Wang, Sales Manager, amer@cnilaser.com; Ava Zheng, Sales Manager, sales@cnilaser.com.

#### **Chardon Tool**

#5041

115 Parker Ct, Chardon, OH, 44024 440/286-6440; fax 440/286-7165 info@chardontool.com; www.chardontool.com

Manufacturer of single-crystal diamond and CBN ultraprecision cutting tools, including low-waviness tools for industrial, military and medical applications. Standard and custom tools produce spherical, aspheric, diffractive and plano optics, and microlens arrays. Tool designs for turning, facing, contouring, flycutting, micromilling and boring. Relapping and remanufacturing services available. Contact: Hugh McAllister, Sales Engineer, hmcallister@chardontool.com; Mike Hunter, VP of Business Development, mhunter@chardontool.com.

# **Chengdu Ultra Pure Applied Materials** Co., Ltd.

#4731

No. 3 Zhen Jianzou Rd, West High-Tech District, Chengdu Sichuan, China, 611731 86 28 879 58718; fax 86 28 879 58501

sales@upam.cn; www.upam.cn New Product: Mid to far infrared coating, high damage threshold

#### laser film, high reflective mirror, LaB6 cathodes.

UPAM is the best film coating and ceramic/targets manufacturer in China. UPAM accumulated large scales experiences in high power laser and mid to far Infrared film coating. The damage threshold can over 20J/cm<sup>2</sup>(1ns, 1064nm, 1on1). Our mid to far Infrared film can reach the highest transmission. UPAM's material department manufactured the high density HIP(2.1g/cm<sup>3</sup>) BN boat/liner/tube and LaB6 cathode for plasma. You are welcome to visit our website: www.upam.cn and send the RFQ to sales@ upam.cn. Contact: Jason Chai, Director, Sales, j.chai@upam.cn; Chai,Lin, CTO, I.chai@upam.cn.

#### The China and South Optical Crystal Co.

#### #2500, 2501

First Industrial Zone, Songgang Baoan District, Shenzhen Guangdong, China, 518105

86 755 57091212; 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. For more information about THE CHINA AND SOUTH SAPPHIRES, please visit our website - http://www.sapphires.com.cn.

#### China Daheng Group Inc.

#2322

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

China Daheng Group, Inc. is a Chinese leading company in Optics. It has a wide coverage of products to meet the varieties of market demands. Daheng Optics not only supplies comprehensive catalogue optics, precision positioning mechanical components, but also offers customdesigned/OEM products, including optical coatings, CCD/CMOS cameras and vision products, optical modules and systems. It is capable of lens design, quick prototyping and engineering manufacture.

#### China International Optoelectronics Exposition

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

#### New Product: CIOE 2010. Shenzhen Convention and Exhibition Center, September 6-9, 2010.

Shenzhen UBM Herong Co. Ltd. is a joint venture of UBM ASIA and Shenzhen Herong Exhibition Industrial Co., Ltd. Shenzhen UBM Herong Exhibition Co., Ltd. is regarded as one of most professional exhibition companies in China which has successfully held the China International Optoelectronic Exhibition for many years. Contact: Shirly Yi, International Business Executive, shirly@cioe.cn; Nancy He, International Project Manager, Nancy@cioe.cn.

# China Opto-Electro Industries,

Co., Ltd.

3rd Bldg, 10/F No. 81 Zi Zhuyuan Rd, Haidian District Beijing, China, 100089

86 10 8882 9906; fax 86 10 8882 9912 axy@oec.com.cn; www.oec.com.cn

Founded in 1987 and headquartered in Beijing, China Opto-Electro Industries Co., Ltd., the earliest and the largest leading optical company group in China, has made remarkable contributions to the development of China's optical industry for twenty years. OEC supplies a wide range of portfolio encompassing Optical Materials, Optical Components, Optical Instruments, and Electronic Instruments which are in the applications of Optical Communication, Display, Digital Camera, Mobile Phone, Digital Mobility, IR-Optics, Laser, Semiconductor, etc.

#### Chiral Photonics, Inc.

26 Chapin Rd Unit #1104, PO Box 694, Pine Brook, NJ, 07058 973/732-0030; fax 973/732-0031 info@chiralphotonics.com; www.chiralphotonics.com

#6088

#2500, 2501

# Chroma Technology Corp

SPIE Corporate

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

Chroma Technology Corp. is an employee-owned company that specializes in the design and manufacture of precision optical filters and coatings. Catalog and custom filters cover a broad range of applications: low-light fluorescence microscopy and cytometry; spectrographic imaging in optical microscopy; laser-based confocal and multi-photon instrumentation; and Raman spectroscopy. Coating methods include evaporative and sputtering. Contact: Mark Kfoury, OEM Sales, mkfoury@ chroma.com; Kelly Stockwell, OEM Sales, kstockwell@chroma.com.

### CI Systems, Inc.

SPIE Corporate

90 W Cochran St Ste D, Simi Valley, CA, 93065 805/520-2233; fax 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. #2500, 2501

No 6 E Beisanhuan Rd, Chaoyang District, Beijing, China, 100028 86 10 84600568: fax 86 10 84600753 songqiushuang@ciec.com.cn; www.ciec-overseas.com

#### CILAS

#1823

#5228

#5115

#4224

15 Avenue Roche Fourcade, Aubagne, France, 13400 33 4 42 36 97 00; fax 33 4 42 36 97 01 optics@cilas.com; www.cilas.com

### Cimcoop Holding Ltd.

40 Buxton Blvd, Sofia, Bulgaria, 1618 359 887 256 108; fax 359 2 955 9941 kgeorgiev@cimcoop.com; www.cimcoop.com

Cimcoop Holding Ltd. specializes in growing single crystal Silicon and processing it to as-cut blanks and polished windows finding multiple applications in transmissive mid-wave IR optics and CO<sub>2</sub> lasers. In the UV and VIS spectrum, Cimcoop produces custom optical components available with a variety of optical coatings. From Si blanks to lenses, prisms, windows and mirrors, Cimcoop offers rapid response and effective solutions to a wide range of demanding optical applications. Contact: Kalin Georgiev, Business Development Manager, kgeorgiev@ cimcoop.com; Georgie Georgiev, CEO, georgiev@cimcoop.com.

### **CLASER** Photonics Inc.

No 635 Huocheng Jiading, Shanghai, China, 201821 86 21 39108810; fax 82 21 69528257 sales@clasers.com; www.clasers.com

#### New Product: TGG, Grown YVO4+Nd:YVO4, ER:GLass, LBO, GE, Si, ZnSe.

CLASER is a leading manufacturer of the crystals and optics for high power laser systems application. We supply the high quality LBO, BBO, DKDP, Nd:YVO<sub>4</sub>, ND:YAG, Ti:Sapphire etc crystals and waveplate, polarizer, high precise windows and lenses and IR optics. Contact: Hovey Song, Sales Engineer, sales@clasers.com; Philip Zheng, President, philip@clasers.com.

#### #516 **Clear Align**

SPIE Corporate

2550 Boulevard of the Generals Ste 280, Eagleville, PA, 19403 484/956-0510; fax 484/956-0511

info@clearalign.com; www.clearalign.com

Clear Align designs prototypes and manufactures custom imaging, sensing and fiber optic systems for defense, aerospace and commercial customers. Clear Align's imaging expertise spans the ultraviolet, visible and infrared portions of the optical spectrum with a specialty in nightvision systems. Fiber optic sensing and laser expertise includes optical integration for remote sensing, mapping, bio-chemical detection and targeting. More information is available at www.clearalign.com. Contact: David Huff, Vice President of Business Development, david.huff@ clearalign.com; Valerie Gomez, Marketing coordinator, Valerie.gomez@ clearalign.com.

# Clemson University/COMSET

91 Technology Rd, Anderson, SC, 29625 864/656-1660; fax 864/656-1099 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 Laboratories, pfoy@clemson.edu.

### CMOSIS

Coveliersstraat 15, Antwerpen, Belgium, 2600 32 3 260 17 30

#### New Product: High speed Global shutter CMOS sensor with CDS FPN correction.

CMOSIS nv is a supplier of advanced CMOS image sensors solutions. CMOSIS' engineers form a multi-disciplinary team of 14 image sensor experts with more than 111 person-years of relevant experience in CMOS imaging technology. The team covers all skills required to design and manufacture image sensors and SoCs, enabling CMOSIS to offer a turnkey solution for custom image sensor design and production. Contact: Tim Baeyens, Director of Business Development, tim.baeyens@cmosis. com; Lou Hermans, VP Sales & Marketing, info@cmosis.com.

### **Coastal Connections**

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

New Product: Fiber Probes engineered and built with PM, SM and MM fibers including filters on individual fibers.

Coastal Connections is the leading provider of engineered fiber optic cables and terminations in the USA specializing in short wavelengths (400-980nm) and custom solutions for all environments. Offering fiber and ferrule polishing at any angle along with SM, PM, MM and high power cables for medical, military, space, research, and telecommunication industries. Contact our experienced staff to discuss your unique requirements. www.coastalcon.com. Contact: Andy Devine, President, andy@coastalcon.com; Ryan Laudato, Manufacturing Manager, ryan@coastalcon.com.

#### 103

# #4212

#5309

#527

#5328, 5329

info@cmosis.com; www.cmosis.com

#### Cobolt AB

Vretenvägen 13, Solna, Sweden, 171 54 46 8 545 912 30; fax 46 8 545 912 31 info@cobolt.se: www.cobolt.se

#### New Product: Cobolt Zouk 355nm CW laser with 10mW output.

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 355, 594, 561, 491, 514, 532 and 473 nm. The lasers are designed for use in demanding applications within bioanalysis, fluid dynamics, spectroscopy and holography. Contact: Philip Crowley, Sales, phil@markettechinc.net.

#### **CODIXX AG**

#2317

#1231

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

New Product: colorPol<sup>®</sup> polarizers enhance RGB display with extinction ratio >1000:1 and temp stability -50±400°C.

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  $0^{\circ} \pm 20^{\circ}$ , transmittance up to 98%, high contrast ratios of 70dB and a wide operating temperature range from <-50°C to +400°C; also available with low wavefront disortion. Contact: Kevin King, Sales Engineer, kking@ laser-components.com; Bob Gulino, Sales Engineer, gulino@lasercomponents.com.

#### **Coherent Inc.**

SPIE Corporate

5100 Patrick Henry Dr, Santa Clara, CA, 95054 408/764-4000: fax 408/764-4646

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, excimer, ion, tunable-dye, YAG, YLF, and ultrafast lasers. Contact: Robert Bohorquez, Advanced Technical Sales, Tech.Sales@ Coherent.com.

#### Cohu, Inc., Electronics Division

SPIE Corporate Member

12367 Crosthwaite Circle, Poway, CA, 92064 858/277-6700; fax 858/277-0221 aconnor@cohu.com; www.cohu.com

#### Coining, Inc.

280 Midland Ave, Saddle Brook, NJ, 07663 201/791-4020; fax 201/791-1637

sales@coininginc.com; www.coininginc.com Manufacturer and global supplier of guality preforms and bonding wire for low-high temp soldering/brazing. Highly pure alloys of gold, silver, lead, tin, indium, bismuth, palladium, aluminum. Lead-free RoHS. Copper, Kovar® and molybdenum, clad, plated stampings. Flux coating. Tape and reel, custom packaging. New Cover Assemblies (preform/lid). Extensive tooling library, standard and custom designs. Quick turnaround. Request our CD alloy/tool lists. Contact: Julie Scelzo, Vice President Inside Sales & Customer Service, jscelzo@coininginc.com; Gary Gordon, Inside Sales, ggordon@coininginc.com.

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#### *<u>¥</u> GENERAL REFRESHMENT SPONSOR* **Collimated Holes, Inc.**

460 Division St, Campbell, CA, 95008-6923 408/374-5080; fax 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, geometry converters, and fused fiber optic scintillating screens for x-ray detection. Contact: Matt Fate, Sales Engineering, chi\_2000@pacbell.net; Richard Mead, President, chi\_2000@pacbell.net.

#2200

#5308

#2323

#### Colorado Photonics Industry Association #2230

PO Box 700, Boulder, CO, 80306-0700

303/834-1022; fax 303/834-1022 cpia@coloradophotonics.org; www.coloradophotonics.org

#### New Product: CPIA is hosting the next NASA Mirror Technology Days in June, 2010.

Colorado has a vibrant cluster of businesses, universities, federal laboratories that can help you reach new heights with your products and companies. A full listing of companies in the state is available at our booth. Contact: Garry Gorsuch, Executive Director, exec@ coloradophotonics.org.

#### Commax Co., Ltd.

Sangdaewondong, Jungwon-Gu, SungNam, South Korea, 513-11 82 31 739 3531; fax 82 31 745 2133

herryoh@commax.co.kr; www.commax.com

#### New Product: \*RidgeWaveguide/Bulk Type wavelength conversion Chip/Module\*RGB full color/Integrated module.

COMMAX Laser is a special enterprise which develops optical wavelength converters based on Periodically poled Nonlinear Optic Materials (PPLN, PPMgCLN, PPMgSLT, PPMgLT, etc). We are designing and manufacturing the real Green/Blue ridge waveguide bulk and integrated RGB module for the Pico projector, bio-medical and measurement applications. Contact: Herryoh, Manager, herryoh@commax.co.kr; Paolo, Vice President, biun@ commax.co.kr.

#### **Compound Semiconductor Technologies** Global Ltd.

Block 6 Kelvin Campus, West of Scotland Science Park Maryhill Rd, Glasgow, United Kingdom, G20 0SP 44 141 579 3000; fax 44 141 579 3040

salesinfo@compoundsemi.co.uk; www.compoundsemi.co.uk

CSTG is a 'pure play' semiconductor foundry specializing in the design, development, and manufacture of discrete and integrated III-V optoelectronic devices, based in Glasgow, UK. Since 1999, CSTG has provided specialist foundry services to clients in the Telecommunications, Defence, Medical and Instrumentation markets. We offer full product support from design to manufacturing, levered off a comprehensive library of fabrication processes and high performance device platforms. Contact: Dr Wyn Meredith, Commercial Director, salesinfo@compoundsemi.co.uk.

Plan to Attend | Refer to pages 62-66 FREE Exhibitor Product Demonstrations | locations.

for complete times, schedules, and

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#4428

#4226

#### Computer Optics Inc.

#713

120 Derry Rd, Hudson, NH, 03051 603/889-2116: fax 603/889-2393 info@irzoom.com; www.computeroptics.com

New Product: Come to booth #713 to see the newest Infrared Zoom Lens technology from IRZoom.com.

Have an optical challenge or interested in the latest in infrared zoom lens technology? COI, home of IRZoom.com, (Booth 713) is a world leader in infrared zoom lens technology. We offer a wide selection of stock infrared lenses, as well as custom design, consulting and manufacturing for highly precise military, commercial, search and rescue, surveillance, and security applications. We're proud of our 25 year collaboration with all branches of the US military, businesses, NASA and more. Contact: Dr. Jonathan S. Kane, President, COI and Division Leader for IRZoom.com, jon@ computeroptics.com.

#### **COMSOL** Inc.

#4435

#2326

#2017

1 New England Executive Park Ste 350, Burlington, MA, 01803 781/273-3322: fax 781/273-6603

info@comsol.com; www.comsol.com

COMSOL Multiphysics is an industry-leading scientific-software package for the modeling and simulation of any physics-based system. A particular strength is its ability to account for interdependent, coupled physics, known as multiphysics phenomena. Modules such as Chemical Engineering, Earth Science, AC/DC, RF, Heat Transfer, MEMS and Structural Mechanics are available. Contact: info@comsol.com.

#### Conex Systems Technology, Inc.

2880 Zanker Rd #203, San Jose, CA, 95134 408/954-7329; fax 408/954-7330 crystals@castech-us.com; www.castech-us.com

#### New Product: Supplier of LBO, BBO crystals and KTP, KDP, YVO<sub>4</sub>, Nd:YVO4, Nd:YAG, LiNbO3, LiTaO3 and other crystal.

Conex supplies nonlinear optic (NLO) crystals and other optical materials. It is one of 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. Contact: Ken Zhang, crystals@castech-us. com; Julia Kanki, crystals@castech-us.com.

#### Continuum

SPIE Corporate

3150 Central Expy, Santa Clara, CA, 95051-0816 408/727-3240; fax 408/727-3550 info@continuumlasers.com; www.continuumlasers.com

#### New Product: Powerlite DLS offers compact power supply with digital communication, enhanced interface and controls.

Continuum is the 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. Glass lasers (>50J) are also available. Contact: Continuum Sales, 1-866-532-1064, info@continuumlasers.com.

#### Contour Fine Tooling

#4425

143 Jaffrey Rd, Marlborough, NH, 03455 603/876-4908; fax 603/876-4911 www.contour-diamonds.com

CCUFLECT

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

#### **Contour Metrological & Manufacturing,** Inc.

488 Oliver Dr, Troy, Ml, 48084 248/273-111; fax 248/362-2152 info@cmmoptic.com; www.cmmoptic.com

# New Product: CMM now manufactures plastic injection molded optics with extremely tight tolerances.

CMM supports customers internationally with diamond turned mirrors and lenses, microstructure arrays and diffractives, ultra precision machining, molded optics, assembly and optical inspection. We have been a global leader for 20 years. CMM is an innovator in proprietary methods for producing the most difficult and unusual optics. Please contact us for your next optics or precision machining project. For more information, please visit our website: www.cmmoptic.com. Contact: Dave Behaylo, Business Development Manager, dbehaylo@cmmoptic.com; Tom Sowden, President, tms@cmmoptic.om.

#### **Control Development, Inc.**

#4113

#1601

#4410

2633 Foundation Dr, South Bend, IN, 46628 574/288-7338; fax 574/288-7339 sales@controldevelopment.com; www.controldevelopment.com

New Product: CDI's new spectrophotometer with patented referencing scheme. Easy to use and maintain calibration.

Control Development, Inc. is a manufacturer of compact, rugged, high performance spectrometers. Products cover the spectral range from UV to NIR. Silicon and InGaAs detector based spectrometers provide several price performance points for end users. Spec32 application software, LabView VIs, Actixe X control and DLLs are included free with every spectrometer. Dedicated systems for Raman spectroscopy and on-line process control feature patented self referencing and calibration schemes. Contact: Promit Das, Vice President, das@controldevelopment. com; Jane Hoffman, Office Manager, janeh@controldevelopment.com.

#### The Cooke Corp.

SPIE Corporate 6930 Metroplex Dr, Romulus, Ml, 48174 248/276-8820; fax 248/276-8825 info@ccokecorp.com; www.cookecorp.com

# New Product: pco.edge sCMOS camera, 5.5 megapixels, low readout noise, high frame rates and high image dynamics.

COOKE offers High Speed & High Performance CCD, CMOS and ICCD Camera Systems to scientific, automotive and military markets. The pco.dimax high speed 12bit camera gives 1279fps at 2016 x 2016 and 4502fps at 1008 x 1000 pixels; intensified camera systems and specialized cameras featuring double shutter useful in PIV and fuel spray imaging. Imaging related products include pulsed high intensity lighting systems designed for capturing high speed phenomena such as in dynamic Schlieren applications. Contact: Murad Karmali, Vice President, Sales, murad.karmali@cookecorp.com; Steve Daicos, President, steved@ cookecorp.com.

### **CorActive High-Tech, Inc.**

#### SPIE Corporate Member

2700 Jean-Perrin Ste 121, Quebec, QC, Canada, G2C 1S9 418/845-2466; fax 418/845-2609

sales@coractive.com; www.coractive.com

CorActive is a 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. CorActive's products can be viewed at: www. coractive.com. Contact: Jean Dube, V.P. Sales, sales@coractive.com; David Beiko, Director of Sales, sales@coractive.com.

#### **Cordouan Technologies**

11 avenue de Canteranne, Pessac, France, 33600 33 5 56 15 80 45; fax 33 5 47 74 74 92 patrice.nagtegaele@cordouan-tech.com; www.cordouan-tech.com

#### **Coresix Precision Glass, Inc.**

1737 Endeavor Dr, Williamsburg, VA, 23185 757/888-1361; fax 757/888-1366 ralston@coresix.com; www.coresix.com

# New Product: Super Polish Finish – Advanced polishing process for ultra-smooth, low defect wafer surfaces.

Coresix Precision Glass, Inc. is an industry leader in the development, manufacturing and fabrication of precision glass components for customers in a wide array of markets including photonics, display, biotech, imaging, opto-electronics, replication, lithography, office automation, sensor and semiconductor. From R&D to full production, we specialize in providing exacting dimensional and spectral tolerances on flat glass substrates to the highest levels of surface quality and cleanliness. Contact: AI Ralston, Sales Manager, ralston@coresix.com; Ellis Washington, Sales Representative, washington@coresix.com.

#### 

SPIE Corporate

1 Riverfront Plz, Corning, NY, 14831 607/974-9000; fax 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.**

Unit 17 Abbey Enterprise Centre, Premier Way, Romsey Hampshire, United Kingdom, SO51 9AQ 44 1794 521638; fax 44 8709 289714 sales@covesion.com; www.covesion.com

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6000 Broken Sound Pkwy NW Ste 300, Boca Raton, FL, 33487 561/994-0555; fax 561/361-6018

orders@crcpress.com; www.crcpress.com

New Product: Nanoscopy and Multidimensional Optical Fluorescence Microscopy by Albert Diaspro - January 2010.

CRC Press - Taylor & Francis is a premier publisher of optical sciences and engineering textbooks, professional manuals, reference works, journals, and electronic databases. Please visit our booth to peruse our titles, receive special convention discounts, and pick up copies of our journals. Contact: Aquiring Editors: Ashley Gasque, ashley.gasque@ taylorandfrancis.com; Luna Han luna.han@taylorandfrancis.com.

## CREOL, The College of Optics & Photonics, Univ. of Central Florida #2131

400 Central Florida Blvd Bldg 53, PO Box 162700,

Orlando, FL, 32816-2700 407/823-6800; fax 407/823-6880 info@creol.ucf.edu; www.optics.ucf.edu

CREOL, The College of Optics & Photonics at the Univ. 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 close 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, Assistant to the Dean, dwhitesi@creol.ucf.edu.

#### CRi

SPIE Corporate Member

35 B Cabot Rd, Woburn, MA, 01801 781/935-9099; fax 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**

SPIE Corporate Member

32 Rue Robert Schumann, Messein, France, 54850 33 3 88 47 01 01

mail@cristal-laser.fr; www.cristal-laser.fr

Cristal Laser S.A. specializes in crystal growth, manufacturing and distribution for application in laser optics. Our product range includes KTP, KTA, RTP, LBO and now BBO crystals, which are being used as harmonic generators as well as OPO materials. Our state-of-the-art manufacturing tools also enable us to offer cut/polishing services on non house-made materials. Contact : Hervé ALBRECHT, Sales Manager, herve@cristal-laser.fr; Marc André HERRMANN, General Manager, ma.herrmann@cristal-laser.fr.

## **Critical Link LLC**

6712 Brooklawn Pkwy, Syracuse, NY, 13211 315/425-4045; fax 315/425-4048

info@criticallink.com; www.criticallink.com Standard and custom scientific imaging and machine vision solutions at

off-the-shelf prices. Contact: Omar Rahim, Vice-President, omar.rahim@ criticallink.com; Rhonda Ciciriello, Marketing Manager, rhonda.ciciriello@ criticallink.com.

## Crosslight Software, Inc.

121-3989 Henning Dr, Burnaby, BC, Canada, V5C 6P8 604/320-1704; fax 604/320-1734 info@crosslight.com; www.crosslight.com

## New Product: 3D Laser simulator, Multi-junction solar cell simulator, Photonic crystal LED.

Crosslight Software Inc. is 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 (Formerly Beamtek Software) was the first commercial company to provide CAD software for electrical and optical modeling of laser diodes (LD), and it has maintained the leadership position in that field since then. Contact: Z.Q. Leo Li, Vice President of Engineering, zqli@crosslight.com; Michel Lestrade, Marketing Manager, sales@crosslight.com.

## CryLaS GmbH

#1231

#4530

Ostendstr 25 Haus 4, Berlin, Germany, 12459 49 30 5304 2400; fax 49 30 5304 2444 info@crylas.de; www.crylas.de

## New Product: FQCW 266 laser. Diode pumped solid state 100mW, 266nm CW laser.

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. Crylas acquired Secopta GmbH which provides solutions for safety and security applications including the detection of landmines, trace and bulk explosives and analyzing the composition of scrap metal. Contact: Philip Crowley, Sales, phil@markettechinc.net.

## CryLight Photonics, Inc.

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

## New Product: Various Ranges of IR raw Material Window and Lenses (CaF<sub>2</sub>, BaF<sub>2</sub>, MgF<sub>2</sub>, LiF, Silicon, Germanium).

CryLight manufactures a range precision optical component (Spherical Lenses, Waveplates, Achromatic Waveplates, Glan Laser Polarizer, Wollaston and Rochon Polarizer, Penta Prism, Right Angle Prism, PBS, Filters, Light Guide) and high quality crystals (BBO, KTP, Nd:YAG, Nd:YVO<sub>4</sub>, Ti:Sapphire, Nd:YAG+Cr:YAG). And IR raw material products, which include CaF<sub>2</sub>, BaF<sub>2</sub>, MgF<sub>2</sub>, LiF, Silicon, Germanium windows and lenses. Contact: Gary Zhang, President, gary@crylight.com; Zero Huang, Peter Lee, zero@crylight.com.

## **Cryslaser Inc.**

B1, 199 West Rd, High-Tech District Western Zone, Chengdu Sichuan, China, 611731

86 28 66348331; fax 86 28 87988682

sales@cryslaser.com; www.cryslaser.com

Manufacturer of Nd:YAG and Nd:Ce:YAG Laser crystals. Contact: Frank Wang, President, sales@cryslaser.com; Abby Yang, Sales Manager, sales@cryslaser.com.

# #4337

## **Crystal GmbH**

Ostendstr 2-14, Berlin, Germany, 12459 49 30 5304 2500; fax 49 30 5304 2525 ulrich.krzenziessa@crystal-gmbh.com; www.crystal-gmbh.com

## New 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.

## **Crystal Systems, Inc.**

**#700** 

#606

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27 Congress St, Salem, MA, 01970-5575 978/745-0088; fax 978/744-5059

sales@crystalsystems.com; www.crystalsystems.com Manufacturer of Sapphire and Ti:Sapphire for use in optics, IR applications, large windows, domes, laser rods, lenses, prisms, filters, substrates and other optical and non optical applications. Crystal Systems can provide a wide range of material grades to meet customers' requirements from economical to the highest quality sapphire available for demanding applications in defense, laser technology, electronics, life sciences and research. Contact: Kurt Schmid, Chief Operating Officer, kurt@crystalsystems.com; William Ripley, Sr. Sales Engineer, bill@crystalsystems.com.

## **Crystal Technology, Inc.**

1040 E Meadow Circle, Palo Alto, CA, 94303 650/856-7916; fax 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**

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

## **CRYSTECH Inc.**

177 Zhuzhou Rd, Qingdao Shandong, China, 266101 86 532 88703717; fax 86 532 88701077 sales@crystech.com; www.crystech.com

#### New Product: HGTR-KTP, KTA, RTP, segmented growth crystal.

CRYSTECH is one of the world's leading manufacturer for NLO crystals and laser crystals as well as optics. Our main products include KTP, HGTR-KTP, KTA, RTP, BBO, BIBO, Nd:YVO<sub>4</sub>, Nd:YAG, etc. Contact: Kalinda Yang, Sales Manager, sales@crystech.com; Pikey Huang, Sales Engineer, sales@crystech.com.

### **Crystran Ltd.**

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; Chris Wallace, Marketing Manager, chris@crystran.co.uk.

## **Curamik Electronics Inc.**

#4317

#1715

3770 Arapaho Rd, Addison, TX, 75001 214/615-1533; fax 214/615-1540 www.curamikusa.com

Curamik Electronics is the leader in Direct Bonded Copper products (DBC), such as ceramic printed circuit boards, active liquid cooling for applications such as laser diodes, and cooling systems for high-performance computers and industrial applications. As a member of Electrovac we offer Glass to Metal Seal products customized for your applications. Products include pressure sensors, battery covers, oxygen sensors, hybrid packages, transistor headers, and igniter headers. Contact: Andreas Utz-Kistner, West Coast Regional Sales, akistner@ curamikusa.com; Brian Kopp, East Coast Regional Sales, bkopp@ electrovacusa.com.

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## DAC International, Inc.

6390 Rose Ln, Carpinteria, CA, 93013 805/684-8307; fax 805/566-2196 www.dac-intl.com

DAC International is the world's most experienced manufacturer of CNC lens production equipment. DAC lathes and mills are utilized in the machine tool industry for ultra-precision applications requiring the production of superior surfaces with exceptional accuracy on plastics and non-ferrous materials. Contact: Chip Heavican, Executive Vice President, cheavican@ dac-intl.com; Chris Pantle, Sales Manager, cpantle@dac-intl.com.

## DALSA, Inc.

605 McMurray Rd, Waterloo, ON, Canada, N2V 2E9 519/886-6000; fax 519/886-2317 sales@dalsa.com; www.dalsa.com

#4204

#5002

## DataRay, Inc.

SPIF Corporate

14505 Seaman Gulch Rd, Bella Vista, CA, 96008-9801 831/338-9055; fax 831/338-9098 info@dataray.com; www.dataray.com

New Product: High Res. IR Beam profiler 2-16 µm, Real time XYZ & M2 from 190 - 1750 nm, resolution to 0.1 µm.

Manufacturer of Laser Profilers for lasers, laser assemblies, fiber optic, industrial, telecom and imaging to ISO 11146 standards. Sub-micron resolution, systems for UV- 14 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. Stock and Custom PC - based systems and software. Contact: John Wilson, Sales and Marketing Manager, jwilson@dataray.com; Andrew MacGregor, Engineering Manager, amacgregor@dataray.com.

## Dausinger+Giesen GmbH

#4601

#1137

Rotebuehlstr 87, Stuttgart, Germany, 70178 49 711 9070600; fax 49 711 90706099 info@dausinger-giesen.de; www.dausinger-giesen.de

New Product: Modules for disk lasers, Versatile laser for micro machining with pulse duration fs to µs range.

Start-up company offering disk laser technology. Products: disks soldered to heat sink, disk modules, special lasers for laboratories. Services: consulting. contract research and development. Partners: Friedrich Dausinger and Adolf Giesen. Contact: Dr. Friedrich Dausinger, CEO, dausinger@dausinger-giesen.de; Dr. Mikhail Larionov, CTO, larionov@ dausinger-giesen.de.

## **Davidson Optronics, Inc.**

2223 W San Bernandino Rd, West Covina, CA, 91790 626/962-5181: fax 626/962-5188

sales@davidsonoptronics.com; www.davidsonoptronics.com

#### New Product: D-700, Digital Autocollimator.

Davidson Optronics provides optical metrology and test equipment regarded as the Standard of the Industry, including alignment telescopes, autocollimators, plano interferometers, optical flats, prisms and polygons. We also produce the TV Optoliner, a complete system for evaluating imaging devices. Custom components and instrumentation work is done in NIST-Certified facility. Contact: Sam Bailey, Vice President Sales, sales@davidsonoptronics.com; Charles Gaugh, Sales Manager.

## **Daylight Solutions**

SPIE Corporate

13029 Danielson St Ste 130, Poway, CA, 92064 858/391-1010; fax 858/679-9470

carmacost@daylightsolutions.com; www.daylightsolutions.com

Davlight Solutions develops molecular detection and imaging systems for use in industrial process controls, scientific research, medical diagnostics, environmental monitoring and security and defense applications. The company develops sensors and offers a line of broadly tunable and fixed wavelength mode-hop-free mid-IR lasers that may operate pulsed or continuous wave. The company's core technology enables portable, battery powered sensors for trace detection in real-world environments. Contact: Chris Armacost, Director of Sales, carmacost@daylightsolutions.com.

## Dayoptics, Inc.

20 Baihua Zhou Rd, Jinshan Pushang Industrial Park, Fuzhou Fuijan, China, 350008 86 591 83215681; fax 86 591 83854978 sales@dayoptics.com; www.dayoptics.com

New Product: high power polarizing beamsplitter T>96% ER>30dB damage threshold >15J/cm<sup>2</sup> @ 20ns 20 Hz.

At Dayoptics Inc., our commitment is to continuously offer our customers the highest performance optical and crystal solutions with on time delivery and a competitive price. Dayoptics consistently searches for better solution to optimize productivity, efficiency and product performance. Our internal Quality Management System and advanced ERP system have helped Dayoptics to gain the ISO 9001:2000 Certification. Contact: Dayoptics, Manager, daisy.wu@dayoptics.com.

## DCM Tech, Inc.

4455 Theurer Blvd, Winona, MN, 55987 507/452-4043; fax 507/452-7970 interest@dcm-tech.com; www.dcm-tech.com

DCM-Tech produces a complete line of rotary grinders capable of both precision and production on a variety of photonics related materials. DCM rotary grinders are being utilized for processing guartz, sapphire, metal alloys, silicon, and ceramics. Our machines are designed and manufactured at our factory in Winona, Minnesota and supported by regional technical specialists. Contact: Skip Green, Technical Sales, skipgreen@dcm-tech.com; Mike Anderson, Sales Manager, mikeanderson@dcm-tech.com.

## DD-Optik GmbH

Waldhausstr 1a, Kirchdorf, Germany, 94261 49 9928 9040 280; fax 49 9928 9040 288 info@dd-optik.de; www.dd-optik.de

## Del Mar Photonics, Inc.

SPIE Corporate

4119 Twilight Ridge, San Diego, CA, 92130 858/876-3133

sales@dmphotonics.com; www.dmphotonics.com New Product: T&D Scan high-resolution laser spectrometer based on CW narrow-line ring Ti:Sapphire and dye laser.

Del Mar Photonics, Inc. product portfolio includes CW single-frequency ring Dye/Ti:Sapphire lasers and spectrometers, ultrafast solid state and fiber oscillators and amplifiers, diode pumped solid state lasers, autocorrelators, pulse pickers, fluorescence, transient spectroscopy and multiphoton microscopy systems, femtosecond and Raman ready AFM & NSOM, teraherts THz set ups, NIR-MWIR-LWIR cameras, and optical and crystal components. Contact: Del Mar Photonics Sales Team, sales@ dmphotonics.com.

## **DFITA**

Venlighedsvej 4, Hørsholm, Denmark, 2970 45 72 19 4000 filters@delta.dk; www.madebydelta.com

## **Deltronic Crystal/Isowave**

SPIE Corporate

60 Harding Ave, Dover, NJ, 07801 973/361-2222; fax 973/361-0722 sales@deltroniccrystal.com; www.deltroniccrystal.com

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#### DenseLight Semiconductors Pte Ltd. #2533

6 Changi North St 2, Singapore, Singapore, 498831 65 6415 4488; fax 65 6415 4468 info@denselight.com; www.denselight.com

#### New Product: Superluminescent light emitting diodes; Ultra narrow linewidth single frequency laser.

DenseLight is a leading developer and manufacturer of InP and GaAs based optoelectronics devices and photonic solutions for photonicssensing (fiberoptic, industrial monitoring, environmental, chemical, homeland-security), biomedical imaging, telecom/datacom transmission and tests. Current products: Superluminescent LEDs, ELEDs, Ultra narrow linewidth single-frequency laser modules. Contact: Hong Teng Wong, Vice President, Sales and Marketing, htwong@denselight.com; Dr. Haiqun Zheng, Director, Marketing and Sales, hqzheng@denselight.com.

## **Deposition Sciences, Inc.**

#405

SPIE Corporate

3300 Coffey Ln, Santa Rosa, CA, 95403 707/573-6700; fax 707/573-6748 www.depsci.com

#### New Product: Deposition Sciences, Inc. offers optical coatings for plastics; Spectrally selective metal coatings.

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® reactive sputtering deposition process that enables superior, multilayer thin film coatings for precision optics. Contact: Bob Crase, Assistant Director of Commercial Manufacturing, solutions@depsci.com; Tatiana Goobanoff, Customer Service Supervisor, solutions@depsci.com.

## Diamond USA

#4129

#5435

27 Industrial Ave, Chelmsford, MA, 01824 978/256-6544; fax 978/256-3362 www.diamond-fo.com

## **DiCon Fiberoptics, Inc.**

SPIE Corporate Member 1689 Regatta Blvd, Richmond, CA, 94804 510/620-5000; fax 510/620-4100 sales@diconfiber.com; www.diconfiber.com

New Product: The GP750 automates fiber optic testing, featuring plug-and-play modularity and Ethernet interface.

For 23 years, DiCon Fiberoptics has designed and manufactured fiber optic and LED products for biomedical, sensing, machine vision, and defense applications. We offer compact, durable, and extremely reliable products including MEMS optical switches, optical matrix switches, attenuators, and tunable filters. DiCon LED's microscope illuminators and custom OEM LED arrays with multi-wavelength abilities are ideal for biomedical, plant growth, and other specialized applications. Contact: Brian Chiang, Director Sales, bic@diconfiberoptics.com; Sales, sales@diconfiberoptics.com.

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## Diemat, Inc.

SPIF Corporate

19 Central St, Byfield, MA, 01922 978/499-0900; fax 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 60 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 McLaughlin, Manager, Sales and Marketing, k-mclaughlin@diemat.com.

## **Diffractive Optics Ltd.**

Unit 531 Enterprise Place, Hong Kong Science Park, Shatin, Hong Kong 852 2793 5976; fax 852 2793 1696 sales@diffractive-optics.com; www.diffractive-optics.com

#### New Product: Lens, Reflector, Collinator, Diamond Torned parts.

Diffractive optics is an advanced optical technology that achieves some very promising advantages over conventional optics as highlighted: 1. Extreme dispersive power for chromatic aberration correction in high performance imaging lens systems; 2. Wavefront reconstruction capabilities enable the fabrication of laser beam pattern generators, 3D holograms and integrated optical systems. Contact: Leung Kin Pak, Engineering Manager, kpleung@diffractive-optics.com; Susan Cui, Sales Executive, susan@diffractive-optics.com.

## **Digital Light Innovations**

#5218

#4719

3201 Industrial Terrace Ste 120, Austin, TX, 78758 512/615-4317: fax 512/615-4635 bcrowell@dlinnovations.com; www.dlinnovations.com

#### **¥ LANYARD SPONSOR DILAS Diode Laser Inc.**

SPIE Corporate

9070 S Rita Rd Ste 1500, Tucson, AZ, 85747 520/282-6000; fax 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: Jason Alexander, Director, Business Development, j.alexander@dilas-inc.com.

#### WETER BOARD AND EXHIBITION MAP/RESTAURANT GUIDE SPONSOR **Diode Laser Concepts, Inc.** #4631

4731 Industry Dr, Central Point, OR, 97502 541/773-5321; fax 541/773-1705 sales@diodelaserconcepts.com; www.diodelaserconcepts.com

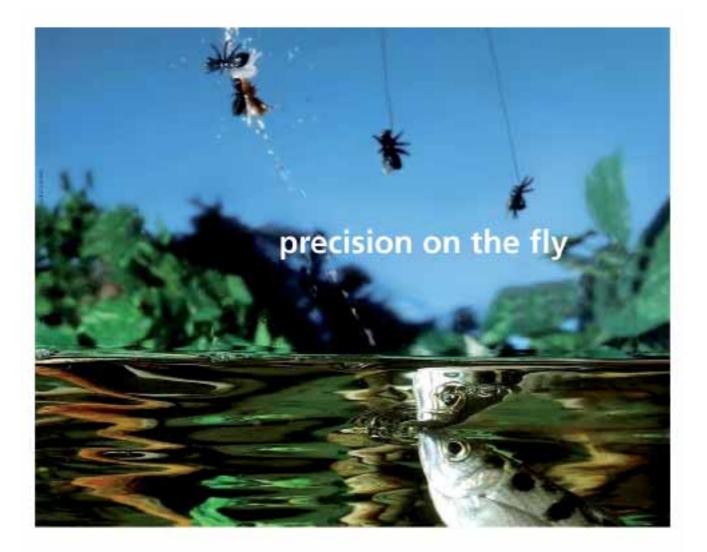
New Product: TELEOS - OEM Fiber Pigtailed TEC Cooled Diode Laser System Offering Unsurpassed Optical Stability. Uniform Laser Line Generators - Fully customizable, Non-Gaussian line generators with high uniformity in a small mechanical package.

Diode Laser Concepts designs, manufactures, and markets diode laser modules and diode laser systems. DLC modules and systems are among the most reliable on the market and are fully customizable. They also offer fiber pigtail manufacturing and electrical, optical, and mechanical design services for OEM customers across a broad range of industries. Contact: Dusty Harrington, Marketing/Sales, dusty.h@diodelaserconcepts.com; Mike Robinson, President, mike.r@diodelaserconcepts.com.

#4612

## #4519

110



## 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".

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Please visit us at booth #8617 (BiOS) and #617 (Photonics West).



www.scanlab.de

### **DIOPTIC GmbH**

Bergstr 92A, Weinheim, Germany, 69469 49 6201 65040 00; fax 49 6201 65040 01 info@dioptic.de; www.dioptic.de

New Product: Large-Radius-Test (LRT) for interferometric testing of surfaces with curvatures from 1 m to infinity.

DIOPTIC is a supplier of holograms for interferometric testing of aspheres. The patented solution, called Diffractive Fizeau Null Lens (DFNL), reduces adjustment efforts and shows increased precision. Contact: Dr. Simon Aigner, Product Manager, aigner@dioptic.de; Jean-Michel Asfour, Managing Director, asfour@dioptic.de.

## **Docter Optics, Inc.**

#1027

#5426

#3020

#4601

SPIE Corporat

1425 West Elliot Rd Ste A-105, Gilbert, AZ, 85233 480/844-7585; fax 480/844-7826 doi@docteroptics.com; www.docteroptics.com

New Product: Light Pipes, Auto-Tessar® Machine Vision Lenses, Stilar<sup>®</sup> 1.2" Sensor Lens, Tevidon<sup>®</sup> CCD/CCTV Lenses.

Docter Optics GmbH is an ISO 9001:2000 and ITAR registered global OEM optics supplier and will be displaying many types of molded, CNC ground and polished 5 mm to 165 mm glass lenses, mirrors, prisms and special shapes, UV to IR coated; Auto-Tessar® machine vision camera lenses; Stilar® 1.2" sensor camera lens; Tevidon® CCD and CCTV camera lenses; optoelectronic and optomechanical subassemblies. Contact: Bruce Nielsen, Executive Manager and Vice President, doi@docteroptics. com; Frank Müller, Sales Manager, frank.mueller@docteroptics.com.

## **Domaille Engineering LLC**

SPIE Corporate Member 7100 Dresser Dr NE, Rochester, MN, 55906 507/281-0275 info@domailleengineering.com; www.domailleengineering.com

## **Dominar**, Inc.

112

734 Aldo Ave, Santa Clara, CA, 95054 408/496-0508: fax 408/496-0910 sales@dominar-inc.com; www.dominar-inc.com

## Dongwoo Optron Co., Ltd.

611-5 Maesan-ri Opo-Eup, Gwangju-shi, Gyeonggi-do, Korea, 464-893 82 31 765 0300; fax 82 31 765 0222 optron@optron.co.kr; www.optron.com

New Product: VECTOR-01FX is a Confocal Raman that combines the benefits of the Raman and Confocal technologies.

DongWoo Optron is a technology company specialized in the field of spectroscopy. Today DongWoo has built up its reputation worldwide as a high-end spectroscopy system manufacturing company. We are committed to build state-of-art spectroscopy system products that customers really need. Creating solutions that are tailored to best suit your developments and production requirements is our mission. Contact: Ian Jung, Marketing & Sales Manager, dos@optron.co.kr; Gibson Ahn, Assistant Marketing & Sales Manager, dos@optron.co.kr.

### **Doric Lenses Inc.**

357 Franquet, Quebec City, QC, Canada, G1P 4N7 418/877-5600: fax 418/877-1008

sales@doriclenses.com: www.doriclenses.com

Provider of optical components, photonics manufacturing and supply chain management services. World leader in cylindrical lenses for laser diode collimation, axicons, ball lenses, custom parts and fiber preform shaping. Photonics manufacturing includes lensing of single diodes and arrays and pigtailed components like: LEDs, FP filters, splitters and assembly of photonics modules or complete instruments. Assembly of micro-optic components is our specialty. Contact: Branka Prijovic, Vice-President Sales, branka@doriclenses.com; Kemal Trtak, Sales Representative, kemal@doriclenses.com.

## **DPSS Lasers Inc.**

2525 Walsh Ave, Santa Clara, CA, 95051 408/988-4300; fax 408/988-4305 alaymon@dpss-lasers.com; www.dpss-lasers.com

New Product: DPSS Lasers Inc introduces the New Samurai UV Marking System utilizing DPSS' 355nm laser technology.

DPSS Lasers Inc. specializes in low cost, DPSS UV, "guasi-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 "Cold Laser" are Product Coding, Micromachining, Marking, Sapphire Scribing, ITO Removal, Semiconductor and Medical Packaging. Also available, the low cost New Samurai UV Marking system utilizing DPSS 355 nm laser technology. Contact: Alex Laymon, President, alaymon@dpss-lasers.com; Randy Kimball, VP Business Development, rkimball@dpss-lasers.com.

## **Draka Communications Optical** Fiber

2512B Penny Rd, Claremont, NC, 28610 828/459-8649; fax 828/459-8267 fibresales@draka.com; www.drakafiber.com

Draka is a leading global manufacturer of optical fiber and cable for the telecom, datacom and specialty fiber markets. Products include ultra bend-insensitive SM (BendBright-Elite), high data rate OM4 MM (MaxCap-OM4), and harsh environment fibers (radiation, high temp, high strength, H2). Other Draka Elite specialty fibers include erbium doped fibers, PCS, PCF, PMF, DC fibers/modules, tight buffered fibers, ribbonized fibers as well as custom optical fibers to meet your application needs. Contact: Olaf Storaasli, Product Manager, Optical Fiber, olaf. storaasli@draka.com; Ryan Chappell, North American Fiber Business Manager, ryan.chappell@draka.com.

## **DRC** - Metrioraphics

50 Concord St, Wilmington, MA, 01887-2179 978/658-6100; fax 978/657-7765

metsales@drc.com; www.drc.com

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## DRS Technologies, Inc.

#### SPIE Corporate

3520 U.S. Hwy 1, Palm Bay, FL, 32905 321/309-0433; fax 321/956-0126 www.drs.com

## DVC Co.

10200 Hwy 290 W, Austin, TX, 78736 512/301-9564; fax 512/288-2961 sales@dvcco.com; www.dvcco.com

#### New Product: A new multispectral imaging solution which sets a new benchmark for performance and modularity.

DVC's scientific cameras and software are an enabling technology within many world-class scientific imaging instruments. Discuss your application with team-DVC: Select the right imager; Add application-specific options, e.g. TE cooling; Select an industry standard interface, e.g. Gig-E; Identify complementary solutions, e.g. agile light sources, tunable filters; Develop a streamlined software strategy, leveraging 3rd party tools (e.g. LabVIEW) and our LINUX/Windows API. Contact: sales@dvcco.com.

## Dyna Technologies, Inc.

#3050

#723

#4917

1670 Tropic Park Dr, Sanford, FL, 32773 407/330-6423; fax 407/330-6121 information@dti-fla.com; www.dti-fla.com

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385 Cooper Rd, West Berlin, NJ, 08091-9145 856/767-4600: fax 856/767-6813 www.dynasil.com

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## DynTest Technologies GmbH

Bahnhofstr 110, Grassau, Germany, 83224 49 8641 69690; fax 49 8641 6969 29 info@dyntest.de; www.dyntest.de

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### Dvoptyka

7 Westland Ct, S Cumberland St, Dublin 2, Ireland fax 353 1611 4626 www.dyoptyka.com

New Product: Dynamic optical systems to reduce laser speckle in many imaging, metrology, and display applications.

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## DZ Laser Service, Inc.

#5414

#4417

#1231

#1038

1252 W 50 S, Centerville, UT, 84014 801/296-2612; fax 801/296-2910 jeff@dzlaser.com; www.dzlaser.com

#### New Product: Nitrogen Laser replacement cartridges for Spectra Physics nitrogen laser systems.

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106 Waterhouse Ln, Chelmsford Essex, United Kingdom, CM1 2QU 44 1245 493 493; fax 44 1245 45 37 25 www.e2v.com

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## Eaglevard Photonics GmbH

Rudower Chaussee 29, Berlin, Germany, 12489 49 30 6392 4520; fax 49 30 6392 4529 info@eagleyard.com; www.eagleyard.com

#### New Product: Eaglevard 1064nm DFB laser in 14 pin butterfly package.

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#### See full course to stay ahead of the listing, pp. 8–12.

## Edinburgh Instruments Ltd.

2 Bain Sq, Kirkton Campus, Livingston, United Kinadom, EH54 7DQ 44 1506 425 300: fax 44 1506 425 320 sales@edinst.com; www.edinst.com

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101 E Gloucester Pike, Barrington, NJ, 08007-1380 856/547-3488; fax 856/573-6272 sales@edmundoptics.com: www.edmundoptics.com

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## Eindhoven University of Technology

Den Dolech 2, Eindhoven, Netherlands, 5612 31 40 2475058; fax 31 40 2456087 secretariaat.tte@tue.nl: www.tue.nl

#### #706 **EKSMA Optics**

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## **ELCAN Optical Technologies**

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## **Electro Optical Components Inc.**

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5460 Skylane Blvd, Santa Rosa, CA, 95403 707/568-1642; fax 707/568-1652 info@@eoc-inc.com; www.EOC-INC.COM

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## Electro Optical Industries, Inc.

### #5217

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859 Ward Dr, Santa Barbara, CA, 93111-2960 805/964-6701; fax 805/967-8590 eoi@electro-optical.com; www.electro-optical.com

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## **Electro Optics Magazine**

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## **Electron Tubes**

100 Forge Way Unit F, Rockaway, NJ, 07866 973/586-9594; fax 973/586-9771 sales@electrontubes.com: www.electrontubes.com

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### **Electro-Optical Products Corp.**

PO Box 650441, Fresh Meadows, NY, 11365 718/456-6000; fax 718/456-6050 techelp@eopc.com; www.eopc.com

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## Electro-Optical Systems, Inc.

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## **Element Six**

440 N Wolfe Rd, Sunnyvale, CA, 94085 408/524-1568; fax 408/524-1569 ustechnologies@e6.com; www.harrisinternational.com

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#### 4B Brunel Close, Daventry Northants, United Kingdom, NN11 8RB 44 1327 300069; fax 44 1327 300076 info@elforlight.com; www.elforlight.com

## New Product: SPOT laser 5 $\mu$ J at 355nm at 10kHz, 1.5ns pulse width MALDI-MS imaging, Time resolved fluorescence.

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## Elite Optoelectronics Co., Ltd.

#4210

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#605

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22 Kejiwu Rd, Hi-Tech Zone, Xi'an, China, 710065 86 29 8845 3363; fax 86 29 8845 3480 www.s-laser.com

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## **Elliot Scientific Ltd.**

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7 Oak Park, Bedford, MA, 01730 781/275-7501; fax 781/275-7569 sales@em4inc.com; www.em4inc.com

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## **Empire West Inc.**

PO Box 511, 9270 Graton Rd, Graton, CA, 95444-0511 707/823-1190; fax 707/823-8531 ed@empirewest.com; www.empirewest.com

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7 Constitution Way, Woburn, MA, 01801 781/939-0763; fax 781/939-0769 info@energetiq.com; www.energetiq.com

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### EPIGAP Optoelektronik GmbH

Köpenicker Str 325b Haus 210, Berlin, Germany, 12555 49 30 6576 2543: fax 49 30 6576 2545 sales@epigap.de; www.jenoptik.com

EPIGAP Optoelektronik GmbH, a member of Jenoptik, is your partner for production of custom specific chips for LEDs and photodiode applications. Starting from Liquid Phase Epitaxy, chip production, dicing and 100% chip testing, classifying and sorting our technical equipment covers all processing steps in our class 10,000/100 clean room facility. Besides we offer development and series production of customer-specific modules and sensors. Contact: Matthias Gamp, Director Marketing & Sales, gamp@epigap.de; Antje Thamm, Product Manager, thamm@epigap.de.

## Epitaxial Technologies, LLC

1450 S Rolling Rd. Baltimore, MD. 21227 410/455-5594; fax 410/455-5595

Olaleye Aina, President, oaina@epitaxialtechnologies.com.

oaina@epitaxialtechnologies.com; www.epitaxialtechnologies.com Epitaxial Technologies develops and produces breakthrough sensor products including photon counting photodetector arrays and ultrasensitive photoreceivers with widespread applications in fiber optic and free-space lasercomm, ladar and infrared imaging for missile

defense, homeland security and spectroscopic applications. Contact:

## EpiWorks, Inc.

1606 Rion Dr, Champaign, IL, 61822 217/373-1590: fax 217/373-1591 www.epiworks.com

#### New Product: III-V solar cell wafers.

EpiWorks is the leading developer and manufacturer of III-V epitaxial wafers for lasers, photodetectors, solar cells, HBT and pHEMTs. Our products include high-power AlGaAs/GaAs and Al-free laser wafers (7xx - 1060nm) and InP-based laser wafers (1200nm - 1900nm). In addition to high-guality manufacturing, EpiWorks' high-level customer interaction and codevelopment to rapidly advance our customers' technology capability and product development. Contact: David Ahmari, Executive VP, sales@epiworks. com; Hari Balasubramaniam, Sales Manager, sales@epiworks.com.

## Epix, Inc.

SPIE Corporate

381 Lexington Dr, Buffalo Grove, IL, 60089-6934 847/465-1818; fax 847/465-1919 sales@epixinc.com; www.epixinc.com

New Product: Silicon Video 643 high speed camera has 640 x 480 at 200 fps at 10 bits color or monochrome.

EPIX, Inc. is a manufacturer of cameras, frame grabbers, image processing and analysis software, and computer imaging systems for high speed image tracking, analysis, video to disk, and measurement. Contact: Charlie Dijak, Sales, cad@epixinc.com; Chuck Petersen, Vice President, acp@epixinc.com.

## Epner Technology, Inc.

SPIE Corporate

78 Kingsland Ave, Brooklyn, NY, 11222-5603 718/782-5948; fax 718/963-2930 info@epner.com; www.epner.com

A broad range of optical fabrication and coatings will be displayed with free samples of Laser Gold®, a rugged IR reflective coating. Custom designed infrared lightpipes; electoformed IR radiation shields. Lowemissivity Gold and Laser Black®, an inorganic non-outgassing coating that some say, "Actually swallows light". Contact: David Epner, President, David@epner.com; Paul Brancato, Vice President and General Manager, Paul@epner.com.

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## **ER Precision Optical**

505 W Robinson St, Orlando, FL, 32801 407/292-5395: fax 407/292-7984 jhess@eroptics.com; www.eroptics.com

#### New Product: Multi Million Dollar Expansion for Infrared crystal growth.

E.R. Precison Optical Corp has been in business for almost 20 years. With new ownership and managment in early 2008 we have more than doubled in size. ERPOC now has the strength to grow far beyond previous expectations. We are a HUBZone SBA that is also ISO certified through 2011. We specialize in IR materials and custom prisms. Our products are built to customer specifications 100%. Our pricing and lead times are also some of the most competitive. Contact: Jason Hess, Vice President, jhess@eroptics.com; Amy Udelhofen, Quality Manager, audelhofen@ eroptics.com.

## **ET Precision Optics Inc.**

SPIE Corporate Member

33 Curlew St, Rochester, NY, 14606 585/678-4700; fax 585/678-4701 jgligora@etprecision.com; www.etprecision.com

## **Evans Analytical Group**

810 Kifer Rd, Sunnyvale, CA, 94086 408/530-3500; fax 408/530-3501 marketing@eaglabs.com; www.eaglabs.com

Evans Analytical Group (EAG) is the global leader in materials characterization and electronic testing services. Services available include: SEM, TEM, SIMS, XPS, XRD, Auger, GDMS and XRF. EAG provides fast turn-around time, superior data quality and reliable results. EAG has over 15 locations in Asia, Europe and the U.S. Contact: Ian Mowat, Director, Sales and Customer Service, imowat@eaglabs.com: Rina Syamsu, Marketing, rsyamsu@eaglabs.com.

## **Evaporated Coatings, Inc.**

SPIE Corporate

2365 Maryland Rd, Willow Grove, PA, 19090-1708 215/659-3080; fax 215/659-1275

sales@evapcoat.com; www.evaporatedcoatings.com

#### New Product: NVIS compatible filters, High power laser coatings, Infrared AR coatings.

ECI offers Bandpass, LWP, SWP, NVIS, Dual-band, Tri-band and Detector coatings with extended blocking. High Power Anti-reflection, Custom matched ITO, non-polarizing beamsplitters, solderable films, low-reflection attenuation coatings, dielectric and metal mirrors. 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 and 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, Senior Sales Engineer, sales@evapcoat.com.

## Evatec NA

150 Dow St, Manchester, NH, 03101 603/669-9656; fax 603/606-7043 info@evatecnet.com; www.evatecnet.com

## EXALOS AG

SPIF Corporate

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

#### New Product: Superluminescent Light Emitting Diodes (SLEDs).

EXALOS AG, an ISO 9001:2000 certified company, is the world-leading company in broadband light sources based on Superluminescence, covering the visible and near-infrared wavelength range.

Superluminescent Light Emitting Diodes (SLEDs) are used in various fields of applications and have distinct characteristics compared to laser diodes or LEDs. The Company has its headquarters in Switzerland. Contact: Gene Covell, Vice President Sales, covell@exalos.com; Uwe Achatz, Vice President Strategic Marketing, achatz@exalos.com.

## **Excell Technology**

SPIE Corporate

1001 Varian St, San Carlos, CA, 94070 650/592-6224; fax 650/592-6684 www.excell-tech.com

Excell is an industry leader in selling and rebuilding to OEM the following: double side and single side lapping, polishing machines, fine grinders, ID saws, slicing/dicing equipment. Excell has a 30 year track record providing top brand precision and reliable equipment. Located in Silicon Valley. Contact: David Hodges, President, dhodges@excelltechnology. com; Valerie DeFigueiredo, Administration, val@excelltechnology.com.

## ► EXHIBITION MAP/RESTAURANT GUIDE SPONSOR Exciton, Inc.

SPIE Corporate Member PO Box 31126, Dayton, OH, 45437 937/252-2989; fax 937/258-3937

info@exciton.com; www.exciton.com

#### New Product: Selective visible and infrared absorbing dyes for display filters.

As Exciton celebrates 36 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 dves to support our customers. Contact: Richard N. Steppel, President, richard@exciton.com.

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## F&T Fibers and Technology GmbH

#### #4601

Zaucher Weg 39A, Berlin, Germany, 12527 49 30 67539756; fax 49 30 67539757 sales@fibersandtechnology.com; www.fibersandtechnology.com

## Fairchild Imaging, Inc.

#4608

#6038

1801 McCarthy Blvd, Milpitas, CA, 95035 408/433-2500; fax 408/435-7352 sales@fcimg.com; www.fairchildimaging.com

New Product: We will introduce a new low-light, high-speed camera based on our Scientific CMOS sensor technology.

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; Brad Ostman, Director, Sales & Marketing, brad.ostman@fcimg.com.

## Fairfield Crystal Technology, LLC

8 S End Plaza, New Milford, CT, 06776 860/354-2111; fax 860/354-3093 atimmerman@fairfieldcrystal.com; www.fairfieldcrystal.com

New Product: CaF<sub>2</sub>, MgF<sub>2</sub>, LiF, BaF<sub>2</sub>, ZnS, AIN, SiC windows, lenses, prisms, custom optics, wafers, single crystal.

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 crystal technology enables customers to capitalize on the unique properties of crystal materials to make their products better. Contact: Andy Timmerman, Director of Sales, atimmerman@fairfieldcrsvtal.com: Chris Snvder. Administrator. csnvder@ fairfieldcrsytal.com.

### Fastlite

45 rue Croulebarbe, Paris, France, 75013 33 1 45 3012 96; fax 33 1 45 30 12 97 info@fastlite.com: www.fastlite.com

#### New Product: Dazzler ultrafast pulse shapers, Phazzler and DazScope ultrafast pulse characterization.

FASTLITE manufactures scientific instruments for the ultrafastfemtosecond scientific and industrial community, ranging from Dazzler ultrafast pulse shapers, to Phazzler and/or DazScope ultrafast characterization systems. Applications are: Automated and programmable dispersion compensation, arbitrary pulse shaping for coherent control to carrier envelope phase stabilization: Automated pulse measurements using FROG or SPIDER. Products are available from the UV to the MIR range. Contact: Pascal Tournois, Sales and Marketing Manager, pascal. tournois@fastlite.com.

## Feldmann GmbH

Bergstr 31, Wetzlar Hessen, Germany, 35578 49 6441 50005 0; fax 49 6441 50005 55

info@feldmann-wetzlar.de; www.feldmann-wetzlar.de FELDMANN is a leading manufacturer of precision graduations (microstructures), thin-film technology (UV to IR), precision optical components and opto-mechanical system engineering. With 50 years of experience and automated processes, high quality and repeatability are guaranteed. FELDMANN stands for "PRECISION ON OPTICS" - Made in Germany! Contact: Oliver Feldmann, CEO, info@feldmann-wetzlar.de.

### FEMTO Messtechnik GmbH

Paul-Lincke-Ufer 34, Berlin, Germany, 10999 49 30 446 9386: fax 49 30 446 9388 info@femto.de: www.femto.de

Manufactures sophisticated tools for signal recovery. The product portfolio includes ultra low-noise current amplifiers, broadband voltage amplifiers, lock-in amplifiers, and low-noise photoreceivers. Also offers custom-designed solutions, such as multi-channel lock-in amplifiers, logarithmic amplifiers, and APD- or PMT-based photoreceivers. Contact: info@femto de

## Femtochrome Research, Inc.

#4727

#1900

2123 4th St, Berkeley, CA, 94710 510/644-1869: fax 510/644-0118 tech@femtochrome.com; www.femtochrome.com

#### New Product: FR-103TPM New compact autocorrelator for Two-Photon Microscopy applications.

FEMTOCHROME manufactures instruments for the characterization of ultrashort laser pulses. Our current Autocorrelators/Crosscorrelators are unmatched in resolution, sensitivity, and overall versatility. Providing the utmost in technical performance, the FR-103 series is reasonably priced and offers excellent price/performance ratio. Contact: Frank Taylor, Vice President Sales, sales@femtochrome.com; Z.A.Yasa, Research Director, tech@femtochrome.com.

## FemtoLasers, Inc.

SPIE Corporate

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

#### New Product: FEMTOPOWER™ V - ultrafast 2-stage Ti:Sa mJ amplifier system including 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: Andreas Isemann, President, infofli@femtolasers.com.

## Ferrotec (USA) Corp.

33 Constitution Dr, Bedford, NH, 03110 603/472-6800; fax 603/472-2320 www.ferrotec-america.com

New Product: Ferrotec will introduce a new line of highperformance miniature thermoelectric modules.

Ferrotec manufactures precision thermoelectric solutions including Peltier coolers for heat-pumping, thermal cycling and precise temperature control, assembled heat-exchangers and temperature controllers. Our standard TEC line includes specialized solutions that have been optimized for optical, photonics, and laser applications including minimodules, TECs with holes, thin-film and high-performance modules. For more information, visit www.ferrotec.com, Contact: info@ferrotec.com: Tom McKee, pr@ferrotec.com.

#4601

## #1607

#2203

## Ferson Technologies, Inc.

5801 Gulf Tech Dr, Ocean Springs, MS, 39564 228/875-8146: fax 228/875-5947 www.ferson.com

Ferson Technologies, a division of OSI Systems, is a manufacturer of custom precision optical components including lenses, prisms, windows, mirrors, cylindrical lenses, filters, beamsplitters and domes. Capabilities also include optical coating design and services and optical assemblies. Contact: Connie Spence, Applications Engineer, cspence@ferson.com; Louis Peters, General Manager, Ipeters@ferson.com.

## Fianium Inc.

SPIE Corporate

858 W Park St, Eugene, OR, 97401 541/343-6767; fax 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 significant improvements in performance of imaging instruments, including confocal and STED microscopes, FLIM and flow-cytometry systems. Based on compact, maintenance free ultrafast fiber lasers, the supercontinuum systems offer a versatile laser source for many biomedical applications. Contact: Ted Naugler, Sales Manager, ted.naugler@fianium.com.

## Fiber Optic Center, Inc.

#4919

#5137

#4801

#423

23 Centre St, New Bedford, MA, 02740 508/992-6464; fax 508/991-8876 sales@focenter.com; www.focenter.com

#### New Product: Phenix FO Automated High Precision Cleaver (80-400µm).

Worldwide supplier ÅngströmLap® lapping film, ÅngströmBond® adhesives. Distributing polishing machines, automatic stripping, epoxy dispensing, crimping, test eqt, fusion-splicers, termination tools, supplies, cables, ferrules, attenuators, cleaning supplies. Custom drillout and std connectors stock. On-site technical support and consulting for complete assembly production. Complete fiber manufacturing systems: MCVD gas-delivery, lathes, draw-towers, rotary seals for research/production. Contact: Ben Waite, Executive Vice President, bwaite@focenter.com; Tom Waite, General Manager, twaite@focenter.com.

#### **GENERAL REFRESHMENT SPONSOR** Fiber Optic Valley

SPIE Corporate Member

Stationsgatan 7, Hudiksvall, Sweden, 824 43 46 650 556618; fax 46 650 601005

info@fiberopticvalley.com; www.fiberopticvalley.com

Swedish organization within fiber optic reserach, photonics, services and business development collecting 30 member companies. Unique test environment for technical and behavioural science studies. Independent prototype lab free for innovators to use for testing products and ideas. Contact: Mr. Magnus Engholm, Research & Development Manager, magnus.engholm@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' experience of the Specialty Optical Fiber industry, Fibercore Ltd., the World leader in its field, is exclusively dedicated to the design, manufacture and commercialization of specialty fibers. With product ranges available offering Polarization Maintaining, Bend-Insensitive, Rare-Earth Doped, Cladding-pump and Photosensitive fibers, commitment to the industry continues with the development of new all-silica and polarizing fibers. To find out more, visit us at our Booth. Contact: Wendy Stewart, Sales Administrator, info@fibercore.com; Dr Chris Emslie, Managing Director, info@fibercore.com.

## Fibercrvst

La Doua L'Atrium Bd Latarjet, Villeurbanne, France, 69616 33 4 26 23 71 21; fax 33 4 26 68 98 74 jm.fourmigue@fibercryst.com; www.fibercryst.com

#### *THE GENERAL REFRESHMENT SPONSOR* Fiberguide Industries, Inc.

SPIF Corporate

1 Bay St, Stirling, NJ, 07980-1529 908/647-6601; fax 908/647-8464 info@fiberguide.com; www.fiberguide.com

New Product: Solarguide<sup>™</sup> series for deep UV Spectroscopy, Lithography, Excimer laser delivery systems below 230nm.

High transmission multimode, single mode and graded index optical fibers from UV-IR, temperature from -269°C to +700°C. Design/engineer assemblies with widest range of endfittings/connectors, outer jackets tailoring product to technical requisites; ultra precision 2D arrays, V-Groove arrays designed for optical switches, WDM/DWDM, arrayed active devices; and reflection/backscattering probes for measuring specular or diffuse reflection from a surface. FDA registered as a Contract Manufacturer. Contact: Patrick Fung, Western Regional Sales Manager, pfung@fiberguide.com; Gary Churchill, Eastern Regional Sales Manager, gchurchill@fiberguide.com.

## FiberLabs Inc.

2-1-15 Ohara, Fujimino, Saitama, Japan, 356-8502 81 49 278 7829; fax 81 49 263 9328 info@fiberlabs.co.jp; www.fiberlabs-inc.com

New Product: Fiber Laser in 550, 850, 980nm Fiber Sensor for Volatile Liquid.

Supplier of optical amplifiers, ASE sources, fiber lasers, LEDs, and specialty fibers covering the widest wavelength ranges up to 4µm. 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 550, 850, 980nm, 1µm and 2µm bands. Custom and standard SMF and MMF. FiberLabs has been manufacturing high performance, high quality, optical products for 10 years. Contact: Bogey Inoue, Sales Manager, info@fiberlabs.co.jp.

Get the training you need to stay ahead of the technology curve.

See full course listing, pp. 8–12.

#501

#4129

## Fiberlogix International Ltd.

#4131

Ashley House Vale Industrial Park, Tolpits Lane, Watford, United Kingdom, WD18 9QP 44 1923 777766; fax 44 1923 777100 sales@fiberlogix.com; www.fiberlogix.com

New Product: Metal Coated fibers for HARSH Environment Applications. Up to 750 Degree C. Custom Passive Devices.

FiberLogix Manufactures "Specialty Fibers" and "All-fiber Passive" Devices. Specialty fibers: High NA, Polyimide Coated Single Mode, Multi-mode fibers, 80um, High Temperature Acrylate Coated Single Mode, Multi-mode fibers, Photosensitive and PEEK coated fibers. Passive devices: Polarizers, Depolarizers, PM couplers, Mini Couplers, Polarization controller, Polarization filter, Beam combiner, Polarization Scrambler, High Power Isolators and Circulator. Contact: Amin Maan, Business Development Manager, Amin@fiberlogix.com; info@fiberlogix.com.

## Fiberoptic Systems, Inc.

#### #514

#4914

#4507

60 Moreland Rd Unit A, Simi Valley, CA, 93065 805/583-2088; fax 805/583-4018 sales@fiberopticsystems.com; www.fiberopticsystems.com

New Product: We are pleased to have earned a California Medical Device Manufacturing License.

Fiberoptic Systems, Inc. offers custom and standard fiber optic bundles and patchcords for the medical, semiconductor, spectroscopy, and machine vision markets. In 25 years of business we have worked with borosilicate, fused silica, fluoride, 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.**

1 Quassett Rd, Pomfret, CT, 06258 860/928-0443 sqiamundo@fiberoptix.com; www.fiberoptix.com

New Product: Laser source for fiber illumination-9W RGB power

produces white non-speckled output in 3mm of space.

FTI designs and manufactures standard and custom fiberoptic lighting components, including light sources and fixturing, for lighting 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. Established in 1977, FTI has over 1000 man years of experience developing fiberoptic lighting solutions. Contact: Walt Seagrave, Sales Engineer, Wseagrave@fiberoptix.com; Steve Giamundo, Vice President, sgiamundo@fiberoptix.com.

## **Fibertech Optica**

SPIE Corporate Member

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

Designer and manufacturer of high power laser cables, patchcords, pigtails, spot-to-line converters, bundles and reflectance probes, vacuum feedthrough, linear and spaced v-groove arrays. Spectral bands coverage from deep UV to MIR. Manufacturer 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; info@fto.ca.

### **Fibertronix**

Håstaholmen 4, Hudiksvall, Sweden, SE-824 12 44 773 6685412; fax 46 650 18 002 sales@fibertronix.de: www.fibertronix.com

sales@fibertronix.de; www.fibertronix.com

Fibertronix AB develops and manufactures specialty optical fibers and fiber based solutions, targeting applications primarily in the oil and gas, military, fiber sensors, high power lasers and avionics industry. Our products: Polyimide, high temp acrylate and hermetic coated, pure core, high NA, large core, radiation hard, rare-earth doped, micro-structured custom fibers and preforms. Contact: Saeed Rehman, VP Business Development, saeed@fibertronix.com.

## ficonTEC Corp.

27926 Muirfield, Mission Viejo, CA, 92692 949/916-0200; fax 949/916-0201 jang@ficontec.com; www.ficontec.com

#### New Product: AutoAlign-PLC is a modularly configurable alignment-and-assembly system designed for PLC applications.

ficonTEC is a premier automation systems solution provider of HPLD processing and opto-electronics/photonics device assembly, test and measurement. ficonTEC's product solution is based on flexible, modular platform for a wide range of applications from standard to customized R&D and manufacturing requirements, reflecting its device physics knowledge and process expertise. Visit our booth #4313 and talk to us about your process automation requirements. Contact: Soon Jang, President, jang@ficontec.com; Monika Merz, Marketing Manager, merz@ ficontec.com.

## Fietje Sensor & Optoelektronik GmbH #4601

Dorfstr 1E, Glashagen, Germany, 18209 49 38203 65 633; fax 49 38203 17 890 sale.info@fietje-web.de; www.fietje-web.de

## **Filmetrics**, Inc.

**#5303** 

9355 Chesapeake Dr, San Diego, CA, 92123 858/573-9300; fax 858/573-9400 info@filmetrics.com; www.filmetrics.com

## New Product: The recently released Filmetrics F10-PV is specially designed for the measurement of solar TFPV.

Filmetrics manufactures thin-film measurement systems capable of measuring thickness from 3nm to 0.5mm. Contact: Michael Klayman, Technical Sales Manager, klayman@filmetrics.com.

## Filtech Photonics Co., Ltd. #2500, 2501

Bldg 3 Longchen Industrial Park, First Weat Central Town, Longgang Shenzhen, China, 518172 86 755 29857682; fax 86 755 29857369 sales@filtech-filters.com: www.filtech-filters.com

Filtech Photonics Co., Ltd. is a leading manufacturer of optical thin film filters and precision optial coating in China. Our main product lines include the following: 1) Filters for fiber optical communication: 100GHz and 200GHz DWDM filters, 100GHz 4 skip 0 and 8 skip 1 filters, CWDM filters, GFF filters, tri-port FTTH filters, beam splitters and WDM filters, coating on pigtails and GRIN lenses; 2) Bio-medical filters: high performance fluorescence filter sets, laser line filters and Raman filters. These filters are manufactured with our IBS technology and their performance is comparable to the highest standard available; 3) Laser coating: high damage threshold AR or HR coatings for lasers applications, AR or HR coating on laser crystals and non-linear optical crystals such as YAG, Nd:YVO4, KTP et.al.; 4) Digital imaging filters: IR-cut filters, OLPF filters, UV-IR-cut filters, filters for LCD, LCOS, and DLP projectors. For more information please visit our web-site: www.filtech-filters.com

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### **#5137**

## Finetech

8380 S Kyrene Ste 110, Tempe, AZ, 85284 480/893-1630: fax 480/893-1632 sales@finetechusa.com: www.finetechusa.com

Precision bonders for laser bars and diodes, photonics packaging, VCSELs, MEMs, sensors and flip chips. Thermo-compression, thermosonic, eutectic, epoxy, ACF and Indium bonding. Process flexibility is ideal for R&D or prototyping. Placement accuracy down to  $\pm 0.5$ micron. Manual and fully-automated models. Industry-leading machine specifications and process know-how built over years of customer application experience. Contact: Robert Avila, Western Region Manager, ra@finetechusa.com.

## Firebird Technologies Inc.

#4431

#1026

SPIE Corporate

2950 Highway Dr, Trail, BC, Canada, V1R 2C6 250/364-5605; fax 250/364-5643 info@firebird.bc.ca; www.firebird.bc.ca

#### New Product: High Purity Cadmium shot for CdTe Solar Panels and Gallium Antimonide substrates.

Firebird Technologies Inc. specializes in the production of the III-V semiconductor Indium Antimonide and the high purity metals: Antimony. Indium, and Tin. Production processes include electro-refining, zonerefining, crystal growth (Czochralski method), fabrication, and damage free polishing. We also zone refine bulk Germanium scrap/windows/ blanks and have just started producing high purity Cadmium shot for CdTe solar panels along with Gallium Antimonide (GaSb) substrates. Contact: Paul McKay, Manager, Sales and Production, paul@firebird. bc.ca; Don Freschi, CEO, don@firebird.bc.ca.

## Fisba Optik AG

#2423

Rorschacher Str 268, St. Gallen, Switzerland, 9016 41 71 282 3131; fax 41 71 282 3130 info@fisba.ch: www.fisba.ch

FISBA OPTIK AG is a leading supplier of optical systems and components ranging from simple lenses to laser modules, from microoptics to complex optical components for industrial applications. Optical metrology systems, configured to a customer-specific measuring task are a further specialty of the company's portfolio. Accordingly, making a major contribution to customer success, with products and solutions that provide high technological and commercial benefits, is FISBA'S daily business. Contact: info@fisba.ch.

## FJW Optical Systems, Inc.

SPIE Corporate

322 N Woodwork Ln, Palatine, IL, 60067-4933 847/358-2500; fax 847/358-2533 irsales@findrscope.com; www.findrscope.com

## New Product: New Product: See our new, affordable, VIS/NIR/

SWIR vidicon based video cameras with sensitivity from 400-2200nm.

FJW Optical Systems, world-leading manufacturer of self-contained, high-res. Find-R-Scope® Infrared Viewers, UV Viewers, IR Viewers/ Cameras and Radiometric Imagers. FJW offers; IR Viewers from 350-1550nm, UV Viewers from 180-1550nm, VIS/NIR/SWIR Cameras sensitive from 400-2200nm, and Thermal Viewers from 8-14 m. Great for inspecting IR diodes, aligning/profiling laser systems, research, biotech, forensics and document analysis. Optional lenses, std. and custom filters, CCD camera, mtg. accessories, etc. Contact: Mary Scarlata, Customer Service, IRsales@findrscope.com; Barry Durr, Director of Sales & Marketing, bdurr@findrscope.com.

## Flemming Tinker, LLC

23 Soobitsky Rd, Higganum, CT, 06441 860/301-2372: fax 860/760-6564 ftinker@ftoptics.com; www.ftoptics.com

#### New Product: SiC precision lightweight mirrors, spheres, and aspheric optics.

We provide comprehensive engineering and manufacturing services of custom optics through our Connecticut-based developmental optics and metrology facility and through Okamoto Optics of Yokohama Japan. Together we provide fast response and ITAR controlled optics products as well as production of optics for commercial and scientific research markets worldwide. We provide flat, spherical, and aspherical optics up to 2 meters in size. We also provide high damage threshold thin film coatings. Contact: Flemming Tinker, President, ftinker@ftoptics.com.

## FLIR Systems, Inc.

SPIE Corporate

27700A Parkway Ave, Wilsonville, OR, 97070 503/498-3303; fax 503/498-3551 kip.nix@flir.com; www.flir.com

## FLIR Systems, Inc.

SPIE Corporate

25 Esquire Rd. N. Billerica, MA. 01862 978/901-8000: fax 978/901-88532 info@flir.com;

FLIR is a global 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.

## Florida Photonics Cluster

Research Pavilion, 12424 Research Pkwy Ste 100, Orlando, FL, 32826-3257 407/882-2104; fax 407/386-3426

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@olinet.com.

## Flowstar. Inc.

6800 Silacci Way, Gilroy, CA, 95020 408/842-2400; fax 408/842-2407 info@flowstar.com; www.flowstar.com

Flowstar Corporation is a design/build cleanroom contractor, doing business nationwide, providing the absolute finest cleanroom systems. Our products include: Soft and hard wall modular cleanrooms; Portable roll around cleanrooms; Flowhoods - horizontal and vertical work stations; Custom work tables with your selection of top surface: Stainless Steel, Trespa, Formica. Contact: Debbie Currier, President, dcurrier@flowstar. com; Mike Bennett, V.P. Operations, mike@flowstar.com.

#5202

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# Foctek Photonics, Inc.

#### #4809

#624

32 Bldg Juyuanzhou Ind Park, 618 Jinshan Ave, Fuzhou Fujian, China, 350002

86 591 83767 816; fax 86 591 83767 817 sales@foctek.com; www.foctek.com

## New Product: Optical Assemblies, Custom-made optical assemblies, Lens assemblies.

Foctek is specialized in manufacturing optical components since 2001. Products include prism, lens, Polarizer, Waveplate, BeamSplitter, PBS, Lens assemblies, Optical assemblies; BBO, KTP, Nd:YVO4, Nd:YAG, Micro Optics. Foctek owns 4500-sqm-area and advanced production and inspection facilities, such as Trioptics Lens and Prism Measurement System, Zygo GPI Interferometer. Foctek is ISO9001 certified by SGS. We commit our customers with Quality products, Reasonable Price, On-time Delivery. Contact: Yuco Lin, Sales Manager, yuco.lin@foctek.net; Steve Huang, General Manager, steve.huang@foctek.net.

## Foreal Spectrum, Inc.

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

## New Product: Lightweight SIC Mirrors with high mechanical strength and high reflectivity.

Foreal is a supplier of optical coatings, optical modules, and LEDillumination 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 illuminators, and Stereo and Mini-projectors are designed for optimum brightness/cost/compactness, leveraging our optics design and manufacturing expertise. Contact: Claire Nippress, Director Sales & Marketing, clairen@forealspectrum.com, sales@forealspectrum.com.

## Forth Dimension Displays Ltd.

#2323

7 St. David's Dr, St. David's Business Park, Dalgety Bay, United Kingdom, KY11 9NB 44 1383 827 950; fax 44 1383 827 951

sales@forthdd.com; www.forthdd.com

Forth Dimension Displays develops, manufactures, and supplies the world's best near-to-eye microdisplay solution to the most demanding markets. Forth Dimension Displays celebrated SXGA and WXGA resolution. Time Domain Imaging microdisplays are the enabling technology of many advanced applications and are available with a number of driver interfaces each designed to suit the specific needs of the system developer. Contact: Robert Hoffman, Sales Director, rhoffman@forthdd.com; David Vettese, European Sales Manager, dvettese@forthdd.com.

## **Fosta-Tek Optics**

320 Hamilton St, Leominster, MA, 01453 978/534-6511; fax 978/537-2168 dbryce@fosta-tek.com; www.fosta-tek.com

### Fotofab

3758 W Belmont Ave, Chicago, IL, 60618 773/463-6211; fax 773/463-3387 sales@fotofab.com: www.fotofab.com

## New 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 two weeks with 5-day and 3-day delivery options available. Contact: Dan Sima, Marketing Coordinator, dsima@fotofab.com; James Tankersley, Technical Sales Supervisor, sales@fotofab.com.

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

## New Product: FLC presents high power 3W line laser diode modules for industrial applications.

FLC supplies CW single mode, DFB, DBR and broad area laser diodes and Quantum Cascade Lasers (370nm to 1µm with 1mW-15W), pulse IR laser diodes, superluminescent diodes in 650nm - 2300nm wavelength 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, green, yellow and blue DPSS lasers, laser diode collimating and focusing optic, mid-IR 1.7µm-4.3µm LED. Contact: Dr. Vsevolod Mazo, Sales Director, dr.v.mazo@frlaserco.com; Sabine Ruettinger-Besemer, Sales Assistant, sabine.ruettinger-besemer@ frlaserco.com.

## Fraunhofer Heinrich-Hertz-Institute

#4601

Einsteinufer 37, Berlin, Germany, 10587 49 30 31002 519; fax 49 30 31002 551 schlaak@hhi.fhg.de; www.hhi.fraunhofer.de

## New Product: Fiber optic sensors, Innovative, miniaturized fiber optic sensors and sensor networks.

From optical sensing to 100 Gbit/sec information technology. We develop innovative, miniaturized fibre optic sensors and sensor networks, LEDs, Lasers, THz devices, fast diodes, and optically integrated combinations of various functionalities. We custom design InP based actives, polymer devices and DOEs and are able to fabricate in small volumes. Contact: Wolfgang Schlaak, Head of Department, schlaak@hhi.fng.de; Dr. Wolfgang Schade, Professor, wolfgang.schade@hhi.fraunhofer.de.

## Fraunhofer Institut für Photonische Mikrosysteme IPMS

**#4521** 

Maria-Reiche-Str 2, Dresden, Germany, 01109 49 351 8823 0; fax 49 351 8823 266 info@ipms.fraunhofer.de; www.ipms.fraunhofer.de/en

New Product: Lamda: a large aperture MEMS scanner module for 3D distance measurement.

Fraunhofer IPMS carries out customer specific developments in fields of microelectronic and micro systems serving as a business partner that supports the transition of innovative ideas into new products. Fraunhofer IPMS develops and fabricates MEMS and OLED devices in its clean room facilities. About 200 scientists and engineers, 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.

### #1640

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## 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, Marketing Manager, info@iof.fraunhofer.de.

## Fraunhofer Institute for Laser Technology ILT

Steinbachstr 15, Aachen, Germany, 52074 49 241 8906 0; fax 49 241 8906 121 info@ilt.fraunhofer.de; www.ilt.fraunhofer.de

## Fraunhofer-Institut für Produktionstechnologie IPT

Steinbachstr 17, Aachen, Germany, 52074 49 241 8904 180; fax 49 241 8904 180 info@ipt.fraunhofer.de; www.ipt.fraunhofer.de

#### New 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 Silicatforschung #4601

Neunerplatz 2, Würzburg, Germany, 97082 49 931 4100 0; fax 49 931 4100 199 info@isc.fraunhofer.de; www.isc.fraunhofer.de

#### New Product: Contractual materials 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-Krauss, Competence Team Manager, houbertz@isc.fraunhofer.de; Marie-Luise Righi, Marketing and Communications, righi@isc.fraunhofer.de.

#### **Fraunhofer-Institute for Physical Measurement Techniques IPM** Heidenhofstr 8, Freiburg, Germany, 79110

info@ipm.fraunhofer.de; www.ipm.fraunhofer.de

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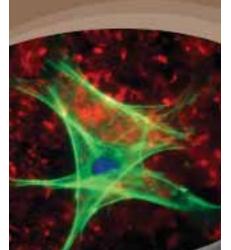
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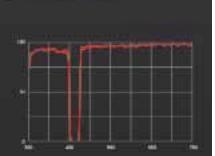
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New Product: Promotion of the French technologies, products, services and know how abroad.

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## **Fresnel Optics GmbH**

#### #4601

#400

#1723, 1823

Flurstedter Marktweg 13, Apolda, Germany, 99510 49 3644 5011 0; fax 49 3644 5011 50

info@fresnel-optics.de; www.fresnel-optics.de

Fresnel Optics, a German subsidiary of the US Reflexite Corporation, offers a complete chain of optical design, tool fabrication, prototyping, precision polymer replication, and custom finishing of plastic mictrostructured optics. Product enhancement such as AR surface structuring (PlasmAR®), coating and printing improve our optical components' performance in automotive, machine-vision, sensor, avionics, solar, lighting and other systems. We are certified according to DIN EN ISO 9001:2000. Contact: Dr. Hans Lauth, OSB Division Manager, hans.lauth@fresnel-optics.de; John R. Filipe, Manager Business Development/US Operation, john.filipe@reflexite.com.

## **Fresnel Technologies Inc.**

SPIE Corporate Member

101 W Morningside Dr, Fort Worth, TX, 76110 817/926-7474; fax 817/926-7146 info@fresneltech.com; www.fresneltech.com

Manufactures molded plastics, Fresnel lenses, and related optical components, as well as IR-transmitting materials and optics made from them. Specialities include lens arrays for passive infrared applications, diffusers and microlens arrays for illumination, and optics for environmental monitoring at 3.4 micrometers. Services now include in-house coatings and metrology. Design assistance, diamond machining, and complete tooling for prototyping to production also available. Contact: Nelson E. Claytor, Ph.D., President, nclaytor@fresneltech. com; Richard N. Claytor, Ph.D., Founder and Member of Technical Staff, rclaytor@fresneltech.com.

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## Fuzhou Alpha Optics Co., Ltd.

SPIE Member

Bldg 14 Gulou Industrial Park, Jinshan Juyuanzhou, Fuzhou Fujian, China, 350002 86 591 83841095; fax 86 591 83841097

sales@alphaoptics.com.cn; www.alphaoptics.com

## New Product: Infrared lens, spheric and aspheric lens, achromatic lens, ball lens, lens assembly, prism and mirror.

Alpha Optics Co., Ltd. founded in 1991, provide our customers with the superior quality optics products and precision Laser Optics products at extremely competitive prices. We dedicate ourselves in research and development of micro lenses, ball lenses and infrared lenses. Our standard is "Quickest and Superior." We serve a global market including Laser, Electronics, Telecommunication, Thermal Imaging, Infrared Sensor for Industrial, Medical and Scientific Research applications.

### Fuzhou USTRON Optoelectronic Materials Co., Ltd.

#2500, 2501

Mingjiang Estuary Industrial Park, Qinjiang Village Hangcheng Town, Changle Fuzhou, China, 350012 86 591 87957455; fax 86 591 87957660 sales@ustron.com.cn; www.ustron.com.cn

## **GAM Laser, Inc.**

6901 TPC Dr Ste 300, Orlando, FL, 32822 407/851-8999; fax 407/850-0700 sales@gamlaser.com; www.gamlaser.com

#### New Product: EX5 Mini TEA CO<sub>2</sub> Laser; 20mJ TEM<sub>00</sub>.

GAM Laser, Inc. manufacturers 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, higher energy density, all metallic/ ceramics design, internal. Vacuum pump & halogen filter, internal energy monitor, computer control.

## Gamdan Optics Inc.

#6048

#328

#4738

2380 Qume Dr Ste F, San Jose, CA, 95131 408/318-9253; fax 408/519-3760 info@gamdan.com; www.gamdan.com

## Gavish, Inc.

337 Route 101, Bedford, NH, 03110 603/472-5900; fax 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 and other specialty coatings and metallization. Final assembly of glued, soldered, and brazed multi-element assemblies are also available. Gavish is a fully integrated ISO 9001 approved supplier. Contact: Jeremiah Fitzgibbon, National Sales & Marketing Director, jfitzgibbon@gavish.com; Cathy Schult, Account Manager, cschult@gavish.com.

#### #4415

## **GD Optical Competence GmbH**

Herborner Str 7i, Sinn, Hessen, Germany, 35764 49 2772 5744 0; fax 49 2772 5744 165 info@gdoptics.de; www.gdoptics.de

#### New Product: Concentrators for solar systems, FAC Lenses.

Production and development of high precision molded lenses and optical components in glass. In-house construction and toolmaking, low tool costs compared to plastics-molding. Research and development projects. GD Optical Competence GmbH is ISO 9001 certified. Contact: Katrin Dross, Project Manager, K.Dross@gdoptics.de; Carl Gaebe, PhD, C.Gaebe@gdoptics.de.

### **GEL-PAK**

#### #1638

#4601

31398 Huntwood Ave, Hayward, CA, 94544-7818 510/576-2220; fax 510/576-2282 info@gelpak.com; www.gelpak.com

## New Product: Gel-Pak Membrane Boxes effectively suspend your device between two membranes for maximum protection.

Gel-Pak manufactures a line of innovative gel-coated boxes, trays, slides, and films designed for providing maximum protection during the shipping handling, and processing of optics and other fragile devices. Gel-Pak's proprietary GEL elastomer technology forms the basis of the film, tray and box products which meet the demanding requirements of advanced device manufacturers. Contact: Darby Davis, Director of Worldwide Sales and Marketing, darby@gelpak.com; Jeanne Beacham, CEO, jeanne@gelpak.com.

## General Atomics Aeronautical Systems Inc.

#4401

10240 Flanders Ct, San Diego, CA, 92121 858/457-8700; fax 858/457-8746 www.galasers.com

General Atomics Aeronautical Systems, Inc. is a leading manufacturer of unmanned aircraft, tactical reconnaissance radars, and surveillance systems, including the Predator<sup>®</sup> UAS series and the Lynx<sup>®</sup> SAR/GMTI sensor system. GA-ASI designs, manufactures, and integrates the Lynx radar and CLAW<sup>®</sup> sensor control and image analysis software into manned ISR and unmanned aircraft. It also develops solid-state lasers, electro-optic sensors, and ultra-wideband data links for government applications. Contact: Aaron Dodell, R&D Engineer, aaron.dodell@ga.com.

## General Dynamics Axsys Technologies #4542

#### SPIE Corporate

24 Simon St, Nashua, NH, 03060 530/271-2512; fax 530/271-2550 www.axsys.com

Axsys Technologies-GDAIS is a global leader in the design and manufacture of high-performance imaging systems, optics, and related motion control technologies. The proven reliability and performance of Axsys products is evidenced by the company's expanding role as a strategic supplier for defense and homeland security markets and related high performance commercial markets such as law enforcement, utilities, and broadcast and film production. Contact: Peter Kornik, VP Sales, pkornik@axsys.com; John Brower, Regional Sales Manager, jbrower@axsys.com.

### **Genia Photonics**

1111 Lapierre St, Montréal, QC, Canada, H8N 2J4 514/364-0162; fax 514/759-3763 info@geniaphotonics.com; www.geniaphotonics.com

# New Product: Revolutionary tunable, adjustable and synchronizable picosecond lasers for medical and biotech markets.

We develop and deliver revolutionary tunable lasers that will significantly change the way certain procedures and functions are performed in the medical, industrial, and military communities. This technology is the result of key patented design breakthroughs that enable the laser's parameters to be dynamically changed or re-configured at a very fast rate. This enables the same laser to perform several operations that with today's existing technologies would require the use of multiple distinct lasers. Contact: Alain Villeneuve, CTO, alain.villeneuve@geniaphotonics.com; Joseph Salhany, Executive VP Product Development, joseph.salhany@geniaphotonics.com.

## **Gentec Electro-Optics Inc.**

SPIE Corporate Member

445 St-Jean-Baptiste Ste 160, Quebec, QC, Canada, G2E 4N7 418/651-8003; fax 418/651-1174

info@gentec-eo.com; www.gentec-eo.com

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, monitors, photo detectors, OEM detectors, beam diagnostics and diffractive optics. We are committed to providing the most accurate NIST traceable measurements available anywhere. Our pricing policies are amongst the most profitable for you. Combined with our high quality products, you will always get the highest quality/price ratio there is. Contact: Nathalie Becotte, Sales manager, nbecotte@gentec-eo.com; Nicolas Litalien, Technical Advisor, nlitalien@gentec-eo.com.

## Gentex Corp.

324 Main St, Simpson, PA, 18407 570/282-8435 www.gentexcorp.com

Filtron polymer-based optical filters are designed to selectively block undesired wavelengths of light. Filtron is available in sheets, lenses, eyewear and resin. Products are engineered to attenuate selected wavelengths from 180 nm- 10,600 nm. Gentex produces custom and standard configurations utilizing the proprietary Filtron absorber dye technology. Contact: Joe Rudy, Business Product Manager, jrudy@ gentexcorp.com; Heidi Szymanski, Marketing/Sales, hszymanski@ gentexcorp.com.

## **GerLat Fiber Technologies LLC**

#407

#2036

1141 Calboro Dr, San Jose, CA, 95117 408/244-0686; fax 408/244-0714

dspeciale@lgoptics.com; www.lgoptics.com

## New Product: Patented Fused End Bundles for increased transmission and temperatures over 600 degrees C.

GerLat FIBER TECH is the US sales office of LightGuideOptics Germany GmbH with our production company Z-light Ltd., Latvia, a world class manufacturer of optical fibers for UV and NIR range. We offer over 60 employees and management staff from LGO/Z-LIGHT, many with more than 20 years experience in optical fibers and bundle manufacturing, to provide the best support and find an effective solution for your applications. Contact: Robert Dauphinais, Director of Sales, rdauph@ gloptics.com; Mick Speciale, COO, dspeciale@gloptics.com.

#### #4407

### GFMesstechnik GmbH

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### GiGa Concept Inc.

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Product offer, fruit of design engineering services providing novel solutions to photonics industries. Polarization control developed for major Telecom T&M customer is used for OCT, sensing. Fiber clamp building block for fiber processing automation features high strength, positional accuracy, controlled pneumatic actuation, safe of all fibers. Fiber sensing arrays feature spliceless lengths, pull strength, optical parameters and competitive cost thru Six Sigma process automation and control. Contact: Eric Girard, Sales and Engineering manager, egirard@gigaconcept.com; Vincent Gagne, Operations Manager, vgagne@gigaconcept.com.

## **GL Events - EXPO INDUS**

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## **Glass & Ceramic Engineered** Solutions LLC

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GCES is a manufacturer's representative for wide range of material suppliers that include glass, fused guartz, ceramics and polymer 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: Eric Brambani, Sales Manager, gcessales@verizon.net.

## **Glass Fab Inc.**

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257 Ormond St, Rochester, NY, 14605 585/262-4000; fax 585/454-4305 info@glassfab.com; www.glassfab.com

New Product: SPCM M1 AT50. Precision Beveling Machine; 10.0MM - 50MM Dia. Proto Type to Large Quantities.

Manufacture of custom 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; Wayne Leon, Sales Manager, w\_leon@glassfab.com.

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## **Global Communication Semiconductors**,

Inc.

23155 Kashiwa Ct, Torrance, CA, 90505 310/530-7274; fax 310/517-8200 info@gcsincorp.com; www.gcsincorp.com

#### New Product: 10G GaAs and InGaAs PIN PD offering low dark current and high linearity and responsibility.

GCS is a professional and dedicated III-V semiconductor wafer foundry services provider with a broad portfolio of technologies and an advanced high volume wafer manufacturing line. Contact: Simon Yu, VP Worldwide Sales & Marketing and Foundry Services, syu@gcsincorp.com.

## Global Laser Ltd.

Cwmtillery Industrial Estate, Abertillery Gwent, United Kingdom, NP13 1LZ

44 1495 212213; fax 44 1495 214004

sales@globallasertech.com; www.globallasertech.com

#### New Product: 9 New Product Ranges.

Global Laser specializes in a wide range of OEM, high performance, high reliability laser diode module products for use within many niche applications including machine vision, alignment, medical, measurement, scientific and military. Contact: Jonathan White, Sales and Marketing Manager, sales@globallasertech.com; Nikki Powell, Key Account Manager, sales@globallasertech.com.

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sui\_info@goodrich.com; www.sensorsinc.com

#### New Product: Goodrich ISR Systems Shortwave Infrared Area & Linescan Cameras Ideal for Solar Cell Inspection.

Goodrich ISR Systems, formerly Sensors Unlimited, Inc. (www. sensorsinc.com) manufactures a complete line of shortwave infrared (SWIR) imaging and detection products for defense and industrial applications, including photovoltaic inspection. Our innovative InGaAsbased SWIR cameras and systems include fast framing and high resolution models, SWIR linescan imagers, focal plane arrays and more. Our imaging products feature CameraLink outputs, standard lens mounts and require no cooling. Contact: Robert Struthers, Director Sales & Marketing, robert.struthers@goodrich.com; Karen Jeffers, Marketing Communications Specialist, karen.jeffers@goodrich.com.

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### #6086

## Gorman-Rupp Industries

### #5411

180 Hines Ave, Bellville, OH, 44813 419/886-3001: fax 419/886-2338 grisales@gripumps.com; www.gripumps.com

New Product: High-Speed Magnetic Drive Pump • Brushless DC • Long life • Max 24 psi • Multiple OEM options.

Since 1953, Gorman-Rupp Industries' innovative pumping concepts and pump designs have revolutionized how fluids are moved within a diverse range of OEM global applications. Our goal is to meet your special needs through modifying a current product or designing a new pump according to your exact specifications. Our technical sales staff and engineering department are uniquely structured to quickly evaluate your application and create a custom engineered solution specific to your pumping needs. Contact: John Hoffner, Medical OEM Sales Manager, jhoffner@gripumps. com; Michael Hill, General Manager, mhill@gripumps.com.

## **Gould Fiber Optics**

#1231

1121 Benfield Blvd, Millersville, MD, 21108 410/987-5600; fax 410/987-1201 info@gouldfo.com; www.gouldfo.com

Gould Fiber Optics is a leading developer and manufacturer of fiber optic products as well as a leading provider of customized, fully tested advanced integrated optical solutions for aerospace, military, medical, oil and gas, and telecommunications applications. The company was a pioneer in fiber optics technology, commercializing products as early as 1983. Gould holds numerous patents on fiber optic components and manufacturing processes. Contact: Philip Crowley, Sales, phil@ markettechinc.net.

## GPD Optoelectronics Corp.

7 Manor Pkwy, Salem, NH, 03079 603/894-6865; fax 603/894-6866 sales@gpd-ir.com; www.gpd-ir.com

## Greenlight Optics. LLC

11235 Williamson Rd, Cincinnati, OH, 45241 513/247-9777; fax 513/297-7919 info@greenlightoptics.com; www.greenlightoptics.com

## Grintech GmbH

SPIE Corporate

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 medical imaging, fiber optics, sensor technology, telecommunication and laser diode beam shaping. Contact: Anke Kraeplin, info@grintech.de; Herbert Stuermer, info@grintech.de.

## **G-S PLASTIC OPTICS**

SPIE Corporate

408 St Paul St, Rochester, NY, 14605 585/295-0200; fax 585/232-2314 info@gsoptics.com; www.gsoptics.com

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 Product Development, wbeich@gsoptics.com; Jeff Cookinham, Applications Engineer, jcookinham@gsoptics.com.

### GTI Technologies, Inc.

6 Armstrong Rd, Shelton, CT, 06484 203/929-2200; fax 203/926-0074 info@gti-usa.com; www.gti-usa.com

## Guild Optical Associates, Inc.

11 Columbia Dr, Amherst, NH, 03031 603/889-6247; fax 603/889-8361 info@guildoptics.com; www.guildoptics.com

Guild Optical Associates, Inc. is a leader in the fabrication of custom Sapphire Optical components. Our products include windows, lenses, and special shapes. We have been a dependable supplier of sapphire components to the Aerospace, medical, semiconductor and instrumentation markets since 1990. Contact: Anthony DeFeo, Vice President, Info@guildoptics.com.

#### Gulf Fiberoptics, Photonics Division #4112

148 Dunbar Ave Ste B, Oldsmar, FL, 34677 813/855-6618; fax 813/855-6627 cvogeley@gulffiberoptics.com; www.gulffiberoptics.com

## Gurlev Precision Instruments. Inc.

514 Fulton St, Troy, NY, 12180 800/759-1844; fax 518/274-0336 b.molis@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 that are designed to meet your specific requirements. Our product line includes; linear and rotary encoders, lenses, windows, mirrors, prisms, reticles, and coating services for most types of substrates. For more information, stop by our booth or visit our website at www.gurley. com. Contact: Martin Gordinier, COO, m.gordinier@gurley.com; Brian Molis, Director of Optic Sales, b.molis@gurley.com.

## Hagitec Co., Ltd./Jalux Americas

390 N Sepulveda Blvd Ste 3000, El Segundo, CA, 90245 310/524-1021; fax 310/524-1090

sales@jaluxam.com; www.hagitec.com

#### New Product: We have a new English language website! Visit us at www.hagitec.com.

Hagitec Co. Ltd. is a manufacturer of custom and standard stock flexible metal conduits, casings and resin tubing. Some of the applications using these conduits and tubes include: fiberoptic cable protection, endoscopy, laser systems, medical devices, test equipment and many other high tech applications. Hagitec will work with your engineers to design a solution for specialized applications and are able to provide samples of most products. Contact: Thomas Kinney, Sales Executive, t.kinney@jaluxam.com.

### **bbi bbi**

### **The Second State State**

Hamamatsu Corp.

SPIE Corporate

360 Foothill Rd, Bridgewater, NJ, 08807-2932 908/231-0960; fax 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, CCD cameras, and light sources. Hamamatsu Photonics also offers specialized systems for semiconductor inspection, NDT, and drug discovery. The company is dedicated to the advancement of photonics through extensive research. Contact: Gus Asencios, gasencios@hamamatsu.com.

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#6016

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#1000

## **Hardin Optical Company**

SPIE Corporate Member

PO Box 219, Bandon, OR, 97411 541/347-9467; fax 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: optics@hardinoptical.com.

## Harold Johnson Optical Labs.

#3024

#4821

1826 W 169th St, Gardena, CA, 90247 310/327-3051; fax 310/327-6179 hj@hjol.com; www.hjol.com

#### New Product: Glass domes.

Custom manufacturer of cylindrical and spherical lenses, achromats, prisms, mirrors, filters, wedges, beamsplitters, domes and multielement assemblies in prototype and volume quantities for industrial, medical imaging, research and aerospace applications. Contact: Hal Johnson, President, hj@hjol.com; Raquel Suarez, Office Manager, raquel@hjol.com.

## Harz University of Applied Sciences

#4601

#2500.2501

Friedrichstr 57-59, Wernigerode, Germany, 38855 49 3943 659 368; fax 49 394 3659 5368 mhaupt@hs-harz.de; www.hs-harz.de

#### New Product: WDM System for POF Communication Systems; Side Emitting Fibers; Key Elements for POF Network.

The Communication Technology Division is part of the Automation and Informatics Department at the Harz University of Applied Sciences. We are specialized in Optical Packaging and Optical and Electronical Measuring. The main focus of our research and development are Polymer Optical Fibers (POF) and optical fiber tapers for high efficient fiber-chip-coupling. Contact: Matthias Haupt, Optic Designer, mhaupt@ hs-harz.de; U. Fischer-Hirchert, Professor for Optical Communication, ufischerhirchert@hs-harz.de.

## HB Optical Technology Co., Ltd.

No. 242 Beihai St, Dadong District, Shenyang, China, 110043 86 24 88710538; fax 86 24 88722312

info@hb-optical.com; www.hb-optical.com

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. Some of our products have exported abroad such as US, Germany, Italy, India, and southeast Asia. We have passed ISO 9001:2000.

## **HC Photonics Corp.**

SPIE Corporate Member

F4 No 2 Technology Rd V, Hsinchu Science Park, Hsinchu, Taiwan, 300 886 3 666 2123

service@hcphotonics.com; www.hcphotonics.com

## New 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 and MgO:PPSLT 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 Others 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: Karin Wu, Sales Director, Karin@hcphotonics.com; Susan Soon, Sales Section Manager, susan\_soon@hcphotonics.com.

## **Headwall Photonics**

SPIE Corporate Member

601 River St, Fitchburg, MA, 01420 978/353-4100; fax 978/348-1864 information@headwallphotonics.com; www.headwallphotonics.com

## New Product: Hyperspec In-Line Inspection Sensor designed for process monitoring and quality control.

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.**

#2405

SPIE Corporate Member

2807 Oregon Ct Unit E-2, Torrance, CA, 90503 310/212-5071; fax 310/212-5254 jlb@himt.us; www.himt.de

#### New Product: The Small Microlithography Engine (SMiLE).

Heidelberg Instruments is a world leader in direct write laser lithography systems. These systems are used by the most prestigious public and private institutions worldwide in a variety of applications that include: MEMS, MOEMS, Microelectronics, Microfluidics, Lab on a Chip, and many other advanced applications. These systems are used to fabricate both 2D and 3D Microstructures directly from design on a variety of substrates and materials. Contact: Matt Price, Manager, Marketing & Technical Sales, mp@himt.us; Janette La Bella, Marketing & Sales Associate, jlb@himt.us.

## Product Locator Kiosks

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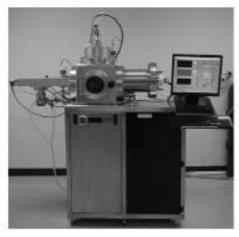
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## **#709**



# **Thin Film Processing Systems**

Plasma Clean, PECVD and ICP PECVD Systems, PE-MOCVD, Atomic Layer Deposition, Sputter Coaters, E-Beam and Thermal Evaporation Systems, Ion Beam Deposition and Etching, ICP Etching, Reactive Ion Etching Systems, Cleaners for Masks, Wafers and Flat Panel Displays.



Ion Beam Etching with Load Lock and Sputter Option



PECVD with ICP for CNT Growth



System



PECVD with Liquid Precursors



Table Top PE-MOCVD for InGaN and AlGaN



Table Top RIE System for InGaAs Etching



PECDV/RIE Dual System



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### **HEL Joint Technology Office**

901 University Blvd SE Ste 100, Albuquerque, NM, 87106 505/248-8200; fax 505/245-2195 hel-jto@jto.hpc.mil;

The High-Energy Laser (HEL) Joint Technology Office (JTO) located in Albuquerque, NM, supports basic and applied research for future DoD HEL force protection systems. The JTO funded research provides HEL technology that makes systems effective, lighter, smaller, cheaper, and more easily supportable. The organization supports technology advances in gas, solid-state, free-electron and advanced lasers; beam control; modeling and simulation; and lethality.

## Helia Photonics Ltd.

#### #2323

#817

#4601

#402

Rosebank Park, Livingston, United Kingdom, EH54 7EJ 44 1506 414800

info@helia-photonics.com; www.helia-photonics.com

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: Dr Euan McBrearty, Senior Optical Coating Engineer, euan.mcbrearty@helia-photonics.com; Caspar Clark, Chief Technical Officer, Caspar.clark@helia-photonics.com.

## Hellma USA, Inc.

SPIE Corporate

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

## New Product: MCS Flex Spectrometer modules-small, light weight for a variety of applications.

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/PGS Miniature Spectrometer modules covering 190-2200nm in combination (16 bit S/N); Tec5 Interface electronics for display/readout of PDAs and CCDs. Custom designs of all products. Contact: Dan Fields, dfields@hellmausa.com; Eugene Friedmann, efriedmann@hellmausa.com.

## hema electronic GmbH

Roentgenstr 31, Aalen, Germany, 73431 49 7361 9495 0; fax 49 7361 9495 45 wolfgang.scherer@hema.de; www.hema.de

New Product: LED based industrial Lights (UV, RGB, IR) COB LED Arrays Daylight and Sunlight Simulation.

hema electronic is focused on industrial Video and LED products. hema offers its customers since over 30 years R&D, Manufacturing and Customization of electronic based components and products. Contact: Wolfgang Scherer, Business Development, wolfgang.scherer@hema.de.

### Heraeus

SPIE Corporate

100 Heraeus Blvd, Buford, GA, 30518 678/714-4350; fax 678/714-4355 sales.hqa-optics@heraeus.com; www.heraeus.com

## New Product: Spectrosil synthetic fused silica for deep UV applications. DPH grain stabilized platinum alloys.

Heraeus is a leader in manufacturing high purity quartz materials and components, precious metal products and refining services. Heraeus produces various types of high purity fused silica used in semiconductor manufacturing, telecommunications, optical, chemical, lamps and other advanced applications. Heraeus offers precious metal alloys fabricated and machined to both standard and custom designs, including complete refining services. Contact: Michele Follmar, Quartz Customer Service/ Sales, michele.follmar@heraeus.com; John Lazzari, Precious Metals Service/Sales, john.lazzari@heraeus.com.

## Coffee BREAK AND FLOOR GRAPHICS SPONSOR High Q Laser (US), Inc.

SPIE Corporate Member

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

High Q Laser is a leading manufacturer of ultrafast all-diode-pumped, pico- and femtosecond oscillators and regenerative amplifiers. All lasers are based on direct diode-pumping and semiconductor saturable absorber mirror (SESAM) modelocking. High Q Laser systems are compact and modular. Sealed-off technology guarantees long lifetime and reliability. In addition High Q Laser (US) offers APE products for ultrafast pulse diagnostic, management and wavelength conversion (e.g. OPO for CARS & SRS). Contact: Alex Lang, Sales and Technical Support Manager, alex.lang@highq-us.com.

## **High Tech Photonics**

23 Alafaya Woods Blvd, Oviedo, FL, 32765 561/573-6533; fax 253/663-2608

jim@jtingram.com; www.jtingram.com

## New Product: MID Infrared fiber optic probes, Fiber coupled LEDs, Detectors, Spectrometers.

Fiber Optic components for use in the UV VIS NIR and MIDIR. Fiber optic accessories including couplers, focus heads, collimators, fiber coupled light sources in the UV VIS NIR MIDIR. Fiber optic probes for spectroscopy and sensors fiber coupled detectors in the UV VIS NIR. Contact: Jim Ingram, jim@jtingram.com.

## HIGHYAG Lasertechnologie GmbH

#5032

#4838

Ruhlsdorfer Str 95, Stahnsdorf, Germany, 14532 49 3329 6032 0; fax 49 3329 6032 22 info@highyag.de; www.highyag.de Contact: Dr. Bjoern Wedel, Managing Director, info@highyag.de.

## **Hilger Crystals**

Unit RI Westood Estate, Margate Kent, United Kingdom, CT9 4JL 44 1843 231 166; fax 44 1843 290 310 sales@hilger-crystals.co.uk; www.higer-crystals.co.uk

#1735

#2111

led

## Hinds Instruments, Inc.

### #1134

#410

SPIE Corporate

7245 NW Evergreen Pkwy, Hillsboro, OR, 97124-7135 503/690-2000; fax 503/690-3000

sales@hindsinstruments.com; www.hindsinstruments.com Hinds product line includes Stokes polarimeters (for fiber, free space, astronomical light), Exicor® 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

SPIE Corporate

5100 Franklin Dr, Pleasanton, CA, 94688 800/548-9001; fax 925/218-2900 sales-ls@hitachi-hta.com; www.hitachi-hta.com/spectroscopy

New Product: Enhanced Large-Sample Compartment Accessory

for the high-performance UV-Vis spectrophotometer.

Hitachi High Technologies America offers equipment for optical measurement and analysis, including UV-Vis-NIR and Fluorescence spectrophotometers and diffraction gratings. A wide range of accessories are available to accommodate your specific application needs. The Model U-4100 UV-Vis-NIR is a High-Performance, Double-Beam, Double-Monochromator Spectroscopy System with enormous flexibility for the evaluation and quality control of optical components over a wavelength range of 175-2600 nm. Contact: Luis Moreno, Product Manager, luis. moreno@hitachi-hta.com

## Holland Pavilion

PO Box 10, The Hague, The Netherlands, 2501 CA 31 70 344 1544; fax 31 70 385 3531 info@nchnl.nl; www.handelsbevordering.nl

The Holland Pavilion, in which 17 Dutch companies are represented, is organized by the Netherlands Council for Trade Promotion NCH, within the CPA programme facilitated by the EVD, Agency for International Business and Cooperation, of the Dutch Ministry of Economic Affairs. Contact: Akie W. Plomp, Director Fairs and Exhibitions, aplomp@nchnl.nl.

## **HOLOEYE** Photonics AG

SPIE Corporate

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-subsidiary, 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 microoptical 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, Sales & Marketing, klaus.von. quenner@holoeye.com.

## HORIBA Scientific

3880 Park Ave, Edison, NJ, 08820-2417 732/494-8660 www.jobinyvon.com

## Hova Corp. USA

3400 Edison Way, Fremont, CA, 94538 510/252-8370; fax 510/490-1988

HOYA CORPORATION USA was founded in 1972 to support our global expansion initiative. Customers in North America demand rapid response for new product development and prototyping. HOYA CORPORATION USA Optics Division is a leading supplier of advanced optical materials and components for scientific, technology and industrial companies throughout the US. Contact: Bruce Au, Sales Manager, bau@hoyaoptics. com; bruceayk@gmail.com.

## **HTA Photomask**

1605 Remuda Ln. San Jose, CA. 95112 408/452-5500; fax 408/452-5505 sales@htaphotomask.com; www.htaphotomask.com

Huanic Corp.

#4538

#4824

#5025

#826

#4616

SPIE Corporate

No 67 Jinye Rd, Hi-tech Zone, Xi'an Shaanx, China, 710077 86 29 81881001: fax 86 29 81881011 wenhui@huanic.com; www.huanic.com

## IBL Innovative Berlin Laser AG

Am Schlangengraben 16, Berlin, Germany, 13597 49 30 3377 44; fax 49 30 33774 477 contact@ib-laser.com; www.ib-laser.com

## Ibsen Photonics

Rvttermarken 17, Farum, Denmark, 3520 45 4434 7000; fax 45 4434 7001 inquiry@ibsen.dk; www.ibsenphotonics.com

New Product: OEM Spectrometers and spectrometer gratings, high power gratings, telecom gratings, FBG spectrometers.

OEM Spectrometers and OEM spectrometer gratings leverage lbsen fused silica transmission grating technology. Ibsen's Fused Silica Transmission Gratings provide high efficiency, high dispersion and highest power/energy handling, and include grating products such as high power gratings for pulse compression/beam combining, telecom gratings for WSS/tunable filters and Phase masks for FBG and waveguides, while customized spectrometers include FBG sensing system Interrogation monitors. Contact: Kristian Buchwald, Sales & Marketing Manager, kjb@ibsen.dk.

## ICA Corp.

12130 Brockton Ln, Maple Grove, MN, 55369 763/428-2800: fax 763/428-4230

sgoran@icacorp.com; www.icacorp.com

ISO 9001:2000 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, kevins@icacorp.com.

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## id Quantique SA

Chemin de la Marbrerie 3, Carouge Geneva, Switzerland, 1227 41 22 301 83 71; fax 41 22 301 83 79 sales@idguantique.com; www.idguantique.com

## **IDIL Fibres Optiques**

42 rue Claude Chappe, Lannion, France, 22300 33 2 96 05 40 20; fax 33 2 96 05 40 25 info@idil.fr: www.idil.fr

## **IEC-Berlin GmbH**

c/o German Pavilion, Torstr 124, Berlin, Germany, 10119 49 30 2839390; fax 49 30 28393928

broede@iecberlin.de; www.iecberlin.de

Federal Ministry of Economics and Technology, VC4, Villemombler Str. 76, 53123 Bonn, www.bmwi.de. Association of the German Trade Fair Industry, Littenstr. 9, 10179 Berlin info@auma.de, www.auma-messen.de.

## II-VI Infrared

375 Saxonburg Blvd, Saxonburg, PA, 16056 724/352-1504; fax 724/352-4980 info@iiviinfrared.com; www.iiviinfrared.com

II-VI INFRARED, the world leader in CO2 laser and infrared optics, designs and produces lenses, mirrors, windows, partial reflectors, beam splitters, phase retarders rhombs, beam expanders, polarizers, wave plates, modulators and more. IR materials include ZnSe, ZnS and ZnS MultiSpectral. Capabilities include optical design and engineering, optics manufacturing, diamond turning, thin film coating, optical assemblies, world-class guality assurance and international sales and support. Contact: Tom Neff, Regional Manager, Americas, tneff@ii-vi.com.

## **IKO International, Inc.**

20170 S Western Ave, Torrance, CA, 90278 310/609-3988; fax 310/609-3916 wco@ikonet.co.jp; www.ikont.com

#### New Product: Precise Linear Bearing MXL, Module type Linear Motor Table LT-M, 17mm-wide tiny positioning table™.

IKO International offers ISO9001 Bearings, Linear Motion Guides and Positioning Table systems. 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 its lubricating unit, and precision ground and rolled ball screws. Contact: wco@ikonet.co.jp.

## **IKONICS Industrial**

4832 Grand Ave, Duluth, MN, 55807 218/628-2002: fax 218/628-2064 info@ikonicsindustrial.com; www.ikonicsindustrial.com

## ILX Lightwave Corp.

31950 E Frontage Rd, Bozeman, MT, 59715 406/586-1244; fax 406/586-9405 sales@ilxlightwave.com; www.ilxlightwave.com

ILX Lightwave is a market and technology leader in instrumentation and test systems for photonic component research, development and manufacturing. ILX Lightwave customers include Fortune 500 corporations, national research laboratories, government and educational institutions. ILX Lightwave is headquartered in Bozeman, MT. Contact: Steve Gwinner, VP Sales and Marketing, sgwinner@ilxlightwave.com; Drew Ruderman, Sales Engineer, druderman@ilxlightwave.com.

## Imagine Optic

18 Rue Charles De Gaulle, Orsay, France, 91400 33 1 648 61560; fax 33 1 648 61561 jballesta@imagine-optic.com; www.imagine-optic.com

#### New Product: MICAO: The first universal plug and play adaptive optics system for biological microscope.

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 in domains including pure science, life sciences, industrial quality control, space and defense and semiconductors. Contact: Jerome Ballesta, US Sales Manager, jballesta@ imagine-optic.com; Samuel Bucourt, President & CEO, sbucourt@ imagine-optic.com.

## IMM Photonics GmbH

#1900.4601 Ohmstr 4. Unterschleissheim, Germany, 85716

49 89 321 412 0; fax 49 89 321 412 11 sales@imm-photonics.de; www.imm-photonics.de

IMM Photonics GmbH - Competence in Laser Technology, Optoelectronic and Fiberoptic - of the leading supplier in laser technique, optoelectronics and fiber optics with own development and production department. Our product range includes single components (laser diodes, optics, optoelectronics), sub-systems (collimators and modules) and complete devices, such as FIBERPOINT. With regard to customer specific solutions, we have got nearly 100 years of experience in engineering. Contact: Sales, sales@imm-photonics.de.

## **IMRA America, Inc.**

**#923** 

#5018

#1607

SPIE Corporate Member

1044 Woodridge Ave, Ann Arbor, MI, 48105-9774 734/930-2560; fax 734/930-9957 lasers@imra.com: www.imra.com

IMRA America, Inc. is a globally active company dedicated to the leading edge in ultrashort pulse fiber laser technology for commercial and research applications. IMRA's turn-key fiber lasers combine state-of-the-art design with ultracompact packaging, high stability, and maintenance-free operation. They are designed for use in material research and processing, surface texturing, spectroscopy, and bio-medical diagnostics and surgery. Contact: IMRA Lasers, Sales and Marketing, lasers@imra.com.

## IMT North America

11 Bridge St, West Wyoming, PA, 18644 570/954-0933; fax 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.

Get the training you need to stay ahead of the technology curve.

See full course listing, pp. 8–12.

#333

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#1823

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## Incom, Inc.

SPIE Corporate Member

294 Southbridge Rd, Charlton, MA, 01507 508/765-9151; fax 508/765-0041 sales@incomusa.com; www.incomusa.com

## New Product: Fiberoptic Interrogated (FOI) Microwell Biochips are used in analytical and diagnostic applications.

Incom, Inc. is the world leader in rigid, fused fiberoptics for use in commercial applications. Our fiberoptic components, including faceplates, tapers, and glass microstructures, are used in a variety of applications. Incom serves the life science, medical, scientific, dental, defense, and homeland security markets. Contact: Jeffrey Solari, Product Development Manager, jbs@incomusa.com; Allan Narris, Sales Engineer, aln@incomusa.com.

## >> >> >> PROMOTIONAL PARTNER

### Industrial Laser Solutions Japan

Chiyoda Bldg, 1-5-18 Sarugaku-cho, Tokyo, Japan, 101-8449 81 3 3219 3461; fax 81 3 219 3628 ilsj@ics-inc.co.jp; www.lfw-japan.jp

Industrial Laser Solutions Japan was launched in April 2007. Published quarterly (Jan, Apr, Jul and Oct) to reach 8,000 industrial leaders in Japan - one of the biggest markets for industrial lasers. Contact: Manami Konishi, Publisher, ilsj@ics-inc.co.jp.

## **Infinite Graphics**

#2524

#326

#4408

#1331

4611 East Lake St, Minneapolis, MN, 55406 612/721-6283; fax 612/721-3802 sales@igi.com; www.igi.com

## New Product: Extended life photomasks, micro shims, micro molds. Fluoropolymer coating for increased cleanliness.

Infinite Graphics (IGI) 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. We manufacture large lens arrays including a spherical and hexagonal lenses; many other patterns are also possible. IGI's Phototooling Toolbox software is a hierarchical editor/translator supporting many formats. WYSIWYG photomask display. Ideal for non-traditional IC markets. Contact: Pete Maitland, Sales Manager, pmaitland@igi.com; Cliff Stritch, CEO, cstritch@igi.com.

## COFFEE BREAK SPONSOR

#### **Infinite Optics Inc.**

SPIE Corporate Member

1712-F Newport Cir, Santa Ana, CA, 92705 714/557-2299; fax 714/557-2170

info@infiniteoptics.com; www.infiniteoptics.com

Infinite Optics offers custom optical coatings utilizing electron beam gun and ion assisted deposition. Coatings range from 190nm to 20 Microns and include AR's, FLIR, V Coatings, UV Filters, Dichroics, Hot and Cold Mirrors, Beamsplitters, Metallization and more. We coat substrates up to 32" in diameter and are committed to providing you the highest quality products and service available. Contact: Stan King, Global Sales Manager, stan@infiniteoptics.com; Geza Keller, geza@infiniteoptics.com.

## Infotonics Technology Center

#### SPIE Corporate Member

5450 Campus Dr, Canandaigua, NY, 14424 585/919-3000; fax 585/919-3011 info@infotonics.com; www.infotonics.org

ITC, a 20,000 sq. ft. Class 100 MEMS/NEMS development and manufacturing facility located outside Rochester, NY. ITC maintains an extensive mix of tools and processes for 150MM MEMS fabrication and 8,000 sq. ft. MEMS and opto-electronics packaging. With an engineering and management team expert in MEMS process development and design for manufacturability ITC supports commercialization of microsystems and chip scale devices integrating mechanics, optics, micro-fluidics and chemistry on a chip. Contact: Mary Winters, Director of Business Development, mary.winter@itcmems.com.

## Infratec Infrared LLC

SPIE Corporate Member

1111 S Main St Ste 122, Grapevine, TX, 76051 877/797-6748; fax 877/389-2668 sensor@infratec-infrared.com; www.infratec-infrared.com

## New Product: Wide bandwidth (3-5.0µm) mid-wave infrared detector using micromachined tunable Fabry-Perot filter.

Since 1991 InfraTec has focused on quality products and services in the 2-25µm infrared technology market. Headquartered in Dresden Germany, InfraTec has over 150 professionals supporting worldwide subsidiaries in the UK, Europe and North America. The Sensor Division brings a family of standard and custom detectors to market and is introducing a pair of new tunable Fabry-Perot devices that will open new markets in the gas and flame detection arenas. Contact: Roy Goodloe, Sales Manager, r.goodloe@infratec.de.

## **INGENERIC GmbH**

SPIE Corporate Member

Dennewartstr 25-27, Aachen, Germany, 52068 49 241 9631340; fax 49 241 9631349 contact@ingeneric.com; www.ingeneric.com

New Product: Line generator for annealing; Fiber coupling modules for mm-diode arrays and sm-laser diodes.

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 #1938 in South Hall. Contact: Dr. Stefan Hambuecker, Managing Partner, contact@ingeneric.com.

## **Inlight Technology (HK) Limited**

#4415

Rm 2313 Wellborne Commercial Centre, 8 Java Rd North Point, Hong Kong, Hong Kong China 852 2887 6018; fax 852 2887 6301 inlight@inlightcn.com; www.inlightcn.com

## New Product: Design-Manufacturing Opto-mechanical lens system; UV/IR optics; parabolic, Toroidal lenses.

We have two precision optics manufacturing factories in China. We specialize in opto-mechanical assemblies, metal parts, machinery and precision optics components manufacturing such as cylindrical, aspherical, parabolics, prisms, ball and crystal lenses etc. Our quality system is certified with ISO9001:2000, ISO14001:2004 and OHSAS18001:1999. Our metrology laboratories are equipped with interferometers, spectrophotometer and MTF etc. to ensure the quality of our lenses. Contact: Mos Yip, Business Development Manager, inlight@ inlightcn.com; William Wong, General Manager, inlight@inlightcn.com.

#736

#334

### Innolume GmbH

Konrad-Adenauer-Allee 11, Dortmund, Germany, 44263 49 231 47730 200: fax 49 231 47730 250 info@innolume.com: www.innolume.com

### inno-spec GmbH

#4601

#615

Sigmundstr 220, Nürnberg, Germany, 90449 44 911 376691 0; fax 44 911 376691 10 info@inno-spec.de; www.inno-spec.de

#### New Product: Complete low-cost spectral imaging system for **OEMs and laboratories with VNIR CCD-Sensor.**

You want to make measurements? Spectrally? Analytically? Precisely and quickly, as integrated process step? For example: agent distribution in tablets, coating composition in carrier materials, food quality or the identification of different types of plastics for recycling? The solution: spectral imaging. inno-spec provides a broad range of methods for spectral measurement, from traditional single point spectrometers to spatially resolved spectral analysis using sectral imaging. Contact: Oliver Grass, CEO, Oliver.Grass@inno-spec.de; Gerhard Stanzel, Gerhard. Stanzel@inno-spec.de.

## **Innovation Photonics**

### #6036

#2404

62 Depot St, Verona, NJ 07044 973/857-8380; fax 973/857-8381 info@innpho.com; www.innpho.com

New Products: Mid-IR Focusing Objectives for laser-to-fiber coupling, Mid-IR Beam Circularizer, Mid-IR Polarizers, Mid-IR Retarders, VIS Non-Absorbing FlatTop Apodizers; Focusing Objectives NIR for long working distance high NA ablation.

InnPho (Innovation Photonics) is optical engineering/design and manufacturing, with emphasis on components not normally available off-the-shelf. Currently, mid-IR is of interest as applications of quantum cascade lasers emerge, and components for other wavelengths. Contact: Donald K. Wilson, President, donw@innpho.com.

## **Innovations In Optics, Inc.**

SPIE Corporate Member

82 Cummings Park, Woburn, MA, 01801 781/933-4477; fax 781/933-0007 info@innovationsinoptics.com; www.innovationsinoptics.com

New Product: LumiBright LS High Intensity Line Source. LumiBright LE-ultra high brightness LED light engine.

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. Contact: Margaret Johnson, margaretj@ innovationsinoptics.com; Tom Bruikacchio, President, thomasb@ innovationsinoptics.com.

## **SPIE Job Fair Special 2-Day Event**

Tuesday 26 January | 10:00 am to 5:00 pm Wednesday 27 January | 10:00 am to 5:00 pm

Presented by the SPIE Career Center See us in the North Hall.

## Innovative Photonic Solutions

SPIE Corporate

4260 US Rte 1 Ste 3, Monmouth Junction, NJ, 08852 732/355-9300; fax 732/355-9300 srudder@innovativephotonics.com; www.innovativephotonics.com

#### New Product: IPS's M-Type laser modules enable development in the lab and easy transition into OEM systems.

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 630 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; John Connolly, President & CEO, jconnolly@innovativephotonics.com.

## Innovention Toys, LLC

2058 Paradise Ridge Ct, Colorado Springs, CO, 80921 405/535-7437 info@khet.com; www.khet.com

## Innovention Toys, LLC / Khet, The Laser Game

2058 Paradise Ridge Ct, Colorado Springs, CO, 80921

info@khet.com: www.khet.com

#### Play Khet - the Laser Game

405/535-7437

Share optics with your kids! Khet helps teach basic optics while playing an enjoyable chess-like game. Meet the members of Innovention Toys, an independent game maker, at Booth 4012. Khet games can be purchased at the SPIE Marketplace. World Khet Tournament on Wednesday 2:30-5pm in the Exhibit Hall North. Get supplemental educational materials for Khet

### INO

#814 2740 rue Einstein, Quebec City, QC, Canada, G1P 4S4 418/657-7006: fax 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.

250 N Mines Rd, Livermore, CA, 94553 925/606-8809; fax 925/606-8810 sales@inphenix.com; www.inphenix.com

InPhenix Corporation is a leading developer and manufacturer of Indium-Phosphide (InP) and Gallium Arsenide (GaAs) based active optoelectronic chips, devices and modules for the telecom, datacom, defense, biomedical and industrial markets. InPhenix's products include Semiconductor Optical Amplifiers (SOAs), Superluminescent Light Emitting Diodes (SLEDs), Fabry-Perot Lasers and Photodetectors. Contact: Ken Chang, Sales Manager, kchang@inphenix.com; Steve Vitkovsky, Sales Manager, svitkovsky@inphenix.com.

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## #705

#4012

#4012

### INRAD a PPGI Company

181 Legrand Ave, Northvale, NJ, 07647 201/767-1910: fax 201/767-9644 sales@inrad.com; www.ppgrpinc.com

INRAD grows crystals with important non-linear, electro-optic and optical properties, including BBO, KDP, LiNbO3 and ZnGeP2. Our crystal handling expertise is reflected in a product line that includes electro-optic Q-switches, autocorrelators and harmonic generation systems that are sold to OEM laser companies and to individual researchers. Contact: Thomas Pelnar, Director, International Sales and Business Development, tpelnar@ppgrpinc.com.

### Insaco, Inc.

#417

#1126

PO Box 9006, Quakertown, PA, 18951-9006 215/536-3500; fax 215/536-7750 sales@insaco.com; www.insaco.com

Precision machining services for over 60 years to fabricate and polish custom parts from most technical ceramics including sapphire and quartz. Engineers are available to discuss your design for manufacturability. Exceptionally tight TTV on sapphire wafer carriers for compound semiconductor applications. Insaco also fabricates tooling and fixtures from alumina, CVD SiC and other ceramics. Contact: Scott Mittl, Sales Engineer, sdm@insaco.com; Klaus Burckhardt, Sales Engineer, kab@insaco.com.

## Institute of Photonics

#2323

Strathclyde Univ., Wolfson Ctr 106 Rottenrow, Glasgow, United Kingdom, G4 ONW

49 141 548 4120; fax 44 141 552 1575 www.photonics.ac.uk

The Institute of Photonics, a commercially oriented research unit, established in 1995, is part of the University of Strathclyde in Glasgow, Scotland. The Institute's key objective is 'to bridge the gap between academic research and industrial application, of photonics, through excellence in commercially relevant research and its exploitation'. Our research interests span a broad range of photonic source development, semiconductor materials and devices, all-solid-state lasers and applications. Contact: Tim Holt, Chief Executive, tim.holt@strath.ac.uk; Simon Andrews, Business Development Manager, simon.andrews@strath.ac.uk.

## Inta Technologies

2281 Calle de Luna, Santa Clara, CA, 95054 408/748-9955; fax 408/727-3027

jmedrano@intatech.com; www.intatech.com

INTA Technologies, located in Northern California offers plating, ceramic metallization, CuW components, hermetic brazing, active metal brazing, glass to metal seals, assembly, CNC machining, and other services. Our engineering knowledge in the fields of materials science, coatings, ceramic, brazing and metalizing makes us a valuable vendor to hundreds of customers. Consider INTA Technologies as part of your team for project success from prototype to production. Contact: Jorge Medrano, Sales Engineer, Jmedrano@intatech.com; Blake Kneedler, Engineer/RFQ, blake@intatech.com.

## Intellevation Ltd.

5 Dalziel Rd, Hillington Park, Glasgow, United Kingdom, G52 4NN 44 141 882 0058; fax 44 141 882 9223

enquiries@intellevation.co.uk; www.intellevation.co.uk

Intellevation designs and manufactures a range of optical monitors to measure and control the deposition of complex high precision optical coatings. Intellevation also manufacturers in-situ etch depth monitors for plasma etching applications. Contact: Simon Hicks, CEO, simon. hicks@intellevation.co.uk; Mike Biagi, Technical Director, mike.biagi@ intellevation.co.uk.

### Intense Ltd.

Hamilton International Technology Pk, 4 Stanley Blvd, Blantyre Glasgow, United Kingdom, G72 0BN 44 1698 827 000; fax 44 1698 827 262 info@intenseco.com; www.intenseco.com

#### New Product: Hermes - high temperature 2KW and 3KW QCW stacks, 200W and 300W individual QCW bars.

Using its patented Quantum Well Intermixing technology, Intense creates innovative lasers with unrivaled power, brightness, and reliability. Stateof-the-art manufacturing delivers exceptional performance in high power visible and IR laser diodes, bars and stacked arrays, fiber coupled lasers, and individually addressable arrays. From defense and medical to display and print applications, Intense is bringing about a revolution in the way diode lasers solve evolving optoelectronic applications. Contact: Kevin Laughlin, Vice President, Global Sales, kevin\_laughlin@intenseco.com.

International Light Technologies 10 Technology Dr, Peabody, MA, 01960

978/818-6180; fax 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.

#### International Radiation Detectors, Inc. #428 SPIF Corporate

2527 W 237th St Unit A, Torrance, CA, 90505-5243 310/534-3661; fax 310/534-3665 irdinc@earthlink.net: www.ird-inc.com

New Product: P-on-N photodiodes with 100% IQE and zero responsivity temperature dependence at 350 - 950 nm.

Manufacturer of stable UV, VUV, EUV and soft x-ray photon and electron detectors and associated electronics. Diodes with integrated filters at central wavelengths between 1 - 105 nm are available for most diodes. Radiometric facilities for in-house characterization are available from 190nm to 2500nm. IRD is the only NIST approved vendor for silicon photodiode transfer standards in 5 nm to 250 nm spectral region. Contact: Dr. Raj Korde, President, sales@ird-inc.com.

## Intex Corp.

7080 N Cathedral Rock Pl, Tucson, AZ, 85718 520/349-7686

jeffbaymor@hotmail.com; www.intexworld.com

INTEX was founded in the year 2000 in Tucson, Arizona to develop and commercialize applications of its advanced NAC coatings for MEMS sensors for energy and environmental monitoring. Intex IR emitters have unique qualities found nowhere else. New products are being launched in 2010. Contact: Jeff Baymor, VP Marketing and Sales, jeffbaymor@hotmail.com.

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### IntlVac

247 Armstrong Ave, Georgetown, ON, Canada, L7G 4X6 905/873-0166: fax 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, & hot mirrors, broadband & ultra-broadband AR, bare & 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 Deligiannis, President, dino@intlvac.com; Greg Dawn, Sales, gdawn@intlvac.com.

### IntraAction Corp.

#510

#1723

#4414

3719 Warren Ave, Bellwood, IL, 60104-2055 708/547-6644; fax 708/547-0687 sales@intraaction.com; www.intraaction.com

## Invest in France Agency (IFA)

77 blvd Saint Jacques, Paris, France, 75014 33140747319 us@investinfrance.org; www.investinfrance.org

## Ion Beam Milling Inc.

#3044

850 E Industrial Park Dr, Manchester, NH, 03109 603/644-2326: fax 603/647-6889 sales@ionbeammilling.com; www.ionbeammilling.com

#### New Product: High Powered Laser Diode Submounts.

Since 1982, Ion Beam Milling, an ISO 90001:2000 certified company has served the Photonics, Microelectronics and microwave communities. High precision and repeatability are functions of the ion beam milling process used to fabricate electronic and mechanical elements for an array of optical, commercial, industrial, military, satellite, biomedical and magnetic applications. Laser submounts, heat spreaders and thin film circuits are our specialty. Contact: sales@ionbeammilling.com.

#### **PROMOTIONAL PARTNER**

## **IOP Publishing**

#808

Dirac House, Temple Back, Bristol, United Kingdom, BSI 6BE 44 (0) 117 929 7481; fax 44 (0) 117 930 1178 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 with 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: Fiona Walker, Exhibitions Manager, fiona.walker@iop.org.

## IPG Photonics Corp.

SPIE Corporate Member

138

50 Old Webster Rd, Oxford, MA, 01540 508/373-1100; fax 508/373-1103

sales.us@ipgphotonics.com; www.ipgphotonics.com IPG Photonics manufactures active fiber lasers, direct diodes and amplifiers operating at .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 unparalleled diode life. Contact: Diana Ferreira,

Account Manager, Scientific, sales.us@ipgphotonics.com.

### **IRD Glass**

SPIF Corporate

810 E St Paul St, Litchfield, MN, 55355 320/693-7217; fax 320/693-7216 ird@irdglass.com; www.irdglass.com

#### New Product: Spinel polish, precision concave groove polishing laser reflector cavities, stainless steel polish.

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, and is a key supplier for Honeywell, Omegadyne, Rockwell Collins and others. 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: Todd Anderson, VP Sales and Marketing, todd@ irdglass.com; Dirk Kvale, President, dirk@irdglass.com.

## Iridian Spectral Technologies

1200 Montreal Rd Bldg M50, Ottawa, ON, Canada, K1A 0R6 613/741-4513; fax 613/741-9986 www.iridian.ca

The leader in optical filter solutions, Iridian Spectral Technologies designs and manufactures optical filters with the best transmittance, deepest blocking, and steepest edges available, providing more signal with less background. Our filters address needs in applications including telecom, fluorescence microscopy, and Raman spectroscopy among others. We specialize in customizing optical filter solutions to meet your needs but also offer commonly used standard filters. Contact: Jason Palidwar, Sales Engineer, jason.palidwar@iridian.ca; sales@iridian.ca.

### **IRphotonics**

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

New Product: The iCure AS200 is an inline thermal spot curing system delivering faster and stronger cures.

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. For more information, visit www.irphotonics.com. Contact: Ruben Burga, VP Sales, rburga@irphotonics.com; Antoine Kasprzak, Sales Manager, sales@irphotonics.com.

## Isomet Corp.

SPIE Corporate Member

5263 Port Royal Rd, Springfield, VA, 22151-2103 703/321-8301; fax 703/321-8546

& Marketing, ryasinsky@isomet.com.

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 material 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 Sales & Marketing, etaylor@isomet.com; Roman Yasinsky, Director Sales

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## **ISP Optics Corporation**

**#2340** 

#935

1 Bridge St Ste 205, Irvington, NY, 10533 914/591-3070; fax 914/591-3715 www.ispoptics.com

New Product: Infrared catalog Beamsplitters to separate Infrared from Visible: New Infrared Coating Capabilities.

ISP Optics is the manufacturer of high precision Infrared optics. Our Infrared Catalog (www.ispoptics.com/store) has the largest selection of Infrared optics in the world. Over 1,500 products from online store are available from stock: spherical and aspheric lenses, windows, wedges, hemispheres, prisms, beamsplitters, polarizers, filters, diffusers with or without Infrared coating. Contact: Fred White, West Coast, fredw@ ispoptics.com, Joe Mignano, East Coast, joem@ispoptics.com.

## Isuzu Glass Inc.

SPIE Corporate

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

New Product: UV Transmitting Optical Glass IR Transmitting

Sulfide (Non Toxic) Glass.

Manufacturer of molded glass optical components and optical glasses. Applications in solar, medical, projection, optical vision systems. Primarily custom manufacturer. Optical filter glass, IR heat absorbing, neutral density, color compensation, contrast enhancement, cut on and cut off filters. Prototype to large scale production. Molded lenses and lens arrays. Contact: Mike Preston, Sales, mike@isuzuglass.com; Hiro Yokoi, Vice President, hiro@isuzuglass.com.

## **IT Concepts LLC**

#4126

#1723

#4232

#4734

1244 B Quarry Ln, Pleasanton, CA, 94566 925/401-0010; fax 925/401-0011 sperunov@itconceptsworld.com; www.itconceptsworld.com

## **iXFiber**

Rue Paul Sabatier, Lannion, France, 22300 33 2 96 04 10 50; fax 33 2 96 04 10 60 info@ixfiber.com; www.ixfiber.com

## **IZOTERM, JSC Res & Dev Institute**

1 Schhorsa Blvd, Bryansk, Russia, 241031 7 4832 282847; fax 7 4832 282847 root@nii-izoterm.ru; www.nii-izoterm.ru

New Product: Delta-30, Delta-10, Izoterm-20, Structure, Kaplya.

Development and manufacture of industrial equipment for crystal growing of sapphire, silicon, germanium, etc. Development and manufacture of research facilities and special technological equipment according to customer requirements. Contact: Valery Y. Buryak, General Chief, root@ nii-izoterm.ru; Jan Plejewski, j.plejewski@iname.com.

## J.A. Woollam Co.

645 M St Ste 102, Lincoln, NE, 68508-2243 402/477-7501; fax 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 ultraviolet to far infrared. Offering table-top, in-line, and in-situ models. Contact: Sales Department, sales@jawoollam.com.



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### **Janos Technology LLC**

55 Black Brook Dr, Keene, NH, 03431 603/757-0070; fax 603/757-0069 contact@janostech.com; www.janostech.com

Janos Technology, a division of Fluke Thermal Imaging, is a world leader in the design and manufacture of high-performance Thermal Imaging systems and optics. Janos utilizes state-of-the-art design, test equipment to produce everything from complex opto-electronic components to assemblies. We support all major markets including Defense, Aerospace, Thermal Imaging, and Analytical Instrumentation. Our Catalog division offers, off-the-shelf solutions for many optics requirements.

### **JCMwave GmbH**

#### #4601

#1623

#4601

#1005

Haarer Str 14a, Putzbrunn, Germany, 85640 49 3084185480; fax 49 89 2555 132 369 info@jcmwave.com; www.jcmwave.com

## New Product: JCMsuite 2.0 - 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 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.

### **JDSU**

SPIE Corporate Member

430 N McCarthy Blvd, Milpitas, CA, 95035 408/546-5000; fax 408/546-4300 info@jdsu.com; www.jdsu.com

JDSU is one of the largest producers of lasers and thin-film coatings. The Commercial Lasers group provides reliable diode-pumped and fiberbased lasers to OEM customers enabling new processes and improved product effectiveness. The Custom Optics Products group advances the pace of coating innovation through technological leadership, state-ofthe-art facilities, and full-service customer care. Our solutions support clientele in semiconductor, biotech, display, and brand-authentication markets. Contact: Kim Shinmoto, Laser Marketing Manager, kim. shinmoto@jdsu.com; Chris Vomvolakis, Custom Optics Marketing Manager, chris.vomvolakis@jdsu.com.

### **JenLab GmbH**

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

New Product: MPTflex: CE-marked in-vivo MultiPhoton Tomograph for optical biopsy, e.g. skin cancer diagnostics.

JenLab GmbH: manufacturer of equipment for optical Nanotechnologies based on femtosecond lasers for applications in biotechnologies, cell biology and medicine. Products: DermaInspect<sup>®</sup> and MPTflex, CE certified in-vivo multiphoton tomographs for flexible inspection of skin using auto fluorescence and SHG signals. TauMap<sup>®</sup> enables space and temporal resolved fluorescence in living cells. femt-O-cut<sup>®</sup> and photogene<sup>®</sup> are suitable for nano surgery and optical gene transfer (delivery of DNA into cells). Contact: Dr. Axel R. Gregory, CFO, gregory@ jenlab.de; Prof. Dr. Karsten Koenig, CEO, koenig@jenlab.de.

### **JENOPTIK Diode Lab GmbH**

Max-Planck-Str 2, Berlin, Germany, 12489 49 30 677987 0; fax 49 30 677987 199 info@diodelab.com; www.jenoptik.com

## New Product: Low cost diode laser bars for 808 nm applications (20 watts from 0.6 mm resonator length).

JENOPTIK Diode Lab GmbH is one of the leading providers of unmounted diode laser bars and single emitters for several applications (pumping of solid-state and fiber lasers, uses in industrial, scientific and medical systems). The company is specialized in the manufacturing of high quality semiconductor material needed for high-power diode lasers. Its products provide high output power, high efficiency, long lifetime and high reliability as well as an excellent beam characteristic. Contact: Dr. Jürgen Sebastian, Managing Director, juergen.sebastian@jenoptik.com; Dr. Ralf Hülsewede, Manager Technology Development, ralf.huelsewede@ jenoptik.com.

## JENOPTIK Laser, Optik, Systeme GmbH -Business Unit Digital Imaging

Goeschwitzer Str 25, Jena, Germany, 07745 49 3641 65 3083; fax 49 3641 65 2144 progres@jenoptik.com; www.jenoptik.com

New Product: The CMOS and CCD Research camera range has been enlarged by new USB 2.0 based microscopy cameras.

Jenoptik offers solutions for digital image processing in science & industry. We manufacture & supply cameras, OEM Imaging Modules for system integrators & light modulators worldwide. Cameras are equipped with CCD/CMOS technology, monochrome/color sensors, optional cooling, USB/FireWire connection. Light modulators are utilized for modulation of amplitude, phase, polarization, spectrum - for pulse shaping, pulse rate reduction & fast switching of light from laser sources of diverse powers. Contact: Ludwig Eckl, ProgRes Sales Manager America - JENOPTIK Optical Systems Inc, Ludwig.Eckl@jenoptik-inc. com; Jeannette Reinhardt, Marketing & Customer Care Center, progres@ jenoptik.com.

## GENERAL REFRESHMENT SPONSOR JENOPTIK Laser, Optik, Systeme GmbH -Business Unit Optics #1422

SPIE Corporate Member

Goeschwitzer Strasse 25, Jena, Germany, 07745 49 3641 65 3148; fax 49 3641 65 3677

optics@jenoptik.com; www.jenoptik.com

Oriented towards customers' targets Jenoptik develops and produces optical lenses, subsystems and modules for applications in the semiconductor equipment industry, laser material processing, defence and security and health care and life science. Our exhibition highlights at Photonics West are precision aspherical and cylindrical components e.g. for surgical lasers or printed circuit board exposure. All components can be supplied with reflective or anti-reflective coatings available from DUV to IR. Contact: Michael Kahlke, Head of Sales Optics, Michael Kahlke@jenoptik. com; Ray Malcom, VP, Sales & Marketing, Ray.Malcom@jenoptik-inc.com.

## Product Locator Kiosks

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- Keyword Search
- Product Demonstrations

#### #1422

## JENOPTIK Laser, Optik, Systeme GmbH -Laser Systems Business Unit #1422

Goeschwitzer Str 25, Jena, Germany, 07745 49 3641 65 4015; fax 49 3641 65 4011 laser.sales@jenoptik.com; www.jenoptik.com

## New Product: JenLas<sup>®</sup> fiber ns 40 Watt advanced, JenLas<sup>®</sup> fiber ns 20 Watt advanced single mode.

The Laser Systems Business Unit of the JENOPTIK Laser, Optik, Systeme GmbH manufactures diode lasers, high power fiber lasers and diode-pumped-solid-state lasers for OEM and R&D customers. Target applications in material processing are marking, deep engraving, ablating, structuring, cutting and drilling for electronics, semiconductor, automotive, photovoltaics and packaging markets. Jenoptik offers life science lasers for ophthalmology and dermatology and lasers for show and entertainment. Contact: Sven Poggel, Product Manager Material Processing, Sven.Poggel@jenoptik.com; Bert Kremser, Product Manager Medical Applications, Bert.Kremser@jenoptik.com.

## JENOPTIK Laser, Optik, Systeme GmbH -Microoptics Business Unit

Göschwitzer Str 25, Jena, Germany, 07745 49 3641 65 2440; fax 49 3641 65 3842 microoptics@jenoptik.com; www.jenoptik.com

JENOPTIK Microoptics Business Unit develops and manufactures customized assemblies and optical modules for a variety of applications in industry, semiconductor fabrication, ophthalmology and the security and defense sector. Flexibility of design, manufacturing know-how and a special base of in-house technologies are the assets to warrant our product offering to be consistently extended by new solutions which are even smarter and more complex. Contact: Uwe Wielsch, Head of Sales Microoptics, uwe.wielsch@jenoptik.com; Tim Lindsey, Sales, tim.lindsey@ memsoptical.com

## **JENOPTIK Laserdiode GmbH**

#1422

#1422

#1422

Goeschwitzer Str 29, Jena, 07745 49 3641 65 4300; fax 49 3641 65 4392 jold@jenoptik.com; www.jenoptik.com

## New Product: High-brightness diode laser modules with 105 $\mu m$ fiber core diameter, NA 0.15.

JENOPTIK Laserdiode GmbH is one of the worldwide leading providers of diode lasers for industrial use (pumping of solid-state and fiber lasers, materials processing and medical applications). Since 1993 the company has been manufacturing high-power diode lasers that have been setting new standards in technology. Jenoptik has control over the entire technology chain for diode lasers ranging from epitaxial layer structures, laser bars, diode laser packages, stacks and fiber-coupled diode lasers. Contact: Dr. Detlev Wolff, Manager Sales & Marketing, detlev.wolff@ jenoptik.com; Thomas Wittschirk, Regional Sales Manager, thomas. wittschirk@jenoptik.com.

## JENOPTIK Optical Systems, Inc.

SPIE Corporate Member

16490 Innovation Dr, Jupiter, FL, 33478-6428 561/881-7400; fax 561/881-1947 sales@jenoptik-inc.com; www.jenoptik.com

JENOPTIK Optical Systems, Inc. delivers services ranging from design and manufacture of optical assemblies to high volume component manufacturing for applications ranging from UV through LWIR. Primary markets are life science research, defense, semiconductor manufacturing, digital projection, optical metrology and astronomical research. Contact: Ray Malcom, Vice President, Marketing & Sales, Ray.malcom@jenoptik-inc. com; Brian Weinberg, Marketing & Sales, Brian.weinberg@jenoptik-inc.com.

## **JENOPTIK Polymer Systems, Inc.**

2117 Buffalo Rd #222, Rochester, NÝ, 14624 585/272-6184; fax 585/424-6436 Idobosz@jenoptik-ps.com; www.jenoptik.com

## New Product: Double sided micro lens array, LED based light engines, Solar concentrator lens array, color sensor.

We are a technology-driven company which is well-known for pushing the technological limits for opto-electronic and opto-mechanical systems and components. Our products are used in various applications like medical, optical sensors & machine vision, lighting & solar as well as mobility. We offer our clients the complete process chain from one source: from development, production and coating of optical components, up to assembling and packaging of opto-electronic and opto-mechanical systems. Contact: Lynn Dobosz, Managing Director, Idobosz@jenoptik-ps.com; Julia Rauschning, Marketing, julia.rauschning@jenoptik-ps.de.

## j-fiber GmbH

Im Semmicht 1, Jena, Germany, 07751 49 3641 352 100; fax 49 3641 352 101 info@j-fiber.com; www.j-fiber.com

## New Product: j-YDCF breakthrough active laser fiber for 1200 W output power with excellent >85% slope.

j-fiber a worldwide leading specialist for optical fibers and preforms. Photonics West specialty fiber and customized preform/glass highlights: high-power laser fibers active/passive; laser delivery and combiner fibers (large core MMF, non-circular core fibers); HPSC laser imaging fibers; solarization resistant optical fiber with highest transmission stability for <400nm wavelength applications; FSI series 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.landers@j-fiber.com.

## JingBo Optical Technology Inc. Shanghai #5302

No 327 Xiwang Rd, Shanghai, China, 201801 86 512 5284 9382; fax 86 512 5284 7683 z-b@jingbo-sh.com; www.jingbo-sh.com

## New Product: Precise plate, autogravure components, prisms, lenses, cylindrical lenses.

Shanghai JingBo Optical Technology Co., Ltd. is a professional company in manufacturing and selling Precision Optical Lens, CD Glass Substrates, color filters, Fused Silica Substrates and Optical Crystal Substrates. JingBo has many advanced processing and Inspection equipment, most of our products to be sold to Japan, USA, Germany, Switzerland, Canada, Korea, and Taiwan. Contact: Chao Lin, General Manager, double@jingbosh.com; Sandy Pan, Marketing Development, sandy@jingbo-sh.com.

## JJL Technologies LLC

#4136

#1422

#5117

8121 Austin Ave, Morton Grove, IL, 60053 847/470-8915 info@ijltech.com; www.ijltech.com

### **JML Optical Industries Inc.**

820 Linden Ave, Rochester, NY, 14625 585/248-8900; fax 585/248-8924 jml@jmloptical.com; www.jmloptical.com

New Product: IR Optics-Calcium fluoride, germanium, zinc selenide optics and lens systems, stock or custom made.

JML designs, manufactures and coats optical systems and components. Stock catalog items as well as custom designed and manufactured optics are available for protoypes or large OEM volumes. Optics for use in IR, CCD imaging, microscopes, aerial photography, medical, robotics, visual inspection and military applications. Contact: Gregg Sadwick, Sales Manager, Greggs@jmloptical.com; Marty Roberts, Director of Catalog Division, martyr@jmloptical.com.

#### Joensuu Science Park Ltd.

#5319

#726

Lansikatu 15, Joensuu, Finland, 80110 358 50 403 7540; fax 358 13 263 7111 aki.grohn@carelian.fi; www.carelian.fi/en

## New Product: Wave optical engineering, ultra precision tooling, spectral color measurement and analysis services.

A versatile technology center located in North Karelia, Finland. The professional high-quality services offered to high technology companies include business development, expertise development and high quality and modern premises. In a field of Photonics JSP represents several high tech companies and research organizations from Finland. Contact: Aki, Director, aki.grohn@carelian.fi.

## JP Sercel Associates, Inc.

220 Hackett Hill Rd, Manchester, NH, 03102 603/518-3200; fax 603/518-3298 www.jpsalaser.com

JPSA is known for building high quality industrial laser micromachining systems using UV, Excimer, DPSS and ultrafast laser technology. The company's micromachining, laser beam delivery, automation, and motion control systems are used in a wide range of applications including photovoltaic, semiconductor, LED, MEMS, biomedical, and medical parts. JPSA also operates an applications lab and contract manufacturing facility at its Manchester, NH headquarters. Contact: Joshua Stearns, Sales and Marketing Coordinator, jstearns@jpsalaser.com; Bill Kallgren, Sales Manager, Western US, bkallgren@jpsalaser.com.

## **JT Ingram Sales and Marketing**

23 Alafaya Woods Blvd, Oviedo, FL, 32765 800/335-5582

jim@jtingram.com; www.jtingram.com

## New Product: Fiber Optics UV VIS NIR MIDIR accessories, couplers, focus heads, collimators, light sources, detectors.

Fiber Optic components for use in the UV VIS NIR and MIDIR. Fiber optic accessories including couplers, focus heads, collimators, fiber coupled light sources in the UV VIS NIR MIDIR. Fiber optic probes for spectroscopy and sensors fiber coupled detectors in the UV VIS NIR. Contact: Jim Ingram, Marketing Manager, jim@jtingram.com.

## Kaiser Optical Systems, Inc.

371 Parkland Plaza, Ann Arbor, Ml, 48103 734/665-8083; fax 734/665-8199 sales@kosi.com; www.kosi.com

## New Product: Kaiser Optical Systems is recognized as a world leader in design and production of Raman analyzers.

Raman analyzer installation locations include R&D, Pilot plant, manufacturing, and QA/QC. Pharmaceutical PAT applications include reaction monitoring, API production, polymorphic form quantitation, drug product unit operations, and end product testing. Other Applications areas for RamanRxn Systems analyzers include biotech, semiconductors, nanotechnology, petrochemical, polymers, and specialty chemical. Contact: Ian Lewis, Marketing Manager, lewis@kosi.com.

## Kaiser Systems, Inc.

126 Sohier Rd, Beverly, MA, 01915 978/922-9300; fax 978/922-8374

ebouchard@kaisersystems.com; www.kaisersystems.com Kaiser Systems, Inc. (KSI) designs and manufactures high performance, high reliability power supplies for pulsed lasers, electron and e-beam systems, capacitor charging, X-Ray generators and various custom applications. Products developed by KSI provide power levels to 100kW, with output voltages that range from 300V to 750kV. ISO 9001:2000 certified since 2001. Contact: Steve Klibansky, Sales, sklibansky@ kaisersystems.com; Elise Bouchard, Customer Service, ebouchard@ kaisersystems.com.

## Kaleido Technology ApS

#1039

#2232

#2201

SPIE Corporate

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

Kaleido Technology manufactures lenses, mirrors and replication tools by proprietary diamond-turning and milling - technology with unprecedented geometrical freedom and accuracy. Kaleido Technology has the key building block for next-generation wafer-level optics through its waferlevel glass molding technology for high-precision aspheric glass lenses. Contact: Palle Geltzer Dinesen, Chief Sales Officer, pgd@kaleidotechnology.com; Steven D. Oliver, US Sales Representative, soliver@so-semi.com.

## Kapteyn-Murnane Labs. Inc.

SPIE Corporate Member

1855 S 57th Ct, Boulder, CO, 80301 303/544-9068; fax 303/821-2284 sales@kmlabs.com; www.kmlabs.com

New Product: Swift: new, robust, sealed-box, Ti:sapphire oscillator with computerized tuning, <12fs, >3nJ pulses.

Versatile, robust research tools: reliable high peak/average power amplifier systems and cost-effective turnkey oscillators. Dragon/ RedDragon multipass amplifiers produce 1-20kHz, <25-100fs pulses at up to 10W in one stage and up to 50W or 20mJ in two stages. Our highpower CEP and Extreme UV systems are proven in leading international research facilities. Wyvern regenerative amplifiers are elegant single-box turnkey moderate and high-power systems. Contact: Jackie Inskeep, New Business Manager, sales@kmlabs.com; Iain McKinnie, CEO, imckinnie@kmlabs.com.

## Kaufman & Robinson, Inc.

#4112A

1306 Blue Spruce Dr Unit A, Fort Collins, CO, 80524 970/495-0187; fax 970/484-9350 alonzo@ionsources.com; www.ionsources.com

#### #830



#900

# KDF

10 Volvo Dr, Rockleigh, NJ, 07647 201/784-5005 todd@kdf.com: www.kdf.com

KDF Electronic & Vacuum Services, Inc., produces inline-sputtering

tools and an advanced cluster sputter and etch platform, the Ci. KDF systems are used in the production of precision optics, semiconductors, photomasks, telecommunications networks, wireless circuits, gallium arsenide (GaAs), high-density interconnect, sensors, opto-electronics, flat panel display, HB LED, PV solar cell and radio frequency power devices. www.kdf.com. Contact: Todd Plaisted, todd@kdf.com.

### KELK

**#5406** 

#5045

3-25-1 Shinomiya, Hiratsuka Kanagawa, Japan, 2548543 81 463 22 8730; fax 81 463 24 6749 hirokuni\_hachiuma@kelktech.komatsu.co.jp; www.kelk.co.jp

# **Kentek Corporation**

SPIE Corporate Member #5127

1 Elm St, Pittsfield, NH, 03263-3304 603/435-5580; fax 603/435-7441 info@kenteklaserstore.com; www.kenteklaserstore.com

New Product: White roller shades and window blocks for laser protection in labs and technical environments.

Kentek manufactures and designs all types of laser safety equipment, including eyewear, barriers, curtains, and beam stops. We also carry a complete line of laser accessories such as IR viewers and power meters. Contact: David Meissner, Business Development Manager, dmeissner@ kenteklaserstore.com.

# **KERDRY**

#1823

5 rue Louis de Broglie, Lannion, France, 22300 33 2 96 48 84 77; fax 33 2 96 48 84 78 contact@kerdry.com; www.kerdry.com

# Keting Optical Technology Inc., Hangzhou

#2500, 2501

No. 21 Tianhe Rd , Yuhang Economic Development Zone, Yuhang District Hangzhou, China, 311100 86 571 89263886; fax 86 571 892633883 kingbo@koti-hz.com.cn; www.koti.hz.com.cn

# New Product: Solar mirror can pass the test of 1000hrs at $85^\circ\text{C}/85\%$ RH.

KOTI is a professional optical coating manufacturer in China, produces various optical coatings for LCD/DLP/LCOS projectors, DSC/DV/ DVD digital products, develops high-end multilayer optical coatings 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 ISO14001. Contact: Jin Bo, General Manager of Marketing Dept., kingbo@koti-hz.com.cn.

# Kigre, Inc.

SPIE Corporate

100 Marshland Rd, Hilton Head Island, SC, 29926 843/681-5800; fax 843/681-4559 kigreinc@cs.com; www.kigre.com

# New Product: MK-830 compact eye-safe 4mj 30Hz 1535nm laser suitable for range-finding, imaging, sensing and LIBS.

MK-11, 81, MK-88 & MK-830 Eye-Safe High Efficiency Side Pump, (HESP) Diode Pumped Solid State Lasers (DPSS). Kigre manufactures laser transmitters and components. Kigre's 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-88 (10Hz) and MK-830 (30Hz) 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**

7002 S Revere Pkwy Ste 85, Centennial, CO, 80112 303/754-0401; fax 303/754-0324

p.townsend@kimmon.com; www.kimmon.com

Kimmon, the world's 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 lasers at 375nm, 405nm, 445nm, and 1064nm. Contact: Patrick Townsend, General Manager, p.townsend@kimmon.com.

# Kimoga Co., Ltd.

# #5503

512 Chung-Ho St., Pei-To, Taipei, Taiwan, 11252 886 2 28918690; fax 886 2 28935226 sales@kimoga.com.tw; www.kimoga.com.tw

# **Kinetic Systems, Inc.**

#4437

#4138

20 Arboretum Rd, Boston, MA, 02131-1102 617/522-8700; fax 617/522-6323 sales@kineticsystems.com; www.kineticsystems.com

New Product: The ELpF is a new lightweight benchtop vibration isolation system designed for portability.

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.

# KINIK

2140 Monterey Ave, Santa Clara, CA, 95051 408/206-9325

johnnyliu@kinik.com.tw; www.kinik.com

# New Product: Diamond Wire Saws; Grinding Wheels; Diamond Cutting Tools; CVD Diamond; Molding Glasses (OEM & ODM).

Found in Taiwan in 1964, KINIK has been the leading supplier of grinding wheels, and tools in not only traditional machining, but in semiconductor, and optical applications. With decades experience in precision manufacturing, four main business units: Abrasives, Diamond, Semiconductor, and Opto-electronics business units were formed. For detailed information, please check our website at www.kinik.com, or you may contact us for products' info at johnnyliu@kinik.com.tw Contact: Johnny Liu, Project Manager, johnnyliu@kinik.com.tw.

#635

# **Kiyohara Optics USA**

929 Whitehall Ln, Redwood City, CA, 94061 650/255-7751 atomita@kopticusa.com; www.koptic.jp/opt/eng

# New Product: High Performance 8" Aperture Beam Expander: BE300P.

Kiyohara Optics, Inc. was founded in 1949 and has conducted businesses in US since early 80's. We design, make and sell optical components and systems, such as interferometers. We listen to our customers and respond to their needs. We have participated in various joint R&B projects with National labs and Universities as well as private industries. Contact: Aki Tomita, President, Kiyohara Optics USA, atomita@kopticusa.com; Sales, Kiyohara Optics, Inc., sales@koptic.co.jp.

# KLASTECH - Karpushko Laser Technologies GmbH

#323

#1536

#1823

#1028

SPIE Corporate Member

Konrad-Adenauer-Allee 11, Dortmund, Germany, 44263 49 231 47730 646; fax 49 231 47730 620 info@klastech.de: www.klastech.de

# New Product: The Verve: the world's smallest 100mW CW 266nm DPSS laser. SLM, air cooled and sealed for life.

KLASTECH specializes in the manufacture of an entirely new and completely revolutionary range of CW Diode Pumped Solid State (DPSS) lasers. Powered by our patented iMAT technology, our lasers are available at 1064nm, 693.4nm, 532nm, 488nm and 266nm. Our technology inherently delivers lasers that produce Pitch Perfect, 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 Madin, 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 408/875-1000; fax 520/573-9355 info@phase-shift.com; www.kla-tencor.com

KLA-Tencor's market segments span semiconductor and data storage manufacturing, MEMS, optoelectronics, material science and general scientific research. Products range from benchtop stylus profilers and automated high resolution profilers for production, to position measurement sensors, inspection microscopes, optical surface analysis systems, and solar surface and cell inspectors from ICOS Visions Systems. Contact: Brian Crawford, Sales Director, brian.crawford@kla-tencor.com; Oskar Amster, Product Manager, oskar.amster@kla-tencor.com.

# **KLOÉ SA**

1068 Rue de la Vieille Poste, Montpellier, France, 34000 33 4 67 82 19 10; fax 33 4 67 73 14 85 www.kloe.fr

# Kohoku Kogyo Co., Ltd.

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

# New Product: Hermeticaly sealed fiber array and feedthrough hermeticaly sealed PM fiber arrays.

Kohoku Kogyo developed unique capilary molding process to make multihole ferrules. Based on this technology Kohoku makes, in Japan and China, single and multichannel pigtails, fiber arrays, hermeticaly sealed fiber arrays and feedthrough, hermeticaly sealed PM fiber arrays, multihole ferrules from silca, zirconia and alumina. Kohoku has sales offices in Japan and U.S. (Kohoku America). Contact: Boris Reichman, President Kohoku America Inc., breichman@kohokuamerica.com.

# Kozak Precision Products Corp.

#4104

#5221

#5400

£5311

193 Franklin Rd, Randolph, NJ, 07869 976/442-9100; fax 976/442-1448 gene@kozakprecision.com; www.kozakproducts.com

# Kreischer Optics, Ltd.

1729 Oak Dr, McHenry, IL, 60050-0306 815/344-4220; fax 815/344-4221 optics@kreischer.com; www.kreischer.com

# New Product: Transmission spheres for interferometers, ranging from F/.65 to F/11 with custom mfg. available.

Uses CNC technology to manufacture custom optical components including aspheric, cylindrical and spherical lenses, mirrors, prisms, windows and master test glasses. Also provides subassemblies, lens design and testing services. Rapid prototyping available, including custom aspheres. Contact: Cody B. Kreischer, President, cody@kreischer. com; John S. Taylor, Manager, optics@kreischer.com.

# **Krell Technologies**

1126 Campus Dr W, Morganville, NJ, 07751 732/617-7091; fax 732/617-7092 sales@krelltech.com; www.krelltech.com

# New Product: Rev Micro Polisher for Repairing Damaged Optical Connectors and Bare Fibers.

Manufactures automated connector polishing/inspection systems, portable polishers for FTTX/LAN/CATV installation and repair, retropolishers for damaged connectors, Mil-Spec termini holding fixtures, waveguide polishers, in-line video inspection equipment, precision cleaving 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 and Marketing, acheswick@krelltech.com.

# **Kugler of America LTD**

#4736

SPIE Corporate

48 South Rd Unit I, Somers, CT, 06071 860/749-6400; fax 860/749-6600 info@kuglerofamerica.com; www.kuglerofamerica.com

# New Product: Lightweight Mirrors, Micromachining Systems & Services.

We are a leading manufacturer of ultra-precision Machining Systems for Optical Surfaces, Optical 3D Structured Surfaces, Waver-thinning, and Micromachining applications, as well as Laser Micro machining Eg: Flycutters, 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

1925 Route 51, Clairton, PA, 15025 412/387-9200: fax 412/384-2745 salesus@lesker.com: www.lesker.com

R&D and batch production tools for the optical, photonics, and photovoltaic industries. Manufacturer of automated vacuum systems for PVD and ALD, chambers, components, film deposition sources, and 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: Frank Hernandez, Sales Mgr., frankh@ lesker.com; Shawn Jones, Sales Mgr., shawnj@lesker.com.

# **Kyosemi Corporation**

#### #6030

#4643

3003 Bunker Hill Ln Ste 102, Santa Clara, CA, 95054 408/492-9361; fax 408/492-9843

info@kyosemi-opto.com; www.kyosemi-opto.com

Kyosemi has over 29 years experience designing and manufacturing components for Optical Sensing, Control 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: Sales, info@kyosemi-opto.com.

# L-3 Communications, Tinsley Laboratories #401

SPIE Corporate

4040 Lakeside Dr, Richmond, CA, 94806 510/222-8110; fax 510/223-4534 sales@asphere.com; www.asphere.com

Manufacturer of custom precision optical components including complex aspheric surfaces for reflective and refractive systems from 50mm to 1.5 meters in size and a wide variety of materials, including glass, beryllium and silicon carbide. 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. Contact: Clay Sylvester, Director of Sales and Marketing, clay.sylvester@L-3com.com.

# LA Gauge Company

7440 San Fernando Rd, Sun Valley, CA, 91352 818/767-7193; fax 818/767-4946 sales@lagauge.com; www.lagauge.com

# Labsphere, Inc.

231 Shaker St, PO Box 70, North Sutton, NH, 03260-0070 603/927-4266; fax 603/927-4694 labsphere@labsphere.com; www.labsphere.com

New Product: ETO Measurement System - fast and easy LED

### thermal characterization. Labsphere has provided innovative light measurement technology since

1979. Products include light measurement systems for LEDs, lasers, and traditional light sources; uniform light sources to calibrate imaging devices and camera systems in the visible and IR; and reflectance standards for calibrating spectroscopic measurement systems. Labsphere also provides systems and components to OEMs in industries including spectroscopy, laser diode test and measurement, semiconductor, and medical. Contact: Victoria Rivera, Western Regional Sales Manager, vrivera@labsphere.com: Richard Corbyn. International Sales Director. rcorbyn@labsphere.com.

# LaCroix Optical Co.

#### SPIE Corporate

PO Box 2556, Batesville, AR, 72503 870/698-1881; fax 870/698-1880

karen@lacroixoptical.com; www.lacroixoptical.com LaCroix Optical Co. is a manufacturer of custom precision optics including achromats, lenses, windows, prisms, wedges and mirrors. LaCroix Optical Co. is an ISO 9001 registered company that can supply your optical components in any volume. A combination of modern and conventional production equipment plus an in-house coating facility allows LaCroix Optical Co. to be responsive to your needs. Let us help you achieve optical success. Please visit our web site at www. lacroixoptical.com. Contact: Tom Cox, Manufacturing Engineer, tom@lacroixoptical.com; Kirk Warden, Executive Vice President, kirk@lacroixoptical.com.

# Lambda Research Corp.

#### SPIE Corporate Member

25 Porter Rd, Littleton, MA, 01460-1434 978/486-0766; fax 978/486-0755 sales@lambdares.com; www.lambdares.com

New Product: TracePro 6.0 with x64 capability and OSLO 6.5 with fresnel lens sag table definition.

Lambda Research Corporation sets itself apart as a cost effective, single source for optical design software. Its products include TracePro®, highly differentiated by its ease-of-use and accuracy in illumination design and OSLO<sup>®</sup>, renowned for its power and flexibility in lens design. Contact: Andrew Knight, Sales Manager, sales@lambdares.com.

# Lambda Research Optics Inc.

### SPIE Corporate

1695 W MacArthur Blvd, Costa Mesa, CA, 92626 714/327-0600: fax 714/327-0610 lambda@lambda.cc; www.lambda.cc

New Product: Single Scan Lens with ValuMax AR coating keeps beam spot on the working plane small and constant.

Lambda Research Optics is a leading manufacturer of laser optics for the industrial laser industry. Lambda's detailed attention to process control produces coating with > 15 j/cm<sup>2</sup> @ 10ns, 1064nm damage threshold. Lambda maintains a large inventory of 1030nm - 1080nm, Nd:YAG and CO2 optics for quick delivery. In addition, Lambda produces custom optics tailored to each customer's unique requirement. Visit www.lambda. cc for more information. Contact: Jae Oh, Marketing Manager, joh@ lambda.cc; James Choi, Sales Manager, jchoi@lambda.cc.

# Lambda Scientific Ptv Ltd.

# #4332

#4807

#1402

#1629

6A Hender Ave, Magill South Australia, Australia, 5070 61 8 8333 0382: fax 61 8 8333 0380 sales@lambdasci.com; www.lambdasci.com

#### New Product: We have extended our range of opto-mechanical parts, stages, motion control and optical components.

Lambda Scientific specializes in developing and manufacturing various opto-mechanical parts, physics education equipment, spectroscopic instruments, thin film measurement and laboratory light sources. Optomechanics include wide range of opto-mechanical parts, stages, motion control, breadboards and optical components. Physics education equipment covers optics and laser experiments. Spectroscopic instruments include laser Raman spectrometer, grating spectrometers and various spectrophotometers. Contact: Tony Mao, Project Manager, tonym@lambdasci.com; Simon Bradtke, Sales Manager, simonb@ lambdasci.com.

### 145

# #6082

### Lambert Instruments

### **#4201**

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

# New 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, info@lambertinstruments.com.

# Lanmark Controls Inc.

### **#4320**

#5002

#1723

SPIE Corporate

1740 Massachusetts Ave, Boxborough, MA, 01719 978/264-0200; fax 978/264-0203

info@lanmarkcontrols.com; www.lanmarkcontrols.com

#### New Product: New Embedded Scan Controller.

Develops and supplies the WinLase Professional and WinLase LAN laser marking software suites, the Lanmarker, LEC embedded scan controller technology, and the Maestro integrated laser marking control box, providing complementary ancillary products for the OEM laser system integrator market worldwide. Contact: Christine Oskirko, VP Sales and Marketing, info@lanmarkcontrols.com.

# Larsen Equipment Design, Inc.

1117 NW 52nd St, Seattle, WA, 98107-5130 800/789-5121; fax 206/789-7756 erik@larsenequipment.com; www.larsenequipment.com

New Product: Our new larger capacity polisher is ready to work for you in your laboratory. Come to Booth 5002.

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

Brunhildenstr 9, Munich, CA, Germany, 80639 415/924-6300; fax 415/924-6399 harry@hmstechnologysales.com; www.las-cad.com

# New Product: New LASCAD 3.6 includes multimode and Q-switch analysis plus finite element analysis.

LAS-CAD GmbH presents new version 3.6 of the program LASCAD. With the new code for dynamic analysis of multimode and Q-switch operation LASCAD provides a unique combination of simulation tools for Laser Cavity Analysis and Design. Thermal and Structural Finite Element Analysis, Gaussian ABCD Algorithm, and Wave Optics BPM Code are integrated for the first time in one software package to analyze thermal lensing, stability, power output, and beam quality of solid state lasers. Contact: Harry Skolnik, U.S. and Canadian sales, harry@ hmstechnologysales.com; Dr. Konrad Altmann, President, dr.altmann@ las-cad.com.

### Lasence Inc.

No 13 Xianshan E Rd, Qingdao Shandong, China, 266107 86 532 88705197; fax 86 532 55557389 sales@lasence.com: www.lasence.com

# New Product: Green Laser Modules (0 to 40 & -10 to 55°C), Single Longitudinal Mode Laser, Low Noise Laser.

We specialize on compact and reliable Green Laser Modules for Wide Temperature Range (0 to 40 & -10 to 55°C), with stable output power at <1mW, 5mW and 10mW. We also produce Green Laser Modules for 540nm and 545nm, Single Longitudinal Mode Laser, Low Noise Laser, and stable Green Laser Pointer with <1mW and <5mW. For the show laser business we offer Green Laser Modules with 30mW, 50mW and 100mW output power. We achieved a vertical integration from crystal growing to the final laser product. Contact: Joerg Muehlberger, Sales & Marketing Director, sales@lasence.com; An Xiuzhen, Sales Manager, sales@lasence.com.

# Laser 2000 Benelux CV

PO Box 20, Vinkeveen, Netherlands, 3645 ZJ 31 297 266191; fax 31 297 266134 info@laser2000.nl: www.laser2000.nl

Laser 2000 Benelux is a highly specialized distributor in the photonics business. Laser 2000 considers it her mission to offer customers the latest available technologies. Keywords to identify our specialties are: Laser Measurement Instruments, Scientific and Industrial Lasers, Optical Filters, Motion and Vibration Control, Software, Light Sources, Light Measurement Instruments, Marking and Engraving and Laser Safety. Laser 2000 is heavily involved in both scientific and industrial markets. Contact: P. Kramer, Sales Director, pkramer@laser2000.nl.

# Laser 2000 GmbH

#2237

#4201

Argelsrieder Feld 14, Wessling, Germany, 82234 49 8153 405 11; fax 49 8153 405 33 info@laser2000.de; www.laser2000.com

# Laser Components Canada

#2317

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

# New Product: High intensity pulsed laser diodes at 1550 nm for military range finding.

Pulsed Laser Diodes produced for high power at 905 and 1550nm. New multi-junction lasers and a low cost series compliment the well established 905 and 1550 lasers having peak power levels exceeding 220W. Drive electronics and modules available. Applications such as range finding, speed measurement, laser radar, safety scanners, laser light curtains or for use in testing and measurement systems. Sales/ Support in USA by Laser Components IG, Inc. Contact: Matt Robinson, Sales Engineer, robinson@laser-components.com; Paul Buettner, Sales Engineer, buettner@laser-components.com.

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# Laser Components DG, Inc.

### #2317

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

#### New Product: SAT series APDs with the highest quantum efficiency at 1064nm.

Avalanche Photodiodes manufactured in USA with high quality and low cost. Silicon and InGaAs APDs with optimization at 650, 905, 1550, or 1060nm. SMD or ceramic submount package. Hybrids and drive electronics available. Suitable for applications in range finding, speed measurement, laser radar, security scanners, fluorescence measurements in the industrial, military, medical markets. Sales/Support in North America by Laser Components IG, Inc. Contact: Paul Buettner, Sales Engineer, buettner@laser-components.com; Matt Robinson, Sales Engineer, robinson@laser-components.com.

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### **¥ BANNER SPONSOR**

### Laser Components GmbH

#2317

#2317

#318

Werner von Siemens Str 15, Olching, Germany, 82140 603/821-7040; fax 603/821-7041

info@laser-components.com; www.lasercomponents.com

#### New Product: Polarization-independent beam splitters - advances in coating technology make Rs = Rp possible.

Specializes in production and distribution of high-tech COMPONENTS for optoelectronic and laser industries. In-house manufacturing capability includes production of lens substrates and hard dielectric coatings for laser optics, ranging from 193nm(UV) to 5µm(IR). Manufacture broad range of spectroscopic laser diodes from 3-25 $\mu$ m. Available technologies are VCSEL, HCSEL, DFB, Lead Salt, QCL, THZ. Production of fiber optics, laser diode modules and spectroscopic tuneable diode laser systems. Contact: Paul Buettner, Sales Engineer, buettner@laser-components.com; Kevin King, Sales Engineer, kking@laser-components.com.

# Laser Components IG, Inc.

SPIE Corporate Member

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

#### New Product: APD modules to detect even the smallest amount of light - plug & play operation.

Provides high power laser optics from 193nm to 10.6um, Flexpoint miniature laser modules, Glass polarizing filters and fiberoptic assemblies. 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 um) and SPECDILAS spectroscopic diode lasers including VCSEL, HCSEL, DFB, QCL, THz plus complete spectroscopic instruments. Contact: Paul Buettner, Sales Engineer, buettner@laser-components.com; Matt Robinson, Sales Engineer, robinson@laser-components.com.

### Laser Diode, Inc.

2 Olsen Ave, Edison, NJ, 08820-2419 732/549-9001; fax 732/906-1559 sales@laserdiode.com; www.laserdiode.com

### Laser Drive, Inc.

5318 Ranalli Dr, Gibsonia, PA, 15044-9625 724/443-7688: fax 724/444-6430 sales@laserdrive.com: www.laserdrive.com

#### New Product: 7900 Series 3KW Laser Diode Driver - QCW or CW - Power Factor Correction - OEM - RoHS.

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 and 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 Sales & Service, sales@laserdrive.com.

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SPIF Corporate

PennWell Publishing, 98 Spit Brook Rd, Nashua, NH, 03062-5737 603/891-0123: fax 603/891-0574

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. LFW reports on and analyzes the latest developments and significant trends in both technology and business in the worldwide optoelectronics and photonics industry.

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### **PROMOTIONAL PARTNER** Laser Focus World Japan

Chiyoda Bldg, 1-5-18 Sarugaku-cho, Tokyo, Japan, 101-8449 81 3 3556 1575; fax 81 3 3556 1576 lfwj@ics-inc.co.jp; www.lfw-japan.jp

Laser Focus World Japan is a monthly magazine published in Japanese with 12,000 circulations. In addition to the Japan original articles, key editorial contents in Laser Focus World are translated and delivered to the essential readers in Japan. Contact: Manami Konishi, Publisher, Ifwj@ ics-inc.co.jp.

### Laser Institute of America

#1238

#6020

SPIE Corporate Member

13501 Ingenuity Dr Ste 128, Orlando, FL, 32828 407/380-1553; fax 407/380-5588 info@laserinstitute.org; www.laserinstitute.org

The Laser Institute of America (LIA) is the professional society for laser applications and safety. Our mission is to foster lasers, laser applications, and laser safety worldwide. Serving the industrial, medical, research and government communities for over 40 years, LIA offers technical information and networking opportunities to laser users from around the globe. Contact: LIA@laserinstitute.org.

# Laser Materials Corp.

12706 NE 95 St #102, Vancouver, WA, 98682-2410 360/254-4180; fax 360/254-4182

sales@lasermaterials.com; www.lasermaterials.com

Manufacturer of Nd:YAG, CTH:YAG, Yb:YAG, and ruby laser rods and slabs. Utilizing the Czochralski process, we grow large diameter crystals at our plant in Vancouver, Washington, USA. Our high yield growth process allows us to provide high quality laser rods at reasonable prices. Contact: Paul Collins, President, paul@lasermaterials.com; David Collins, Vice-President, dcollins@lasermaterials.com.

### #1035

#1801

# Laser Optics a PPGI company

# #1126

SPIF Corporate

181 Legrand Ave, Northvale, NJ, 07647 201/767-1910; fax 201/767-9644 sales@laseropticsinc.com; www.laseropticsinc.com

Manufacturer of OEM and custom optical components and coating services for ultraviolet, visible and infrared. Specialists in coatings for high-power lasers. Products include cavity and beam steering components, waveplates and polarizing optics. Extensive optics catalog for visible and infrared applications. Serving Semiconductor inspection, Medical, National labs and Defense industries. Contact: Jeffery Brunner, Director, Sales and Business Development, jbrunner@laseropticsinc.com.

# Laser Optics Berlin

### #4601

#507

#2413

Messedamm 22, Berlin, Germany, 14055 49 30 3038 2159; fax 49 30 3038 2291 laser-optics@messe-berlin.de; www.laser-optics-berlin.de

New Product: Laser Optics Berlin, Exhibition and Convention for **Optical & Laser Technologies.** 

Date 22 to 24 March 2010 in Berlin, Germany Laser Optics Berlin is a platform for introducing ideas for the future, technical trends and world firsts, the event will give trade visitors from research, development, production as well as users a broad overview of the innovative capabilities of the optical technology industry. The Convention will be one of the high points in 2010, with a focus on optical technology for measurement systems and production (call till November 15, 2009) Contact: Kerstin Kube-Erkens, Senior Product Manager, kubeerkens@messe-berlin.de; Sabine Barth, Project Manager, barth@messe-berlin.de.

# Laser Quantum Ltd.

Emery Court Vale Rd, Stockport Cheshire, United Kingdom, SK4 3GL

44 161 975 5300; fax 44 161 975 5309 sales@laserguantum.com; www.laserguantum.com

#### New Product: Finesse 10W is our 532nm laser designed as a fully integratable pump source.

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. Contact: Helen Farmer, Sales and Marketing Administrator, hfarmer@laserquantum.com; Debbie Oldale, Sales and Marketing Coordinator, doldale@laserguantum.com.

# Laser Research Optics

120 Corliss St, Providence, RI, 02904 888/239-5545; fax 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 guality replacement optics ship from stock within 12 hours. Contact: Scott Rouillard, Sales, scott@melleroptics.com; Steve Lydon, Sales, steve@melleroptics.com.

Laser Safety Industries

SPIF Corporate

6311 Cambridge St, Minneapolis, MN, 55416 952/405-6947; fax 952/405-6949 info@lasersafetyindustries.com; www.lasersafetyindustries.com

# Laser Zentrum Hannover e.V.

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. The LZH deals with customer-specific problem solving in technical, scientific and economic areas in all fields of laser technology, including laser development, laser optics, micro- and nano-machining and laser safety. The laser development department provides innovative solutions for solid-state lasers, single-frequency lasers, ultrafast lasers and spaceborne laser systems. Contact: Michael Botts, Public Relations, m.botts@lzh.de.

# Laser-compact Co., Ltd.

SPIE Corporate

3 Vvedensky St, Moscow, Russia, 117342 7 495 333 0000; fax 7 495 720 5451 ik@lcompact.msk.ru; www.laser-export.com

New Product: DPSS CW lasers in unified design (AC&DC): models DTL-318 (500 mW, 532 nm), DTL-322 (2W, 1064 nm).

Specializes in the field of DPSS lasers radiating in green, UV and IR ranges of spectrum. 18-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 35,000 of DPSS lasers have been produced for world-leading industrial companies. The biggest Russian exporter of DPSS lasers (delivery for 38 countries). Contact: Ekaterina Fedyna, Sales & Marketing Manager, ik@lcompact.msk. ru; Natalia Gavrilenko, Marketing Director, laser compact@rmt-net.ru.

# Laser-export Co. Ltd.

SPIE Corporate

3 Vvedensky St, Moscow, Russia, 117342 7 495 720 5450; fax 7 495 720 5451 sales@laser-export.com; www.laser-export.com

New Product: UV Q-switched lasers in unified design: models DTL-379QT (50 µJ, 351 nm), DTL-389QT (20 µJ, 263 nm).

Specializes in the field of DPSS lasers manufacturing and R&D. Represents a group of companies Laser-compact with 18-year custom design experience. The company offers CW and pulsed UV, green and IR lasers for use in application fields: spectrometry, laser microdissection, interferometry, industrial and medical positioning, test and measurement equipment, quality control of crystals etc. Over 35,000 of DPSS lasers have been produced by Laser-compact group for world-leading industrial companies. Contact: Natalia Gavrilenko, Head of Sales Department, sales@ laser-export.com; Ekaterina Fedyna, Sales Manager, ik@lcompact.msk.ru.

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#5412

#4601

#939

### Laserline Inc.

SPIE Corporate

1800 Wyatt Dr Ste 9, Santa Clara, CA, 95054 408/727-1496; fax 408/834-4671 info@laserline-inc.com; www.laserline-inc.com

# New Product: LDM 2300-100: Over 2,300 W of pump power out of our fiber coupled LDM modules in 19" rack mount.

Laserline is the leading manufacturer of high power diode laser systems. Laserline offers rack mount systems up to 2,300 W for pumping and material processing, and high brightness industrial systems for welding, cladding and heat treatment. Contact: Silke Pflueger, Director Marketing & Sales, sp@laserline-inc.com; Klaus Kleine, VP North American Operations, kk@laserline-inc.com.

### Laserod Inc.

20312 Gramercy Pl, Torrance, CA, 90501 310/328-5869 sales@laserod.com: www.laserod.com

# LASEROPTIK GmbH laser optics and coatings

Gneisenaustr 14, Garbsen, Germany, 30826 49 5131 4597 15; fax 49 5131 4597 20 service@laseroptik.de; www.laseroptik.de

# New Product: Low loss laser mirrors with R>99.99%, e.g. for laser gyroscopes, made by Ion Beam Sputtering (IBS).

LASEROPTIK produces optical thin-film coatings and components, such as high LIDT laser mirrors, thin film polarizers, beam splitters, reflection - and anti-reflection coatings, OPO mirrors and various filters, all in the wavelength range from 157nm to NIR, also for fs-lasers, (nl-) laser crystals and fibers. LASEROPTIK applies electron beam evaporation, ion assisted deposition (IAD), magnetron sputtering and ion beam sputtering (IBS), e.g. for band pass designs, high contrast TFP or super mirrors. Contact: Dr. Wolfgang Ebert, President, webert@laseroptik.de; Mr. Werner Moorhoff, General Manager, wmoorhoff@laseroptik.de.

# LaserPoint s.r.l.

**#5427** 

Via Burona 51, Vimodrone (Milano), Italy, 20090 39 02 2740 0236; fax 39 02 2502 9161 ferretti@laserpoint.it; www.laserpoint.it

# New Product: $\pi$ Touch Screen Power/Energy Meter; digital and analog display; 1nm resolution for wavelength.

Laser Point a manufacturer of high quality Laser Measurement Instruments based on innovative concepts and technologies. Some of the unique, state-of-the-art instruments generated by LaserPoint have international patents. All the range of products developed in LaserPoint is application oriented since instruments are generated after developments for industrial partners and include: Laser Power and Energy Meters, Laser Power Probes, OEM sensors and Heads, Industrial Laser Monitoring Systems. Contact: Flavio Ferretti, T&M Products Manager, ferretti@ laserpoint.it.

# METER BOARD SPONSOR

#### SPIE Corporate

#2041

#4229

#4601

7775 N Casa Grande Hwy, Tucson, AZ, 85743 520/744-5700; fax 520/744-5766 sales@lasertel.com; www.lasertel.com

# New Product: High brightness fiber coupled packages: electrically configurable, rugged, low profile.

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, Sales Coordinator, sales@lasertel.com; Robert Walker, Director of Sales & Marketing, sales@lasertel.com.

# BANNER SPONSOR

SPIE Corporate Member

595 Phalen Blvd, Saint Paul, MN, 55130 800/393-5565; fax 651/357-1830 info@lasersafety.com; www.lasersafety.com

# LASOS Lasertechnik GmbH

Carl Zeiss Promenade 10, Jena, Germany, 07745 49 3641 2944 0; fax 49 3641 2944 79 lasosinfo@lasos.com; www.lasos.com

# New Product: Single frequency 561 nm continuous wave diode pumped solid state laser at 50 mW.

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: Philip Crowley, Sales, phil@markettechinc.net.

# Lattice Electro Optics, Inc.

SPIE Corporate Member

1324 E Valencia Dr, Fullerton, CA, 92831 714/449-0532; fax 714/449-0531 latticeoptics@gmail.com; www.latticeoptics.com

New Product: High Efficiency Dichroic BS. High Damage PBS, High Energy Broadband Ti:Sapphire Optics. High Power PBS. Broadband High Energy Ti:Sapphire Mirrors.

EXCIMER (193 and 248nm), YAG, CO<sub>2</sub> and FEMTOSECOND optics. OPO & Laser Rod coatings. Sandia National Labs' Level 1 Supplier. 24 Hours turn around on coating. High Power Beam Expanders are available. High Damage Threshold Optics and Coatings. Mirrors, Windows, Beamsplitters, polarizing optics, Waveplates. Cylindrical/aspheric lenses, ETALONS, Filters, Prisms. Contact: Scott Kim, Chief Engineer, latticeoptics@gmail.com; Olivier Rossi, Production Control, orossi.latticeoptics@gmail.com.

# Get the training you need to stay ahead of the technology curve.

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# **#1030**

**#828** 

**#430** 

# Lattice Materials LLC

516 E Tamarack St, Bozeman, MT, 59715 406/586-2122; fax 406/587-9055

marketing@latticematerials.com; www.latticematerials.com For over 20 years, Lattice Materials has specialized in manufacturing custom silicon and germanium components for IR optics, laser optics, and thin film coating sources. Our ingot growth team has over four decades of experience meeting the demanding requirements of infrared optical imaging systems used in a wide variety of applications and environments. Stop by our booth or call our experienced Sales staff today to find out how Lattice Materials can help you. Contact: Bob Spetz, Sales Engineer, marketing@latticematerials.com; Patti Lee, Technical Sales, sales@latticematerials.com.

# Lee Laser, Inc.

#2132

#2630

7605 Presidents Dr, Orlando, FL, 32809 407/812-4611; fax 407/850-2422 salesdept@leelaser.com; www.leelaser.com

#### New Product: Model MPC-800MQ: 800-Watt Q-switched shortpulse YAG.

Manufacturer of industrial-grade OEM solid-state lasers: Diode-pumped and lamp-pumped, YAG and Vanadate, TEMoo 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 100-W for micro-machining; 355-nm UV up to 20-W. Specializes in OEM engineering. Contact: salesdept@leelaser.com.

# LEG Thüringen GmbH

#4601

#4601

State Development Corporation of Thuringia, Mainzerhofstr 12, Erfurt, Germany, 99084

49 361 5603 445; fax 49 361 5603 328 www.invest-in-thueringen.de

As the business development corporation for the Free State of Thuringia, LEG is responsible for marketing the region and attracting new investors from Germany and abroad. 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, liaises with government agencies and provides individual advice on financing and government aid. All services are free of charge. Contact: Steffen Laufmöller, steffen.laufmoeller@leg-thueringen.de.

# Leica Microsystems CMS GmbH

Ernst-Leitz-Str 17-37, Wetzlar, Germany, 35578 49 6441 29 2865; fax 49 6441 29 2267 loc-sales@leica-microsystems.com; www.leica-microsystems.com

Leica Microsystems is a leading global designer and producer of optical systems. 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, loc-sales@leica-microsystems.com.

# Leister Technologies, LLC

#### SPIE Corporate Member

1253 Hamilton Pkwy, Itasca, IL, 60143 630/760-1000; fax 630/760-1001 sales@leisterusa.com; www.axetris.com

# New Product: Microlens arrays for Fiber Array and Laser Diode Collimation (DWDM, OADM), and Beam Homogenization.

LEISTER Technologies' Axetris Division develops and manufactures microlens arrays and diffractive optics. Our standard and custom solutions include optics for Fiber Array Collimation and Coupling (DWDM, MUX, OADM, OXC), Laser Diode Collimation (SAC, FAC, and Silicon lenses), Shack-Hartmann Sensors, Optical Switching, and Beam Shaping and Homogenization applications. An ISO 9001:2000 certified proccess, combined with 50 years of manufacturing experience, makes Swiss-based LEISTER a reliable supplier. Contact: John Vrakas, Optical Engineer, Axetris Sales, john.vrakas@leisterusa.com; Stefan Lesjak, Axetris Sales Engineer, stefan.lesjak@leister.com.

# Leoni Fiber Optics GmbH

Muehldamm 6, Neuhaus-Schierschmitz, Germany, 96524 49 36764 81 100; fax 49 36764 81 110 fiber-optics@leoni.com; www.leoni-fiber-optics.com

New Product: Get to know our product families: FiberConnect, FiberTech, FiberSwitch and FiberSplit.

The business unit Fiber Optics of the LEONI Group is one of the Leading providers of optical fibers and optical components for the special applications in various industrial markets, in science and medicine. Contact: Andreas Weinert, Managing Director, andreas.weinert@leoni.com; Otto Bernauer, Regional Manager North America, otto.bernauer@leoni.com.

# **Leybold Optics**

SPIE Corporate Member

539 James Jackson Ave, Cary, NC, 27513 919/657-7100

us.sales@leyboldoptics.com; www.leyboldoptics.com

# New Product: 8 inch HELIOS magnetron sputtering tool for optical coatings.

Leybold Optics designs and manufacturers state-of-the art vacuum coating systems for optics. Key components of the SYRUSpro evaporation system include the field proven APS (Advanced Plasma Source), an Optical Monitoring System, a very flexible control system, the sophisticated Electron Beam Guns. The HELIOS tool is based on magnetron sputtering and provides very repeatable dense and shift-free sputtered films. Contact: Tobias Haecker, Regional Sales Manager, tobias.haecker@leyboldoptics.com.

# Light Age, Inc.

SPIE Corporate Member

500 Apgar Dr, Somerset, NJ, 08873 732/563-0600; fax 732/563-1571 www.lightage.com

Light Age, Inc. develops, manufactures and markets solid-state laser systems for aesthetic procedures and medical device research and development. Standard laser products, FDA approved, include new ultra compact Q-Clear<sup>™</sup> for treatment of age spots, pigmented lesions and tattoos, the Epicore<sup>™</sup> for hair removal, and Ta2Eraser<sup>™</sup> for tattoo removal. Contact Ado Umezawa, Vice President of Business Development, aumezawa@lightage.com; Dr. Donald Heller, CEO, dheller@lightage.com.

#1239

#5031

#2238

# **Light Conversion Ltd.**

### #833

#407

#4835

PO Box 1485, Saulétekio av 10, Vilnius, Lithuania, 10223 370 5 2491830; fax 370 5 2698723 Ic@lightcon.com; www.lightcon.com

#### New Product: Femtosecond Ytterbium laser "PHAROS".

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, 1MH2), 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, Altos Photonics, sales@altosphotonics.com.

# **Light Guide Optics Germany GmbH**

Heerstrassen Benden 10, Rheinbach, Germany, 53359 49 2226 1585 0; fax 49 2226 158520 info@lgoptics.de; www.lgoptics.de

New Product: Fused end bundle for highpower applications. See: www.lgoptics.de.

Manufacturer of silica/silica optical fibres, cables, bundles round to round, round to line, fused end bundles, medical fibres and probes for all applications. Contact: Peter Taenzer, Manager Sales & Marketing, taenzer@lgoptics.de; Mick Speciale, dspeciale@gloptics.com.

# LightComm Technology

5F South CangSong Bldg, Tairan Industrial Park, Shenzhen, China, 518040 86 755 83570915; fax 86 755 83434363

sales@lightcomm.com; www.lightcomm.com

New Product: Pump combiner, PM fiber components, high power collimator and isolator, PM fused coupler.

LightComm designs, manufactures, and markets optical fiber components and fiber subsystems used for optical communication, medical applications, fiber sensor, and high power fiber lasers. LightComm is the biggest fiber coupler manufacturer in China, capacity 120,000 pieces. Founded in 2000, LightComm has built fiber component product lines of fused couplers, PM fiber, filter WDM components, High power pump combiner, Beam collimator, Isolator and customer design for special application. Contact: Dong Jie, Sales, R&D VP, jie.dong@lightcomm.com; Alan Meng, Product Manager, alan.meng@lightcomm.com.

# **Lighthouse Photonics**

#5403

520 E Weddel Dr Ste 14, Sunnyvale, CA, 94089 408/752-0740 www.lighthousephotonics.com

New Product: Sprout is a breakthrough in low-noise performance for high-power CW green DPSS lasers.

Innovative DPSS lasers for research, life sciences and industry. Sprout is a breakthrough in low-noise performance 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 designed for applications such as pumping Ti:Sapphire lasers: femtosecond, picosecond and CW. Sprout is a unique blend of performance and value. Visit our booth and see Sprout running. Contact: John MacKay, jsm@lighthousephotonics.com.

### LightMachinery Inc.

80 Colonade Rd N Unit 1, Nepean, ON, Canada, K2E 7L2 613/749-4895

info@lightmachinery.com; www.lightmachinery.com

LightMachinery is a leading manufacturer of TEA CO<sub>2</sub> lasers, Excimer lasers, and tight tolerance optics such as Michelson interferometers and tunable etalons. Contact: Roger Sandwell, Director of Sales, rsandwell@ lightmachinery.com.

# LightPath Technologies, Inc.

SPIE Corporate Member

#5324

2603 Challenger Tech Ct Ste 100, Orlando, FL, 32826 407/382-4003; fax 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's aspheric optics and assemblies cover the spectral range from UV to long wave infrared (LWIR). Complete custom engineering and design support is available. Contact: Rob Myers, Director of Sales, rmyers@lightpath.com; Ray Pini, Director of Marketing, rpini@lightpath.com.

# LightSmyth Technologies, Inc.

875 Wilson St Ste C, Eugene, OR, 97402 541/431-0026; fax 541/284-5607 info@lightsmyth.com; www.lightsmyth.com

#### New Product: Passively Athermal Ultra Efficient Transmission Grating for 100 GHz ITU optical telecommunications.

LightSmyth is a world leader in manufacturing of highly efficient diffraction gratings and diffraction optics. We use state-of-the art lithographic fabrication tools, advanced optical design and a cost-optimized business model to bring you the best combination of price and performance. Products include ultra-high efficiency polarization-insensitive gratings for telecom, ultra-low-scatter diffraction gratings for remote sensing and spectrometry, focusing microgratings, and silicon nanostamps. Contact: Dmitri lazikov, Sr. Scientist, info@lightsmyth.com.

# Lightspeed Technologies Inc.

PO Box 110161, Campbell, CA, 95011-0161

sales@light-speed-tech.com; www.light-speed-tech.com

Product lines include LED illuminators, for machine vision, fluorescence, and other applications, Spectrometers, Optomechanics, Optical Tweezers, Piezo Stages and Optical Metrology. U.S. Dusitributor for Photon Control, Elliot Scientific, Arden Photonics, Mechonics, Neoplas Control, and Laser Lab Gottingen. Contact: Randall Wilcox, President, randall.wilcox@light-speed-tech.com.

# LightTrans VirtualLab GmbH

#4601

#4231

Wildenbruchstr 15, Jena, Germany, 07745 49 3641 66 43 53; fax 49 3641 66 43 54 sales@lighttrans.com; www.lighttrans.com

# New Product: With version 4.5 we add ultra-short pulse modeling, laser resonator analysis, and more new features.

LightTrans is a trendsetter in unified optical modeling. The optics software VirtualLab<sup>™</sup> provides modeling techniques covering the range from geometrical optics to electromagnetic simulation on one single platform. That offers an unsurpassed flexibility in modeling. The toolboxes of VirtualLab<sup>™</sup> allow the investigation of micro-optics, diffractive optics, ultra-short pulses, laser resonators, LEDs, excimer lasers, gratings, photonics crystals, artifical materials, and much more. Contact: Tim Lindsey, Business Development, tim@memsoptical.com; Dr. Michael Kuhn, Director Software Development, kuhn@lighttrans.com.

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# LightVision Technologies, Corp.

### #5009

SPIF Corporate

5F-13 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

#### New Product: Blue 405nm laser module.

LVT offers full range of green laser diode modules and laser products made by the best materials with strict quality control. We are your best OEM/ODM partner! Contact: Grace Chiang, Sales Representative, sales@ lightvision.com.tw.

# LightWorks Optics, Inc.

#### #4742

#1022

SPIE Corporate

14242 Chambers Rd, Tustin, CA, 92780 714/247-7100: fax 714/247-7101 info@lwoptics.com: www.lwoptics.com

LightWorks Optics, the leading solutions partner focuses on the complex optics needs of top space, defense and commercial companies. By working collaboratively with our customers, LightWorks integrates the design and manufacturing of advanced optical systems that consistently exceed expectations on even the most demanding projects. LightWorks manufactures prototypes and high-volume diamond-turned components as well as advanced integrated optical systems. Contact: Phil Eads, Director Business Development, peads@lwoptics.com; Maria Lopez, Coordinator, mlopez@lwoptics.com.

#### LIMO Lissotschenko Mikrooptik GmbH #2401

Bookenburgweg 4, Dortmund, Germany, 44319 49 231 222 41 0; fax 49 231 222 41 140 kontakt@limo.de: www.limo.de

#### New Product: 60 W pump module (100 µm fiber; NA: 0.22) as onebar-system within a space-saving FG - housing.

At LIMO's headquarters in Dortmund, Germany, an international team of more than 220 engineers, physicists, technicians and many other specialized staff develops, manufactures and sells innovative optical solutions and powerful laser modules and systems for various futureoriented industries like medical technology, photonics, automotive, Photovoltaics and all other businesses that use high power diode lasers. Contact: Nicole Jebram, Director Marketing & PR, n.jebram@limo.de.

# Lincoln Laser Co.

234 E Mohave, Phoenix, AZ, 85004 602/257-0407: fax 602/257-0728 sales@lincolnlaser.com; 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: George Helser, Regional Sales Manager, ghelser@lincolnlaser.com; Michael Adkins, VP Sales, madkins@lincolnlaser.com.

Product l ocator **Kiosks** 

North Hall Concourse South Hall Concourse Find what you need, print out the results, and be on your way in no time!

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- Keyword Search
- Product Demonstrations

### Linden Photonics, Inc.

270 Littleton Rd # 29, Westford, MA, 01886 978/392-7985: fax 413/714-5084 so@lindenphotonics.com; www.lindenphotonics.com

#### New Product: Linden Photonics designs high performance fiber optic cables and optoelectronic packages.

Linden has developed a range of high strength optical cables, coatings and optoelectronic packaging for environments where high strength and compact size are required. We offer a range of standard products and custom design options to fit the specific needs of our customers. Our proprietary packaging solutions provide a functionally-hermetic, costeffective alternative using innovative technology developed in house and designed to accommodate the design needs of optoelectronic packaging. Contact: Stephen O'Riorden, Director of Business Development, so@lindenphotonics.com; Amaresh Mahapatra, President, am@ lindenphotonics.com.

### Litron Lasers

2449 Arnica Dr, Bozeman, MT, 59715 406/522-7566; fax 406/522-7567 ken@litronlasers.com; www.litronlasers.com

#### New Product: Diode pumped pulsed Q-switched laser, 40mJ, up to 200Hz.

Litron manufactures lamp and diode pumped, pulsed and CW Nd:YAG and other solid state lasers. Specialists in high repetition frequency, high energy pulsed Nd:YAG lasers, Litron also offers compact pulsed Nd:YAG lasers for scientific and industrial applications. Contact: Ken Bell, President, ken@litronlasers.com.

# Lockheed Martin Aculight

#816

#2323

SPIE Corporate

22121 20th Ave SE, Bothell, WA, 98021 425/482-1100; fax 425/482-1101 info.dp-ms2-bothell@lmco.com; www.aculight.com

Lockheed Martin Aculight is a leader in quality, innovative & cost-effective laser systems for customers in the national defense, aerospace & medical markets. LMAculight develops & manufactures lasers with outputs from UV to IR. Offering both off-the-shelf and customer-designed products, LMAculight's technology portfolio includes fiber, DPSS, & mid-IR lasers; nonlinear optics; & OPOs. The company provides value at every level of the product cycle, from research to flexible contract manufacturing. Contact: Mark Bendett, Research Science Senior Manager. mark.bendett@lmco.com.

# Loaitech Ltd.

Erskine Ferry Rd, Old Kilpatrick, Glasgow, United Kingdom, G60 5EU 44 1389 875444: fax 44 1389 879042 info@logitech.uk.com; www.logitech.uk.com

Logitech Ltd. produce a range of high precision lapping, polishing and cutting systems for use in preparing high quality surfaces and edges on a variety of components, wafers, rods, crystals or planks for use in the semiconductor industry. Flagship products include the Tribo and Orbis systems for wafer, IC and single or multiple die CMP and Delayering applications. Systems are designed to suit customer requirements and come with full training, technology transfer and ongoing customer support. Contact: Chris O'Brien, Technical Sales Manager, chris.obrien@ logitech.uk.com; Josh Atkinson, Technical Sales Executive, josh. atkinson@logitech.uk.com.

# Lovalite

18 rue Alain Savary, Besançon, France, 25000 33 3 81 83 26 25; fax 33 3 81 25 53 51 www.lovalite.com

#1723

#4309

# LT Ultra Precision Optics

SPIF Corporate

51111 W Pontiac Trail, Wixom, MI, 48393 248/936-1717; fax 248/936-1713 info@ltultra.com; www.ltultra.com

LT Ultra is recognized around the world for its exceptional manufacturing quality of laser beam delivery products. Our produts include: Metal Optics, Laser Cutting & Welding Heads, Adaptive Optics, Beam Benders, Beam Reducers/Expanders, 5-Axis Cutting Systems, Air Bearing Machines, Sensor Cables and much more. We also provide repairs for a wide variety of sensors. Contact: Scott Greene, Director of Sales, info@ Itultra.com; Karen Smith, Office Manager, karen@Itultra.com.

# Lumencor, Inc.

15250 NW Greenbrier Parkway, Beaverton, OR, 97006 503/530-1008; fax 503/536-6741 info@lumencor.com; www.lumencor.com

New Product: Powerful, solid state light engines are illumination subsystems for bioanalytical instruments.

Lumencor manufactures light engines and offers optics expertise to provide high performance illumination for a broad range of bioanalytical instruments including fluorescence microscopes. Solid state sources vield power comparable to that of an arc lamp in discrete bands throughout the UV-Vis-NIR. Intense, pure, stable, durable, switchable light is produced from a compact, axially aligned unit for end users and OEMs. Complete optical systems for quantitative analysis are now available. Contact: Claudia Jaffe, V.P. Business Development, claudia.jaffe@lumencor.com.

# Lumera Laser GmbH

#4824

#5003

#5200

Opelstr 10, Kaiserslautern, Germany, 67661 49 6301 703 180; fax 49 6301 703 189 info@lumera-laser.de: www.lumera-laser.com

### New Product: 50W industrial ps-laser for cold ablation.

LUMERA LASER GmbH, located in Kaiserslautern, Germany, specializes in industrial picosecond lasers for cold ablation. These lasers are designed for 24/7 operation with a low cost of ownership. 6, 18, 25 and 50W models are offered, with harmonics, and with an optional external EOM. Contact: Bernhard Klimt, Sales and Marketing Director, info@ lumera-laser.de.

# Lumics GmbH

Carl-Scheele-Str 16, Berlin, Germany, 12489 49 30 678 06 76 0: fax 49 30 678 06 76 26 sales4@lumics.com; www.lumics.com

# Lumina Power, Inc.

26 Ward Hill Ave, Bradford, MA, 01835 978/241-8260; fax 978/241-8262

sales@luminapower.com; www.luminapower.com

#### New Product: New LDPC series Board level laser diode drivers, 100 and 300 watt models with DC input.

Lumina Power manufactures a complete line of laser and electro-optic power supplies including laser diode drivers from 50 to 3000watts, capacitor chargers for flashlamp pumped lasers. IPL's and other pulsed applications along with our XLB series Arc lamp drivers for Xenon and Mercury short arc lamps. New this year is our low cost PC board laser diode drivers and a completely new 6kw capacitor charger with 3 phase universal input. Contact: Barry Essig, Director of Sales and Marketing, bessig@luminapower.com.

# Luminit

1850 W 205th St, Torrance, CA, 90501 310/320-1066: fax 310/320-8067 info@luminitco.com: www.luminitco.com

Luminit is world class supplier of holographic diffusers and other micro-optical structures. Luminit has the largest selection of standard angles and the capability to deliver on the largest variety of substrates including but not limited to UV transmitting acrylic, BK7 and standard grades of polycarbonate. Experience covers areas including LED lighting, biomedical, semiconductor metrology, architectural lighting and display applications. Products are available directly or through distributors. Contact: Suleyman Turgut, Director of Sales, sturgut@luminitco.com; Lisa Nakagawa, Inside Sales Supervisor, Inakagawa@luminitco.com.

# Luminostix b.v.

PO Box 2040, Rotterdam, Netherlands, 3000 CA 31 10 7032100: fax 31 10 7032141

#### New Product: Optical fiber based real-time tissue characterization focused on diagnosis of cancer.

Founded in 2006, Luminostix is a spin-off company from the Erasmus Medical Center in Rotterdam. The company specializes in optical technologies for tissue characterization. The proprietary technology enables quantitative measurements of local blood volume, amount of hemoglobin, oxygen saturation, average diameter of blood vessels and additional absorbers such as beta-carothene. The combination of these parameters allow for differentiation of normal tissue versus cancer tissue. Contact: Malcolm Begemann, Director, malcolm.begemann@delphys.nl; Dick Sterenborg, Director, h.j.c.m.sterenborg@erasmusmc.nl.

# Luna Technologies

3157 State St, Blacksburg, VA, 24060 540/552-5128

solutions@lunatechnologies.com; www.lunatechnologies.com Luna Technologies specializes in advanced solutions for fiber optic test and measurement. Our award-winning product line includes the Optical Vector Analyzer and 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. Our tunable lasers include highperformance modules and benchtop instruments. Contact: Frank Ferrara, Director, Western U.S. Sales, solutions@lunatechnologies.com.

# M Squared Lasers Ltd.

1 Technology Terrace, Todd Campus WSSP, Glasgow, United Kingdom, G20 0XA 44 141 945 0500: fax 44 141 945 0505 mail@m2lasers.com; www.m2lasers.com

#### New Product: Firefly-THz – automated, widely tunable terahertz laser with µW average power and peak power to 1W.

From DUV to THz and CW to fs, M Squared provides Dependable Innovation™: next-generation diode-pumped solid-state lasers and ICE-BLOC<sup>®</sup> 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<sup>™</sup> automated, high repetition rate ultrafast oscillators. Contact: Dr Graeme Malcolm, CEO, mail@m2lasers.com.

#2013

#4201

#312

### m2k-laser GmbH

Tullastr 72, Freiburg, Germany, 79108 49 761 5158 7370; fax 49 761 5158 7376 info@m2k-laser.de; www.m2k-laser.de

New Product: New mid-infrared fiber coupled diode laser modules at 1870nm, 1908nm, 1940nm and 2200nm.

M2k-laser is specialized on the development and production of highpower and high-brightness diode lasers based on the III-V compounds GaAs and GaSb. The production line comprises tapered amplifiers up to 2W between 750nm and 1064nm. In the field of GaSb-based diode lasers the company focuses diode lasers and laser modules up to 15W between 1.9 and 2.3µm. Diodes are used for state of the art applications in sensing, spectroscopy, material processing, pumping and medical treatment. Contact: Dr. Marc Kelemen, info@m2k-laser.de.

# Mad City Labs, Inc.

SPIE Corporate

2524 Todd Drive, Madison, Wl, 53713 608/298-0855; fax 608/298-9525 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 PicoQ sensor technology and closed loop control. Our PicoQ sensors yield systems with low drift and superior stability. System attributes include picometer resolution, high speeds, real time position sensing. Suitable for microscopy, imaging, metrology and beam steering applications. Custom/OEM specialists. Contact: Technical Sales, sales@madcitylabs.com; International Sales, mclgen@madcitylabs.com.

### Mahr Federal Inc.

1144 Eddy St, Providence, RI, 02905 401/784-3100; fax 401/784-3246 information@mahr.com; www.mahr.com

New Product: MarSurf LD 120 Aspheric High-precision 3D Measuring Station to Measure and Evaluate Optical Components.

Manufacturer of Dimensional Measuring Equipment including Calipers, Micrometers, Dial and Digital Indicators; Mechanical, Plug, Air, and Electronic Gages; Height Gages and Dimensional Standards; Calibration Systems and Lab Gages; Form, Surface Roughness and Contour, Gear and Shaft Measurement Systems; Custom Design and Build Gages; Gage Repair, Calibration, and Field Services. Contact: information@mahr.com.

# MANLIGHT

4, rue Louis de Broglie, Lannion, France, 22300 33 296 04 20 00; fax 33 296 04 27 05 sales@manlight.com; www.manlight.com

# New Product: 1mJ 1.0µm fiber laser 30W 30kHz for material processing applications.

For more than a decade Manlight, an ALCEN subsidiary, has been a worldwide recognized industrial manufacturer of optical fiber amplifiers and lasers based in Lannion, France. Manlight designs and manufactures 1.0µm and 1.5µm CW and pulsed high performance amplifiers and fiber lasers for high speed optical transmission network, CATV/FTTx, material processing, scientific and labs, medical and LIDAR applications. Manlight produces in volume and with quality at competitive prices. Contact: Bruno Leføvre, Sales Director, bruno.leføvre@manlight.com; Eric Delevaque, CEO, eric.delevaque@manlight.com.

# Market Tech, Inc.

#### SPIE Corporat Member

#4601

#625

#4219

#1823.4824

1500 Green Hills Rd Ste 109, Scotts Valley, CA, 95066 800/326-5714; fax 831/461-1136 info@markettechinc.net; www.markettechinc.net

#### New Product: ICAM high accuracy 2D colorimeter that measures absolute color and luminance.

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: Philip Crowley, Sales, phil@markettechinc.net.

# Marlow Industries, Inc.

**#931** 

#6026

#2112

10451 Vista Park Rd, Dallas, TX, 75238-1698 214/340-4900; fax 214/341-5212 info@marlow.com; www.marlow.com

# New 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- Defense, Space and Photonics, dfinfrock@marlow.com; Alicia Saddock, Marketing Communications, asaddock@marlow.com.

# PROMOTIONAL PARTNER

# **Materials Today**

The Boulevard Langford Ln, Kidlington Oxford, United Kingdom, OX5 1GB 44 1865 843000 materialstoday@elsevier.com; www.materialstoday.com

# Max Levy Autograph, Inc.

SPIE Corporate Member

2710 Commerce Way, Philadelphia, PA, 19154 215/842-3675

sales@maxlevy.com; www.maxlevy.com

# New Product: Ultra high precision Chrome on Glass Bifilar Dot Targets.

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

### McGraw-Hill

2 Penn Plaza, New York, NY, 10121 212/904-5964 www.mhproffessional.com

#### New Product: The new edition of McGraw-Hill's Handbook of **Optics!**

McGraw-Hill enables success in complex global industries by structuring the most current information into concise and authoritative resources. Visit our booth to see our full line of optics and photonics titles, and take advantage of our 30% show discount, special giveaways, and more. Contact: Michael McCabe, Marketing Manager, michael\_mccabe@ mcgraw-hill.com.

# Meadowlark Optics, Inc.

#2233

PO Box 1000, 5964 Iris Pky, Frederick, CO, 80530 303/833-4333; fax 303/833-4335 mlo@meadowlark.com; www.meadowlark.com

New Product: Swift Liquid Crystal Variable Retarders with a response time of 175 microseconds.

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 Brockman, Customer Service Representative, kbrockman@meadowlark.com.

# Media Cybernetics, Inc.

4340 East-West Highway Ste 400, Bethesda, MD, 20814 301/495-3305; fax 301/495-5964

info@mediacy.com; www.mediacy.com

Media Cybernetics helps researchers extract knowledge from images through world-renowned software for image capture, processing, and analysis. Our flagship software, Image-Pro Plus, increases accuracy and automates research processes. We also offer AutoQuant software for deconvolution and IQbase for image management.

# Megaopto Co., Ltd.

Riken-Wako Incubation Plaza 301, 2-3-13 Minami, Wako Saitama, Japan, 351-0104 81 48 469 3377; fax 81 48 469 3332 megasales@megaopto.co.jp; www.megaopto.co.jp

# **SPIE Job Fair Special 2-Day Event**

Tuesday 26 January | 10:00 am to 5:00 pm Wednesday 27 January | 10:00 am to 5:00 pm

Presented by the SPIE Career Center See us in the North Hall.

### MegaWatt Lasers, Inc.

#5328, 5329 PO Box 24190, Hilton Head Island, SC, 29925-4190 843/342-7221: fax 843/342-7223 scott.hamlin@megawattlasers.com; www.megawattlasers.com

# **Meller Optics. Inc.**

120 Corliss St, Providence, RI, 02904-2602 401/331-3717; fax 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 highspeed, 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 Mgr., sales@melleroptics.com; Steve Lydon, sales@melleroptics.com.

# **MEMS Optical Inc.**

SPIE Corporate Member

205 Import Cir, Huntsville, AL, 35806 256/859-1886; fax 256/859-5890

info@memsoptical.com; www.memsoptical.com MEMS Optical, Inc. is a leading supplier and manufacturer of high performance refractive and diffractive microoptics and MEMS devices. MEMS Optical provides solutions to diverse markets such as defense and security, information and communications, industrial and semiconductor equipment, general illumination and healthcare and life sciences. MEMS Optical continues to develop and improve microoptics applications through the use of grayscale technology and other proprietary processes. Contact: info@memsoptical.com.

# Menlo Systems GmbH

#1912

Am Klopferspitz 19, Martinsried, Germany, 82152 49 89 189 166 0; fax 49 89 189 166 111

sales@menlosystems.com; www.menlosystems.com

New Product: All-fiber-coupled THz spectrometer at 1.5 micron, handheld SHG unit for femtosecond fiber lasers.

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; Brent Wheelock, North American Field Engineer, b.wheelock@menlosystems.com.

# MeshTel - INTELITE. INC.

#3030

2562-F1 Silver State Pkwy, Minden, NV, 89423 775/267-5959; fax 775/267-5958 info@meshtel.com; www.meshtel.com

New Product: Turnkey laser system with optional PM fiber output. Wavelength 375 - 1600 nM. Selectable wavelength.

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, up to 50W, Optional Fiber Output. Side Emitting Fiber Optics, Safety duel lens Goggles, Closed-loop scanner/driver. Contact: Steve Ozad, Email Manager, info@ meshtel.com.



#1422

#5429

#1709

### **METALLIFE**, Inc.

#3Na 307 Si-Wha Industrial Complex, Jeogwang-dong Siheung-si, Gyeonggi-do, South Korea, 429-850 82 31 499 2817; fax 82 31 499 2815

nam\_dongwoo@hotmail.com; www.metal-life.co.kr

Metallife is a leading manufacturer of precision electro-optic components for telecommunications, industrial, 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.

# **Metrology Concepts LLC**

#2423

#4116

#4619

#1136

#5138

SPIE Corporate

3495 Winton PI Bldg E-120, Rochester, NY, 14623-2838 585/427-9155; fax 585/427-9026

info@metrologyconcepts.com; www.metrologyconcepts.com

Metrology Concepts is a supplier of measurement solutions for surface and wavefront metrology. Core technologies include phaseshifting interferometry, wavefront sensing (Shack-Hartmann type), MTF, optical and mechanical profilometry. Standard and custom instrumentation offered, as well as support of existing metrology, training and measurement services. Contact: John Nemechek, JNemechek@ MetrologyConcepts.com.

# Meyer Burger Technology Ltd.

Allmendstr 86, Thun, Switzerland, 3600 41 33 439 05 05; fax 41 33 439 05 10 mbinfo@meyerburger.ch; www.meyerburger.ch

# **MICOS USA**

SPIE Corporate

15375 Barranca Pkwy Ste G-101, Irvine, CA, 92618 949/480-0538; fax 949/480-0538

info@micosusa.com; www.micosusa.com

Founded in 1990, MICOS supplies micro and nano-positioning equipment with a focus on the research market. We offer a full range of precision positioners and control electronics as well as complete system integration services. Additionally, MICOS is known as the premier supplier for vacuum to 10-10 mbar, clean room and extreme temperature applications. Contact: Manfred Schneider, info@micosusa.com.

# Micro Care Corp.

158

595 John Downey Dr, New Brittan, CT, 06051 860/827-0626; fax 860/827-8105 techsupport@microcare.com; www.microcare.com

#### New Product: Sticklers® fiber optic connector cleaners, for cleaning any connector, any size, every time.

When you need products and tools to be really clean, you need MicroCare. Our nonflammable optical cleaners replace alcohol, acetone and other solvents. They are engineered to remove oils, fingerprints, dust and lint from lasers, lenses, filters, diffraction gratings, prisms and mirrors. They're safe for your components, your people, your budget and your planet, helping you to clean faster, better, at lower cost with less waste. ISO 9001:2008 registered. Contact: Tech Support, techsupport@ sticklerscleaners.com.

### Microcertec

47 Allée du Clos des Charmes, ZA Les Portes de la Forêt, Collegiens, France, 77615 33 1 60 06 66 73; fax 33 1 60 05 32 51 info@microcertec.com; www.microcertec.com

#### New Product: 3D interconnected ceramic circuits for packaging chips and integrated circuits.

Microcertec is specialized in the manufacturing of customized components in advanced ceramics and silica. We produce parts with intricate shapes, large or small dimensions, very close tolerances, and can be thin-film metalized and laser etched in 3D format. Typical products are AIN heat sinks for HPLD, insulators for gas lasers, reflectors for solidstate lasers and IPL systems, circuit carriers for optoelectronics devices. Contact: Alain Charbonnier, Managing Director, alain.charbonnier@ microcertec.com.

#### MicroE Systems

125 Middlesex Turnpike, Bedford, MA, 01730 781/266-5700; fax 781/266-5112 info@microesys.com; www.microesys.com

#### New Product: Mercury II™ 5000 encoders enable compact motion control with resolution up to 1.2nm.

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@microesys. com; Nik Brightwell, Regional Sales Manager, nbrightwell@gsig.com.

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#### SPIF Corporate

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

#### New Product: Large Fiber Collimator with 22mm beam. High stability diode lasers.

We're a manufacturer of high performance Free Space and Fiber Coupled Diode Laser Systems ranging from 375nm to 1600nm to 490mW. Most operate in a single longitudinal mode with narrow linewidth and very high stability. New lasers at 488nm, 705nm and 730nm. Accessories include beam expanders, focusing optics, isolators, radial polarizers and Fiber Collimators. Semi-custom and custom laser/optical systems and fiber optic systems are routinely manufactured for OEM users. Contact: Norma Adachi, Marketing, norma@microlaser.com.

### Micro Photon Devices (MPD) Via Stradivari 4, Bolzano, Italy, 39100

39 0471 051212; fax 39 0471 501524 info@micro-photon-devices.com; www.microphotondevices.com MPD's 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, nick.bertone@ optoecomponents.com.

**#912** 

#1823

# **Micro-Hybrid Electronic GmbH**

Heinrich-Hertz-Str 8, Hermsdorf, Germany, 07629 49 36601 592 100; fax 49 36601 592 110 u.manzel@micro-hybrid.de; www.micro-hybride.de

# New Product: Thin film infrared sources and new modern types of infrared detector components.

Micro-Hybrid Electronic develops and produces infrared detector components. Also Micro-Hybrid is manufacturer of infrared sources and modules like high temperature gas sensor module and 64 pixels infrared thermopile array. A speciality is the production of components for ambient temperatures up to 190°. Contact: Uwe Manzei, u.manzei@micro-hybrid. de; Verena Tiede, v.tiede@micro-hybrid.de.

# Micron Optics, Inc.

### **#403**

#1900

1852 Century PI NE, Atlanta, GA, 30345 404/325-0005; fax 404/325-4082 www.micronoptics.com

New 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, Vice President, Research & Technology, khsu@micronoptics.com.

# **Micropac Industries Inc.**

905 E Walnut St, Garland, TX, 75040 972/272-3571; fax 972/494-2281 sales@micropac.com; www.micropac.com

Micropac designs and manufactures optoelectronic components and modules and hybrid microcircuits for the Military/Space/Medical and Hi Rel Industrial markets. Custom and standard products are manufactured. Products include Optocouplers, LEDs, LED Displays, Optoelectronic Sensors, Proximity Sensors, Solid State Relays, Solid State Power Controllers, Power Op Amps and Next Level Assemblies. Micropac is qualified to MIL-PRF-38534, MIL-PRF-19500 and ISO 9001 (2000), AS9100. Contact: Dennis Granger, Regional Sales Manager, dennisgranger@micropac.com; Bill Holmes, Regional Sales Manager, bholmes@micropac.com.

# **MicrOptix Technologies, LLC**

284 Main St Ste 400, Wilton, ME, 04294 207/645-3600; fax 207/645-3633 www.microptixtech.com

# New Product: Hand held spectrometer measuring liquids and solids in the NIR range from 650-1050nm.

MicrOptix Technologies is focused on the development and commercialization of its patented, miniaturized, integrated spectral sensing system into new product platforms such as the i-LAB<sup>®</sup> Hand Held Analyzing Spectrometer. Contact: Norman LaVigne, Directer of Sales & Marketing, nlavigne@microptixtech.com; Rachel Simmons, Office Manager, rsimmons@microptixtech.com.

# **Mightex Systems**

#### SPIE Corpora

1315 Lawrence Ave E Ste 208, Toronto, ON, Canada, M3A 3R3 416/840-4991; fax 416/840-6541 sales@mightex.com; www.mightex.com

New Product: CMOS/CCD cameras (from \$199/ea), line cameras, LED controllers, spectrometers, fiber-coupled LEDs.

Mightex Systems is specialized in developing and marketing imaging and illumination products used in machine vision, industrial tests and measurements, life and 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 LEDs, ring lights and spot lights), and spectrometers. Contact: Dr. Miles Li, Managing Director, mli@mightex.com; Dr. Sean Peng, Managing Director, speng@mightex.com.

# Mildex, Inc.

SPIE Corporal Member

1388 Crittenden Rd, Rochester, NY, 14623-2308 585/473-6540; fax 585/475-1971 info@mildex.com; www.mildex.com

# New Product: LENSCAN, LS200 provides non-contact measurement of lens thickness and air spaces.

Also available for demonstration will be Trioptics OptiSpheric/OptiCentric system, PC-controlled optical test station. Mildex, Inc. is a distributor of optical manufacturing and testing equipment serving the US optical industry since 1975. Our clients include the largest national laboratories and optical manufacturers large and small. Please contact us with your optical manufacturing and testing requirements. Contact: Harvey Miller, President, mildex@eznet.net.

#### 

SPIE Corporate Member

10000 Fourth St, Rancho Cucamonga, CA, 91730 909/989-1728; fax 909/987-3709 sales@mindrum.com; www.mindrum.com

We are now entering our 54th year servicing and supplying to the optics industry. We shape and polish glass, quartz, ceramics and exotic materials such as sapphire, as well as complex metal and plastic components. Prototype to Production. Specialty custom work with high quality standards. We are ISO 2001-9001 Certified. We build simple and comlex assemblies to customer's requirements, such as laser range finders, window assemblies and flowcells. Contact: Todd VanSon, Sales Manager, sales@mindrum.com; Linda Kondris, Sales Associate, sales@mindrum.com.

# SPIE Job Fair Special 2-Day Event

Tuesday 26 January | 10:00 am to 5:00 pm Wednesday 27 January | 10:00 am to 5:00 pm

Presented by the SPIE Career Center See us in the North Hall. #4303

#1116

#922



# Minus K Technology, Inc.

### #5020

SPIE Corporate

460 S Hindry Ave Unit C, Inglewood, CA, 90301 310/348-9656; fax 310/348-9638 www.minusk.com

New Product: WS-4 Compact Vibration Isolation Table for payloads up to 700 lbs and 1/2 Hz performance vertical and horizontal

Manufacturer of vibration isolation systems for SPMs. SEMs. metrology. micro-hardness testers, lasers and optics. They are low-cost, passive, vacuum adaptable and require no air or electricity. Products include table-top platforms, workstations, floor platforms and custom systems. Guaranteed 1/2 Hz natural frequencies make them effective against lowfrequency building vibrations. Isolation is typically 10 to 100 times better than air tables and even better than the higher-priced active systems. Contact: sales@minusk.com.

#### MIRTHE Center, Princeton University #4633

216 Bowen Hall/Princeton Univ, 70 Prospect Ave, Princeton, NJ, 08540 609/258-2043; fax 609/258-1177

info@mirthecenter.org; www.mirthecenter.org

#### New Product: Mid-infrared 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 highperformance, 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. Contact: Bernadeta Wysocka, Associate Industrial Liaison, bwysocka@princeton.edu.

# Mitsubishi Cable Industries. Ltd.

#4221 Marunouchi 3-Chome, 6F New Kousai Bldg, Chiyoda-ku Tokyo, Japan, 100-8303

81 3 3216 3947; fax 81 3 3201 3999

info@mitsubishi-cable.co.jp; www.mitsubishi-cable.co.jp

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 (Deep-Ultraviolet) 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.

#4640

5201 Great America Pkwy Ste 332, Santa Clara, CA, 95054 408/727-3111; fax 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. For more information please visit our website at www.mitsubishichips.com. Contact: King Liang, Marketing Manager, King.Liang@meus.mea.com.

### Mitsui Chemicals America, Inc.

800 Westchester Ave Ste N607, Rye Brook, NY, 10573 914/253-0777; fax 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, t.onuma@mitsuichem.com.

# MLD Technologies, LLC

#5007

#2624

#5414

#5312

SPIE Corporate

2672 Bayshore Pky Ste 701, Mountain View, CA, 94043 650/938-3780; fax 650/938-3113 info@mldtech.com; www.mldtech.com

MLD offers high-performance optical coatings and components; specializing in the design, development and manufacture of ion-beamsputtered, low optical-loss, laser-damage resistant thin-films for the UV-visible-IR spectral region. Product applications include lasers, laser devices, aerospace, non-linear crystals, medical instruments and other photonic devices. Contact: Gary DeBell, Principal, info@mldtech.com; Len Mott, Principal, info@mldtech.com.

# **MLOPTIC Corp.**

398 Pu Gang St, Jiangning Development Zone, Nanjing Jiangsu, China, 211102 86 25 84436288; fax 86 25 84433188 info@mloptic.com; www.moonlight-optics.com

#### New Product: Produce and offer Transmission Spheres and have our own metal shop.

MLoptic is a leading customized optics manufacturer in China, which was founded in 1996. We produce optics made from optical glasses, fused silica, sapphire, quartz, color glass and IR materials. Our lenses, prisms, windows, beamsplitters, mirrors, filters, and coating products etc. are used widely in laser industry, science, education, and medicine, communication and defense. Contact: Lisa, Sales Manager, lisa@mloptic. com; Joy, Sales Manager, joy@mloptic.com.

# Modu-Laser, LLC

1258 West 50 South, Centerville, UT, 84014 801/983-2682: fax 801/299-2682 bill@modu-laser.com: www.modu-laser.com

New Product: Stellar-Pro Select Argon Laser with built-in manual filter wheel provides ultimate user flexibility.

Leading manufacturer of ultra-compact (unique "All-in-One" design) air-cooled argon and krypton lasers; selectable wave-length lasers for use in Raman Spectroscopy, Confocal Microscopy, Flow Cytometry and Research and Development. We supply new "separate head and power supply" laser systems for JDSU laser replacements and Melles-Griot 643 laser replacements. We offer laser power supplies for various systems. Our customer service is outstanding with short lead times on new product and repairs. Contact: William Meyers, VP Operations, bill@modu-laser. com; Bruce Walker, Engineering Management, bruce@modu-laser.com.

# CONFERENCE BAG INSERT SPONSOR

# Modulight, Inc.

Hermiankatu 22, Tampere, Finland, 33720 358 20743 9000; fax 358 20743 9009 marketing@modulight.com; www.modulight.com

# New Product: Fiber-coupled high-power lasers from 635 to 1.55µm for use in medical, industrial and research.

Modulight, Inc. is an ISO9001:2001 and ISO14001:2004 certified semiconductor company providing value-added solutions to optical applications for industrial, communication, medical, space, and defense industries. Modulight products include various types of lasers from visible to infrared with output power levels from milliwatts to hundreds of watts. Modulight provides also laser solutions from design and manufacturing of laser diodes to OEM-based optical systems and turnkey laser systems. Contact: Kati Reiman, Sales & Marketing Coordinator, kati.reiman@ modulight.com; Sampsa Kuusiluoma, Product Line Manager, Laser Systems, sampsa.kuusiluoma@modulight.com.

# **Moeller-Wedel Optical GmbH**

Rosengarten 10, Wedel Schleswig-Holstein, Germany, 22880 49 4103 937 7610; fax 49 4103 937 7660

info@moeller-wedel.com; www.moeller-wedel.com

New Product: GONIOMAT M, the new semi-automatic goniometer for angular measurement of optical components.

MOELLER-WEDEL OPTICAL supplies high-accuracy autocollimators and custom metrology systems, including the ELCOMAT series electronic autocollimators. From simple opto-mechanical alignment to the most demanding aerospace applications requiring 0.005 arcsecond angle accuracy, ELCOMAT autocollimators are the recommended choice. Products include autocollimators, collimators, dioptometers, alignment telescopes, focometers, and refractometers, and calibration services.

# **Molded Plastic Optics, LLC**

SPIE Corporate Member

7 Perimeter Rd, Manchester, NH, 03104 603/669-7800; fax 603/669-7814

sales@mpoptics.com; www.mpoptics.com

MOLDED PLASTIC OPTICS (MPO) provides high-precision molded plastic optics, including aspherical, spherical lenses, bonded aspheric doublets for imaging, scanning, and detecting applications. We offer design, rapid prototype, high volume molding and subassembly. Facilities include state of the art injection molding machines, single point diamond turning, and a comprehensive metrology lab. Contact: Sean Meehan, National Sales Manager, smeehan@mpoptics.com; Mary Keane, Manager, mkeane@mpoptics.com.

# Molecular Technology GmbH (MolTech GmbH)

#4108

Rudower Chaussee 29-31, Berlin, Germany, 12489 49 30 6392 6620; fax 49 30 6392 6622 mtberlin@aol.com; www.mt-berlin.com

# New Product: piShaper - high efficient refractive Beam Shaping optics for collimated and focused laser beams.

MolTech GmbH is a versatile company working for various fields of science and industry: High efficient Beam Shaping optics; Acousto-optics- AOTF, Deflectors, Modulators, Imaging-Monochromators; Faraday devices – Optical Isolators, Rotators; IR materials (ZnSe, CaF<sub>2</sub>, Ge, Si), EO-, AO-, organic, Terahertz and nonlinear crystals; Laser & Optical Components; Scintillating crystals, Phosphors; IR-, PR-, MO-, magnetic, PE- materials, wafers and substrates. Contact: Alexander Laskin, Project Manager, alex@mt-berlin.com; Elmar Schmeisser, Project Manager, mtberlin@aol.com.

# Monocrystal, Inc.

#4533

#1240

#5044

4/1 Kulakov Prospect, Starvopol, Russia, 355035 7 865 295 6529; fax 7 865 295 6528 sales@monocrystal.com; www.monocrystal.com

# Moore Nanotechnology Systems, LLC #1438

426A Winchester St, Keene, NH, 03431-0605 603/352-3030; fax 603/352-3363 sales@nanotechsys.com; www.nanotechsys.com

New Product: The New Nanotech 700UPF Ultra-precision flycut machine with 28" X-axis travel and 12" Z-axis travel.

Nanotech<sup>®</sup> 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: Bob Cassin, Sales Manager, cassin@nanotechsys.com; Jeff Perra, Sales Engineer, perra@nanotechsys.com.

# **Moulded Optics GmbH**

#4601

#4424

#5316

Steinstr 13-15, Schoeffengrund, Germany, 35641 49 6445 6000 0; fax 49 6445 6000 40 martin.pfeil@mouldedoptics.com; www.mouldedoptics.com

# **MOXTEK, Inc.**

452 W 1260 N, Orem, UT, 84057 801/225-0930; fax 801/221-1121 moxtek@moxtek.com; www.moxtek.com

# New Product: Moxtek announces the new UBB01A Ultra Broadband polarizer for the UV through 4.0µm.

Moxtek specializes in wire-grid polarizers up to 8-inches in diameter for use in consumer displays, scientific instruments, industrial and military applications in the UV, visible, and IR. Moxtek manufactures high-volume and custom wire-grid polarizers, beamsplitters, nanostructures, and other nanophotonic devices. Moxtek is also a leading supplier of X-ray products for analytical instrumentation. Products include x-ray sources, detectors, x-ray windows, and ultra-thin windows. Contact: Will Abraham, wabraham@moxtek.com; Ray West, Director of Marketing, rwest@moxtek.com.



Schedule your week with your iPhone. See p. 20

# MPA Crystal Corp.

SPIF Corpora

1702-L Meridian Ave #234, San Jose, CA, 95125 408/300-0301; fax 408/300-0282 pmpa@mpa-crystal.com; www.mpa-crystal.com

New Product: Specializes in windows, lenses, rods and other optical crystal components made to your specs.

We specialize in producing crystal optics mainly made of SAPPHIRE, Quartz, Silicon, Glass, YAG, Germanium, coating as well and more. Products include windows, lenses, prisms, rods, tips, and any special shape of optics from your design. All Contacts: pmpa@mpa-crystal.com. www.mpasapphire.com/www.mpa-crystal.com. Contact: Pauline Liang, CEO, pmpa@mpa-crystal.com.

### **EXHIBITION MAP/RESTAURANT GUIDE SPONSOR MPB Communications Inc.**

SPIE Corporate Member

147 Hymus Blvd, Pointe-Claire, QC, Canada, H9R 1E9 514/694-8751; fax 514/694-6869

info@mpbc.ca; www.mpbcommunications.com

Since 1977, MPBC has been manufacturing high-performance photonic products for the military, telecommunications, industrial and research markets. MPB Communications will be exhibiting Visible Fiber Lasers that output 1 or 2W in the yellow, green, and orange and red regions; Compact Excimer lasers; Low power consumption and small size Yb lasers and EDFAs; High Power EYDFAs and Yb Lasers; high-power EFAs, C- and L- Band Erbium Broadband Sources, CombSources, FBGs, Mode-Locked Fiber Lasers, etc. Contact: Claudette Linton, Account Executive, claudette.linton@mpbc.ca; Jimmy Herrera, Account Executive, jimmy.herrera@mpbc.ca.

### MRC a PPGI company

6455 Parkland Dr. Sarasota, FL, 34243 941/753-8707; fax 941/751-4249 sales@mrcoptics.com; www.ppgrpinc.com

Manufacturer and designer of precision metal and infrared optical components, systems and sub-assemblies. Full inhouse aspheric diamond machining, plating, polishing and testing capability. Materials include all non-ferrous metals, crystals, berillium and composites. Products include polygons, aspheric components, off-axis parabolics, large flat mirrors and multi-mirror systems. Contact: Jefferv Brunner. Director, North American Sales and Business Development, jbrunner@ ppgrpinc.com.

# mso jena GmbH

SPIE Corporate

Carl-Zeiss-Promenade 10, Jena, Germany, 07745 49 3641 35 2930; fax 49 3641 35 2935 info@mso-jena.de; www.mso-jena.de

#### New Product: Customized multiple notch filters with spectral performance close to the theoretical limits.

mso jena is a leading German manufacturer of interference coatings, e.g. interference filters, thin-film polarizers and AR/HR-coatings. Spectral reflectance and transmittance of the coatings are adjusted according to specific needs in the UV-NIR spectral range. The coatings excel by longterm spectral stability and high mechanical hardness. In combination with photolithography patterned coatings or filter arrays are produced, e.g. for spectral masking of photodiodes. Contact: Uwe Schallenberg, Managing Director, info@mso-jena.de; Reinhard Dohle, Technical Sales, info@mso-iena.de.

# MTI Corp.

#602

#839

SPIE Corporat

860 S 19th St #B, Richmond, CA, 94804 510/525-3070; fax 510/525-4705 info@mtixtl.com; www.mtixtl.com

# Multi IR Optoelectronics Co., Ltd.

SPIE Corporate Member

Bldg 2 No 2 Xiyuansi Rd, Xihu T&E Zone, Hangzhou, China, 310030 86 571 89905370; fax 86 571 89905376 service@mirhz.com; www.mirhz.com

#### New Product: Narrow bandpass filter 10.6µm, HW=100-200nm.

Multi IR Optoelectronics Co., Ltd. is the leading provider of IR optical thin film coating services and products in China. The company was founded by a group of dedicated professionals who have been in the (infrared) thin film coating business for more than 20 years. Our high quality products include: IR bandpass filters (IR wide bandpass, IR narrow bandpass), IR edge filters (IR long-pass and IR short-pass), IR beamsplitters and IR anti-reflection (AR).

#### CONFERENCE BAG INSERT AND EXHIBITION MAP/RESTAURANT GUIDE SPONSOR Multiwave Photonics #301

SPIE Corporate Member

Rua Eng Frederico Ulrich 2650, Moreira da Maia, Portugal, 4470-605 351 229 408 260; fax 351 229 408 261 www.multiwavephotonics.com

#### New Product: Multiwave is pleased to announce the release of our 20W all-fiber MOPA laser system.

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 fiberoptic 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; Andy Held, Director of Sales, aheld@multiwavephotonics.com.

# Naked Optics Corp.

SPIE Corporate Member

1090 Delacroix Circle, Nokomis, FL, 34275 908/685-0352; fax 908/325-0250 sales@nakedoptics.com; www.nakedoptics.com

New Product: Super-polished substrates & windows. Silicon & germanium blanks.

Supplier of IR optics and diamond-turned components with aspheric, diffractive & free-form surfaces in IR materials, plastics and metals; optical design services; 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; Polished windows and substrates from prototype to high-volume production; Microstructures including reticules, calibration targets, test and defect patterns. Contact: sales@nakedoptics.com.



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- Optical Fabrication
- Positioning Equipment

#### **EXHIBITION HOURS**

Tuesday 13 April · 9.30 to 17.00 Wednesday 14 April · 10.00 to 17.00 Thursday 15 April · 10.00 to 14.00

### Nalux Co., Ltd.

#### #2639

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; www.nalux-world.com

# New Product: Lens modules, Optical filters, LED lenses and Glass lenses.

Nalux is a global leader, in high volume manufacturing services, for high performance, plastic and glass optics and micro-optical elements including diffractive gratings, microlens array, free-form surface optics, sub-wavelength structures, lens modules, optical filters, LED lenses and other types of optics with various shapes. Nalux also offers total solution from optical design to mass-production. Contact: Seiichiro Kitagawa, President, kitagawa@nalux.co.jp.

# Nanjing Sapphire Electro-Optics Co., Ltd. #602

Nanjing Hi-Tech Development Zone, Nanjing Jiangsu, China, 210031 408/300-0301; fax 408/300-0282 pmpa@mpa-crystal.com; www.mpasapphire.com

New Product: Specializes in windows, lenses, rods and other

optical crystal components made to your specs.

We specialize in producing crystal optics mainly made of SAPPHIRE, Quartz, Silicon, Glass, YAG, Germanium, coating as well and more. Products include windows, lenses, prisms, rods, tips, and any special shape of optics from your design. All contacts: pmpa@mpa-crystal.com. www.mpasapphire.com/www.mpa-crystal.com. Contact: Pauline Liang, CEO, pmpa@mpa-crystal.com.

### NANOBASE, Inc.

#5409

#5319

#4533

B505 Woolim Lions Valley, 371-28 Gasan-dong Guemcheon-gu, Seoul, Korea, 153-786 82 2 852 9012; fax 82 2 852 9013 contact@nanobase.co.kr; www.nanobase.co.kr

# Nanocomp Ltd.

Ensolantie 6, Lehmo, Finland, 80710 358 13 316 616; fax 358 13 316 617 sales@nanocomp.fi; www.nanocomp.fi

# New Product: Camera flash lenses, LED light collimation and illumination optics, thin light guides.

Nanocomp sales and mass manufactures thin, foil type custom made diffractive and micro-optical components for industrial customers. Product portfolio include LED light collimation optics, thin camera flash lenses (NAFLENS), thin light guides for user interface illumination on handheld devices. Contact: Matti Eronen, Sales Director, matti.eronen@ nanocomp.fi; Tuomo Rytkönen, Technical Sales Manager, tuomo. rytkonen@nanocomp.fi.

# **Nanofoot Finland Oy**

Korkeakoulukatu 3, Tampere, Finland, 30720 358 40 541 5062; fax 358 6 3152877 olli.saarniaho@nanofoot.fi; www.nanofoot.fi

# New Product: Nanofoot's automated laser diode characterization systems. Two photon polymerization systems.

Nanofoot Finland Oy develops automated laser processes, provide services, equipment and product capacity applying ultra fast and short pulse laser technology in the fields of micro- and nanotechnology. We also manufacture and design systems for measuring optical, electrical, spectral and near/far field characteristics of devices. Contact: Olli Saarniaho, CEO, olli.saarniaho@nanofoot.fi; Heikki Lindqvist, Development Manager, heikki.lindqvist@nanofoot.fi.

### Nano-Master, Inc.

3019 Alvin Devane Blvd #300, Austin, TX, 78741 512/385-4552; fax 512/385-4900 main@nanomaster.com: www.nanomaster.com

# New Product: LSC-4000 for Cleaning Substrates up to 22". SWC-4000 with Piranha Cleaning.

Nano-Master, Inc. manufactures and custom designs tools for Thin Film Processing areas. Nano-Master products include PECVD systems for deposition of SiO<sub>2</sub>, Si<sub>3</sub>N<sub>4</sub>, DLC and CNT; PE-MOCVD Systems for GaN growth; Sputtering Systems (reactive, co-sputtering, combinatorial); Thermal and E-beam Evaporators, Ion Beam and Reactive Etching Systems; Megasonic Wafer/Mask Cleaners. Contact: Birol Kuyel, b.kuyel@nanomaster.com.

### Nanonics Imaging Ltd.

#2305

Manhat Technology Park, Malcha Jerusalem, Israel, 91487 972 2678 9573; fax 972 2648 0827 info@nanonics.co.il; www.nanonics.co.il

New Product: Optometronic 4000 Photonics Workstation combines AFM/Far/Near-field light nano-characterization.

Single/Multiprobe AFM/NSOM/SPM/Confocal Systems with transparent optical and electron/ion beam integration. Multiprobe plasmonic, photonic, biological, electrical, thermal characterization. On-line Raman/TERS, SEM, FIB, 10°K operation. AFM/NSOM modes with Si or transparent fiber probes. NanoTool Kit of optical, electric, thermal and 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.

# Nanoplus Nanosystems and Technologies GmbH

#2607

Oberer Kirschberg 4, Gerbrunn, Germany, 97218 49 931 908 27 0; fax 49 931 908 27 19 sales@nanoplus.com; www.nanoplus.com

Nanoplus designs, produces and sells DFB and FP laser diodes between 760 nm and 3000 nm as well as Quantum Cascade Laser from 5000 nm to 14000 nm. The devices are suitable for various applications such as gas sensing, emission control, metrology and atomic clocks. Contact: Daniela Brückner, Sales and Marketing, daniela.brueckner@nanoplus. com; Katharina Forchel, Sales and Marketing, katharina.forchel@ nanoplus.com.

# **Nanoscribe GmbH**

Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany, 76344 49 7247 828840; fax 49 7247 828847

info@nanoscribe.de; www.nanoscribe.de

New Product: Laser lithography system for true 3D micro- and nanostructuring achieving line widths below 100 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: Steffen Holtwick, CMO, info@nanoscribe.de; Martin Hermatschweiler, CEO, info@nanoscribe.de.

### nanosystec GmbH

Marie-Curie-Str 6, Gross-Umstadt, Germany, 64823 49 6078 78254 0; fax 49 6078 78254 10 sales@nanosystec.de; www.nanosystec.de

# #5518

#4314

# National Aperture, Inc.

SPIF Corporate

16 Northwestern Dr, Salem, NH, 03079 603/893-7393; fax 603/893-7857 wgrenier@naimotion.com; www.nationalaperture.com

# National Instrument Technology **Research Center**

#4641

#429

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

#### New Product: Advanced optical, mechanical and electrical instruments.

National Instrument Technology Research Center (ITRC) is located in the worldwide renowned Hsinchu Science Park, Taiwan. The four main research fields ranged from electro-optics and remote sensing, nanotechnology and bio-medical, vacuum and thin-film technology, and instrumentation and auto-system engineering. The mission of ITRC is to establish and to innovate on cutting edge instruments and instrumentation technologies for the enhancement and promotion of national science competence. Contact: Chi-Hung Hwang, Deputy Director General, chhwang@itrc.org.tw; Shu-Wen Li, Assistant, gisele20th@itrc.org.tw.

# Nature Publishing Group

#4103

75 Varick St, New York, NY, 10013-1917 212/726-9200; fax 212/696-9006 www.nature.com

# Naval Research Laboratory

4555 Overlook Ave SW, Washington, DC, 20375 202/767-3678; fax 202/404-8681

julia.wyant@nrl.navy.mil; www.nrl.navy.mil

The Naval Research Laboratory operates as the Navy's full-spectrum corporate laboratory, conducting a broadly based multidisciplinary program of scientific research and advanced technological development. The Laboratory, with a total complement of nearly 2,500 personnel, is located in southwest Washington, DC, with other major sites at the Stennis Space Center, MS; and Monterey, CA.

# Navitar. Inc.

200 Commerce Dr, Rochester, NY, 14623 585/359-4000; fax 585/359-4999 info@navitar.com; www.navitar.com

# Necsel

801 Ames Ave, Milpitas, CA, 95035 408/916-4258; fax 408/719-9411 gniven@necsel.com; www.necsel.com #1231

#1834

### NEOARK Corp.

2073-1 Nakanomachi, Hachioji-shi, Tokyo, Japan, 192-0015 81 42 627 7671: fax 81 42 627 7673 info@neoark.co.jp; www.neoark.co.jp

#### New Product: The NEO-430-R4 is an optical frequency stabilized HeNe laser at the NIR wavelength range, 1.5µm.

NEOARK Corporation is one of the leading laser manufacturers in Japan offering HeNe lasers, Stabilized HeNe Lasers as well as laser applied systems. NEOARK is also a leading supplier of Magneto-Optical system for the detection uKerr effect and Faraday effect, a domain optical observation system to detect vector indication of magnetized material and automated Kerr microscope for 8 inch wafers. Contact: Stan Sugasawara, Overseas Sales Manager, stanley@neoark.co.jp; Akira Ogawa, Regional Sales Manager, ogawa@neoark.co.jp.

# neoLASE GmbH

Hollerithallee 8, Hannover, Germany, 30419 49 511 2788 515; fax 49 511 2788 100 info@neolase.com; www.neolase.com

The long term experience in the development of diode end-pumped solid state lasers allows neoLASE to provide laser solutions by covering cutting-edge laser technologies, mechanical laser design and industrial standard control electronics. Highest quality on laser technology like for the use in gravitational wave detectors, robust and stable mechanical design solutions as well as user friendly touch screen control electronics are current main activities in providing customized laser solutions. Contact: Maik Frede, CEO, mf@neolase.com.

# neoplas control GmbH

### Walther-Rathenaur-Str 49a, Greifswald, Germany, 17489 49 3834 515 400; fax 49 3834 515 401

contact@neoplas-control.de; www.neoplas-control.de

New Product: Q-MACS Basic MC - a compact laser supply for simultaneous operation of up to 8 pulsed or cw QCLs.

neoplas control GmbH is a center of competence for gas and plasma diagnostics and environmental technology for industrial applications. Our mission is to provide pioneering work for your operations in gases and plasmas. Our product portfolio Q-MACS represents an outstanding solution for on-line process control and measurement applications. Contact: Dipl.-Ing. Henrik Zimmermann, CEO, zimmermann@neoplas-control.de; Dipl.-Kfm. Sebastian Spreeberg, CEO, spreeberg@neoplas-control.de.

# Neptec Optical Solutions, Inc.

48603 Warm Springs Blvd, Fremont, CA, 94539 510/687-1101; fax 510/687-0599 sales@neptecos.com; www.neptecos.com

Neptec offers passive fiber optic subsystems, modules, devices and specialty products like high-power EDFA. We provide solutions for telecom, datacom, etc. We design customized connectivity, wavelength and power management products to meet unique requirements, like specialty fiber cable assemblies in high temperature/reliability applications. Our competency comes from years of handling optical fiber in the design and manuf. of optical cable assemblies, passive devices, modules and subsystems. Contact: Jessie Wu, Customer Account Manager, jessiew@neptecos.com; Moss Caballero, VP of Business Development, mossc@neptecos.com.

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#### New England Photoconductor Corp. #1036

SPIF Corporate

253 Mansfield Ave, PO Box M, Norton, MA, 02766-0927 508/285-5561; fax 508/285-6480 nepcorp@nepcorp.com; www.nepcorp.com

#### New Product: PbS and PbSe 512-element Linear Arrays - 2 color.

Lead Selenide (PbSe), Lead Sulfide (PbS), and Indium Gallium Arsenide (InGaAs) infrared detectors. 512 and 256-element linear multiplexed arrays. Room temperature and thermoelectrically cooled assemblies, standard and custom hermetic packages with optical filters. Quad detectors, amplifiers, TE cooler controllers and custom electronics. Contact: Richard Brennan, Operations Manager, nepcorp@nepcorp.com; Paul Brennan, Engineer, pb@nepcorp.com.

#### #1401 New Focus, A Brand of Newport Corp.

3635 Peterson Way, Santa Clara, CA, 95054 408/980-4300: fax 408/980-5537

sales@newfocus.com; www.newport.com/newfocus

New Focus<sup>™</sup>, now part of the Newport family of world-class photonics brands, is a leader in developing, manufacturing and delivering innovative, high-performance, quality, easy-to-use photonics tools with exceptional support and service – or Simply Better™ Photonics Solutions - for industrial and research applications across the world. Contact: Gwen Briens, Operation Director, gwen.briens@newport.com.

# New Scale Technologies, Inc.

### #727

SPIE Corporate

121 Victor Heights Pkwy, Victor, NY, 14564 585/924-4450: fax 585/924-4468 sales@newscaletech.com: www.newscaletech.com

#### New Product: Miniature precision closed-loop controls for optical modules for stabilization, zoom and focus.

Create disruptively small motion systems based on our patented piezoelectric SQUIGGLE motor and magnetic TRACKER position sensor. Our products are smaller, more precise, robust, and power-efficient and less expensive than other micro motors and miniature optical encoders enabling smaller products e.g. digital still/video cameras, phone cameras, electronic locks, micro-fluidics, medical devices, optics/imaging systems, automotive, lasers, aerospace/defense systems, cryogenic/ MRI-compatible instruments. Contact: Bobbi Drew, Sales & Marketing Coordinator, rdrew@newscaletech.com; Ralph Weber, Product Manager rweber@newscaletech.com.

# New Source Technology, LLC

SPIE Corporate

#2124

1249 Quarry Ln Ste 100, Pleasanton, CA, 94566 925/462-6888; fax 925/462-8388 skaur@newsourcetechnology.com; www.newsourcetechnology.com

#### New Product: Non-Linear Optics.

New Source Technology, a worldwide supplier of laser and electrooptical components, has supported Laser OEMS with quality products, on-time delivery, technical support and competitive pricing. For over 12 years, we have supported our OEM customers with Flash Lamps, Optics, Pump Cavities, Power Supplies and Laser Rods. This year we have introduced non-linear optics to our product portfolio for critical cutting edge applications. Contact: Simi Kaur, Sales Engineer, skaur@newsourcetechnology.com; Gregory Pon, President, gpon@ newsourcetechnology.com.

# New York Photonics Industry Association #737

150 Lucius Gordon Dr Ste 117, West Henrietta, NY, 14586 585/329-4029: fax 585/214-2458 tbattley@newyorkphotonics.org; www.newyorkphotonics.org

# Newport Corp.

SPIE Corporate

1791 Deere Ave, Irvine, CA, 92606-4814 949/863-3144; fax 949/253-1680 sales@newport.com; www.newport.com

At Newport we believe that the best way to enhance life and fuel discovery is to support experts, by being experts. As a global company, we draw upon expertise from around the world to provide knowledge and solutions from our family of brands that includes; Corion® Filters, New Focus<sup>™</sup>, Oriel<sup>®</sup> Instruments, Richardson Gratings<sup>™</sup> and Spectra-Physics<sup>®</sup> Lasers. One company and brands you trust for world-class photonics. Contact: Tom Miller, Sr. Director North America Inside Sales and Customer Support, tom.miller@newport.com.

# Newsandgy Optronics Inc.

170 XingYe Rd, Fuzhou Fujian, China, 350015 86 591 83856370; fax 86 591 83856371 sales@newsandgy.com; www.newsandgy.com

#### New Product: Penta Prism and C-lens etc. for telecom and instruments.

Located in Fuzhou, Fujian Province, China. As a professional manufacturer and global supplier on High Precision Prisms, Filters, Lens, Windows, Beamsplitters, Mirrors, Waveplates, Polarizers, PBS, Micro Optics, Laser Crystals, and other photonics products for telecom, laser, display and consumer products. Contact: Sales Manager, Sales@newsandgy.com.

# Nextreme Thermal Solutions. Inc.

3908 Patriot Dr Ste 140, Durham, NC, 27703-8031 919/597-7348; fax 919/597-7301

info@nextreme.com; www.nextreme.com

Nextreme Thermal Solutions designs and manufactures microscale thermal and power management products for the electronics, telecommunications, semiconductor, consumer, and aerospace/ government industries. The company uses breakthrough thin-film thermoelectric material to embed cooling, temperature control and power generation capabilities into the widely accepted copper pillar bumping process used in high-volume electronic packaging. Visit www.nextreme. com. Contact: Bill Charuk, Director of Sales, bcharuk@nextreme.com.

# Nichia Corp.

#4214

491 Oka Kaminaka-Cho, Anan-Shi Tokushima, Japan, 774-8601 81 884 22 2311; fax 81 884 23 7752 www.nichia.com

#### New Product: Laser diode at 488nm with 60mW.

Nichia places a high value on environmental responsibility. Under this unified corporate philosophy, all Nichia group members are striving towards "Monotukuri" (Creation and development of fine and elaborate products) for superior performance, extended life and ever increasing reliability. Contact: Hiromasa Omiya, Assistant Manager at Business Planning Dept., hiromasa.omiya@nichia.co.jp.

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### Nikon Corp.

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; http://nikon.com/products/glass/index.htm

Nikon Glass Division will exhibit optical materials, such as fused silica glass, calcium fluoride and i-line glass that offer extremely high standards of purity, a homogenous index of refraction and superior durability. Contact: Naoya Taniue, info.glass@nikon.co.jp.

# **NKT Photonics A/S**

SPIE Corporate Member

Blokken 84, Birkeroed, Denmark, 3460 45 4348 3900; fax 45 4348 3901 enquiry@nktphotonics.com; www.nktphotonics.com

# nLIGHT Corp.

SPIE Corporate Member

5408 NE 88th St Bldg E, Vancouver, WA, 98665 360/566-4460; fax 360/546-1960 sales@nlight.net; www.nlight.net

# New Product: nLIGHT Pearl high-brightness series delivers the most efficient 18MW/cm2-sr beam source available.

nLIGHT is a leading supplier of high-power semiconductor lasers and specialty optical fibers for industrial, medical, defense and consumer applications. nLIGHT partners with customers to provide advantages in performance, reliability and efficiency. Global support is provided through state-of-the-art manufacturing and application centers in North America, Europe, and Asia. Contact: Joe DeBartolo, VP Sales & Marketing, joe.debartolo@nlight.net; Sales Dept., sales@nlight.net.

# **NM Laser Products Inc.**

337 Piercy Rd, San Jose, CA, 95138 408/227-8299; fax 408/227-8265 sales@nmlaser.com; www.nmlaser.com

# New Product: New DPI series of high performance optical and laser shutters: Silent operation, cleanroom use.

Manufacturer of high performance mechanical shutters for Safety Interlocking, Processing, Pulse Gating, Modulation and Exposure Control. For use with high irradiance lasers, using high damage threshold optics. Built in beam dump. Standard models to 1 kW. Distributor of cleanroom grade shutters from DPI. Contact: David Woodruff, Sales Engineer, dave@nmlaser.com.

# **NOIR LaserShield**

6155 Pontiac Trail, South Lyon, Ml, 48178 734/769-5565; fax 734/769-1708

david.bothner@noirlaser.com; www.noirlaser.com

# New Product: All LaserShield filters are now available in 100x200x3mm windows.

NoIR LaserShields provide industry-defining protection and visibility with an eye on comfort and wear-ability. With 80+ filters and a frame to fit any face, there's a LaserShield for every user and every application. Utilizing specialized narrowband peak absorbers rather than broadband generalized dyes, LaserShields absorb specific laser lines at high Optical Densities without sacrificing visibility. LaserShields are made in the USA and are CE-Certified for the world of laser applications. Contact: David W. Bothner, Marketing Director, david.bothner@noirlaser.com.

# GENERAL REFRESHMENT SPONSOR

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# Noren Products, Inc.

SPIE Corporate Member

1010 O'Brien Dr, Menlo Park, CA, 94025 650/322-9500; fax 650/324-1348 sales@norenproducts.com; www.norenproducts.com

# New Product: Noren Products is a leader in heatpipe technology helping you solve numerous types of thermal issues.

Noren Products is a leader in heat pipe technology, solving numerous types of thermal problems. We offer stock heat pipes as well as custom pipes to meet all kinds of customer requirements. We routinely design and manufacture heat pipes in a multitude of sizes and shapes. Unusual applications or geometries can be easily accommodated by the heat pipe's™ versatility. Contact: Dennis Scott, Sales Manager, sales@ norenproducts.com; Naren Swami, Sales, nswami@norenproducts.com.

# NorPix, Inc.

SPIE Corporate Member

1751 Richardson St #6117, Montreal, QC, Canada, H3K 1G6 514/846-0009; fax 514/846-0117

sales@norpix.com; www.norpix.com

NorPix is a developer of digital video recording software and solutions. Our flagship product StreamPix4 supports a wide variety of GigE, Firewire A and B, CameraLink and USB2 cameras. NorPix also provides turnkey solutions including software, cameras, computers, synchronization and timing such as IrigB or GPS positioning. Solutions available using single or up to 8 cameras per computer and frame rates up to 80000 fps or 625 mbytes/second at 500 fps x 1280 x 1024. Contact: Luc Nocente, President, sales@norpix.com.

# North American Coating Laboratories #5313

9450 Pineneedle Dr, Mentor, ŎH, 44060 866/216-6225; fax 440/357-7001 info@nacl.com; www.nacl.com

North American Coating Laboratories provides optical coatings for customers in the polymer and glass optics markets. Our experience in both dip and vacuum-applied processes make NACL one of the most respected organizations in the optical coatings field. Our competencies include Scratch-resistant, Reflective, Anti-reflective, Conductive, ITO, and Chemically Resistive coatings all of which are used in a wide-array of applications. North American Coating Laboratories is certified to ISO 9001:2008. Contact: Dan Fiore, Business Development Manager, dfiore@ nacl.com; Brian Wilson, President, bwilson@nacl.com.

# Northrop Grumman Cutting Edge Optronics

SPIE Corporate Member

20 Point W Blvd, St Charles, MO, 63301 636/916-4900; fax 636/916-4994 st-ceolaserinfo@ngc.com; www.st.northropgrumman.com/ceolaser

# New Product: Patara DPSS laser features priority output power control without the deterioration of beam quality.

Northrop Grumman Cutting Edge Optronics is a leading supplier of highpower 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; Brad DeBok, International Sales Manager, brad.debok@ngc.com.

168

**#4330** 

#2626

### Northrop Grumman-SYNOPTICS/ Aerospace Systems

#1322

#4407

#5005

#5144

1201 Continental Blvd, Charlotte, NC, 28273 704/588-2340; fax 704/588-2516 STSynoptics@ngc.com; www.as.northropgrumman.com/ synoptics

# New Product: Diffusion bonding of Nd:YAG, CTH:YAG, Er:YAG, Nd:YLF and Nd:YVO<sub>4</sub> to undoped YAG and Undoped YVO<sub>4</sub>.

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:YVO4, KTP, Alexandrite, Cr<sup>4+</sup>:YAG, Co:Spinel and Yb:YAG and TGG. Website: www. as.northropgrumman.com/synoptics/. Contact: Scott Griffin, Director, Sales & Marketing, scott.e.griffin@ngc.com; stsynopticssales@ngc.com.

# Novacam Technologies Inc.

277 Lakeshore Rd Ste 04, Pointe-Claire, QC, Canada, H9S 4L2 514/694-4002; fax 514/630-6420

sales@novacam.com; www.novacam.com

New Product: Microcam-4D-SS-OCT Swept Source Optical Coherence Tomography System 4 real time imaging applications.

Novacam Technologies is manufacturer of OCT-Optical Coherence Tomography detectors for cross section imaging of the tissue for biomedical applications, and fiber-based profilometers based on low coherence interferometry with precision of less than 1 micron µm. Profilometers are used for surface mapping and inspection, roughness measurements, process control, multi-layer film thickness, deposition testing, metrology, and profilometry in inhospitable environments and restricted spaces. Contact: Vuk Bartulovic, President, info@novacam.com.

### NovaWave Technologies

900 Island Dr Ste 101, Redwood City, CA, 94065 650/610-0956; fax 650/610-0986 sales@novawavetech.com; www.novawavetech.com

New Product: Novawave's IRIS™ 1000, is the world's 1st

commercially available turnkey, DFG-based, laser system.

NovaWave's mission is to develop next-generation, laser-based chemical sensors for a wide range of commercial and military applications. These fieldable, sensors will be suitable for numerous applications, including chemical and biological agent detection, trace explosives sensing, greenhouse gas and pollution monitoring, and basic and applied research. NovaWave offers optical and fiberoptic components, turnkey, all-solid state laser sources for spectroscopy and optical metrology instruments. Contact: Larry Peterson, Sales Manager, Icpeterson@novawavetech.com; James Scherer, President, jjscherer@novawavetech.com.

# Novotech, Inc.

SPIE Corporate Member

916 Main St, Acton, MA, 01720 978/929-9458; fax 978/929-9459 peters@novotech.net; www.novotech.net

Novotech, Inc. is an ISO 9001-2008 certified manufacturer and global supplier of Infrared Materials and Optics. These include Germanium, Silicon, Zinc Selenide and Cleartran Zinc Sulfi de. From generated lens blanks to mid and longwave IR windows and substrates, we have the abilities to manufacture small R&D volumes to large production orders in record time. Contact: Peter Schwarzer, Account Manager, peters@ Novotech.net; Michael Hulen, President, mhulen@Novotech.net.

### **NP Photonics**

9030 S Rita Rd, Tucson, AZ, 85747 520/799-7400; fax 520/799-7403 info@npphotonics.com; www.npphotonics.com

NP Photonics, a leading fiber laser company, produces and delivers a new class of advanced optical light sources for sensing, medical and R&D markets. The company has developed a broad family of products including Narrow-Line width/low phase noise Fiber Lasers, ASE Sources and High Power Single Frequency Light Sources. Contact: Christine Spiegelberg, Director of Marketing and Sales, cspiegelberg@npphotonics. com; Craig Henry, Sales Manager, chenry@npphotonics.com.

# nPoint, Inc.

SPIE Corporate Member

1617 Sherman Ave, Madison, WI, 53704 608/310-8770; fax 608/310-8774 info@npoint.com; www.npoint.com

# New Product: Our new line of piezo-based tip/tilt stages are designed for static and dynamic positioning of optics.

nPoint, Inc. manufactures ultra-precision motion and control devices 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 a wide range of applications including aerospace, semiconductor industries and life sciences. Contact: Sharath Chandrasekaran, Sales Account Manager, sharath@npoint.com; Katerina Moloni, VP of Product Development and Sales, katerina.moloni@npoint.com.

# **NTT Electronics Corp.**

New Stage YOKOHAMA 1-1-32 Shin-urashima, Kanagawa-ku, Yokohama-shi Kanagawa, Japan, 221-0031 81 45 414 9130; fax 81 45 453 9720 sales@hqs.nel.co.jp; www.nel-world.com

# New Product: 2330 nm DFB lasers with TEC-CAN packages. SHG/DFG lasers around 750 nm and 4000 nm ranges.

NEL is one the key suppliers for optical telecommunication products, such as laser source, transponder, MUX and DEMUX, and detectors. Lasers includes ones for sensing and bio instruments, and wavelengths are covered from 400 nm to 5000 nm. Contact: Fumiaki Hyuga, Planning Manager, hyuga@hqs.nel.co.jp.

₹ COFFEE BREAK SPONSOR	
Nufern	
SPIE Corporate	
7 Airport Park Rd, East Granby, CT, 0602	5
860/408-5000; fax 860/844-0210	

info@nufern.com; www.nufern.com

Nufern<sup>®</sup> is a leading U.S. manufacturer of specialty optical fibers, fiber lasers and amplifiers serving diverse markets. Current products include over 300 standard fibers and range from sub-assemblies to complete turn-key fiber lasers and amplifiers. From its headquarters in East Granby, Conn., USA, Nufern's integrated fiber and fiber laser teams also provide rapid and cost-effective OEM fiber laser design, assembly and contract manufacturing services. Contact: Fernando Martins, Customer Service Manager, fmartins@nufern.com; Violet D'Antonio, Customer Service Specialist, vdantonio@nufern.com.

#427

#2628

#2623

### NuPhoton Technologies, Inc.

41610 Corning Pl, Murrieta, CA, 92562 951/696-8366; fax 951/696-8394 info@nuphoton.com; www.nuphoton.com

# NuSil Technology

1050 Cindy Ln, Carpinteria, CA, 93013 805/684-8780; fax 805/566-9905 silicone@nusil.com: www.nusil.com

NuSil offers an extensive line of high purity gels that have been found to reduce moisture permeability by 80% compared to other silicone gels used for encapsulation. They are excellent for protecting fragile electronics components from environmental concerns while still being very easy to remove for rework if needed. NuSil also offers optically clear materials where refractive index and optical clarity are vital as well as thermally and electrically conductive materials for thermal management. Contact: Michelle Velderrain, Senior Technical Specialist, michelle@nusil.com.

# Nutfield Technology, Inc.

49 Range Rd, Windham, NH, 03087 603/893-6200; fax 603/893-6214 sales@nutfieldtech.com; www.nutfieldtech.com

New Product: 3XB-532nm/1064nm 3-Axis Scan Heads produce 2m x 2m scan fields for large part processing.

Nutfield Technology designs and manufactures the most advanced galvanometer-based scan heads, scan sets, and control software/ electronics available. Nutfield's people include many scanning industry veterans - possessing a wealth of applications and product knowledgeallowing us to offer superior solutions, support, and service for a wide variety of scanning applications. Our broad product line positions Nutfield as your one-stop source for complete scanning solutions. Contact: Bob Milkowski, President, sales.info@nutfieldtech.com; Tom Macy, Sales Manager, info@nutfieldtech.com.

# **O/E Land Inc.**

#5219

#4201

7639 Cordner, Lasalle, QC, Canada, H8N 2X2 514/334-4588; fax 514/334-0216 info@o-eland.com; www.o-eland.com

#### New Product: Supercontinuum light source.

O/E LAND INC. specializes in the manufacturing and marketing of fiber grating, fiber grating sensor, sensor interrogation system, phase masks, broadband light source, LED light source, lensed fiber, fiber array, laser diode driver, mini temperature chamber, hydrogen loading system and other optoelectronic components, fiber optics and micro optics products. Contact: Vasilii Chabelnik, Sales Representative, sales2@o-eland.com; Pin Long, Engineer, info@o-eland.com.

# O2view B.V.

Buurt IV 24, Marken, Netherlands, 1156 BH 31 299 603208 www.o2view.nl

#### New Product: Artemis Endoscope and Artemis Open Surgery Vision System for clinical Broad Spectrum Molecular Imaging.

O2view B.V. is the innovative company in the area of bio-photonic camera design for medical applications. We design and manufacture cutting edge devices based on broad spectrum imaging essential for open en minimally invasive surgical applications. In 2009 we introduced our signature product 'Artemis' for molecular imaging in the area of surgical oncology. In Q1 2010 O2view will introduce the 'Artemis' (stereoscopic) Broad Spectrum Endoscope (VIS - NIR) for minimally invasive surgery. Contact: Mr. R.G.M. van Melick, PharmD, CEO, info@o2view.nl; Mr. D. Bakker, PhD, Director QA/RA, info@o2view.nl.

# **Ocean Optics, Inc.**

SPIF Corporate

#4236

#5011

#4429

830 Douglas Ave, Dunedin, FL, 34698-5761 727/733-2447; fax 727/733-3962 info@oceanoptics.com; www.oceanoptics.com

#### New Product: Raman, LIBS, Optical Transmittance Spectroscopy, Near Infrared Spectroscopy and more.

Inventors of the world's first miniature spectrometer, Ocean Optics offers a wide range of optical sensing solutions, optical fibers, software, complete systems and more. Our products have been to the Moon, inside active volcanoes, to the top of Mount Everest and in the most vital life sciences applications. Where can we take you? Contact: Jorge Macho, Sales, jorge.macho@oceanoptics.com.

# Ocean Thin Films

SPIE Corporate

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

New Product: OTF has a new product development tool for robust wireless network optical sensing platforms.

Ocean Thin Films designs and manufactures precision optics and coatings for a wide array of industries and products. The company's two fully integrated facilities (30,000-square-foot in Largo, Florida and 33,000 square feet in Golden, Colorado) provide our clients with rapid prototyping and reliable high-volume production capability. Contact: John Dougherty, Application Engineer, john.dougherty@oceanthinfilms.com; Todd Jennings, Application Engineer, todd.jennings@oceanthinfilms.com.

### Oclaro, Inc.

SPIE Corporate

2584 Junction Avenue, San Jose, CA, 95134 408/383-1400; fax 408/919-1501 www.oclaro.com

The Advanced Photonics Solutions Division of Oclaro serves multiple markets spanning, medical, high power materials processing to consumer. Leveraging its innovative technology, state of the art wafer fabs and high-guality volume manufacturing, Oclaro offers world leading products in high power laser diodes, bio-instrumentation filters and VCSELs.

# OFR - A div. of Thorlabs

#511

#1836

#1101

435 Rt 206, Newton, NJ, 02860 973/300-3000: fax 973/228-3600 info@ofr.com; www.ofr.com

# **OFS - Specialty Photonics Division**

SPIE Corporate

55 Darling Dr, Avon, CT, 06001 860/678-0371; fax 860/674-8818 info@ofsoptics.com; www.specialtyphotonics.com

We feature a broad portfolio of specialty and custom fiber optic products for medical, industrial, geophysical, high power delivery, government, aerospace, defense, and telecommunications applications. Highlights include: HCXtreme fibers for high powers under tight bends in medical components and industrial lasers; GeoFibers for harsh environments in oil/gas wells; FlightGuide® fibers/cables; HCS® fiber cables, in sizes from 50-400 µm, and assemblies; erbium-doped fibers. ISO 9001 and 13485. Contact: Bonnie Van Wie, info@specialtyphotonics.com; Julie Rodriguez, js162@ofsoptics.com.

# #1431

# **OgMentum**, Inc.

297 Kingsbury Grade Ste 142, State Line, NV, 89449-4470 775/473-9907; fax 775/473-9916 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, jake\_ weise@ogmentum.com.

# Ohara Corp.

SPIE Corporate

23141 Arroyo Vista Ste 200, Rancho Santa Margarita, CA, 92688 949/858-5700; fax 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, ultralow/zero expansion glass, negative expansion and glass ceramic substrates, CaF<sub>2</sub>, IR materials, Quartz, and Fused Silica (standard and excimer grade). Supplier of double-side polished substrates (low surface roughness/excellent flatness). Contact: Brion Hoffman, President, brionhoffman@oharacorp. com; Chris Ghio, Director of Sales, chrisghio@oharacorp.com.

# Okamoto Optics Works

### **#5202**

#4129

#1300

8-34 Haramachi, Isogo-Ku Yokohama, Japan, 235-0008 81 45 751 2233; fax 81 45 752 1954

sales@okamoto-optics.com; www.okamoto-optics.com

New Product: Short pulse, low GVD high damage threshold laser optics and coatings.

Okamoto Optics develops and manufactures custom optics and thin film coatings for scientific research, high-energy lasers, lithography, medical and industrial products. Through collaboration with both commercial and academic partners, Okamoto Optics has achieved a reputation for precision and integrity. We supply flats, spheres, aspheres, optics for semiconductor lithography, crystal components, space optics, cylinders, and lightweight optics up to 2-meters in size. Contact: Flemming Tinker, sales@okamoto-optics.com; Takuya Mikami, Product Engineer, mikami@ okamoto-optics.co.jp.

# Olympus America Inc.

3500 Corporate Pkwy, Center Valley, PA, 19034 484/896-5000 industrial.info@microimaging.com; www.olympusmicroimaging.com

#### New Product: LEXT OLS4000.

Olympus Scientific Equipment Group - Industrial Microscopes 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 the aerospace, automotive, electronics, materials science/metallurgy, medical device, photovoltaics, and semiconductor arenas. Contact: Alissa Maglaras, Industrial Sales and Marketing Administrator, alissa.maglaras@olympus.com.

0-m6 Technologies Inc.

14163 Rd 117 Ste 90, Mirabel, QC, Canada, J7J 1M3 450/979-2275: fax 450/979-4110 sales@om6.com: www.om6.com

#### New Product: High Power Cable Including End Caps Assemblies.

O-m6 Technologies manufactures Fiber Optic Cable Assemblies, Specialty fibre cable, including PM, Puremode, High Power, Large and Small Core Assemblies. Specialty jacketing cables, such as Loose tube, Soft jacket, Metalized jacket, Custom device termination including Connector and Ferrule installation, Hi-tech assemblies such as Si-V Groove Array, Fiber polishing, Fiber Bundles, Custom Patchcords, Pigtails, Cables and harness. Contact: Jean-Yves Couturier, General Manager, jy.couturier@om6.com.

# **Omega Optical, Inc.**

SPIE Corporate

Delta Campus, 21 Omega Dr, Brattleboro, VT, 05301 866/488-1064; fax 802/254-3937

sales@omegafilters.com; www.omegafilters.com

Omega Optical offers standard and custom high performance optical filters manufactured as both surface hard coatings and protected soft coatings. The extensive range of products includes bandpass, longpass/ shortpass, rejection bands, dichroic beamsplitters/mirros, neutral density, UV, analytical, and laser line filters. Contact: Ruth Gorham-Houle, VP of Business Development, rgorham@omegafilters.com; William Hill, Business Development, whill@omegafilters.com.

# Omicron Laserage Laserprodukte GmbH #1231

Raiffeisenstr 5e, Rodgau-Dudenhofen, Germany, 63110 49 6106 8224 0; fax 49 6106 8224 10 mail@omicron-laser.de; www.omicron-laser.de

New Product: New Phoxx 488nm diode laser modules, producing 60mW at 488nm in a compact package.

Omicron has been developing, designing and producing innovative diode lasers and DPSS laser from 375nm to 1064nm since 1989. The highly-qualified team has since specialized in the development of individual customer solutions in the application areas of research and biotechnology, digital imaging and optic data storage, as well as quality assurance, test & measurement applications and medicine. Contact: Philip Crowley, Sales, phil@markettechinc.net.

# **Ondax**, Inc.

SPIE Corporate Member

850 E Duarte Rd, Monrovia, CA, 91016 626/357-9600; fax 626/357-9321 sales@ondax.com; www.ondax.com

#### New Product: Ondax PicoPulse<sup>™</sup> high power pulse stretching and compressing glass VHGs are compact and robust.

ONDAX is the leading manufacturer of PowerLocker® Volume Holographic Gratings (VHG's), NoiseBlock™ ASE Suppression Filters, PicoPulse™ Pulse Stretcher/Compressor Filters, SureBlock™ Notch Filters, and Phase Masks. SureLock™ Wavelength Stabilized Laser Diodes, Pigtailed Lasers, Collimated Lasers, Fiber Coupled and Single Frequency Collimated Laser Modules also available. PowerLockers® are used for high power laser wavelength stabilization. Lasers include 405, 640, 658, 685, 780.25, 785 and 808nm. Contact: Linda West, VP of Sales and Marketing, Iwest@ ondax.com; Dawn Ebertowski, Sales and Marketing Administrator, dawn@ondax.com

#1034



#4407

# **Onefive GmbH**

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

New Product: Onefive's new Katana is a versatile ps laser with  $\mu J$  pulse energies at variable repetition rates.

Onefive is a global supplier of industry-ready, 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 257-1590nm range, from single-shot to GHz repetition rates, as well as tunable single-frequency lasers with kHz linewidth for industrial and scientific applications. Contact: Gabriel Spuehler, CTO, contact@onefive.com; Lukas Krainer, CEO, contactus@onefive.com.

# **OneLight Corp.**

#4516

#4407

#1033

#2330

**#709** 

#5408

314-1755 W Broadway Ave, Vancouver, BC, Canada, V6J 4S5 604/731-7496; fax 604/731-6948 info@onelightcorp.com; www.onelightcorp.com

# Ontario Photonics Industry Network (OPIN)

2625 Queensview Dr Ste 200, Ottawa, ON, Canada, K2B 8K2 613/726-3430

info@ontariophotonics.com; www.ontariophotonics.com The Ontario Photonics Industry Network, OPIN is an industry led organization representing over one hundred photonics related industries all across Ontario Canada. The OPIN vision is to become a sustainable, integrated, industry-led network of photonics related people, companies and organizations in Ontario that interact closely, share ideas and expertise within and across academic/industry boundaries and strive for mutual success. Contact: John Fielding, Executive Coordinator, john.fielding@ontariophotonics.com; Joseph Civitella, Executive Manager, JCivitella@ocri.ca.

# **On-Trak Photonics, Inc.**

14 Goodyear Ste 130, Irvine, CA, 92618 949/587-0769; fax 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.

# **Onyx Optics Inc.**

6551 Sierra Ln, Dublin, CA, 94568 925/833-1969; fax 925/833-1759 Ireo@onyxoptics.com; www.onyxoptics.com

# **OP Mount Inc.**

No 16 Ln 717 Longxing Rd, Zhongli City, Taiwan, 320 886 3 4397559; fax 886 3 4398379 weishrjai@opmount.com.tw; www.opmount.com.tw

# New Product: Laser Marking, Probe, Sphere, Spectrometer, Stage, Mount.

OP Mount Instrument Inc. is the first opto-mechanics company in Taiwan and has been established for 25 years. Recently our products have reached OEM markets in Japan, U.S.A, Singapore, France, Holland and Hong-Kong. In the domestic market for punch and die parts for stamping die it has grown to enjoy the largest share. Contact: Max Wei, Sales Manager, weishrjai@opmount.com.tw; Katy Pan, Assistant, info@opmount.com.tw.

# **OPCO Laboratory, Inc.**

704 River St, Fitchburg, MA, 01420-2913 978/345-2522; fax 978/345-5515 rmoody@opcolab.com; www.opcolab.com

# New Product: Replicated Optics, all substrates, exact duplication in accuracy and surface quality of each part.

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, ensure precise and repeatable optical components Contact: Robert Moody, Director Sales & Marketing, rmoody@opcolab.com; info@opcolab.com.

# **Ophir-Spiricon, Inc.**

SPIE Corporate Member

60 W 1000 N, Logan, UT, 84321 435/753-3729; fax 435/753-5231 sales@ophir-spiricon.com; www.ophir-spiricon.com

New Product: BeamGage, the first "new from the ground up" beam profile analysis software in 10 years.

Established in 1978, Ophir-Spiricon is part of the Ophir Optronics Laser Measurement Group. The Laser Measurement Group provides a complete line of instrumentation including power and energy sensors, beam profilers, and spectrum analyzers. Dedicated to continuous innovation in laser measurement, the company holds a number of patents, including Ultracal<sup>™</sup>, the baseline correction algorithm that helped establish the ISO 11146-3 standard for beam measurement accuracy. Contact: Kenneth Ferree, VP Sales, kenneth.ferree@ophir-spiricon.com; Kevin Kerkham, Sales Engineer, kevin.kerkham@ophir-spiricon.com.

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# **Opnext, Inc.**

104 Treemonte Dr, Orange City, FL, 34763 732/544-3400; fax 732-544-3561 info@opnext.com; www.opnext.com

New Product: The HL6395/96MG and HL6397/98MG offers 60°C with 10 and 20mW in 639nm wavelength band.

Opnext is the optical technology partner of choice supplying systems providers and OEMs worldwide with the industry's largest portfolio of 10G and higher next generation optical products and solutions. The Company's industry expertise, future-focused thinking and commitment to research and development combine in bringing to market the most advanced technology to the communications, defense, security and biomedical industries. Contact: Bob Murphy, Director, North America Sales, bmurphy@opnext.com.

# **OPOTEK, Inc.**

2233 Faraday Ave Ste E, Carlsbad, CA, 92008 760/929-0770; fax 760/929-8782 sales2008@opotek.com; www.opotek.com

# Optec S.p.A.

SPIE Corporate Member

Via Mantegna 34, Parabiago (MI), Italy, 20015 39 0331 491945; fax 39 0331 495091 info@optec.eu; www.optec.eu #4817

#2135

#1809

# **#810**

# OptecNet Deutschland e.V.

Garbsener Landstr 10, Hannover, Germany, 30419 49 511 277 1290; fax 49 511 277 1299 messe@optecnet.de; www.optecnet.de

OptecNet Deutschland e.V. is the association of the nine regional Competence Networks for Optical Technologies in Germany and is sponsored by the Federal Ministry of Education and Research (BMBF). The German Competence Networks for Optical Technologies unite almost 500 companies, research institutions, technology transfer agencies, business development companies, 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; Katharina Jaklin, Marketing & Communications, messe@optecnet.de.

# **Opti Temp, Inc.**

SPIE Corporat

1500 International Dr, Traverse City, MI, 49686 231/946-2931; fax 231/946-0128 information@optitemp.com; www.optitemp.com

# **Optical Filter Source, LLC**

SPIE Corporate Member

10109 McKalla PI Ste F, Austin, TX, 78758 512/248-0605; fax 512/491-8735 sales@ofs-online.com; www.ofs-online.com

#### New Product: Durable scattering coating (DSC). Cleanable. Patternable with clear field or reflective field.

Thin Film Coatings for all applications. This has been our motto since Optical Filter Source was founded. Though we still live up to that statement, OFS has evolved through the years as a direct result of our valued customers. Dielectric coating, ITO, metal, lithography and turn-key coated optics. R&D through mid-volume production. Contact: Frank Calcagni, President/Owner, frank@ofs-online.com; Colby Hollek, Physicist/Thin Film Engineer, colby@ofs-online.com.

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# **Optical Research Associates**

SPIE Corporate

3280 E Foothill Blvd Ste 300, Pasadena, CA, 91107 626/795-9101; fax 626/795-9102 info@opticalres.com; www.opticalres.com

New Product: CODE V 10.1 delivers powerful, efficient diffraction analysis capabilities and ease of use.

Optical Research Associates will exhibit two optical design software products. LightTools® provides virtual prototyping, simulation, optimization and photorealistic renderings of precision illumination systems. CODE V® has state-of-the-art capabilities for lens optimization, analysis, tolerancing, beam propagation and coupling efficiency. Engineering services will also be exhibited. Contact: Stuart David, North American Sales Manager, info@opticalres.com; James McGuire, Director of Optical Engineering Services, engr@opticalres.com.

# **Optical Support, Inc.**

### SPIF Corporate

7840 E Broadway Blvd Ste 160, Tucson, AZ, 85710 520/546-0642; fax 520/203-0228 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 optomechanical system design, drawings of optical elements as well as mechanical components and assemblies. This documentation package is ready for release, saving your team time and money they may need to manage other efforts. We can also purchase, inspect, assemble and test optical systems before your team gets started. Contact: Michael Savard, President, msavard@ opticalsupport.biz.

# **OPTICS 1, Inc.**

SPIE Corporate

3050 Hillcrest Dr Ste 100, Westlake Village, CA, 91360 805/373-9340; fax 805/373-8966 info@optics1.com; www.optics1.com

#### **WETER BOARD SPONSOR** Optics Balzers AG

Neugrüt 35, Balzers, Lichtenstein, LI-9496 42 3388 4444; fax 42 3388 5405 info@opticsbalzers.com; www.opticsbalzers.com

# **Optics for Hire**

455 Massachusetts Ave Ste 1, Arlington, MA, 02474

Provides contract engineering and product development from concept to production. Specialties include optical, mechanical and electronics design. Twenty engineers in the US and off-shore developing optical systems for some of the industries' best known companies. Contact: John Ellis, President, john@opticsforhire.com.

# Optics Pages Ltd.

Old Village Hall, The Street, Effingham Surrey, United Kingdom, KT24 5JS 44 1372 750555; fax 44 1372 750666 info@opticspages.com; www.opticspages.com

# Optics Technology, Inc.

3800 Monroe Ave, Pittsford, NY, 14534 585/586-0950; fax 585/248-2371

sales@opticstechnology.com; www.opticstechnology.com Optics Technology. Inc. is a designer and manufacturer of precision micro-optical systems and assemblies; such as microscope objectives, fiber-imaging eyepieces, laser collimators, endoscopes and other microimaging devices. We have been designing and fabricating optical and mechanical components and systems for medical, bio-medical, industrial and defense applications for 25 years. Our Design capabilities span the DUV through the IR. Contact: Dominick Polizzi, Director of Sales & Marketing, sales@opticstehnology.com.

Get the training you need to stay ahead of the technology curve.

See full course listing, pp. 8–12.

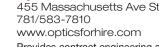
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# **Optiforms**

SPIE Corporate Member

42310 Winchester Rd, Temecula, CA, 92590 951/296-1300; fax 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 25 years of unmatched excellence to the optics industry. We welcome new custom applications. Contact: Donna Stice, Customer Service Manager, dstice@optiforms.com; Larry Walker, Director of Sales and Customer Service, lwalker@optiforms.com.

# **OptiGrate Corp.**

3267 Progress Dr, Orlando, FL, 32826-3230 407/381-4115; fax 407/384-5995

sales@OptiGrate.com; www.OptiGrate.com

# New Product: BragGrate Pulse: next generation of ultrashort pulse compressors for 2 mJ energy and 30 nm bandwidth.

OptiGrate Corp designs and manufactures a full range of volume Bragg gratings (VBGs) in inorganic photosensitive glass, the technology pioneered by the company's founders. For over a decade, OptiGrate has supplied custom build prototypes and volume orders of holographic optical elements to more than 200 customers on 5 continents. OptiGrate's VBGs have unmatched technical characteristics and pass rigorous quality control to guarantee their performance. Contact: Igor Ciapurin, Program Manager, iciapurin@optigrate.com; Alexei Glebov, President and CEO, aglebov@optigrate.com.

# **Optikos Corp.**

SPIE Corporate Member

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

# New Product: LensCheck: Measurement instrument for MTF, EFL, BFL, field curvature, distortion, and transmission.

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: Jamie Hutchins, VP, Sales and Marketing, jhutchins@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

# New Product: Thin-film micro-optics in sizes of 0.3 - 15 mm / mirrors, polarizers, beam-splitters, filters.

Optikron GmbH is a manufacturer of micro-optical components, miniaturized optical assemblies and thin-film optics for modern medicine devices, endoscopy, diode lasers, laser and sensor systems, fiber optical applications, measuring instruments and optical data transmission. We are manufacturing micro prisms down to 0.3 mm as well as complex optical and opto-mechanical assemblies. Additionally we provide coating service for customer's substrates and assembling service as contract production. Contact: info@optikron.de.

# #4733 Optilab LLC

5110 N 44th St Ste 200L, Phoenix, AZ, 85018 888/557-7888; fax 602/747-1489 sales@oequest.com; www.oequest.com

# New Product: Optilab presents OEQuest.com the largest online, in-stock source of lasers and photonics products.

With sales, engineering, technical support and warehouse in Phoenix, Arizona, Optilab provides innovative and cost-effective solutions and OEM/ODM services for Fortune 500 corporations, national labs and institutes, universities and government/defense bodies. Through OEQuest.com, we offer thousands of lasers, fiber optics, photonics equipment. We guarantee the largest inventory, shortest lead time, longest warranty and best customer service. Place online order now and receive products next day! Contact: Sales, sales@optilab.com.

# **Optimax Systems, Inc.**

SPIE Corporate

#2138

#1236

#2531

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

Optimax is dedicated to small volume, high quality, and quick delivery of precision optical components. Specializing in aspheres, cylinders, planooptics and spheres, manufactured to customer-supplied specifications. With more than 100 opticians, we enjoy a good challenge, call us! Optimax Systems, Inc. 6367 Dean Parkway, Ontario, NY 14519, Tel: 877-396-7846, Fax: 585-286-1033, www.optimaxsi.com. Contact: Joe Pinto, Sales Engineer, joep@optimaxsi.com; Rick Plympton, Vice President, rick@optimaxsi.com.

# **OptiPro Systems**

SPIE Corporate Member

6368 Dean Pky, Ontario, NY, 14519-8939 585/265-0160; fax 585/265-9416 www.optipro.com

New Product: UltraSurf: High Precision CNC 5 axis noncontact surface metrology system, aspheres & complex shapes.

CNC Fabrication equipment: Grinding & polishing of spherical, aspherical & conformal optics. UltraForm Finishing (UFF) – Aspherical & Conformal 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 conformal optics. Contact: Sales@optipro.com.

# **OptiSource**, **LLC**

SPIE Corporate Member

102 Mountian Park Pl NW Ste D, Albuquerque, NM, 87114 505/792-0277; fax 505/792-0281

sales@optisourcellc.com; www.optisourcellc.com

# New Product: Achromatic waveplates available for broadband 450-650nm, 550-750nm, 650-1100nm, and 900-2100nm.

Manufactures crystal quartz wave plates in multiple, zero, dual, or low order; also ultrathin and mica wave plates. Stock and custom optical components include etalons, windows, prisms, lenses, polarizers and rotators. Supplies high damage threshold mirrors, partial reflectors and beamsplitters. Contact: Ralph Temer, Sales Manager, ralph\_optisource@msn.com; Sherry Annan, Technical Sales, sherry\_optisource@msn.com.

**#5519** 

#724

#731

# 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 #4407) are:

- BMV Optical Technologies Inc.
- · Bo Xin Optics Ltd.
- · Canadian Institute for Photonic Innovations
- Canadian Photonics Consortium
- Doric Lenses Inc.
- Genia Photonics
- · GiGa Concept Inc.
- · IRphotonics Inc.
- Novacam Technologies Inc.
- · O-M6 Technologies Inc.
- Ontario Photonics Industry Network
- · P&P Optica
- · Photon etc. Inc.
- · Quebec Photonic Network
- · WT&T Inc.

Members of the Canada Pavilion at BIOS (booth #8833) are:

- · Genia Photonics
- Novacam Technologies Inc.
- Photon etc. Inc.
- Quebec Photonic Network



CANADIAN PHOTONICS FABRICATION CENTRE

CENTRE CANADIEN DE FABRICATION DE DISPOSITIFS PHOTONIQUES



Canadian Photonics Consortium Consortium photonique du Canada www.photonics.ca

### OptiSwitch Technology Corp.

6355 Nancy Ridge Dr, San Diego, CA, 92121 858/452-8787: fax 858/452-8788 www.optiswitch.com

New Product: The PLDD-50-SP pulsed current source drives laser diodes at 50 amps, <4 ns pulses, and up to 15 KHz.

OptiSwitch Technology Corporation is a high technology innovator located in San Diego CA, specializing in ultra-compact, ultra-lightweight and highly reliable pulsed diode and pulsed power systems. These systems range from pulsed laser diode drivers for man portable and airborne applications, to high power (10kV, 100kA) semiconductor switches for replacing spark gaps as means to achieve highly reliable pulsed power products. Contact: Rose Southall, Sales and Marketing Manager, sales@optiswitch.com.

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### **Optiwave Systems Inc.**

#822

#4744

#2601

#4526

7 Capella Ct, Ottawa, ON, Canada, K2E 7X1 613/224-4700; fax 613/224-4706 info@optiwave.com; www.optiwave.com

#### New Product: OptiSPICE is the industry's first circuit design software for analysis of integrated circuits.

Optiwave is the leading provider of advanced design tools for photonics, hosting an unparalleled suite of award-wining simulation software products. An established community of design engineers and scientific users in over fifty countries worldwide supports Optiwave's hallmark of achievements. Visit us online at OPTIWAVE.COM to download your free evaluation license today. Contact: Optiwave Live Sales Dept., info@optiwave.com.

### **OPTIX Co.**

65 Zahari Stoyanov St, Panagyurishte, Bulgaria, 4500 359 2 357 4125

Optix specializes in the design, and manufacturing of optical elements, optomechanical and optoelectronic systems, devices and components with laser, medical imaging, and defense applications. Contact: Janice Hunter, U.S. Sales Manager, janice.hunter@primoptix.com.

# **Opto Diode Corp.**

SPIE Corporate

750 Mitchell Rd, Newbury Park, CA, 91320 805/499-0335; fax 805/499-8108 sales@optodiode.com; www.optodiode.com

New Product: Opto Diode's New Selective Wavelength Photodiode ODD-660W - Operates with Peak Response at 660 nm.

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: Russ Dahl, Director, Sales & Marketing, russdahl@optodiode.com.

# **Opto-Alignment Technology**

SPIF Corporate

1034 Van Buren Ave, Charlotte, NC, 28079 704/893-0399

steve.bohuczky@optoalignment.com; www.optoalignment.com

New Product: Mid and Long-IR lens system assembly with submicron centration accuracy. LAS-IR.

Assembly Services and Equipment for ultra precision UV, VIS and IR lens-system assembly, design, prototyping and production. The LASER ALIGNMENT & ASSEMBLY STATION™(LAS) provides non-contact real-time optical centration and angular measurements to sub-micron accuracy, including aspheric, parabolic, cylindric surfaces. The turn key system includes Calculens<sup>™</sup> centration measurement software that can import ZEMAX<sup>®</sup> files. Additional products: vacuum lens handling tools and lint free OptoWipes™. Contact: Steve Bohuczky, Director of Business Development, steve.bohuczky@optoalignment.com.

### Optocraft GmbH

Am Weichselgarten 7, Erlangen, Germany, 91058 49 9131 69 15 10; fax 49 9131 69 15 11 info@optocraft.com; www.optocraft.de

New Product: Inspection system for 2" objectives in double path with the ability to test chromatic aberrations.

Manufactures stock and custom wavefront sensors for ophthalmology, astronomy and laser industry, optical test and MTF equipment, asphere testers, fully-automated optics tester and laser beam analyzers. Computer generated holograms, custom interferometers and manual optics tester also available.

# **OptoElectronic Components**

### #4906.4908

#2423

SPIE Corporate Member

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co, California, USJ

SPIE Photonics West

Participants

28 Des Lilas, Kirkland, QC, Canada, H9J 4A7 514/694-0336; fax 514/694-8535

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sales@optoecomponents.com; www.optoecomponents.com Supplier of single photon counting detector modules with 30ps timing resolution from Micro Photon Devices. These detectors have high detection efficiency, low dark counts and are very robust. Picosecond event timers and software from PicoQuant, the Picoharp300 and the HydraHarp are very powerful and versatile because each channel is independent and each channel can "Time-tag" the photon. Contact: Nick Bertone, President, sales@optoecomponents.com; Natalie Raymond, Marketing, natalie.raymond@optoecomponents.com.

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### #5328, 5329

#2323

#2323

#6034

#1123

# **Optoelectronic Industry & Technology Development (OITDA)**

#4206

1-20-10 Sekiguchi, Bunkyo-ku, Tokyo, Japan, 112-0014 81 3 5225 6431; fax 81 3 5225 6435 ishihara@oitda.or.jp; www.oitda.or.jp

#### **Optoelectronics Research Centre/Tampere** University of Technology #4533

PO Box 692, Korkeakoulunkatu 3, Tampere, Finland, 33720 358 40 718 8033; fax 358 3 3115 3400 www.orc.tut.fi

New Product: R&D in optoelectronics and photonics.

Optoelectronics Research Centre develops novel epitaxial semiconductor heterostructures, light emitting and light modulation devices, and ultra-short-pulse and CW high-power fibre lasers. Most recent studies include high-power VECSELs and high-efficiency III-V multijunction solar cells. Investments in scientific equipment amount to 20M€ including 5 commercial MBE reactors, which makes ORC one of the largest university-based research centre in Europe in the MBE crystal growth technique. Contact: Pekka Savolainen, Director, pekka.savolainen@tut.fi; Mircea Guina, Professor, mircea.guina@tut.fi.

► PROMOTIONAL PARTNER

#### **OptoIndex**

#6094

**#723** 

#2125

Papier Muehlenweg 74, Ratingen, Germany, 40882 49 2102 1678 28; fax 49 2102 1678 26 constanze.classen@opto-index.de; www.opto-index.de

New Product: This work of reference offers a comprehensive data source for companies and products in the sector.

MediaWelt's competence lies in the production of national and international printed products. They mainly focus on reference works such as product and company catalogues like "OptoIndex for Photonics", "OphthalmoIndex" for German Eye Specialists and "OptoIndex for German Opticians". Also the international business magazine "MAFO - Ophthalmic Labs and Industry" has been published successfully by MediaWelt since 2004. Contact: Constanze Classen. Media Consultant. constanze.classen@opto-index.de.

# **Optometrics Corp.**

8 Nemco Way, Ayer, MA, 01432 978/722-1700; fax 978/772-0017 sales@optometrics.com; www.optometrics.com

Optometrics has, for over thirty years, offered wavelength selection solutions to OEM instrument manufacturers as well as researchers. Manufacturing diffraction gratings, interference filters, laser optics, monochromators, beamsplitters & specialized optical systems, Optometrics offers one-stop shopping for your optical component requirements & provides kanban stocking, bar coding. We also offer full optical assembly, inspection & design services to our OEM customers. Contact: Laura Lunardo, COO, lauras@optometrics.com; James Falls, Director of Sales & Marketing, jjfalls@optometrics.com.

# Optonetic LLC

6901 TPC Dr Ste 500, Orlando, FL, 32822 407/857-4410; fax 407/857-4409 info@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, Vice President, juncha@optonetic.com.

# OptoSci Ltd.

141 St James Rd, Glasgow, United Kingdom, G4 0LT 44 141 552 7020; fax 44 141 552 3886 info@optosci.com; www.optosci.com

New Product: Biophotonics education kits for biophotonic imaging, biosensors & spectroscopy.

OptoSci is a leading producer of innovative optoelectronic systems, components and instrumentation. Current products include: Photonics Educator Kits: Comprehensive laboratory based teaching and training packages in optics, optoelectronics, optical communications and biophotonics for universities and colleges; Photonics Instrumentation: laser diode drivers, TEC controllers, photoreceivers. OptoSniff: novel laser based gas sensing technology for safety applications. Contact: Dr. Douglas Walsh, Director, info@optosci.com.

# OptoScribe

c/o David Brewster Building, Heriot Watt Univ, Edinburgh, United Kingdom, EH14 4AS 44 131 451 3049; fax 44 131 451 3473 www.optoscribe.com

#### New Product: Custom 3D optical interconnects, couplers, microoptics and microfluidics.

Optoscribe is an ultrafast laser inscription foundry service and optical component manufacturer providing the ultimate component design freedom. Contact: Robert Thomson, Co-founder, r.r.thomson@hw.ac.uk; Robert Goodfellow, Business Development Executive, r.j.goodfellow@hw.ac.uk.

# optoSiC GmbH

IM Rollfeld 6, Baden-Baden, Germany, 76532 49 7221 973 974 0: fax 49 7221 973 974 211 info@optosic.com; www.optosic.com

#### New Product: SiC (Silicon Carbide) high speed scanning mirrors.

optoSiC GmbH manufactures SiC Generic scanning mirrors at 10 up to 100mm apertures with a range of reflective coatings and OEM products. These include ultra-high dynamic, low inertia scanning mirrors for laser processing, streak cameras, LIDAR, security, sensing and targeting applications, where the enhanced flexural strength, homogeneity, high resonant frequencies, ultra-low inertia, optical surface quality and realistic price to produce the optoSiC+ Silicon Carbide material are key. Contact: Matthias Struckmeyer, CFO, m.struckmeyer@optosic.com; Judith Pohl, j.pohl@optosic.com.

# OptoSigma Corp.

SPIF Corporate

2001 Deere Ave, Santa Ana, CA, 92705 949/851-5881; fax 949/851-5058 sales@optosigma.com; www.optosigma.com

New Product: Manufacturer optics; thin film optical coatings; stages, holders, mounts, and motorized positioners.

OptoSigma Corporation, one of seven global manufacturing facilities in the Sigma Koki manufacturing group, with over 40 years of manufacturing experience in the world of optics and opto-mechanics, continues to lead in superior manufacturing of both catalog and custom laser application components, and optical assemblies. Contact: Clayton Summers, Sr Mechanical Engineer, clayton@optosigma.com; Andrew Clawson, Sr Optics Engineer and Optical Coating Manager, and rew@optosigma.com.

TEL: +1 360 676 3290 · +1 888 504 8171 · customerservice@spie.org

# **Optoskand AB**

Krokslätts Fabriker 27, Mölndal, Sweden, 431 37 46 31 706 27 50; fax 46 31 706 27 78 magnus.palsson@optoskand.se; www.optoskand.se

# New Product: SMA 0.5 - The new generation of high power SMA fibers.

WE MAKE STATE-OF-THE-ART HIGH-POWER LASER OPTICS AND FIBERS. We are a high-tech company that works in the field of high power fiber optics. We develop and manufacture a line of advanced products that have been created to deliver high power laser radiation safely from laser to workpiece, and we are working together with some of the most well-known laser manufactures in the world. Contact: Magnus Pålsson, Sales & Marketing Manager, magnus.palsson@optoskand.se; Anna Berner, Sales & Marketing Assistant, anna.berner@optoskand.se

# **OptoTech Optical Machinery Inc.**

PO Box 131, East Greenville, PA, 18041 215/679-2091; fax 215/679-2013 info@optotech.us; www.optotech.de

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**PROMOTIONAL PARTNER** 

### **Optronics Co., Ltd.**

#4915

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5-5 Shin Ogawamachi, Shinjuku-ku, Tokyo, Japan, 162-0814 81 3 3269 3550; fax 81 3 5229 7253 intl@optronics.co.jp; www.optronics.co.jp

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 about LENS EXPO and LASER EXPO is also available. Contact: Sakae Shibasaki, intl@optronics.co.jp.

# **Orb Optronix, Inc.**

#4934

1003 7th Ave Sté B, Kirkland, WA, 98033 425/605-8500 sales@orboptronix.com; www.orboptronix.com

New Product: ETO LED Characterization system for the complete Electrical-Thermal-Optical characterization of LEDs.

Orb Optronix offers the most innovative and useful LED test and measurement products in the world to meet the needs of real-world LED technology implementation. Designing LED-based products just got easier for companies using Orb's complete electrical-thermal-optical LED characterization systems, LED Test Laboratory and product design services including optical, thermal, electrical, mechanical and industrial engineering. Contact: Rob Leonard, Director of Sales and Marketing, leonard@orboptronix.com.

# Orbits Lightwave, Inc.

#4200

101 Waverly Dr, Pasadena, CA, 91105 626/795-0667; fax 626/546-7946 sales@orbitslightwave.com; www.orbitslightwave.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!

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# Oriel Instruments, A Brand of Newport Corp.

150 Long Beach Blvd, Stratford, CT, 06615 203/377-8282; fax 203/378-2457

oriel.sales@newport.com; www.newport.com

Oriel® Instruments, a brand of Newport Corporation, has developed recognition in the optical research field as a reliable source for well engineered, durable Light Sources and their dedicated Power Supplies, as well as Light Detection Systems and Spectroscopy Instrumentation. Oriel also manufactures dedicated broadband light sources, monochromatic light sources and detectors for light measurement & characterization in sophisticated dedicated instrumentation Contact: Domenic Assalone, General Manager, domenic.assalone@newport.com.

# **OSA**—The Optical Society

2010 Massachusetts Ave NW, Washington, DC, 20036 202/223-8130; fax 202/223-1096 info@osa.org; www.osa.org

# New Product: Learn about individual and corporate membership, publications and OSA activities.

Founded in 1916, The Optical Society was organized to increase and diffuse the knowledge of optics, pure and applied; to promote the common interests of investigators of optical problems, of designers and of users of optical apparatus of all kinds. The Optical Society of America brings together optics and photonics scientists, engineers, educators, technicians and business leaders. OSA's membership totals more than 14,000 individuals from over 81 countries. Contact: Melissa Russell, Deputy Senior Director, Corporate Programs, sales@osa.org; Crystal Krason, Sales Account Manager, sales@osa.org.

# **OSI Optoelectronics, Inc.**

12525 Chadron Ave, Hawthorne, CA, 90250-4881 310/978-0516; fax 310/644-1727 sales@osioptoelectronics.com; www.osioptoelectronics.com

# **OWIS GmbH**

Im Gaisgraben 7, Staufen Baden-Württ, Germany, 79219 49 7633 9504 0; fax 49 7633 9504 440 info@owis.eu; www.owis.eu

#### New Product: Nonmagnetic Products, Intelligent Positioning, Independent Position Control, Compact Actuator.

OWIS= certified experience in manufacturing highly precise optical and positioning systems; OWIS= standard and customized solutions; OWIS= Optomechanical Components (Rails, Slides, Mounts), Manual and Motorized Positioning and Control Systems for: Information Technology, Mechanical Engineering, Precision Machining, Semiconductors, Printing and Imaging, Micro System and Sensor Technology, Bio/Medicine Technologies, Microscopy, Spectroscopy, Aeronautics, Environmental Technologies, etc. Contact: Mr. Hans-Jürgen Kiefer, Dipl.-Ing/Export Manager Overseas, hjk@owis.eu; Mr. Michael Kiss, Dipl.-Ing., mik@owis.eu.

# **OXIDE Corporation**

1747-1 Makihara Mukawa Hokuto, Yamanashi, Japan, 408-0302 81 551 26 0022; fax 81 551 26 0033 sales@opt-oxide.com; www.opt-oxide.com

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# OXXIUS

# #827, 4824

4 Rue de Broglie, Lannion, France, 22300 33 674 15 09 18; fax 33 296 48 21 90 sales@oxxius.com; www.oxxius.com

# New Product: 473, 532, 561 nm CW, SLM and low noise lasers, up to 300 mW 488 nm, 50 mW laser diode module.

Oxxius manufactures innovative solid-state lasers for industrial and scientific applications. Its compact laser modules, featuring wavelengths in the visible and near-UV spectrum, have outstanding performance with market-leading power levels. The SLIM line features a monolithic resonator technology that ensures excellent power, wavelength and pointing stability along with true single-frequency emission. Available wavelengths are 375, 405, 445, 473, 488, 532 and 561 nm. Contact: Pascal Voluer, Director of Sales, pvoluer@oxxius.com; Nicolas Feat, Sales Manager, Americas, nfeat@oxxius.com.

# OZ Optics Ltd.

SPIE Corporate Member

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

#### New Product: High Power Isolator.

High Power Component/Isolator/Combiner/Patchcord/Connector/ Intelligent Tunable Laser Diode Source/Safety Interlocks/Shutters/Optical Coatings, Laser to Fiber Delivery Components, Adjustable Collimators/ Focusers, Polarization Maintaining Components, PM/SM/MM Fused Fiber Couplers, Polarization Maintaining Patchcords/Connectors/Splitters, Polarized Sources, Polarization Rotators/Controllers/Analyzers, Polarizers, Extinction Ratio Meter, Turnkey Laser Diode Sources, Fiber Optic Sensors, U Brackets. Contact: Omur Sezerman, CEO & President, sales@ozoptics.com.

# **P&P Optica**

### #4407

#5027

#4501

330 Gage Ave Ste 11, Kitchener, ON, Canada, N2M 5C6 519/576-0007; fax 519/576-0885 sales@ppo.ca: www.ppo.ca

# New Product: 250nm-VIS 12mm line-imaging Spectrometer. High efficiency & throughput, VPH transmission gratings.

P&P Optica Inc. offers a series of exceptionally sensitive line-imaging spectrometers with up to 1" by 0.5" 2D detector array for simultaneous registration of the complete spectrum. The key element of these spectrometers is the volume phase holographic transmission gel grating providing high efficiency & 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, Marketing & Sales Manager, rob@ppo.ca; Olga Pawluczyk, President, olga@ppo.ca.

# **Pacific Coast Optics**

SPIE Corporate Member

1361 E Edinger Ave, Santa Ana, CA, 92705 714/835-1888; fax 714/835-6510 sales@pcoptics.com; www.pcoptics.com

When high quality optics is required, you'll find Pacific Coast Optics; Cylinder, Spherical, Assemblies, Coatings and Infrared Optics. From prototype to production, our innovative capabilities and efficient work flow provide precision optical components and systems to meet the rapidly growing demand of scientific, military, and industrial industries. Trust us to provide consulting expertise, design staff, raw material, manufacturing capacity, rigorous testing and quality service you require. Contact: Steve Dianasic, Vice President of Operations, sdianasic@pcoptics.com; Shannon Rogers, President, sales@pcoptics.com.

# **Pacific Laser Equipment**

3941 S Bristol St Unit D-122, Santa Ana, CA, 92704 714/809-5588; fax 714/829-3313 info@plequipment.com; www.plequipment.com

# New Product: Miniature Motorized Optical Delay Line. Resolution of 0.3µm backlash 1µm. USB control.

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, sabinh@plequipment.com.

# Pacific Rim Optical

251 W Barclay Dr Ste C, PO Box 532, Sisters, OR, 97759 541/549-0770; fax 541/549-0769 www.pacificrimoptical.com

Pacific Rim Optical supplies precision optical components and subassemblies to manufacturers worldwide. We offer the best of both worlds: U.S.-based service and engineering, with factory-direct Asian pricing. Our ISO 9001- and 9002-certified factories produce difficult parts in large volumes. Products include lenses, prisms, molded optics, beamsplitters, windows, microlenses, prism and lens assemblies, opto-mechanical assemblies, precision coatings, dichroic filters and metal mirrors. Contact: Sharmon Ball, Sales Engineer, sharmonb@ pacificrimoptical.com; Forrest Babcock, Optical engineer, forrest@ pacificrimoptical.com.

# Pangolin Laser Systems Inc.

9501 Satellite Blvd, Orlando, FL, 32837 407/299-2088; fax 407/299-6066 justin@pangolin.com; www.pangolin.com

### New Product: LASORB: The ESD absorber for Laser Diodes.

Pangolin is the world leader in software and control hardware for laser display applications. In 2009 Pangolin introduced LASORB, a small electronic component designed specifically to protect laser diodes, LEDs, Superluminescent diodes, and other optoelectronic devices from the lifetime-decreasing effects of ESD, power surges and reverse bias conditions. Contact: William Benner, President and CTO, contact@ pangolin.com; Justin Perry, Marketing and Customer Support Specialist, justin@pangolin.com.

# Paul Pleiger Maschinenfabrik GmbH & Co. KG

Division Laseroptik, Im Hammertal 51, Witten, Germany, 58456 49 2324 398406; fax 49 2324 398402

sales@pleiger-laseroptik.de; www.pleiger-laseroptik.de

# New Product: Optics and coatings for high power $\mbox{CO}_2$ lasers and IR applications.

The laser-optics division of Paul Pleiger Maschinenfabrik GmbH & Co. KG in Witten (Germany), supplies ready-to-use optical mirrors and lenses for CO<sub>2</sub> lasers and IR applications. Pleiger offers a custom coating service for customers in industry, government and academia, in both research as well as production quantities. Contact us for gold, silver, aluminium, IR and high-power CO<sub>2</sub> coating services. Contact: Dr. Ralf Toelle, Head of Technical Department, toelle@pleiger-laseroptik.de; Dr. Soheyla Eshlaghi, Research and Development, eshlaghi@pleiger-laseroptik.de.

# Pavilion Integration Corp.

SPIE Corporate Member

2380 Qume Dr Ste F, San Jose, CA, 95131 408/453-8800; fax 408/453-8802 sales@pavilionintegration.com; www.pavilionintegration.com

#702

**#4601** 

#4929

#2137

### PD-LD, Inc.

#5230

30-B Pennington-Hopewell Rd, Pennington, NJ, 08534 609/564-7900: fax 609/564-7901 info@pd-ld.com; www.pdld.com

PD-LD, Inc. provides LuxxMaster<sup>™</sup> based upon 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 (635-1550nm) lasers, LED's (850-1310nm), CWDM pigtailed laser diodes, and detectors (400-1700nm) in both standard and custom packages. Bi-Directional modules. Contact: Tom DeBerardine, Executive Vice President of Sales, tomd@ pd-ld.com; Calvin Hsieh, Sales Manager, chsieh@pd-d.com.

# Penta HT Optics

#6074

Glaslaan 2 - SWA532, Eindhoven, Netherlands, 5616 LW 31 402928628; fax 31 402931347

r.de.schipper@penta-ht-optics.com; www.penta-ht-optics.com

New Product: Lenses for laser diode collimation and custommade plastic optical products and assemblies.

Since the invention of CD, optical parts design and manufacturing Penta HT Optics' specialty. Over the years we have perfected the several technologies needed for optical plastics processing. Materials knowledge and plastics processing knowledge, ultra high precision single point diamond turning, tool making and assembly: all fields of expertise that need to be mastered to perfection before a reliable, high yield production can be set up. Contact: Rien de Schipper, Managing Director, r.de.schipper@penta-ht-optics.com.

### PERFOS

11 rue Louis de Broglie, Lannion, France, 22300 33 2 96 48 58 89; fax 33 2 96 48 79 81 dmechin@perfos.com; www.perfos.com

#### New Product: Developing custom microstructured fibers for your application.

We offer state of the art fiber fabrication facilities to project partners seeking to develop all types of non-commercially available microstructured fibres (Silica based, Rare earth doped, Chalcogenide, Plastic, Airclad, Highly Nonlinear, Photonic Bandgap, PM, Multiclad). Contact: David Mechin, Program Director, dmechin@perfos.com.

# PerkinElmer Illumination & Detection

35 Congress St, Salem, MA, 01970 978/224-4100; fax 978/745-0894 opto@perkinelmer.com; www.perkinelmer.com

At PerkinElmer, we're sensing what you need for a healthier, cleaner and safer tomorrow. From Photon Counting Modules to Silicon Detectors, InGaAs Detectors, and Pulsed Laser Diodes, our photon detection technologies are addressing your high-performance and high-volume applications. Through our seven world-class design, manufacturing and R&D facilities, we have the photo detection solutions and deep applications expertise to enhance and accelerate your OEM designs. Contact: Anna Kostic, Sales Leader/North America, Anna.Kostic@ perkinelmer.com; Sabine Weber, Sales - Europe, sabine.weber@ perkinelmer.com.

# **PerkinElmer, Inc.**

710 Bridgeport Ave, Shelton, CT, 06484 800/762-4000; fax 203/944-4914 productinfo@perkinelmer.com; www.perkinelmer.com

### Perkins Precision Developments

8234 County Rd 28, Platteville, CO, 80651 970/785-2706: fax 970/785-2708

info@perkinsprecision.com; www,perkinsprecision.com (PPD) manufactures and delivers a broad range of high quality, precision

optical components and related services. We provide custom, low volume and OEM optical fabrication services. PPD works with many optical materials UV-NIR, for optical flats, wedges, prisms, lenses. Target applications include semiconductor test and inspection equipment, medical instrumentation, telecommunications, aerospace, security and defense. Contact: Jay Perkins, President, Info@perkinsprecision.com.

# **PFG Optics**

SPIE Corporate

733 Bienville Blvd, Ocean Springs, MS, 39564-2842 228/875-0165 www.pfgoptics.com

New Product: PFG Precision Optics is now manufacturing Ge. Si. ZnS, ZnSe & CaF<sub>2</sub> Lenses to your specifications!

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### **PhaseView**

7 rue de la Croix Martre, Palaiseau, France, 91120 33 1 69 32 12 78

contact@phaseview.com; www.phaseview.com

#### New Product: Ultra High Resolution Wavefront Analysers for optics characterization and laser beam measurement.

PhaseView manufactures high precision optical instruments based on its Digital Wavefront Technology for industries and life sciences. PhaseView aims to provide smart and cost effective solutions with unrivaled performance: Beam shaping and laser beam profiling, Optics characterization, 3D Surface Metrology, Cell Imaging and Ophthalmology. Contact: Gael Launay, Sales & Marketing Manager, contact@phaseview.com.

# PHASICS

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XTEC Bât. 404 - Campus de l'Ecole Polytechnique -Route de Saclay, Palaiseau, France, 91128 33 1 69 33 89 99; fax 33 1 69 33 89 88 sales@phasics.fr; www.phasics.fr

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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, Technical Sales Engineer, contact@ phasics.fr; Harry Skolnik, US Representative, hskolnik@hotmail.com.

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# Philips Research, MiPlaza

#4201

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# Philips Technologie GmbH U-L-M **Photonics**

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

New Product: Over 10 Million VCSELs Delivered for Optical

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# **Phillips Plastics Corp.**

1201 Hanley Rd, Hudson, WI, 54016 877/508-0252; fax 715/381-3291 info@phillipsplastics.com; www.phillipsplastics.com

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# Phoenix Infrared

182

3 Foundry St, Lowell, MA, 01852 978/458-8328; fax 978/458-8414 sales@phoenixinfrared.com; www.phoenixinfrared.com

New Product: Expanding line of CO<sub>2</sub> laser optics. Focusing lenses, windows, mirrors for high and low power systems.

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Photo Sciences, Inc. 2542 W 237th St, Torrance, CA, 90505

310/634-1500; fax 310/84-3642

info@photo-sciences.com; www.photo-sciences.com

#### New Product: Laser Imaged GOLD and ITO; Binary Grey Scale Masks; Patterned Infrared Optics.

PHOTO SCIENCES offers a full range of photomask related products. We manufacture laser imaged glass masks, stepper reticles and contact prints. Our FAST TRACK mask program offers free replacement for any reason within 30 days except redesign. Our Advanced Patterning Group manufactures laser imaged optics, glass and metal products which include binary grev scale masks, laser imaged gold, ITO, components for infrared and diffractive optics, calibration targets, eyepiece reticles and shadow masks. Contact: Wavne Henry. Sales Director - Photomask Group, wayneh@photo-sciences.com; Roger Horstman, Product Manager - Advanced Patterning Group, rogerh@photo-sciences.com.

### Photodigm, Inc.

SPIE Corporate Member

1155 E Collins Blvd Ste 200, Richardson, TX, 75081 972/235-7584; fax 972/235-1609

info@photodigm.com; www.photodigm.com

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. Contact: Marty Edwards, Business Development Manager, sales@photodigm.com.

### Photon Control Inc.

200-8363 Lougheed Hwy, Burnaby, BC, Canada, V5A 1X3 604/422-8861; fax 604/422-8418 info@photon-control.com; www.photon-control.com

26 Castleham Rd. St Leonards-on-Sea. E Sussex. United Kingdom, TN38 9NS

44 1424 850 555; fax 44 1424 850 051 sales@photek.co.uk; www.photek.co.uk

Photek is a specialist manufacturer of detectors and camera systems for photon detection. Our product range includes; image intensifiers, photomultiplier tubes (PMT), 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.

#### 908/685-0352: fax 908/325-0250 sales@potl-ltd.co.uk; www.potl.co.uk

Phoenix Optical Technologies Ltd.

#### New Product: Super-polished substrates & windows.

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# Photek, Ltd.

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# Photon Design

SPIF Corporate

34 Leopold St, Oxford, United Kingdom, OX4 1TW 44 1865 324 990; fax 44 1865 324 991 info@photond.com; www.photond.com

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# Photon Engineering, LLC

### #513

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440 S Williams Blvd Ste 106, Tucson, AZ, 85711 520/733-9557; fax 520/733-9609 info@photonengr.com; 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: Carovin Johnson, Sales, carolyni@photonengr.com; Donata

### Photon etc

#4407

5795 De Gaspé Ave #222, Montreal, QC, Canada, H2S 2X3 514/385-9555; fax 514/279-5493

sales@photonetc.com; www.photonetc.com

Pfisterer, Sales, donatap@photonengr.com.

New Product: Tunable Laser Source from UV to NIR with sub-nm FWHM as calibration tool or excitation source.

Photon etc. develops and manufactures spectroscopic instruments for fluorescence, Raman, and photoluminescence applications. Based on a recently patented technology, our filters deliver narrow bandwidths from UV to NIR. Coupled with a supercontinuum source, our Laser Line Filters allow a new broadband tunable source which is a unique calibration tool and a precise excitation source for nano- to bio-material samples. Our main products also include Hyperspectral Imager, Tunable and Notch Filter. Contact: Bernard-Alexandre Gaulin. International Sales Coordinator. bagaulin@photonetc.com; Sébastien Blais-Ouellette, President, sbo@photonetc.com.

# Photon Gear, Inc.

#730

245 David Pkwy, Ontario, NY, 14519 585/265-3360; fax 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.

# Photon Inc.

6878 Santa Teresa Blvd, San Jose, CA, 95119-1205 408/226-1000: fax 408/226-1025 beam@photon-inc.com; www.photon-inc.com

#### New Product: New USBeamPro CCD is a camera profiler for accurate measurements of ISO Standard beam parameters.

Photon beam profilers measure spatial properties of light sources such as lasers, LDs, LEDs, and optical fiber. NanoScan slit profilers provide fast, precise, optical alignment with nanometer accuracy; FireWire BeamPro, USBeamPro, and the new USBeamPro CCD are camera profilers. ModeScan 1780 gives real-time M2 for pulsed and CW lasers; Far-Field Profilers characterize divergent sources. NIST-traceable calibration is standard on all laser beam profiling instruments. Contact: Derrick Peterman, Sales Engineer, dpeterman@photon-inc.com.

# Photon Systems, Inc.

1512 Industrial Park St, Covina, CA, 91722 626/967-6431; fax 626/967-5813 sales@photonsystems.com; www.photonsystems.com

# Photonex '10

Old Village Hall, The Street, Effingham Surrey, United Kingdom, KT24 5JS

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# Photonic Cleaning Technologies

SPIE Corporate

1895 Short Lane Rd, Platteville, WI, 53818 608/467-5396; fax 608/467-5397

sales@photoniccleaning.com; www.photoniccleaning.com Contact: James Hamilton, Chairman & CTO, hamiltonj@photoniccleaning.com.

# Photonic Products Ltd.

Sparrow Ln, Hatfield Broad Oak Herts, United Kingdom, CM227BA 44 1279 717170; fax 44 1279 717171

sales@photonic-products.com; www.photonic-products.com New Product: Variable focus industrial laser modules, fibre-

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Photonic Products is a UK-based manufacturer of laser diode modules, laser diode assemblies, electro-optical sub-assemblies and precision machined components which deliver performance and manufacturing efficiencies to OEM companies in biomedical, medical, scientific and defence markets worldwide. Photonic Products is also an authorized distributor of high performance industrial laser diodes manufactured by Opnext, Sony, Ondax and SANYO and also Panasonic precision optical lenses. It is a Stockeryale company. Contact: David Stephen, VP Sales, salesusa@photonic-products.com; Paul Bonsi, Technical Sales Manager, paul.bonsi@photonic-products.com.

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# Photonic Solutions Ltd.

#2323

Unit A 40 Captains Rd, Edinburgh, United Kingdom, EH17 8QF 44 131 644 8122: fax 44 131 644 8144 sales@photonicsolutions.co.uk; www.psplc.com

Photonic Solutions is one of Europe's leading laser and optoelectronics suppliers and is based in Edinburgh, UK. Companies represented include JDSU, Continuum, Quantronix, Cutting Edge Optronics, Power Technology, Ocean Optics, Kimmon Koha, GAM Laser Inc., Teem Photonics and MPB Communications. We are looking to partner with quality photonics manufacturers who require a professional sales outlet in UK and Ireland and potentially wider Europe. We look forward to seeing you at Photonics West. Contact: John O'Connor, Marketing Manager, john.oconnor@photonicsolutions.co.uk; Douglas Neilson, Managing Director, douglas.neilson@photonicsolutions.co.uk.

#### Photonics and Plastic Electronics KTN #4131

Bletchley Park Science and Innovation Centre, Sherwood Dr, Milton Keynes, United Kingdom, MK3 6EB 44 1908 276655

info@ppektn.org; www.ppektn.org

The Photonics and Plastic Electronics (PPE) KTN, sponsored by the Technology Strategy Board, stimulates innovation in the UK's photonics and plastic electronics communities by promoting collaboration, best practice and knowledge sharing between industry and academia. The vision of the PPE KTN is to be a powerhouse of interacting networks of businesses and academic groups generating new 'enabling' technologies and successfully applying them in a very diverse range of markets. Contact: Ian Tooley, Operations Manager, ian@ppektn.org; Alastair Wilson, Director, a.wilson@ukppe.co.uk.

# Photonics Cluster Netherlands

Prins Bernhardstraat 64. Koudekerk a/d Riin. Netherlands, 2396 GN 31 713 415282 info@photonicscluster-nl.org; www.photonicscluster-nl.org

# Photonics Finland

Nanotechnology Cluster Programme, PO Box 27, Jyväskylä, Finland, 40101 358 40 5041 402; fax 358 14 4451 199

info@jsp.fi; www.nanocluster.fi

Photonics Finland is a joint stand presenting Finnish expertise and innovations. Participating companies in the show are: Nanocomp Ltd, www. nanocomp.fi, Joensuu Science Park Ltd, www.carelian.fi, Picodeon Ltd Oy, www.picodeon.com, Beneq Ltd, www.beneq.com. More information about Nanotechnology Cluster Programme, www.nanocluster.fi. Contact: Dr Esko Peltonen, Programme Director, esko.peltonen@jklinnovation.fi; Pirjo Nikku, Manager, Communications, pirjo.nikku@jklinnovation.fi.

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#### Photonics Industry & Technology Development Association (PIDA) #4543

5F No 9 Roosevelt Rd Sec 2, Taipei, Taiwan, 10093 886 2 23967780; fax 886 2 23968513 exhibit@mail.pida.org.tw; www.pida.org.tw

#### New Product: The largest photonics event in Asia.

PIDA is a non-profit organization working with enterprises and government agencies in Taiwan. Contact: Pamela Hsiao, Project Manager, pamela@mail.pida.org.tw; Allen Lee, allen@mail.pida.org.tw.

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# PHOTONIS USA

#1001

#2101

SPIE Corporate

Sturbridge Business Park, PO Box 1159, Sturbridge, MA, 01566 508/347-4000; fax 508/347-3849

sales@usa.photonis.com; www.photonis.com

#### New Product: Micro Pore Optics (MPO) - a square port micro channel plate for deep UV d X-Ray optics applications.

PHOTONIS is a multi-national optic technology group with more than 40 years in innovation, design, manufacture, and sales of photo sensor technology. PHOTONIS operates internationally in Night Vision, Industry and Scientific markets, manufacturing best-in-class Channeltron electron multipliers, microchannel plates and detectors, ion guides, reflectrons, glass coated wires and glass capillary arrays. Contact: Alan Hamill, Sales Manager, a.hamill@usa.photonis.com; Valerie Grib, Product Manager, v.grib@usa.photonis.com.

# Photop Technologies, Inc.

SPIE Corporate

260 N Wolfe Rd, Sunnyvale, CA, 94085 408/732-1603; fax 408/732-1696 www.photoptech.com

#### New Product: Fiber Pigtailed Laser Family: Applications in Laser Aiming, Biomedical Instrumentation and etc.

Established in 2003 through a merger of four companies, each a leader in its existing product field of Fiber Optics, Optics, Laser, and Photonic Crystal Materials, Photop is a leading photonics designer and integrated manufacturing company on Fiber Optics, Precision Optics, Projection and Display Optics, DPSS Laser, Crystal Materials, and other Photonics Products. Contact: Mr. Johnny Zhong, Director of Sales & Marketing, johnny.zhong@photoptech.com; Mr. Henry Yu, Senior Vice President, henry.yu@photoptech.com.

# Photo-Sonics, Inc.

#4237

820 S Mariposa St, Burbank, CA, 91506 818/842-2141: fax 818/842-2610 www.photosonics.com

#### New Product: See the NEW Specialised Imaging SIMD-32 Frame Ultra High Speed Camera, .330 Mfps, 3 ns exp.

Photo-Sonics is the US Agent for Specialised Imaging Ltd., manufacturer of Ultra High Speed Framing Cameras, Range Cameras, Projectile Trackers, Image Intensifiers, Light Sources and Triggers. We are also the US Agent for Optronis, GmbH manufacturer of Picosecond Streak Cameras and Large format Pico and Nano Second Steak Cameras and accessories. We also offer Image Systems' Track Eye Image Analysis Software for 2D and 3D data extraction from video and still images. Contact: Frank Kosel, Sales and Applications, fkosel@photosonics.com; Al Febraro, Sales and Applications, afebraro@phtosonics.com.

# Photron

SPIF Corporate

9520 Padgett St Ste 110, San Diego, CA, 92126-4446 858/684-3555; fax 858/684-3558 image@photron.com; www.photron.com

#### New Product: Photron's Fastcam SA4 – High Speed CMOS Camera Delivers 3,600 fps at 1,024 x 1,024 Pixel Resolution.

Photron high speed video cameras include: The four mega pixel Fastcam SA2 high speed camera, providing 1080 HD resolution to 2,000 frames per second (fps); Fastcam SA4, mega pixel resolution to 3,600 fps; Low-cost Fastcam MC2 with tiny camera heads ideal for fault finding production line jams; The high-G Fastcam SA3 high speed camera with mega pixel resolution to 2,000 fps; The world's fastest high speed camera, the Fastcam SA5. Contact: Andrew Bridges, Director, Sales & Marketing, abridges@photron.com; Emi Christensen, Office Manager, emi@photron.com

# Physics Today

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# PI (Physik Instrumente) LP

SPIE Corporate

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

#### New Product: XYZ Piezo Microscopy Stage, Ultra-Precision Piezomotor; 8mm Micromotor; Fast Steering Mirror.

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# Picodeon Ltd Oy

#5319

Bulevardi 2a, Helsinki, Finland, 00120 358 40 717 7808; fax 358 9 6150 7400 sales@picodeon.com; www.picodeon.com

#### New Product: Thin Film deposition process based on pulsed laser technology.

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#1539

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**#917** 



### **PicoQuant GmbH**

Rudower Chaussee 29, Berlin, Germany, 12489 49 30 6392 6560; fax 49 30 6392 6561

nick.bertone@optoecomponents.com; www.picoquant.com Photon Counting Instrumentation product lines include Time-Correlated Single Photon Counting (TCSPC) electronics and detectors (PMT, SPAD), 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: Nick Bertone, Nick.Bertone@ picoquant-usa.com.

# PicoQuant Photonics North America, Inc. #1612, 1618

SPIE Corporate Member

61 Union St, Westfield, MA, 01085 413/562-6161; fax 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, Vice President, alain.bourdon@picoquant-usa.com.

# Piezosystem Jena, Inc.

SPIE Corporate

2B Rosenfeld Dr, Hopedale, MA, 01747 508/634-6688; fax 508/634-6868 usa@piezojena.com; www.piezojena.com

New Product: PK line XY nanopositioners with central aperture of 100mmx100mm 15mm thickness with 700um stroke.

piezosystem jena is a world leading company in the development, design and engineering of piezo, piezo electrical actuator based positioning systems for micro- and nanopositioning and nano-automation. In addition to the positioning stages, the company also offers optical fiber switches as well as the corresponding electronics. Contact: Peter Viglas, Sales Engineer, usa@piezojena.com; Jim Litynski, President, usa@piezojena.com.

# **Plasmaterials, Inc.**

2268 Research Dr, Livermore, CA, 94450 925/447-4030; fax 925/447-4031 info@plasmaterials.com; www.plasmaterials.com

Plasmaterials, Inc. provides high purity Physical Vapor Deposition materials in nearly every element, alloy, composition and component available on the periodic table. Products include sputtering targets, backing plates and other segments of the materials market including evaporation materials, crucible liners and electron beam starter sources. In addition, we also provide metallic bonding services. As a full service company, Plasmaterials, Inc. can provide all of your deposition materials needs. Contact: Dale Postin, Sales Engineer, dale@plasmaterials.com.

### PLX, Inc.

#4906

25 W Jefryn Blvd, Deer Park, NY, 11729 631/586-4190; fax 631/586-4196 info@plxinc.com; www.plxinc.com

PLX provides optical instruments, technologies and solutions to problems of achieving and maintaining optical accuracy and stability under severe environmental conditions. Our M.O.S.T.™ technology integrates complex optical elements into compact monolithic structures to achieve these objectives. PLX serves the military, aerospace and commercial industries with its advanced Boresighting and Retroreflector technology and off the shelf components. Visit www.plxinc.com or call 631.586.4190. Contact: Jack Lipkins, CEO, jl@plxinc.com; Zvi Bleier, CTO, zb@plxinc.com.

# Plymouth Grating Laboratory

5 Commerce Way, Carver, MA, 02330 508/503-1719; fax 508/465-2275 dsmith@plymouthgrating.com; www.plymouthgrating.com

# **Polaris Electronics Corp.**

630 S Rogers rd, Olathe, KS, 66062 913/764-5210; fax 913/764-5045

sales@polariselectronics.com; www.polariselectronics.com Hermetic sealing equipment including AC or CD projection welders, parallel seam sealers, parallel gap welders, spot welders, lid tackers, atmosphere chambers and vacuum bake out ovens. Hermetic sealing services are also available. Contact: Cara Calligan, Sales Representative, cara@polariselectronics.com; Glenda James, Sales/VP of Marketing, glendajames@polariselectronics.com.

# PolarOnyx, Inc.

SPIE Corporate Member

470 Lakeside Dr Ste F, Sunnyvale, CA, 94085 408/245-9588; fax 408/245-9587 jianliu@polaronyx.com; www.polaronyx.com

# New Product: High power super continuum source; High power MHz fs fiber laser; High power green laser.

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

# **Polymer Optics, LLC**

SPIE Corporate Member

3100 Dutton Ave Unit 118, Santa Rosa, CA, 95407 707/573-5929; fax 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, President, dan@polyoptics.com.

### **#5004**

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For further information

The Optronics Co., Ltd. International Dept.

# Polymicro Technologies

### A Subsidiary of Molex Incorporated

SPIE Corporate Member

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

# New Product: Dual-clad optical fibers for high power laser; highly stable low loss UV fiber (~<200nm).

Polymicro manufactures large-core, multimode, step-index fused silica optical fibers with polyimide, acrylate, silicone and custom buffers; hard polymer clad fibers; dual clad fibers; highly stable UV fibers; hollow silica waveguides; fiber optic cables and assemblies; high temperature flexible fused silica capillaries; square capillaries; light guiding capillaries; custom precision silica and quartz rod and tubing pieces; custom shaped rod and tubing; multilumen tubing; telecom ferrules and sleeves. Contact: Joe Zhou, Fiber Optic Product Manager, PolymicroSales@molex.com.

### **Polytec Inc.**

16400 Bake Parkway Ste 150 & 200, Irvine, CA, 92618 949/769-2626; fax 949/769-2622

info@polytec.com; www.polytec.com

Polytec is a world leader in optical measurement systems and features its Micro System Analyzer (MSA-500) for MEMS characterization. The MSA-500 is our latest technology combining powerful tools for precise 3D analysis of structural vibration and surface topography of microstructures. The MSA-500 incorporates three technologies: Laser Vibrometry for fast real-time measurement of out-of-plane motion, Strobe Video Microscopy for in-plane motion analysis, and White Light Interferometry for high resolution surface topography measurement. Contact: Eric Lawrence, Territory Sales Manager-Northwest, e.lawrence@polytec.com.

# **POPsud - Optitec**

#1823

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c/o OAMP 38 rue Frédéric Joliot Curie, Technopôle de Chateau Gombert, Marseille Cedex 13, France, 13388 33 4 91 05 59 69; fax 33 4 91 05 69 84 www.popsud.org

# Power Technology, Inc.

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

New Product: PTI will be displaying a new 375nm UV laser with 150mW, a 405nm 600mW laser, and a 445nm 1000mW laser.

PTI manufactures standard and custom lasers ranging from 266nm to 12,000nm. Our IQ lasers are highly stable and are well suited for spectroscopy, illumination, aiming, pointing fluorescence, trace gas detection, and many other analytical applications. Contact: James Jackson, Sales Engineer, jjackson@powertechnology.com; Glenn Sullivan, Sales Engineer, gsullivan@powertechnology.com.

# **Powerlase Photonics Ltd.**

Imperial House Link 10 Napier Way, Crawley, United Kingdom, RH10 9RA 44 1293 456 222; fax 44 1293 456 235 www.powerlase.com

# New Product: Dualwave DPSS laser with 400W at 1064nm and 200W at 532nm; dual output fibre delivery option.

Design and manufacture of Highest Power Pulsed DPSS lasers and laser marker systems. Pulsed DPSS lasers: 1064nm product from 200W to 1.6KW also 100W to 400W at 532nm. Contact: Kevin Reardon, Director of Sales and Marketing, kevin.reardon@powerlase.com.

### **PowerPhotonic**

1 St. David's Dr, St. David's Business Park, Dalgety Bay, United Kingdom, KY11 9PF

44 1383 825910; fax 44 1383 835739

info@powerphotonic.co.uk; www.powerphotonic.co.uk PowerPhotonic designs and manufactures refractive micro-optics that maximize brightness and efficiency in diode laser systems. Their wavefront correction phaseplates give x2 to x10 brightness increase for high-power diode laser bars and stacks. They also provide custom microlens and microprism arrays, application-specific beam transformers, aberration compensators, and freeform refractive optics. Contact: Roy McBride, Managing Director, r.mcbride@powerphotonic.co.uk.

# Pranalytica, Inc.

#4936

#6062

#5301

1101 Colorado Áve, Santa Monica, CA, 90401 310/458-4493; fax 310/458-0171 fxmcguire@pranalytica.com; www.pranalytica.com

# New Product: Fully packaged high power QCL's (>2W RT,>6W@ 80k). Infrared Illuminators (>1 W APWR uncooled QCL's).

Pranalytica: Only commercial manufacturer of fully packaged high power single emitter QCL's producing >2W CW/RT (>6W CW at 80K) with excellent beam quality and handheld MWIR/LWIR illuminators, 1 W of average power for military applications. Manufactures (1) trace gas detection instruments for commercial, environmental, and defense (CWA's and explosives), and (2) sensors for standoff detection of explosives residues at distances to 150 meters. Contact: Francis X. McGuire, Controller, fxmcguire@pranalytica.com; Alexei Tsekoun, Senior Scientist, atsekoun@pranalytica.com.

# **Precision Asphere Inc.**

SPIE Corporate Member

48860 Milmont Dr Unit 105-C, Fremont, CA, 94538 510/668-1508; fax 510/668-1595 sales@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.

# **Precision Glass & Optics**

SPIE Corporate Member

3600 W Moore Ave, Santa Ana, CA, 92704-6835 714/540-0126; fax 714/540-1482 info@pgo.com; www.pgo.com

# 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. Contact: Thad Sanchez, Sales Manager, thad@pgo.com; Demessow Kebede, Inside Sales, dk@pgo.com.

# **Precision Optical**

869 W 17th St, Costa Mesa, CA, 92627-4336 949/631-6800; fax 949/642-7501

sales@precisionoptical.com; www.precisionoptical.com 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 Rod Randolph, President and C.O.O., rrandolph@precisionoptical.com; Jim McClure, Sales Manager, jmcclure@precisionoptical.com.

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### #2323

### Precision Optics Corp.

22 E Broadway, Gardner, MA, 01440 978/630-1800; fax 978/630-1487 info@poci.com; www.poci.com

# Precision Optics Gera

1090 Delacroix Circle, Nokomis, FL, 34275 908/685-0352; fax 908/325-0250 info@pog.eu; www.pog.eu

#### New Product: IR Reticules.

POG is a leading manufacturer of custom and standard microstructures on glass and ceramics - reticules, 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: Ray George, Marketing Manager, ray.george@pog.eu.

# Precision Photonics Corp.

3180 Sterling Circle, Boulder, CO, 80301 303/444-9948; fax 303/444-9951 info@precisionphotonics.com; www.precisionphotonics.com

New Product: PPC introduces quick-turn waveplates for 1064nm -custom shapes or sizes in <2 weeks!</p>

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 monolithic composite 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; Nick Traggis, VP of Photonics.

# Precitec Optronik GmbH

Raiffeisenstr 5, Rodgau, Germany, 63110 49 6106 82900; fax 49 6106 829026 info@precitec-optronik.de; www.precitec-optronik.de

#### New Product: The CHRocodile S, our new 2kHz white light LED sensor, is accurate, efficient and economical.

Precitec's CHRocodile Sensors are ideal for fast and accurate distance and thickness measurements on a wide variety of materials. The noncontact optical method enables topographical analysis of nearly all materials. Based on the Chromatic Aberration Principle, CHRocodile Sensors and probes are accurate enough for nano-scale measurements, and fast enough for high production in a myriad of industries and applications. Contact: Heidi Olson, Optical Sales Engineer, heidio@ precitec.com; Matthias Noll, matthias.noll@precitec-optronik.de.

### PRIMES GmbH

Max-Planck-Str 2, Pfungstadt, Germany, 64319 49 6157 9878 0; fax 49 6157 9878 28 info@primes.de; www.primes.de

#### New Product: LaserQualityMonitor: Automated characterization for laser beams from UV to NIR, 1 mW up to 10 kW.

PRIMES GmbH produces measuring devices for the production with laser radiation. Particularly, PRIMES designs, builds and distributes equipment for characterizing the laser beam parameters: power, beam profile, beam direction and beam width as well as M<sup>2</sup>. The PRIMES products are designed for laser beam diagnostic for laser machine builders, beam source producers, R&D, as well as laser users. Contact: Dr. Harald Schwede, Sales Manager, h.schwede@primes.de.

# ♥ ♥ ▼ INTERNET PAVILION AND METER BOARD SPONSOR Princeton Instruments

SPIE Corporate Member

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#4601

3660 Quakerbridge Rd, Trenton, NJ, 08619-1208 609/587-9797

info@princetoninstruments.com; www.princetoninstruments.com Princeton Instruments designs and manufactures high performance CCD, ICCD, and EMCCD cameras; spectrographs; and optics-based solutions for the scientific research, industrial imaging, and OEM communities. We take pride in partnering with our customers to solve their most challenging problems in unique, innovative ways.

# Princeton Optronics

1 Electronics Dr, Mercerville, NJ, 08619 609/584-9696; fax 609/584-2448

sales@princetonoptronics.com; www.princetonoptronics.com

#### New Product: High Power VCSEL Laser Diode array delivering 4kW/cm<sup>2</sup> QCW and 1kw/cm<sup>2</sup> CW.

Princeton Optronics designs and manufactures high power CW and QCW Vertical Cavity Surface Emitting Lasers (VCSEL) arrays with power levels of 1kW/cm<sup>2</sup> CW and 4kW/cm<sup>2</sup> QCW and wavelengths from 780 nm to 1100 nm. Benefits include: round spot, insensitivity to back reflection, low wavelength shift with temperature (0.06 nm/C), high operating temperatures (80C), and High reliability (FIT <1). Ultra narrow and low noise VCSEL seed lasers at 1064 and 1550 nm are also provided. Contact: Paul Chalifour, Director of Sales, Sales@princetonoptronics.com; Narayan Bhatta, info@princetonoptronics.com.

# Prior Scientific Inc.

80 Resevoir Park Dr. Rockland, MA, 02370 781/878-8442; fax 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: John Commesso, Marketing, jcommesso@prior.com.

# PriTel

SPIE Corporate

PO Box 4025, Naperville, IL, 60567-4025 630/983-2200; fax 630/983-2260 pritel@pritel.com; www.pritel.biz

# Process Materials Inc.

5625 Brisa St Ste A, Livermore, CA, 94566 925/245-9626; fax 925/245-9629

# Photonics West Exhibitor Directory

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anudelman@processmaterials.com; www.processmaterials.com

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#4120

#4225



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#5441

### **PROMET International Inc.**

4611 Chatsworth St, Shoreview, MN, 55126-5813 651/481-9661; fax 651/481-9565 info@promet.net; www.promet.net

New Product: Bare Fiber Adapter and Variable Angle Tilt Stage to inspect cleave angles of bare optical fiber.

PROMET<sup>®</sup> International Inc. provides precision opto-mechanical design, testing and manufacturing services, and FiBO true phase-shifting, vibration-insensitive Michelson interferometers for (portable) easy and exact 3D/2D fiber optic endface and micro-component verification. With experienced staff and comprehensive laboratory facilities, 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, fibo@promet.net; Helena Mares, Communications Manager, helena@promet.net.

### **PROVAC GmbH**

**#4601** 

#327

Hauptstr 103b, Oestrich-Winkel, Germany, 65375 49 6723 913 94 0; fax 49 6723 913 94 18 kontakt@provac-gmbh,de; www.provac.li

# New Product: PVD, Sputter Coater with autoloading and integrated defect inspection, stand-alone RF Plasma Sources.

Provac serves the market by developing customer specific radio frequency plasma enhanced coating processes for its Taurion PVD evaporation systems and produces stand-alone RF Plasma Sources, PVD and sputter coaters with auto-loading and integrated defect inspection, highly specialized custom systems, and reconditions/upgrades older PVD systems. Contact: David Gary, Vice President, david.gary@ricmar.com; Marcel Kessler, Sales and Marketing Manager, marcel.kessler@provac.li.

### **Pyreos Ltd.**

#2323

Scottish Microelectronics Centre, The Kings Buildings West Mains Rd, Edinburgh, United Kingdom, EH9 3JF 44 131 650 7009; fax 44 131 650 7458 info@pyreos.com; www.pyreos.com

New Product: Unique 1x128 and 1x512 pyroelectric line sensor

# products. Excellent performance across the NIR and MIR.

Pyreos offers a range of high performance IR sensor components suitable for FT-IR and IR spectroscopy, laser, gas and security applications. Our patented thin-film permanently poled pyroelectric IR technology, developed by Siemens, absorbs across the near, mid and far infrared. We supply standard or custom products that have outstanding performance and excellent pricing. Pyreos has a unique design flexibility to produce miniaturized and high resolution IR sensors creating new opportunities in IR. Contact: Jeff Wright, CEO, info@pyreos.com; Dr Carsten Giebeler, CTO, info@pyreos.com.

# **Pyrophotonics Lasers Inc.**

### #4511

275 Kesmark, Dollard-des-Ormeaux, QC, Canada, H9B 3J1 514/904-9000; fax 514/684-0400 czilbert@pyrophotonics.com; www.pyrophotonics.com

### **QD Laser, Inc.**

KDDI Otemachi Bldg 16th Fl, 1-8-1 Otemachi, Chiyoda-Ku Tokyo, Japan, 100-0004 81 46 250 8273; fax 81 46 250 8272 info@qdlaser.com; www.qdlaser.com

# New Product: Quantum Dot Lasers by 150℃ operation, Green-LD, 1064-DFB 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.**

#2023

#1523

SPIE Corporate Member

1040 University Ave, Rochester, NY, 14607 585/256-6540; fax 585/256-3211 www.qedmrf.com

New Product: QED's ASI™ measures steep aspheres with 1000 waves of departure, without dedicated null lenses.

QED's line of metrology and polishing systems provide optics manufacturers with the right tools to deliver quality optics with confidence. Our metrology systems make manufacturing processes more efficient by enabling you to conduct in-line and final testing of all of the optics in your shop. QED's MRF<sup>®</sup> polishing platforms are synonymous with reliability, predictability, quality and speed. Now MRF<sup>®</sup> is even more versatile, scalable and easy to use. Contact: Mike DeMarco, Sales Manager, demarco@qedmrf.com; Marc Tricard, Director of Business Development, tricard@qedmrf.com.

# METER BOARD AND BANNER SPONSOR

SPIE Corporate Member

25 Avenue Pierre de Coubertin, Paris Cedex 13, France, 75647 33 1 44 16 01 10; fax 33 1 44 16 01 11 www.qioptiq.com

# New Product: LINOS Microbench Starter Set – Integrate premium precision optical bench system into your research.

Qioptiq delivers optical and photonic components, OEM sub-assemblies and systems for a wide range of applications in both commercial and defense sectors. Expertise in: optics (plastic, aspheric, diffractive); prisms; mirrors; beam splitters; filters; bench systems; stages; mounts; positioners; coatings; diamond-turning; polishing/grinding; lasers; fiber optic delivery; electro-optics; laser optics; machine vision lenses; inspection; metrology; x-ray optics; UV-Vis-IR; HUDs; night-vision; displays. Contact: Mario Ledig, Vice President Sales & Marketing, Commercial, mario.ledig@qioptiq.com; Patrick Casnedi, Vice President Sales & Marketing, Defense, patrick.casnedi@qioptiq.com.

# **QPC Lasers – Laser Operations LLC**

### #309

SPIE Corporate

15632 Roxford St, Sylmar, CA, 91342 818/986-0000; fax 818/698-0428 info@gpclasers.com; www.gpclasers.com

# New Product: Brightlock Ultra-G series provides 6W CW at 532nm in a compact and passively cooled package.

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, VP of Marketing & Sales, Ivaissie@laseroperations.net; Ed McIntyre, Director of North American Sales, emcintyre@laseroperations.net.

# **QPhotonics, LLC**

#4928

3830 Packard Rd Ste 280, Ann Arbor, Ml, 48108 734/477-0133; fax 734/477-0166

info@qphotonics.com; www.qphotonics.com

QPhotonics is a specialist supplier of semiconductor light emitting devices in wavelength range 635nm-1700nm 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: George Loutts, Sales Manager, gloutts@qphotonics.com; Wei Yang, Sales Engineer, wyang@qphotonics.com.

# **Quality Thin Films, Inc.**

#2129

141 Burbank Road, Oldsmar, FL, 34677 813/855-1900; fax 813/855-5580 sales@qtf.com; www.qtf.com

New Product: QTF has developed high damage threshold 3-5 $\mu$ m coatings that withstand severe abrasion.

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 9001:2000 certified. Contact: Karl George Jr., Vice President, sales@qtf.com.



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### Quanta Tech Inc.

World Financial District, 60 Broad Str Ste 3502, New York, NY, 10004

212/584-9697; fax 646/786-4480 sales@quanta-tech.com; www.quanta-tech.com

New Product: Polarization Maintaining Fiber pigtailed AO Modulator/Shifter for 405 nm, 200 MHz.

Quanta Tech provides ACOUSTO-OPTIC and RF drivers solutions covering: Modulators, Deflectors, Frequency Shifters, Pulses Pickers, Q-switches, Fiber devices, Tunable Filters and Polychromatic AOMs. Power amplifiers, frequency sources and custom devices. Contact: Franck Darde, Sales/Marketing Director, franck.darde@quanta-tech.com.

# Quantel USA

SPIE Corporate Member

601 Haggerty Ln, Bozeman, MT, 59715 406/586-0131; fax 406/568-2924

sales@quantelusa.com; www.quantelusa.com

Quantel group is an international leader in providing pulsed laser technologies for research, industrial, commercial, military, and medical applications. Founded in 1970, the Group has a consistent record of investments leading to numerous innovative and successful products distributed worldwide. Quantel corporate headquarters is in Paris with manufacturing subsidiaries in the USA, Germany, and France. Contact: Stephen Smith, Director North American Sales, Spsmith@quantel.sr.

# Quantronix Corp.

SPIE Corporate Member

41 Research Way, E Setauket, NY, 11733-3454 631/784-6100; fax 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 Nd:YV04 lasers in IR, second, third and fourth harmonics. Also manufactures a range of multi-wavelength scan heads, marking, deep engraving and micromachining systems. Contact: Jeff Wojtkiewicz, Industrial Sales Director, jwojtkiewicz@quantronixlasers.com; Mark Boyle, Scientific Product Manager, mboyle@quantronixlasers.com.

# Quantum Technology, Inc.

**#5213** 

#1131

#1907

108 Commerce St, Lake Mary, FL, 32746 407/333-9348; fax 407/333-9352 staff@quantumtech.com; www.quantumtech.com

New Product: New STARFIRE Multi KHz Pulse Picker and REGEN System Features Compact Size Using BBO/RTP Q-Switches.

Manufacturer of E-O modulation and deflection systems from DC to GHz with ADP, KDP, BBO, LiNbO<sub>3</sub> and LiTaO<sub>3</sub> E-O materials. E-O Pulse Picker, Optical Gating and REGEN systems with fast nanosecond transition times, variable pulse gate widths, E-O Q-switches and high voltage drivers; novel BBO and RTP Q-switches for diode-pumped solid-state lasers; and nonlinear optical crystals and systems. Contact: Sanjay Adhav, VP Sales, Staff@QuantumTech.com.

TEL: +1 360 676 3290 · +1 888 504 8171 · customerservice@spie.org

### Quarton USA, Inc.

825 S Lemon Ave #A-10, Walnut, CA, 91789 888/532-2221; fax 888/839-3172 mike@quarton.com; www.infiniter.com

# New Product: Minature laser diode modules, green modules and infrared modules.

For over 20 years Quarton has produced quality laser modules and specialized laser applications. To meet the needs of our broad customer base we produce over 30 models. Laser module, mechanical, electronic and optic technology all in one location. Your partner in laser applications. Contact: Mike Murphy, Sales Representative, mike@quarton.com; Michael Curran, Senior Sales Representative, mjcurran@quarton.com.

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111 rue Lapierre, Local 1.0331 BP 128, LaSalle, QC, Canada, H8N 2J4 514/368-1677; fax 514/368-2098 francoiselee@photonigueguebec.ca;

www.photoniquequebec.ca

The Quebec Photonic Network (QPN) is a non-profit group whose mandate is to contribute to the advancement of photonics industry in Quebec by serving as an an information hub and providing its members with networking services. The QPN serves as a meeting point for companies, government departments, organizations and concerned individuals involved in the development of the optics-photonics industry in the whole province of Quebec. Welcome to all proposals. Contact: Françoise Lee, Membership Relations, francoiselee@photoniquequebec.ca.

# **Quest Innovations B.V.**

Industrieweg 41, Middenmeer, Netherlands, 1775 PW 31 227 604046; fax 31 227 604053 www.quest-innovations.com

# **R. Mathews Optical Works, Inc.**

26280 Twelve Trees Ln, Poulsbo, WA, 98370 360/697-6160

www.mathewsoptical.com

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# Radiant Dyes Laser & Accessories GmbH #1700

Friedrichstr 58, Wermelskirchen, Germany, 42929 49 2196 81061; fax 49 2196 3422

info@radiant-dyes.com; www.radiant-dyes.com Radiant Dyes Laser & Acc. GmbH offers Laser and Laser Accessories for Scientific Applications for 27 years now. The product range includes pulsed Dye Laser, Excimer Laser, cw Ring Laser (Dye & Ti:Sa), Laser Dyes, Optomechanics, and Laser Accessories (filter, dye cells etc.). Contact: Janine Muellenmeister-Weber, Export Sales Manager, janine@radiant-dyes. com; Monika Thomas, Sales Manager, info@radiant-dyes.com.

# **Raicol Crystals Ltd.**

15 Giron St 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 electro-optic 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.

# **Rainbow Photonics AG**

Farbhofstr 21, Zurich, Switzerland, 8048 41 44 4190505; fax 41 44 4190506 info@rainbowphotonics.com; www.rainbowphotonics.com

# New Product: TeraSys 4000 spectrometer for materials ID and testing TeraKit DODS for laboratory THz spectroscopy.

We produce novel cw-all solid state infrared tunable Cr:LiSAF lasers IR Point and terahertz generators and detectors based on our novel organic high nonlinearity organic crystals DAST, DSTMS and OH1. A new compact, turn-key operated THz spectrometer TeraSys 4000 and a flexible THz unit TeraKit DODS for industrial and laboratory applications with frequency range 0.3 – 20 THz will be for the first time introduced to the US market. Contact: Dr. Carolina Medrano, CEO, info@ rainbowphotonics.com; Dr. Blanca Ruiz, Product Engineer, blanca.ruiz@ rainbowphotonics.com.

# **Rainbow Research Optics, Inc.**

SPIE Corporate Member

4880 Ironton St Unit K, Denver, CO, 80239 303/371-3000; fax 303/371-1333 sales@rroptics.com; www.rainbowoptics.com

Rainbow Research Optics is an optics manufacturing and coating company located in Centennial, Colorado. We offer precision optics, optical coatings and opto-mechanical assemblies with fast deliveries and competitive pricing. Our products range from UV to IR, Prototype thru production QTYS; ITAR Compliant; ISO Certified; SBA and SDB Registered.

# RASIRC

#### 11760 Sorrento Valley Rd Ste E, San Diego, CA, 92121 info@rasirc.com; www.rasirc.com

#### New Product: Next generation RASIRC Steamers eliminate hydrogen and oxygen from wet thermal oxidation and RTP.

RASIRC, the Steam Purification Company, builds products to purify and deliver ultra pure liquids and gases. RASIRC technology is the first to generate ultra high purity (UHP) steam from DI water. RASIRC dryers, humidifiers, and steam generators provide precise control of water vapor for semiconductors, nanotechnology and MEMS. The RASIRC Steamer increases growth rate, improves uniformity, increases reliability and provides a safer operating environment while at the same time reducing cost. Contact: Jeffrey Spiegelman, President, jeff@rasirc.com.

# Raybium

Huljen 234, Stöde, Sweden, 860 13 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 a new type of ytterbium doped silica fibers meeting high demands on efficiency

type of 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.



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### **RAYLASE AG**

Argelsrieder Feld 2-4, Wessling, Germany, 82234 49 8153 8898 0; fax 49 8153 8898 10 w.gruenwald@raylase.de; www.raylase.de

#### New Product: MINISCAN: High Dynamic 2-axis laser beam deflection unit for integration into compact laser systems.

Innovative technology, precision and quality - that is what RAYLASE AG headquartered in Wessling, near Munich, stands for. RAYLASE develops and produces ultra-modern components and subsystems for laser beam deflection, modulation and control. In addition to 2-axis laser beam deflection units and 3-axis laser beam subsystems which are setting new standards in engineering, RAYLASE offers customers the right software and control electronics to go with them, in a one-stop solution. Contact: Werner Gruenwald, Sales Manager, w.gruenwald@raylase.de

# **Redfern Integrated Optics, Inc.**

SPIE Corporate

3350 Scott Blvd Bldg 62, Santa Clara, CA, 95054 408/970-3500; fax 408/970-3200 www.rio-inc.com

Redfern Integrated Optics, Inc. (RIO) develops and manufactures optical sources and subsystems based on its proprietary planar external cavity laser technology (PLANEXTM), which delivers unique price-performance advantages in multiple markets. 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: Anthony Pisano, Director of Sales, tony.pisano@rio-inc.com; Lew Stolpner, Director of Product Management, lew.stolpner@rio-inc.com.

### **Remtec, Inc.**

#4324

#2311

100 Morse St, Norwood, MA, 02062 781/762-9191; fax 781/762-9777 sales@remtec.com; www.remtec.com

New Product: Submounts with copper metallization and gold tin selective plating on BeO and AIN.

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 and 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. Metallization exhibits reliable adhesion during die attach and components assembly. Contact: Nahum Rapoport, President, nrapoport@remtec.com; David Suconick, Techincal Director, dsuconick@remtec.com.

# **Research Electro-Optics, Inc.**

SPIE Corporate Member

5505 Airport Blvd, Boulder, CO, 80301 303/938-1960; fax 303/447-3279 sales@reoinc.com; www.reoinc.com

REO is a full spectrum supplier of optical coatings, precision optics, assemblies, and lasers. We provide full manufacturing capabilities that enable the highest performance and cost effective implementation of optical systems for a variety of markets including defense, aerospace, semiconductor equipment, telecommunications, and medical instrumentation. Contact: Mark Damery, VP and General Manager of Worldwide Sales, markd@reoinc.com; Ed Yousse, National Sales Manager, edy@reoinc.com.

# **Resonon**, Inc.

619 N Chruch Ste 3, Bozeman, MT, 59715-3087 406/586-3356: fax 406/586-3357 swanson@resonon.com; http://www.resonon.com

#### New Product: Resonon's Pika NIR imaging spectrometer operates in the 900 to 1,700 nm spectral range.

Resonon provides complete hyperspectral imaging solutions, including hardware, software, training, and support. We specialize in custom, high-resolution systems, high-speed industrial sorting, and systems for airborne platforms, including UAVs. Our Pika II and Pika NIR imaging spectrometers together cover wavelengths from 400 to 1,700 nm. Contact: Rand Swanson, President, swanson@resonon.com.

# **Reynard Corp.**

SPIE Corporate Member

1020 Calle Sombra, San Clemente, CA, 92673-6227 949/366-8866; fax 949/498-9528 sales@reynardcorp.com; www.reynardcorp.com

Reynard supplies custom, stock optical components and thin film coatings 0.2µm to 50µm (UV-FAR IR) to demanding specs for military, aerospace, medical and 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 and Mech Fab, Photolithography Patterns, Environmental Testing and Sub-Assembly. Contact: Beth Kinchyk. Sales Manager. Beth@reynardcorp.com; George Murray, Senior Account Executive, gmurray@revnardcorp.com.

# **Richardson Gratings**, A Brand of Newport Corp.

705 St Paul St, Rochester, NY, 14605 585/262-1331: fax 585/454-1568

grating.sales@newport.com; www.newport.com/gratings Richardson Gratings™, a brand of Newport Corporation is a world leader in the design and manufacture of diffraction gratings for spectroscopic, telecommunications and laser applications, as well as for research and education. Contact: Chris Palmer, Sr., Director & General Manager, chris. palmer@newport.com.

# **Rising Electro-Optics Ltd.**

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

#### New Product: IR Lens and Coating and Lens Assembly.

Rising EO is an OEM custom design solution manufacturer, specializing in the exportation of precision optical components with all kinds of coating. We serve a multitude of worldwide markets, including Laser, Electronics, Semiconductor, Telecommunication, Thermal Imaging, Medical, for Industry, Military and Scientific Research applications. Contact: Bruce, President, bruce@rising-eo.com; Marketing Team, Sales Engineer, Marketing@rising-eo.com.

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# **Rochester Precision Optics LLC**

SPIF Corporate

850 John St, West Henrietta, NY, 14586 585/292-5450; fax 585/292-5459 sales@rpoptics.com; www.rpoptics.com

Manufacturer of precision visible and infrared optical components and assemblies. Specializing in 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. Contact: Edward Patton, Director Sales and Marketing, epatton@rpoptics.com.

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### Roithner Lasertechnik GmbH

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

# **Rolyn Optics Co.**

SPIE Corporate

706 Arrowgrand Cir, Covina, CA, 91722-2199 626/915-5707; fax 626/915-1379 sales@rolyn.com; www.rolyn.com Contact: sales@rolyn.com.

# RoMack, Inc.

SPIE Corporate

PO Box 615, Lightfoot, VA, 23090 757/258-4805; fax 757/258-4694

contact@romackfiberoptics.com; www.romackfiberoptics.com We will be exhibiting our line of exclusively 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.

# Roth & Rau MicroSystems GmbH

Gewerbering 3, Hohenstein-Ernstthal, Germany, 09337 49 3723 4988 0; fax 49 3723 4988 25 sales-us@roth-rau.de; www.roth-rau.de

#### New Product: IonScan 3D for ion beam finishing of 3-dimensional optical samples.

Roth & Rau operates worldwide as an experienced equipment supplier of ion beam and plasma process for optics industry. In ion beam technology multilayer deposition systems are provided for X-ray and UV applications. As unique solution a localized ion beam milling system is offered for ion beam figuring. For manufacturing of large area micro-patterned optical devices re-active gas compatible etchers are available for structuring of quartz samples and metal films. Contact: Allan Biegaj, Sales Director U.S.A., sales-us@roth-rau.de; Andrea Kunz, Sales Director Germany/ America. sales-us@roth-rau.de.

# **RPC Photonics, Inc.**

#### SPIF Corporate

#739

#1307

#5133

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#4528

330 Clay Rd, Rochester, NY, 14623 585/272-2840; fax 585/272-2845 info@rpcphotonics.com; www.rpcphotonics.com

RPC Photonics Inc. designs and manufactures micro-optical components for illumination, displays, LED and laser systems, semiconductors, medical, military and space applications. Products include Engineered Diffusers™, beam shapers, microlens arrays and 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 Manager, Info@RPCphotonics.com.

# **RPMC Lasers Inc.**

SPIE Corporate

203 Joseph St, O'Fallon, MO, 63366 636/272-7227

rpmc@rpmclasers.com; www.rpmclasers.com

#### New Product: MicroChip lasers! From nJ at 100kHz to 250µJ at 10kHz!

RPMC Lasers is a laser diode and lamp/DPSS laser distributor serving North America. Single and multimode laser diodes are offered from 620nm to 2µm including Jenoptik diodes. Lasers are offered in a wide range of wavelengths and energies. Custom diode and laser products are offered! Contact: Chuck Ratermann, President, rpmc@rpmclasers.com.

#### CONFERENCE BAG INSERT AND WIFI PAVILION SPONSOR RSoft Design Group

400 Executive Blvd Ste 100, Ossining, NY, 10562 914/923-2164; fax 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, North America Sales Rep., info@rsoftdesign.com.

# RSP Technology BV

### #4201

#1807

Metaalpark 2, Farmsum, Netherlands, 9936 BV 31 596 632300; fax 31 596 632678 www.rsp-technology.com

# Rubicon Technology, Inc.

SPIE Corporate

9931 Franklin Ave, Franklin Park, IL, 60131 847/295-7000: fax 847/233-0177

sales@rubicon-es2.com; www.rubicon-es2.com

### New Product: 6" and 8" sapphire substrates.

Rubicon Technology, Inc. is a vertically-integrated manufacture and an advanced electronic materials provider that is engaged in developing, manufacturing and selling monocrystalline sapphire and other crystalline products for LEDs, RFICs, blue laser diodes, optoelectronics and other optical applications. The Company applies its proprietary technology to produce very high-guality sapphire in a form that allows for volume production of various sizes and orientations of substrates and windows. Contact: Elena Dobrovinskaya, PhD, Chief Scientist, edobrovinskaya@rubicon-es2.com; Miyuki Calvert, Account Manager, mcalvert@rubicon-es2.com.

#408

#4824

# Sacher Lasertechnik GmbH

### #1700

SPIE Corporate

Rudolf Breitscheid Str 1-5, Marburg, Germany, 35037 49 6421 305 290; fax 49 6421 305 299 contact@sacher-laser.com; www.sacher-laser.com

# New 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 Mühlig, Sales Manager, contact@sacher-laser.com.

### **SAES Getters S.p.A.**

#1540

#1130

Viale Italia 77, Lainate Milan, Italy, 20020 39 02 93178 489; fax 39 02 93178 320 www.saesgetters.com

SAES Getters is the world leader in the production and marketing of getters, metal alloy components which, through chemical absorption reactions, allow the maintenance of extreme vacuum conditions in the devices in which they are installed. Nowadays the Group supports the wafer-level packaged MEMS technology with the result of its multi-year experience: PageWafer, the most advanced getter thin-film solution for vacuum and gas purity maintenance, essential to increase lifetime of the final device.

# **Saint-Gobain Crystals**

6810 Winchester Cir, Boulder, CO, 80301 303/444-3420; fax 303/444-1686 bouldersales@saint-gobain.com;

New Product: Hi damage wideband (170nm) ultrafast mirrors (@ 800nm), wideband (770-830nm) 100:1 plate polarizers.

Saint-Gobain Crystals produces high performance optical components, thin film coatings and sapphire substrates. The Alpine Research Optics brand of components comprises high reflection, antireflection, beamsplitter and polarization control coatings, covering the deep ultraviolet through the near infrared. Saphikon brand sapphire tubes, rods and EFG windows are primarily intended for military applications. Contact: Peter Allard, Western Regional Sales Manager, Peter.Allard@ Saint-Gobain.com; Dave Kemp, Eastern Regional Sales Manager, Dave. Kemp@Saint-Gobain.com.

# Salem Distributing Co.

SPIE Corporate Member

5901 Gun Club Rd, Winston-Salem, NC, 27103 336/766-1104; fax 336/766-1119 sales@salemdist.com; www.salemdist.com

# New Product: Acculap synthetic optical pitch engineered to optimize polishing in place of resin pitches.

Salem ASM offers a line of high-quality precision materials from A to Z. 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, Division Manager, salbright@salemdist.com; Kurt Gardner, Precision Account Manager, kgardner@salemdist.com.

# **Sandia National Laboratories**

PO Box 5800, Albuquerque, NM, 87125 800/417-2634 www.sandia.gov

# Santec

433 Hackensack Ave 8F, Hackensack, NJ, 07601 201/488-5505; fax 201/488-7702 info@santec.com; www.santec.com

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. Advanced Optical Components include Tap Photodetectors, Variable Optical Attenuators, WDM, CWDM, PON filters, and MEMS components. Contact: Max Chang, Sales Engineer (Eastern US), max@santec.com; Jonathan Evans, Sales Engineer (Western US), jonathan@santec.com.

# Sapphire Technology Co., Ltd. #2500, 2501

C Bldg Longda Industrial Park, Liaokeng Shiyan Bao'an District, Shenzhen Guangdong, China, 518108 86 755 29029691; fax 86 755 292029692 szyc1998@yahoo.com.cn; www.sapphires.net.cn

# Satisloh North America Inc.

#2535

#617

SPIE Corporate

N116 W18111 Morse Dr, Germantown, Wl, 53022 262/255-6001; fax 262/255-6002 www.satisloh.com

# New Product: SPM/SPS 140 produces spheres, aspheres, and more utilizing revolutionary 2-tool spindle technology.

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 Admin., Iori. heller@satisloh.com.

# **SCANLAB America, Inc.**

SPIE Corporate

100 Illinois St Ste 200, St. Charles, IL, 60174 630/797-2044; fax 630/797-2001 info@scanlab-america.com; www.scanlab-america.com

New Product: Galvanometers dynAXIS T & dynAXIS\_de M;

SCANcube 8.5, intelliSCAN\_de 14 & intellicube 10 scan heads.

Manufactures high performance galvanometer scanners and galvanometer-based scanning systems for deflection and positioning of laser beams in up to three dimensions. Offers solutions for industry, science, medicine and biomedical applications. The product range includes high end galvanometer scanners also based on digital encoder technology, digital and analog driver technology, scan heads, control electronics and custom subassemblies for 1D, 2D and 3D scanning applications. Contact: Dale A. Sabo, Vice President Sales & Marketing, d.sabo@scanlab-america.com; Andreas Engelmayer, Technical Sales, a.engelmayer@scanlab.de.

#1840

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The INCOMPANY'S COMPANY

# **SCD-SemiConductor Devices**

### #2634

SPIE Corporate

PO Box 2250, Haifa, Israel, 31021 972 4 990 2535; fax 972 4 990 2627 marketing@scd.co.il; www.scd.co.il

# New Product: Fiber coupled single emitter, 8 W at 9xx wavelength. Fiber: 105 $\mu m$ fiber core; 0.15 (Typ.) NA.

SCD is a leading optolectronics company established in 1976. Product lines include thermal detectors, cooled and uncooled, and high power laser diodes. SCD focuses in defence and space applications. The company is vertically integrated, incorporating all technologies applied in product manufacturing. SCD Diode Lasers have been fielded in land, sea and airborne systems with thousands of actual operational hours under extreme environmental conditions. Contact: Dr. Shlomo Risemberg, Marketing Manager and Business Development, rismberg@scd.co.il; Marimna Shkedi, Marketing Assistant, marina\_p@scd.co.il.

### **Schmidt & Bender GmbH**

**#4601** 

#4639

#600

Am Grossacker 42, Biebertal, Germany, 35444 49 6409 324339; fax 49 6409 811511 k.buchrieser@schmidt-bender.hu; www.schmidt-bender.hu

# **SCHNEIDER Optical Machines LLC**

SPIE Corporate Member

1313 Valwood Pkwy Ste 200, Carrollton, TX, 75006 972/247-4000 t.michailidis@schneider-om.com; www.schneider-om.com/

products/precision-optics.html

# New Product: The SCG600 surfacing center processes precision spheres, aspheres and flats up to 950 mm.

Schneider offers CNC grinding, polishing and centering machines as well as interferometric measuring systems. Machines are capable of processing all typical types of glass, crystals and IR materials, sapphire, and CaF<sub>2</sub>. Capabilities include the processing of spheres, aspheres, flats, prisms and complex shapes, ranging from below 1 mm up to 1 meter in diameter. Our innovative products ensure that both current and future requirements are met. Contact: Tom Michailidis, General Manager, VP Sales, Precision Optics, T.Michailidis@schneider-om.com; Thomas Danger, VP Sales, Precision Optics, T.Danger@schneider-om.com.

# **Schneider Optics, Inc.**

SPIE Corporate 285 Oser Ave, Hauppauge, NY, 11788 631/761-5000 industrial@schneideroptics.com; www.schneideroptics.com

# New Product: Lenses designed for 5MP sensor with high MTF for superb image quality.

Schneider Optics designs, develops, and manufactures high performance lenses for machine vision and other image processing applications. Standard products include Compact C-mount lenses, Bilateral Telecentric lenses, a modular Macro system, large format lenses (area and line scan), 3-CCD lenses and industrial filters. Custom lens solutions are also available. Key markets include Machine Vision, Document and Parcel Scanning, Industrial Inspection, 2D/3D Metrology, Surveillance, and Hyperspectral Imaging. Contact: Jim Sullivan, Director of Sales & Marketing, jsullivan@schneideroptics.com.

# SCHOTT North A

# SCHOTT North America, Inc.

SPIE Corporate Member

400 York Ave, Duryea, PA, 18642-2036 570/457-7485; fax 570/457-6960 info.optics@us.schott.com; www.us.schott.com

SCHOTT's Advanced Optics Division offers a broad range of cuttingedge components and materials for optical & lithographic applications and is a leading manufacturer of calcium fluoride crystals, fused silica, "ZERODUR" glass ceramics, filters, optical and i-line glass. Contact: Steve Sokach, Director of Sales & Marketing, steve.sokach@us.schott. com; Marlene Deily, Promotions Manager, marlene.deily@us.schott.com.

# Scientech, Inc.

5649 Arapahoe Ave, Boulder, CO, 80303-1332 303/444-1361; fax 303/444-9229 inst@scientech-inc.com; www.scientech-inc.com

#### New Product: Astral Series S Calorimeter Laser Measurement Systems.

Scientech is introducing our new line of thermopile laser measurement systems utilizing our new intelligent detector technology. Designed to very robust, the new systems consist of a handheld meter and your choice of thermal detectors including 8mm, 16mm, 25mm, 50mm, 100mm, and 200mm aperture models. Also new is our optional field calibration tool which will allow you to easily calibrate these systems in the field. Contact: Tom Campbell, VP, inst@scientech-inc.com.

# Scientific Materials Corp., a FLIR Systems Company

31948 E Frontage Rd, PO Box 786, Bozeman, MT, 59715 406/585-3772; fax 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, Cr<sup>4+</sup>: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 and 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, Product Manager, zachary.cole@flir. com; Larry Alegria, Sales Engineer, larry.alegria@flir.com.

# Scitec Instruments Ltd.

Bartles Industrial Estate N St, Redruth Cornwall, United Kingdom, TR15 1HR 44 1209 314 608; fax 44 1209 314 609 sales@scitec.uk.com; www.scitec.uk.com

# Scottish Development International #2323

Atlantic Quay, 150 Broomielaw, Glasgow, United Kingdom, G2 8LU 44 141 228 2828; fax 44 141 228 2089 david.crossan@scotent.co.uk; www. scottishdevelopmentinternational.com

Scottish Development International (SDI) is the international division of Scottish Enterprise which is Scotland's main economic development agency, funded by the Scottish Government. SDI aim to broaden Scotland's international appeal as a first choice source of knowledge and to assist the growth of the Scottish economy, by encouraging inward investment and helping Scottish-based companies develop international trade - to date around 1,500 leading global companies have invested in Scotland. Contact: David Crossan, Head, Optoelectronics and Nanotechnology, david.crossan@scotent.co.uk.

### #2222

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**#4918** 715

# Scottish Optoelectronics Association #2323

Geddes House Business Park, Kirkton N, Livingston, United Kingdom, EH54 6GU 44 1506 497228; fax 44 1506 497229 soa@optoelectronics.org.uk; www.optoelectronics.org.uk

### New Product: Feasibility Study Awards.

SOA represents Optoelectronics interests in Scotland. Locally, Nationally and Internationally. It is a membership organisation with members drawn from both companies, across the Supply Chain, and academia. Objectives of the Association are: Promote the interests of members and industry by local, national and international representation; Provide strategic guidance on industry priorities and funds; Support the growth of the industry. Contact: Chris Gracie, CEO, chris.gracie@optoelectronics. org.uk; Leigh-Ann Donoghue, Office Administrator, leigh-ann@ optoelectronics.org.uk.

# Seikoh Giken USA Inc.

#4215

#4436

#4107

4405 International Blvd Ste B-109, Norcross, GA, 30093 770/279-6602; fax 770/279-8839 sales@sg-usa.com; www.seikohgiken.com

New Product: Introduction of a highly stable 532nm 10W Fiber Laser along with high power jumpers.

Seikoh Giken Company provides precision interconnect solutions for all optical networking systems. For OEM production, we offer ferrules, connectors, high volume polishers, metalized, lensed and AR coated fibers and isolators. A full line of polarization maintaining fiber and Fiber Arrays from single to 96 Channel. Contact: Steve Baldo, VP Sales and Marketing, steve.baldo@sg-usa.com.

# Seiwa Optical America Inc.

3042 Scott Blvd, Santa Clara, CA, 95054 408/844-8008; fax 408/844-8944 info@seiwaamerica.com; www.seiwaamerica.com

# Semiconsoft, Inc.

83 Pine Hill Rd, Southborough, MA, 01772 617/388-6832; fax 508/858-5473 info@semiconsoft.com: www.semiconsoft.com

New Product: MProbe low-cost thin-film measurement system for production and R&D. Thickness range: 3nm-500µm.

Leader in development of low-cost software and hardware for thin-film measurement for wide range of applications: semiconductor, thin-film solar, optical coatings, polymers, compound materials. Contact: Leo Asinovski, President, info@semiconsoft.com.

# SemiNex Corp.

100 Corporate PI Ste 401, Peabody, MA, 01960 978/278-3550

info@seminex.com; www.seminex.com

# New Product: 5W, 30W fiber-couple laser diodes and modules @ 14xx. 15xx. Low-cost laser engines w/cooling and optics.

SemiNex makes high-power 14xx and 15xx diode lasers for use in military and medical applications. SemiNex's unique product design enables systems with higher power, better thermals and better optical performance. SemiNex single diodes reach powers >5W, and modules >30W CW. Package options include: C-mount, B-mount, various fiber-coupled, and low-cost "Laser Engine" with built in heat sink and lens. Customer products possible. Contact: David Bean, President, dbean@ seminex.com.

# Semrock, Inc.

#### SPIE Corporate

3625 Buffalo Rd, Rochester, NY, 14624 585/594-7000; fax 585/594-3898 semrock@idexcorp.com; www.semrock.com

# New Product: Semrock Multiband Laser filter sets - optimized for fluorescence imaging and solid-state lasers.

Semrock manufactures advanced hard-coated optical filters that set the new standard for biomedical and analytical instrumentation. These include BrightLine<sup>™</sup> 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 wellknown center of optics. Visit Semrock and our products at www.semrock. com. Contact: filters@idexcorp.com.

# SensL

SPIE Corporate Member

Lee House Riverview Business Park, Bessboro Rd, Blackrock Cork, Ireland

353 21 4350442; fax 353 21 4350447 sales@sensl.com; www.sensl.com

# New Product: SPMArray4: 4 side scalable silicon photomultiplier array: sensitive and compact low light detection.

Solid state detectors are the future in low light sensing: SensL provides a full range of detector, sub-system and system level expertise to work with its customers in Analytical Instruments, Homeland Security, Nuclear Medicine and Industrial applications. The performance of SensL's solidstate detectors surpasses current standard detectors such as the PMT, APD and PIN detectors. www.sensL.com +1 650 641 3278 Contact: Judy Hopkins, International Sales & Marketing Executive, jhopkins@sensl.com.

# **Sensofar**

SPIE Corporate Member

IPCT-Modul TR20, Ctra N-150 Km 14.5, Terrassa Barcelona, Spain, 08227 34 93 739 8945; fax 34 93 786 0116 www.sensofar.com

# Sensor Electronic Technology, Inc.

1195 Atlas Rd, Columbia, SC, 29209 803/647-9757; fax 803/647-9770 www.s-et.com

Development, manufacturing and sales of Deep Ultraviolet (peak wavelengths 230- 365nm) A1GaN-based Light Emitting Diodes (LEDs) UVTOP® and UV/visible/IR LED-based Systems UVCLEAN® for bio-and chemical sensing and detection, data identification, sterilization and medicine, including portable digital fluorimeters. Ultra short pulse-CW LED operation modes, photodetector feedback and monitoring are available. Contact: Yuri Bilenko, Optoelectronics Product Manager, sales@s-et.com.

# SenterNovem/I.O.P. Photonics Devices #4201

PO Box 93144, Den Haag, Netherlands, 2509 AC 31 70 373 5810; fax 31 70 373 5100 www.senternovem.nl

SenterNovem is an agency of the Dutch Ministry of Economic Affairs. We promote sustainable development and innovation, both within the Netherlands and abroad. The aim of an IOP program is to intensify the interaction between companies in the Netherlands and the knowledge infrastructure within a specific discipline. Contact: Eddy Schipper, Program Coordinator, esc@senternovem.nl.

#712

#811

#5402

#2615

### Servometer/PMG, LLC

501 Little Falls Rd, Cedar Grove, NJ, 07009-1291 973/785-4630; fax 973/785-0756 info@servometer.com; www.servometer.com

# New Product: Precision Electroforms for Electro-Optic Applications.

Servometer<sup>®</sup> - PMG, LLC 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 Manager, jimb@servometer.com; Edward Gajewski, Technical Support Engineer, edg@servometer.com.

# SGS Slicing Solutions, Inc.

#4116

#1835

#4524

309 Rte 94, Columbia, NJ, 07832 908/496-8999; fax 908/496-8998 info@sgs-inc.com; www.sgs-inc.com

SGS Slicing Solutions is the exclusive North American Agent for Meyer Burger AG of Switzerland, offering sales, support, spare parts as well as process development for all Meyer Burger equipment. Contact: Rick Baarck, Sales Manager, rbaarck@sgs-inc.com; Rick Baarck, info@sgs-inc.com.

# Shanghai Jingsheng Industrial Co., Ltd. #4326

B-402 No 319 Dakang Rd, Bacshan District, Shanghai, China, 200443 86 13512177895; fax 86 21 56476657 wu@crystaljs.com; www.crystaljs.com

# New Product: JS01 coating material (replace the $H_4$ of merck), JS02 coating material (Ti3O5).

Our company is the professional manufacturer of high-quality coating material. Our product can replace the  $H_4$  of merck and the OS-50 of OPTRON. The JS02 coating material ( $Ti_3O_5$ ) has sold to the world. Jingsheng is making every effort to offer the highest quality evaporation/ coating materials that are suited to various methods for thin film manufacturing. Contact: Xianjun Wu, GM, wu@crystaljs.com.

# **Shanghai Optics**

148 Main St, Metuchen, NJ, 08840 732/321-6915; fax 732/875-0298 blewis@shanghai-optics.com; www.shanghai-optics.com

New Product: Ge and ZnSe optics and 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, CaF2, MgF2, ZnSe, Ge, sapphire, filter glass, and many more not listed. Contact: Brad Lewis, Director of Business Development, blewis@shanghai-optics.com; Joanna Lee, VP of US Operations, jlee@shanghai-optics.com.

# Shasta Crystals

SPIE Corporate

5206 Industrial Way Ste D, Anderson, CA, 96007 530/378-0395 www.shastacrystals.com

# New Product: Crystal rods of periodically poled magnesium doped lithium niobate, YAG, potassium lithium niobate.

Shasta Crystals is a crystal growth company located in Northern California. Its versatile crystal growth technology allows the production of a wide variety of crystal products. This includes nonlinear optical crystals for visible lasers and YAG for infrared lasers. The Company was founded on the basis of proprietary technological breakthroughs that decrease process time, improve crystal quality and lower the cost of production. Contact: Kevin McCarthy, Executive Vice President, kmccarthy38@gmail. com; Gisele Maxwell, CEO, gisele.maxwell@gmail.com.

# Sheaumann Laser Inc.

#2604

#4117

#5039

#415

45 Bartlett St, Marlborough, MA, 01752 508/970-0600; fax 508/970-0610 sales@sheaumann.com; www.sheaumann.com

New Product: The First Commercially Available 2.94µm Single Mode Laser in a Hermetically Sealed Package, 1W CW.

Sheaumann Laser develops and manufactures custom high power, high brightness laser modules. We offer a wide range of wavelengths from 532nm to 2940nm and many of these can be combined into a single fiber, individually addressable. Contact: Jaclyn Smith, Sales Manager, jsmith@ sheaumann.com.

# Shin-Etsu Chemical

Gobara 3000-3, Optical Devices, Annaka, Japan, 379-0135 81 27 380 6384; fax 81 27 385 8636 okamotoa@shinetsu.jp; www.shinetsu.co.jp

# Showmark, LLC

SPIE Corporate

410 Eagleview Blvd Ste 102, Exton, PA, 19341 610/458-0304; fax 610/458-0309

email@showmarkcorp.com; www.showmarkcorp.com Showmark manufactures a range of winding and spooling machines for optical fiber, fine wire and other filaments. Machines are used for general purpose respooling or precision winding applications such as EDFA's, Fiber Delay Coils, Fiber Bragg Gratings, and Fiber Optic Gyros. Showmark also provides contract Spooling Services. Contact: Scott Markovitz, President, scott.markovitz@showmarkcorp.com; Rich Baxter, rich.baxter@showmarkcorp.com.

# Sierra Precision Optics Inc.

12830 Earhart Ave, Auburn, CA, 95602 530/885-6979; fax 530/885-1037 jstimpson@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; Mike Dorich, CEO, mjdorich@sierraoptics.com.

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#5110

#5129

# Silian Technical Import & Export Co., Ltd. Chongqing

 Co., Ltd. Chongqing
 #2500, 2501

 10/F Putian Tower, 123 Renmin Rd, Chongqing, China, 400015
 86 23 63633995; fax 86 23 63621030

 www.silian-tech.com
 www.silian-tech.com

We are a leading manufacture of synthetic sapphires and rubies and customized ceramics and optical components, which is used in a wide variety of industrial applications since 1960. Employing more than 500 people, we have been certified with ISO 9001-2000 Quality System, also we interact with customers for new product development and give necessary suggestions where required for design, materials, etc. Quality control is among the toughest. For past years, our products have been used by customers in North America, Europe, East Asia and Russia. Our high quality, competitive price and excellent service have been accepted by our vast customers. Our state-of-art technologies and equipments enable us to provide just in time delivery and small batch production. Special products and Custom design service is our expertise.

# Silicon Sensor International AG

SPIE Corporate Member

Wilhelminenhofstr 76-77, Berlin, Germany, 12459 49 30 63 99 23 710; fax 49 30 63 99 23 719 sales@silicon-sensor.de; www.silicon-sensor.com

#### New Product: APD Arrays 8, 16 elements with QE >80% at 760-910 nm.

Design, development and high quality manufacturing of opto-electronic sensors and sensor systems including Silicon PINs, Avalanche Photodiodes, PIN and APD Arrays, Position Sensitive Detectors (PSD), Quadrant Photodiodes and Detectors for ionizing radiation. Contact: Olaf Hug, Director Sales, o.hug@silicon-sensor.de; Barry Jones, CEO, bjones@ pacific-sensor.com.

# Silicon Valley Optics Technology, Inc.

#4111

#1823

#4525

44141 S Grimmer Blvd, Fremont, CA, 94538 510/623-1161; fax 510/217-2223 www.svotek.com

# New Product: Optical coating: APS, IBS, IAD, EVBS Precision optics: Precision grinding, double side polishing.

Advanced vacuum coatings with APS, IAD, IBS, Evaporate with bias and magnetron sputtering and precision optics: Filters: Telecom filters, wavelength tunable, GFF, Edge, NBPF, ND filters; laser coatings; Biotech filters and beam splitters, fiber tip coatings. Precision optics: Logitech LP50, Hamai 16B double side lapping/polishing and GME-80 Grinding. Substrate size: 1mm to 450 mm. Super precision. Advanced vacuum technology and optical coater component upgrades. Contact: Mehgan Shan, VP of Operation, mehgans@svotek.com; John Gao, CEO, johncg@svotek.com.

# **Silios Technologies**

Zl Peynier-Rousset, Rue Gaston Imbert Prolongée, Peynier, France, 13790

33 4 42 53 89 60; fax 33 4 42 53 89 59 thierry.berthou@silios.fr; www.silios.com

# New Product: Liquid Absorbance monitoring sensor for online quality control of liquid products.

SILIOS Technologies is specialized in design and manufacturing of micro-optics, diffractive optics, miniaturized spectrometers and optical instrumentation. The main fields of business are the industries of laser (tooling, medical and scientific), medical and chemical analysis, microelectronics process quality control, astronomy, water analysis and agro-food. To this aim, SILIOS Technologies owns a 400 m<sup>2</sup> clean room and electronic lab for production from prototypes to small and medium size series. Contact: Thierry Berthou, Sales Manager, thierry.berthou@silios.fr; Stephane Tisserand, General Manager, stephane.tisserand@silios.fr.

# Sill Optics GmbH & Co., KG

#### SPIE Corporate Member

Johann Hoellfritsch Str 13, Wendelstein, Germany, 90530 49 9129 9023 0; fax 49 9129 9023 23 info@silloptics.de; www.silloptics.de

#### New Product: Fused silica lens systems in solar cell production, Telecentric f-theta lenses for large scan area.

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 Focusing 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@ silloptic.de.

# Siltint Industries Ltd.

124 Longley Ln, Manchester, United Kingdom, M22 4SP 44 161 945 4000; fax 44 161 945 4040 sales@siltint.com: www.siltint.com

Siltint Industries creates precision optical coatings and diamond turned lenses from coating design to volume manufacture. Siltint uses cold Argon-Gas Plasma Evaporation technology giving a dense, flat structure for each layer without heating the substrate. It is suitable for coatings with high damage-threshold and achieves US MIL specifications. Sputtering is also used. The single-point diamond turning facility machines highprecision plastic and metal surfaces to sub-micron accuracy. Contact: Gerry Biggs, Managing Director, gerrybiggs@siltint.com; Paul Hesford, Operations Director, paulhesford@siltint.com.

# Sinclair Manufacturing

PO Box 398, Chartley, MA, 02712 508/222-7441; fax 508/226-0517 sales@sinclairmfg.com; www.sinclairmfg.com

Manufacturer of high reliability hermetic packages and windows for RF/ Microwave, Fiber Optic, Detector, Power and Hybrid applications. Custom designs or choose from our thousands of standard tools. Contact: Michael O'Keefe, Vice President Marketing & Sales, mokeefe@sinclairmfg. com; Jane Koppen, Sales Associate, jkoppen@sinclairmfg.com.

# Singapore Optics Inc.

29 Ubi Rd 4 #04-00, Wangi Industrial Building, Singapore, Singapore, 408619 65 6743 2233; fax 65 6743 0195 sales@wangi-industrial.com; www.soi.com.sg

Sol is a leading integrated Singapore manufacturing group. Our in-house

manufacturing capabilities: Optical Design and Prototyping; Diamond Turning, direct cut on steel; Optical Mold Insert and Fabrication; Polymer Optics Molding; Technical and Optical Glass; Optical Thin-film Coating (AR & Gold); Optics Replication Process; Optical System Assembly. Our brand names: Delta Optics, T & C Plastic, Wangi Industrial. http:// www.soi.com.sg. Contact: Julie Chia, Sales & Marketing Executive, julie. chia@wangi-industrial.com; Chew Ker Yee, VP, Business Development, kychew@wangi-industrial.com.

# SIOS Messtechnik GmbH

#4901

Am Vogelherd 46, Ilmenau, Germany, 98693 49 3677 6447 0; fax 49 3677 6447 8 usa@piezojena.com; www.sios.de

# Siskiyou Corp.

SPIE Corporate Member

110 SW Booth St, Grants Pass, OR, 97526 541/479-8697; fax 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.

# **SlicingTech**

### #4331

#2307

432 Mt. Bethen Hwy, Bangor, PA, 18013 610/588-7884; fax 610/588-7885 www.slicingtech.com

We provide contract slicing of most hard and/or brittle materials (example: glass, silicon) on our 6 wire saws, 4 I.D. saws, and other related machinery. We also provide services for recoating and regrooving wire guide roll for most wire saws. Contact: John Streisguth, Product Manager, jstreisguth@slicingtech.com; Mike Hartman, General Manager, mhartman@slicingtech.com.

# **SmarAct GmbH**

#4239

#1912

Floetenstr 70, Oldenburg, Germany, 26125 49 441 800879 0; fax 49 441 800879 21 info@smaract.de; www.smaract.de

New Product: Very compact piezo-based positioners with subnanometer resolution and high straightness.

SmarAct develops, produces and distributes piezo-based micro- and nanopositioners, advanced control systems and micro-tools. In addition, SmarAct offers complete miniaturized manipulation systems as well as a professional service. The compact positioning systems combine sub-nm resolution with a high straightness and cm-sized travels. They can be applied in normal pressure as well as in vacuum conditions. Contact: Axel Kortschack, Managing Director, info@smaract.de.

# Smart Lighting Engineering Research Center

Rensselaer Polytechnic Institute Cll 8015, 110 8th St, Troy, NY, 12180 518/276-4010

miocs@rpi.edu; www.SmartLightingERC.org

The Smart Lighting Engineering Research Center, led by Rensselaer Polytechnic Institute, focuses on solid-state light systems with adaptive functionality that will improve energy efficiency, productivity and health. The center engages in research and education, and works closely with industry to facilitate commercialization. Core partners are Boston University and University of New Mexico. Outreach partners are Howard University, Morgan State University, and Rose-Hulman Institute of Technology. Contact: Silvia Mioc, Director of Industrial Collaborations, miocs@rpi.edu; John Wen, Director, wen@rpi.edu.

### **Snake Creek Lasers**

61 Railroad Ave, Hallstead, PA, 18822 570/879-4992; fax 570/879-0912 info@snakecreeklasers.com: www.snakecreeklasers.com

#### New Product: MiniGreen A Series lasers with higher electrical-tooptical efficiency at 532 nm.

Snake Creek Lasers is a leader in the manufacture of miniature solid-state lasers with wavelengths of 1064nm, 532 nm, and 473 nm. Its product offering includes MicroGreen and MiniGreen Series with up to 200 mW of TEM<sub>00</sub> output power. Applications include large-body alignment, biofluorescence, Raman, RGB laser displays, and military signaling. SCL manufactures and sells standard and custom laser modules and offers R&D contracts for multi-kilowatt solid-state laser development. Contact: Sten Tornegard, Marketing Manager, stornegard@snakecreeklasers.com; Joshua Hildreth, QA Manager, jhildreth@snakecreeklasers.com.

# Sofradir EC, Inc.

373 Rte 46 W, Fairfield, NJ, 07004-2442 973/882-0211; fax 973/882-0997 info@sofradir-ec.com; www.sofradir-ec.com

# New Product: Sofradir-EC SSC-640M high performance (<20mK, <320fps) MWIR infrared camera.

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; Art Stout, Vice President - Business Development, astout@sofradir-ec.com.

# Solid State Cooling Systems

/stems

20 Pleasant View Rd, New York, NY, 12569 845/635-5500

www.sscooling.com

Since 1994, SSCS has manufactured solid state temperature control products which are compact, quiet, vibration-free, reliable and energysaving. 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. Stop by our booth for the coolest demonstration on thermoelectrics and take the peppermint pattie chocolate "cool mint" challenge!

# Space Optics Research Labs, LLC

#4238

#4645

7 Stuart Rd, Chelmsford, MA, 01824-4107 978/250-8640; fax 978/256-5605 sorl@sorl.com; www.sorl.com

At SORL, we are focused on producing optics to the highest levels of precision possible. After 47 years in the optical industry, we remain the leader in producing high quality aspheric optical systems and instrumentation for a wide range of research and test applications. We also produce a wide range of reflective components and accessories that provide precise solutions to the problems of optical testing in the airborne, space-based, and astronomical applications. Contact: SORL Sales, sorl@sorl.com.



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# GERMAN PAVILION

Photonics West 2010 26 to 28 January, 2010, San Francisco, California Moscone Center, Hall North, Booth 4601

EXHIBITORS: Agfa-Gevaert HealthCare GmbH, Peiting = Aixtooling GmbH, Aachen = Amtron GmbH, Würstein = asphericon GmbH, Jena = Baden-Württemberg International, Stuttgart = Bte Bedampfungstechnik GmbH, Elsoff = CRYSTAL GmbH, Berlin = Dausinger + Giesen GmbH, Stuttgart = DIOPTIC GmbH, Weinheim = DynTest Technologies GmbH, Grassau = F & T Fibers and Technology GmbH, Berlin = Feldmann GmbH, Wetzlar = Fletje Sensor&Optoelektronik GmbH, Glashagen = Fraunhofer Institute for Applied Opties and Precision Engineering IOF, Jena = Fraunhofer Institute for Physical Measurement Techniques IPM, Freiburg = Fraunhofer Institute for Silicate Research ISC, Würzburg = Fraunhofer Institute for Physical Measurement Techniques IPM, Freiburg = Fraunhofer Institute for Silicate Berlin = Fraunhofer-Institut für Produktionstechnologie IPT, Aachen = Fresnel Opties GmbH, Apolda = GD Optical Competence GmbH, Sinn = hema electronie gmbh, Aalen = Hochschule Harz, Wernigerode = IMM Photonics GmbH, Unterschleissheim Unterschleissheim = Inno-spec GmbH, Nürnberg = IQ Evolution GmbH, Garbsen = LEG Thüringen mbH, Erfurt = Leica Microsystems CMS GmbH, Weizlar = LightTrans GmbH, Jena = m2k-leser GmbH, Freiburg = MOULDED OPTICS GmbH, Schöffengrund = nanosystee GmbH, Gross-Umstadt = neoLASE GmbH, Hannover = neoplas control GmbH, Greifswald = OpteoNat Optionik CmbH, Rodgau = PRIMES GmbH, Rodgau = PRIMES GmbH, Rodgau = PRIMES GmbH, Berlin = Precitec Optronik GmbH, Rodgau = PRIMES GmbH, Berlin = Precitec Optronik GmbH, Rodgau = PRIMES

# Sparkle Optics Corp.

SPIF Corporate 27919 Ridgebluff Ct, Rolling Hills Estates, CA, 90275 650/714-8733 admin@sparkleoptics.com; www.sparkleoptics.com

# Spartan Felt Company, Inc.

151 Felt Dr, Roebuck, SC, 29376 864/576-7919; fax 864/574-4507 www.spartanfelt.com

#### New Product: SPS-1 Pad; a unique microcellular polymeric pad designed for oxide CMP and infra-red polishing.

Spartan Polishing Pad Group, a division of Spartan Felt Co. SC, USA manufactures a variety of applications - specific polishing pads, polishing wheels and polishing bobs for optic, electro-optic, industrial, semi and compound semiconductor applications. Our quality products, competitive pricing, green manufacturing methods and process assistance is a plus with our prospect and customer base. Contact: John Welty, Polishing Division Manager, jwelty@spartanfelt.com; Bobby Rossi, Jr., V.P., brossi@spartanfelt.com.

# **Special Optics**

#1834

#4406

#5501

315 Richard Mine Rd, Wharton, NJ, 07885-1659 973/366-7289; fax 973/366-7407

sales@specialoptics.com; www.specialoptics.com Special Optics, a Navitar company, specializes in rapidly designing, prototyping, and manufacturing the most innovative and 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. We also carry a complete line of standard "off-the-shelf" products, like F-Theta Scan Lenses and Laser Beam Expanders, which are available for quick delivery. Contact: Craig Fitzgerald, Vice President - Product and Business Development, c\_fitzgerald@navitar.com; Steven Morales, Sales Manager, smorales@specialoptics.com.

# Specim Spectral Imaging Ltd.

SPIE Corporate

Teknologiantie 18 A, Oulu, Finland, 90570 358 10 4244 400; 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 for ground and airborne applications in UV, VNIR, SWIR and thermal spectral ranges. We provide solutions to the most demanding applications in laboratory, field and remote sensing. Contact: info@specim.fi. Contact: Teija Pakanen, Key Account Coordinator, teija.pakanen@specim.fi; Jouni Jussila, Product Manager, jouni.jussila@specim.fi.

# Spectral Instruments Inc.

420 N Bonita Ave, Tucson, AZ, 85745 520/884-8821: fax 520/884-8803 info@specinst.com; www.specinst.com

#### New Product: 1300S camera with 10k x 10k 9µm pixels, available front or back illuminated with up to 16 read ports.

Spectral Instruments specializes in the development and manufacture of cooled CCD cameras for demanding low-light applications. We provide the finest low noise <3e-, high sensitivity, -110C cooling, 16-bit CCD cameras that current technology can offer. Optical inputs can include windows with custom coatings through 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

111 Highland Dr, Putnam, CT, 06260 860/928-5834 lschmutz@spectraloptics.com; www.spectraloptics.com

#### New Product: PolaStack is a broadband, high power polarizer with 100:1 extinction from 193 - 1300 nm.

Spectral Optics is the new standard in optical coatings and coated optical components. Besides our full line of high quality hard dielectric coatings and optics, Spectral Optics has unique components such as the TrueSplit non-polarized beamsplitter, Molecular Fusion optically contacted waveplates, and Polastack broadband polarizers. Contact: Dr. Lawrence E. Schmutz, Division Manager, lschmutz@spectralproducts.com.

# Spectral Systems

35 Corporate Park Dr., Hopewell Junction, NY, 12533 845/896-2200; fax 845/896-2203

cguajardo@spectral-systems.com; www.spectral-systems.com

#### New Product: Modulator Assembly and test, FTIR Spectometer solutions including opto-mechanical and electronics.

New production assembly lines dedicated to modulator interferometer assembly to customer design at lower costs. R&D support in solving optical problems. Mass production of Germanium optics dedicated to Sensor markets, again low costs with high volume output. ITAR compliant. Contact: Carlos Guajardo, Sales Manager, cguajardo@ spectral-systems.com; Frank Wesley, Engineering Manager, fwesley@ spectral-systems.com.

# Spectralus Corp.

2953 Bunker Hill Ln Ste 400, Santa Clara, CA, 95054 408/282-3658; fax 408/282-3501 gnemet@spectralus.com; www.spectralus.com

New Product: Miniature ATTO green laser for mobile projectors: 60mW average power, <0.4cc volume, <4mm height.

Spectralus has developed a novel microchip green laser source based on its proprietary periodically poled nonlinear converter (PPMgOLN). This platform is demonstrated to achieve wall-plug efficiency of 15% for output power levels of 50-150mW at 532nm wavelength. This new laser and PPMgOLN crystals are offered in Spectralus' product portfolio. Contact: Greg Nemet, COO, gnemet@spectralus.com; Andrei Shchegrov, VP of Product Development, andrei@spectralus.com.

# Spectra-Mat, Inc.

100 Westgate Dr, Watsonville, CA, 95076 831/722-4116; fax 831/722-4172 smi\_sales@saes-group.com; www.spectramat.com

Spectra-Mat, Inc. (SMI) is a developer and manufacturer of low coefficient of thermal expansion (CTE) components designed to solve thermal management issues in your packaging application. Our "powder to parts" methodology ensures high quality and process control. With CTE's ranging from 4.5 to 8.0, our materials provide an excellent match to most III-V semiconductors and retain good thermal conductivity. Our wafer level lithography grade substrates are available in sizes up to 150mm. Contact: Sandra Petznick, Marketing Manager, Sandra\_Petznick@saes-group.com; smi\_sales@saes-group.com.

204



# #1540

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# Spectra-Physics, A Brand of Newport Corp.

SPIE Corporate Member

3635 Peterson Way, Santa Clara, CA, 95054 408/980-4300; fax 408/980-5537 sales@spectra-physics.com;

www.newport.com/spectra-physics

For nearly 50 years, Spectra-Physics®, a brand of Newport Corporation, has been an industry-leading global supplier of advanced laser solutions to the microelectronics, solar, semiconductor, industrial manufacturing, scientific research, and life and health sciences markets. The company's portfolio of high performance, high reliability products includes a wide range of ultrafast, Q-switched DPSS, CW and Quasi-CW, high-energy pulsed, tunable, gas, and fiber-based lasers. Contact: Herman Chui, Director of Marketing, herman.chui@spectra-physics.com.

# Spectrecology

SPIE Corporate

1104 Pinehurst Rd, Dunedin, FL, 34698 727/230-1697: fax 866/929-7990 info@spectrecology.com; www.spectrecology.com

New Product: Holographic spectrometer and LED combiner - No slit, no mirrors, just a hologram and a detector.

Spectrecology develops and sells unique spectroscopy products, fiber optic IR spectrometers, UV/VIS spectrometers, UV LED sources for fluorescence and we distribute products for Sandhouse Design, Prospect Photonics and OOI. Contact: Mike Morris, President, mike@ spectrecology.com.

# Spectrogon US Inc.

SPIE Corporate

24B Hill Rd, Parsippany, NJ, 07054 973/331-1191; fax 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/ Stretcher applications, tuning and spectroscopic instruments. Spectrogon offers a huge inventory of stock filters, (website: www.spectrogon.com), that can be shipped within two weeks. Contact: Sam Ponzo, Sales Manager, sales.us@spectrogon.com; Kelly Koerber, Sales Adm., sales. us@spectrogon.com.

# Spectrolab, Inc. A Boeing Company

#6064

12500 Gladstone Ave, Sylmar, CA, 91342 818/365-4611 www.spectrolab.com

#### New Product: Photon 3D Ladar Camera for 3D imaging, based on Geiger mode Avalanche Photo-Diode array technology.

Spectrolab, a wholly owned subsidiary of Boeing Company, offers high performance and reliable InGaAs sensor products for the infrared imaging and photon counting markets. We offer a variety of packaging options and all detectors can be packaged according to customer's specifications. We offer low-noise InGaAs APD arrays, 32 x 32 APD Geiger mode (Gm) sensor chip assemblies and Ladar camera for active infrared imaging applications. Contact: Rengarajan Sudharsanan, Director, Sensor Products, rengarajan.sudharsanan@boeing.com; Ping Yuan, Senior Staff Engineer, ping.yuan@boeing.com.

#### **PROMOTIONAL PARTNER**

# Spectroscopy Magazine

485F US Highway 1 S Ste 100, Iselin, NJ, 08830-3009 732/596-0276

www.spectroscopyonline.com

#### New Product: Delivering industry-leading content to the largest audited circulation of spectroscopists in the US.

Spectroscopy's mission is to enhance productivity, efficiency, and the overall value of spectroscopic instruments and methods as a practical analytical technology across a variety of fields. Scientists, technicians, and laboratory managers gain proficiency and competitive advantage for the real-world issues they face through unbiased peer-review technical articles, trusted troubleshooting advice, and best-practice application solutions. Contact: Ed Fantuzzi, Publisher, efantuzzi@advanstar.com; Stephanie Shaffer, East Coast Sales Representative, sshaffer@advanstar.com.

# Spectrum Detector Inc.

SPIE Corporate

5825 Jean Road Center, Lake Oswego, OR, 97035 503/697-1870; fax 503/697-0633

info@spectrumdetector.com; www.spectrumdetector.com

New Product: Pyro Quad Detector/Inst, fJ Silicon Joulemeter, Thermal Power Probes, mach5 100kHz Digital Joulemeter.

We design and manufacture Optical Power Meters, Laser Energy Meters, 100kHz Digital Joulemeters, Broadband Pyroelectric Radiometers, Room temperature THz Sensors and Instruments. Leading supplier of Custom Engineered Pyroelectric Detectors and Optical Instruments. We measure from pW to mW, fJ to mJ, 1 to 100,000 pps and from DUV to Far IR and THz. All products, except THz, are NIST traceable. Contact: Don Dooley, President, dond@spectrumdetector.com.

# Spectrum Scientific, Inc.

salesssioptics.com; www.ssioptics.com

New Product: 470UV Spectrometer; New Line of Hollow Cube Retroreflector; New Line of Off-Axis Parabolic Mirrors.

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) as well as Hollow Cube Retroreflector, nanostructures, hybrid optics, complex optics and custom spectrometers. Custom grating designs available upon request. SSI specializes in UV down to 120nm and VIS/NIR. Contact: Daphnie Chakran, daphnie@ ssioptics.com; David Cook, david.cook@ssioptics.com.

# Spectrum Thin Films Corp.

#1434

135 Marcus Blvd, Hauppauge, NY, 11788 631/901-1010 www.spectrumthinfilms.com

#### New Product: New and innovative UV silver coating producing 98% reflectivity 300 past 2.5 microns.

Manufacturer of high quality 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 spectrophotometer, environmental and test chambers. Ion beam sputtering, electron beam and IAD Coatings from 193nm to 20 microns. Micro optics to one meter. Fast on time deliveries. Thin Film Express coatings in 24 hours. Contact: Harry Sudwischer, Technical Sales, Harry@spectrumthinfilms.com; Maria Pirera, Sales, maria@spectrumthinfilms.com.

### 205

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SPIE Corporate Member

16692-A Hale Ave, Irvine, CA, 92606 949/260-9900; fax 949/960-9902

### Sperian Protection

10 Thurber Blvd, Smithfield, RI, 02917 401/757-2298; fax 401/757-2912

mmclear@sperianprotection.com; www.sperianprotection.com Sperian Protection, the new name of Glendale will be introducing the Sperian NY spectacle with crystal clarity lenses. The Sperian NY features spring hinges, metal ascents and soft, bendable temples. These crystal clear filters offer laser protection from 755 to 3000nm. We have also expanded our line of patented HT high transmission filters for IR and visible applications. Drop off your laser specifications and be entered to win a free iPod touch. Contact: Mark McLear, mmclear@ sperianprotection.com; Cathi Scogin, cscogin@sperianprotection.com.

# **SphereOptics**

SPIE Corporate

One Horse Shoe Pond Ln, Concord, NH, 03301 603/715-3000; fax 603/225-3089 sphereoptics@sphereoptics.com; www.sphereoptics.com

#### New Product: TOCS-Thermal/Optical/Electrical LED Measurement Systems.

SphereOptics designs, produces and sells precision radiometric and photometric test and measurement products addressing the specific needs of the aerospace, electronic imaging, LED, lighting, medical imaging and optics industries. The company offers a broad line of integrating sphere systems, specializing in custom design and manufacturing services. SphereOptics has sales and service centers located in France, Germany and the United States, and a network of qualified representatives worldwide. Contact: Chris Durell. VP Sales. cdurell@sphereoptics.com; Sid Rane, Eastern Regional Sales Manager, srane@sphereoptics.com.

### SPI Lasers

#409

#635

#4545

#4726

6 Wellington Park, Tollbar Way Hedge End, Southampton, United Kingdom, SO30 2QU 44 1489 779 696; fax 44 1489 779 698 sales@spilasers.com; www.spioptics.com

#### New Product: 40W FL - increased ave. power, peak pulse power of >20kW, unique pulse energy levels (exceed 1.25mJ).

SPI Lasers, a wholly owned subsidiary of the TRUMPF group, is a leading designer and manufacturer of energy efficient, flexible fiber lasers that mark, weld and cut different materials used in numerous applications worldwide. Visit www.spilasers.com for more information and details of SPI's free 30 day evaluation program. Contact: Ken Dzurko, General Manager, Ken.Dzurko@spilasers.com; John Tinson, VP Sales, John. Tinson@spilasers.com.

# Spica Technologies, Inc.

SPIE Corporate Member

18 Clinton Dr #3, Hollis, NH, 03049 603/882-8233; fax 603/882-8614 sales@spicatech.com; www.spicatech.com

Spica Technologies provides a variety of test and measurement services to the manufacturers and end users of optical components. In addition to our laser damage test capabilities, Spica also maintains a broad range of optical test services including optical density measurements, laser based reflection measurements, environmental exposure, surface roughness and flatness. Contact: Shelly Turner, sales@spicatech.com.

# SPIE Advancing the Laser/LaserFest

PO Box 10, Bellingham, WA, 98227 360/676-3290: fax 360/647-1445 www.SPIE.org

# Spire Semiconductor, LLC

25 Sagamore Park Dr, Hudson, NH, 03051 603/595-8900; fax 603/595-0975 www.spiresemi.com

Spire Semiconductor specializes in custom III-V epitaxial wafer and device foundry services. Materials and devices manufactured include Concentrator Solar Cells, LED's, Lasers, Modulators and FPA's. Industries and markets serviced are PV, defense, biomedical, telecommunications and consumer products. Applying our extensive experience in compound semiconductor epitaxy and device processing, the scientists, engineers and technicians at Spire work with clients to design and fabricate components. Contact: Dick Rogers, Controller, Drogers@spiresemi.com.

# SPOT Imaging Solutions

6540 Burroughs, Sterling Heights, MI, 48314 586/731-6000; fax 586/731-6469 info@diaging.com; www.diaginc.com

SPOT™ Imaging Solutions, a subsidiary of Diagnostic Instruments, Inc., is celebrating their 43rd 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. 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 or visit our website: www.spotimaging.com to find the right camera for your application.

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# SRICO, Inc.

2724 Sawbury Blvd, Columbus, OH, 43235 614/799-0664; fax 614/799-2116 judith@srico.com; www.srico.com

Srico specializes in ferroelectric LiNbO3 and LiTaO3 materials and devices. Products are optical modulators; PPLN devices; frequency converters; electric field & voltage sensors; fiber optic links and innovative ferroelectric platforms. Srico provides research & development, custom product design, and fabrication services. Contact: Sri Sriram, President & CEO, sri@srico.com; Judith Sriram, VP/Business Development, iudith@srico.com.

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### **SSCP USA**

400 Atrium Dr #151N, Somerset, NJ, 08873 732/271-0350; fax 732/348-9496 timothyeclark@sscpcorp.com; www.sscpusa.com

New Product: PC 404F – Polymer Cladding for Silica Core Fiber. Fast Cure, Optimized Viscosity, High Modulus.

Manufactures both standard and special purpose fiber coatings primary/secondary, ink, ribbon matrix, and low index coating materials. Special purpose products include: high Tg secondary coatings; low index polymer claddings, with index ranging from 1.363 to 1.4525 at 850 nm, for silica core fibers and high optical power applications, and for recoating stripped fiber. Newest PC product has 1.363 index. Special low and high index adhesives are also available. Contact: Timothy Clark, Marketing Director, timothyeclark@sscpcorp.com.

### Standa

#833

#5103

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<sup>2</sup>=<1.2. These lasers are optimal for micromachining, spectroscopy, and seeding high-energy fiber lasers. Contact: Lucian Hand, President, Altos Photonics, sales@altosphotonics.com.

# Stanford Computer Optics, Inc.

### #1904

SPIE Corporate

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

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

Manufactures intensified CCD cameras and image intensifiers. High-speed, gated (200 picosecond), intensified cameras with nanoLux sensitivity. Video imaging spectroscopy software for complex data acquisition, time-resolved spectroscopy, and pixelby-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 Research Center (SPRC)**

#5307

450 Via Palou AP 212, Stanford, CA, 94305 650/723-5627; fax 650/725-1822 photonics@stanford.edu; http://photonics.stanford.edu

The Stanford Photonics Research Center builds strategic partnerships between the Stanford University research community and member companies. SPRC offers members facilitated access to Stanford faculty, students and researchers via Working Groups, workshops, research project collaborations and visiting researcher programs. Corporate Members directly support photonics research activities at Stanford; in turn, members benefit from their exposure to current and emerging areas in photonics research. Contact: Dr. Thomas Baer, Executive Director, photonics@stanford.edu; Sara Charbonneau-Lefort, Assistant Director, photonics@stanford.edu.

# Stanford Photonics, Inc.

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

#### New Product: Software: real time strip charting and recording of ROI data. All cameras/speeds.

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

# Stanford Research Systems, Inc.

1290-D Reamwood Ave, Sunnyvale, CA, 94089 408/744-9040: fax 408/744-9049 info@thinksrs.com: www.thinksrs.com

Stanford Research Systems designs and manufactures scientific test and measurement instruments. Its products include lock-in amplifiers, digital delay/pulse generators, high voltage power supplies, Boxcar, optical chopper, preamplifiers, photon counters, small instrumentation modules, FFT spectrum analyzers, Rb. frequency standards, synthesized clock generators, function generators, residual gas analyzers, and many others. Contact: Janie Du, Sales, info@thinksrs.com; Dave Ames, Sales, info@ thinksrs.com.

### Star Tech Instruments

#6060

#5006

SPIE Corporate

PO Box 1822, New Fairfield, CT, 06812 203/312-0767

info@startechinst.com; www.startechinst.com

Star Tech Instruments manufactures energy probes, imaging systems and position sensors for the EUV and DUV spectral bands. Contact: Bill Fricke, TATZEN@ATT.NET.

# Steinmeyer, Inc.

56 Middlesex Tpke Ste 200, Burlington, MA, 01803 781/273-6220; fax 781/273-6602

jskaltsas@steinmeyer.com; www.steinmeyer.com

At Steinmeyer, we are dedicated to the design and engineering of precision linear and rotary stages boasting some of the lowest runout accuracies available while still using mechanical linear bearings with motors and controllers built in for space saving solutions! Our expertise lies in appreciating the details of the application and being able to achieve the highest possible precision by choosing the best components together with understanding how specific materials react during machining. Contact: John Skaltsas, Marketing and Sales, jskaltsas@steinmeyer.com; George Jaffe, Executive Vice President, gjaffe@steinmeyer.com.

# Stellar Industries Corp.

#5101

50 Howe Ave, Millbury, MA, 01527 508/865-1668: fax 508/865-5016 sales@stellarind.com; www.stellarind.com

New Product: Stellar Industries Corp. announces our 'new' CPU on 230 Watt AIN 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, ericb@stellarind.com.

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# StellarNet, Inc.

SPIF Corporate

14390 Carlson Cir, Tampa, FL, 33626 813/855-8687; fax 813/855-0394 www.stellarnet.us

#### New Product: Thin Film systems allow non-contact measurements with software for multilayer and thick/thin layers.

StellarNet makes extremely rugged UV-VIS-NIR systems for measurements in the Lab or Field. Since 1995 we've been shipping portable instrumentation that delivers high S/N performance at a low cost. Our flagship Black-Comet concave grating spec provides superior optical imaging with ultra low stray light & is comparable to high end systems costing more. The SpectraWiz software is included to enable comprehensive LED & light measurements via NIST traceable calibrations performed at our factory. Contact: Ryan Flaherty, Principal Scientist, ryan@stellarnet.us; Jason Pierce, Staff Scientist, jpierce@stellarnet.us.

# Stemmerich, Inc.

SPIE Corporate Member

4728 Gravois Ave, St. Louis, MO, 63116 314/832-7726; fax 314/832-7799 www.stemmerich.com

Providers of specialty glass components for the display and electronic industries. Complex configurations, polished surfaces and precision edge profiles (ground/polished). Clean Room inspection and packaging. R&D, Pilot Projects to Production Run quantities with quick on time deliveries. Contact: Colleen Weber, Sales, colleenweber@stemmerich.com; Ron Seago, Sales, rseago@stemmerich.com.

# StockerYale, Inc.

SPIE Corporate

32 Hampshire Rd, Salem, NH, 03079-4204 603/893-8778; fax 603/893-5604 info@stockeryale.com; www.stockeryale.com

#### New Product: StockerYale's Lasiris™ Green PowerLine 532nm laser available in 50mW up to 200mW.

StockerYale is an independent designer and manufacturer of structured light lasers, LED modules, and fluorescent lighting products, as well as specialty optical fibers and phase masks for industry leading OEMs. Contact: Sales, Sales Department, lasers@stockeryale.com.

# Strasbaugh

825 Buckley Rd. San Luis Obispo, CA. 93401 805/541-6424; fax 805/541-6425

info@strasbaugh.com; www.strasbaugh.com

Strasbaugh is a leading provider of innovative precision surfacing equipment to the global Semiconductor, Precision Optics, Silicon, LED, and Telecom industries. From prime wafer polishing and chemicalmechanical planarization systems to advanced wafer grinding tools, Strasbaugh has built a reputation as a world-class manufacturer of precise, reliable optical and semiconductor polishing and grinding solutions. Strasbaugh has delivered over 16,000 machine products worldwide since 1948. Contact: Gerard Pardeilhan, Optics Product Manager, optix@earthlink.net; Scott Riedinger, Worldwide Optics Sales, sriedinger@strasbaugh.com.

# Stron Optics Technical Co., Ltd.

Lirenmeng Industrial Zone, Changpingda Bay Daojiao Twon, Donaguan City, China, 523001 86 769 2260 7473; fax 86 769 2225 9370 dgservice@dgservice.cn; www.dgervice.cn

### SU Squared Partnership

c/o Strathclyde University, Wolfson Ctr 106 Rottenrow, Glasgow, United Kingdom, G2 0NW 44 141 548 3227 info@su2p.com; www.su2p.com

#### New Product: Scotland Stanford Universities Partnership.

The Universities of Strathclyde, St. Andrews, Heriot-Watt and Glasgow, together with Stanford University and the California Institute of Technology (Caltech), are collaborating in a project designed to capitalize on leading research in the photonics sector, in fields including life sciences and renewable energy, and the commercial opportunities the research offers. It also aims to bolster existing links between universities and businesses in Scotland and the U.S. Contact: Simon Andrews. Business Development Manager, simon.andrews@Strath.ac.uk.

#### Sumitomo Metal Mining Co. Ltd. #4933

11-3 Shimbashi 5-Chome, Minato-Ku, Tokyo, Japan, 105-8716 81 3 3436 7832; fax 81 3 3436 7827

Tetsuya\_Nakamura@ni.smm.co.jp; www.smm.co.jp

New Product: SMM' high power isolator features super compact size, low insertion loss and high isolation.

SMM is one of the largest providers of isolator to Telecommunication and Industrial laser market. SMM's expertise technologies with more than 15 year experience can realize high quality of isolator products to meet the market demands. Contact: TETSUYA NAKAMURA, Marketing Manager, Tetsuya\_Nakamura@ni.smm.co.jp; JUNJI IIDA, R&D Manager, Junji\_lida@ni.smm.co.jp.

# Super Optronics Inc.

PO Box 2598, Redondo Beach, CA, 90278 310/516-9082; fax 310/965-0029

contact@superoptronics.com; www.superoptronics.com New Product: PPLN, LBO Ovens and Temperature Controller

Crystals, Ovens and SHG systems. Non-linear crystals: BBO, LBO, KTP, CLBO, KD\*P, LiNbO<sub>3</sub>, LiIO<sub>3</sub>, AgGaSe<sub>2</sub> and more for SHG, SFG, DFG and OPO. PPLN Oven and Temperature controller. Ultra-thin crystal for autocorrelator, etc. Laser

crystals: YAG, YLF, YAP, YVO<sub>4</sub>, Ti:Sa, NYAB etc. Photorefractive crystals: BaTiO<sub>3</sub>, SBN, BSO, Fe:LN, etc. Crystal repair, polishing and coating service. Award-winning wavelength conversion systems for fs, ps, ns Ti:Sa and other lasers.

# **SUPERLUM**

Unit 1F Eastlink Business Park, Carrigtwohill, Co. Cork, Ireland 353 21 4533666; fax 353 21 4533026

sales@superlum.ie; www.superlumdiodes.com

New Product: Miniature, OEM, 100 nm wide SLD Light Sources with 10 mW power at 850 nm.

Founded in 1992 with the introduction of SLD (SLED) module at 820 nm we have continued to develop Broadband Light Sources to offer a whole range of innovative solutions to the worldwide market. Superluminescent Diodes for cutting edge OCT technologies, fiberoptic gyros, atomic force microscopy, fiber-optic sensors and other optical tests and measurements applications. Broadband SOA and gain modules with extreme outstanding parameters. Widely tunable/swept laser sources. Contact: Vladimir R. Shidlovski, VP Sales and Marketing, support@superlum.ie; Leonid Velichansky, Sales Engineer, velichansky@ superlumdiodes.com.

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TEL: +1 360 676 3290 · +1 888 504 8171 · customerservice@spie.org

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### Suruga Seiki Co., Ltd.

UCJ-UENO Bldg, 2-8-14 Kitaueno Taito, Tokyo, Japan, 110-0014 81 3 5806 1646; fax 81 3 5806 1676 e-ost@suruga-g.co.jp; www.suruga-ost.com

New Product: PG series: Low cost/low profile liner motorized stages, Load capacity: 10kgf, Accuacy: 1µm.

SURUGA SEIKI Co., Ltd. is a Japanese leading company in developing, manufacturing and delivering innovative, high-performance positionig systems and opto-mechanics at very competitive price for industrial and research applications. SURUGA SEIKI is a member of MISUMI GROUP who is a 'Behind-the Scene-Supporter' of manufacturers world-wide. Its revenue in 2008 was JPY110B. Contact: Mr. Kihyeon Pak, Manager, International Positioning Stage Business Unit, k.pak@suruga-g.co.jp; Mr. Tetsuya Okamoto, Leader, Overseas Customer Services Group, tetsuya. okamoto@suruga-g.co.jp.

# SUSS MicroOptics SA

Rue Jacquet-Droz 7, Neuchatel, Switzerland, 2000 41 32 720 5104: fax 41 32 720 5713 info@suss.ch; http://www.suss.ch

New Product: Illumination system for mask aligners, Nipkow disks for confocal microscopy.

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, info@suss.ch.

# Sutter Instrument Co.

SPIE Corporate Member

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

#### New Product: The Lambda XL is a stable, broad spectrum light source - expected bulb life of 10,000 hours.

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, stepper-motor controlled SmartShutter, and motorized X-Y translator. Our P-2000 is the premier NSOM fiber tip puller. With over 30 years of motor control and CNC machining experience, we are able to design and deliver versatile, robust optical products at affordable prices. Contact: Alex Cooper, Sales & Marketing, alex@sutter. com; Jack Belgum, PhD, Executive VP, R&D, jack@sutter.com.

# Swamp Optics, LLC

#6078

6300 Powers Ferry Rd Ste 600-345, Atlanta, GA, 30339 404/547-9267; fax 866/855-4518

linda.trebino@swampoptics.com; www.swampoptics.com

#### New 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 spatiotemporal 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; Dongjoo Lee, Research Scientist, Linda. Trebino@SwampOptics.com.

### Swift Glass Co.

PO Box 879, 131 W 22nd St, Elmira Heights, NY, 14903 607/723-7166; fax 607/732-5829

quality@swiftglass.com; www.swiftglass.com

Premier fabricator of Borofloat, Pyrex, Quartz, Vycor, Fused Silica, Schott and Kopp Color Filters, Sapphire, Soda Lime, and Starphire materials. Capabilities include double side lapping and polishing, drilling, chem strengthening, heat tempering, cnc machining, silk screening, and edge grinding and polishing. Please visit us at www.swiftglass.com for more info. Contact: Charlie Burke, VP, cburke@swiftglass.com; Tony Speciale, Customer Service Manager, tspeciale@swiftglass.com.

# Swiss Jewel Company

325 Chestnut St Ste 509, Philadelphia, PA, 19106 215/925-2867; fax 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 and 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: Sales Team, sales@swissjewel.com.

# Sydor Instruments, LLC

31 Jet View Dr, Rochester, NY, 14624 585/278-1168; fax 585/278-1169

sales@sydorinstruments.com; www.sydorinstruments.com Sydor Instruments is a comprehensive diagnostics solutions provider. We provide our customers with custom diagnostics and ultra fast imaging systems for a variety of applications in science and industry. We specialize in streak cameras and single photon detectors where the highest resolution and accuracy is required. Contact: Michael Pavia, President, pavia@sydorinstruments.com.

# Sydor Optics, Inc.

31 Jet View Dr, Rochester, NY, 14624 585/271-7300; fax 585/271-7309 sales@sydor.com; www.sydor.com

Manufacturing flat-surfaced, parallel and wedged optics and specializing in double-side grinding and polishing. Sydor has offered precision custom optical components for over 40 years. Sydor offers prototype, to high volume OEM production. Products include: beam splitters, color filters, debris shields, glass wafers, grating substrates, light-weighted substrates, mirrors, optical flats, wedges, and windows. Also offering laser optics and laser machining. Contact: Michael Naselaris, General Manager, sales@ sydor.com; Carol Corey, Sales Engineer, carol@sydor.com.

# Syntec Optics

SPIE Corporate Member

7100 Junction Rd, Pavilion, NY, 14525 585/768-2513; fax 585/768-7138 info@syntecoptics.com; www.syntecoptics.com

Hybrid solutions that push the polymer envelope. Syntec Optics is the largest independent custom manufacturer of precision plastic optics in the U.S. Capabilities consist of optical and mechanical design, including optics that combine polymer and glass; optical and opaque mold building; including fixture tooling; single-point diamond turning, including HRDT<sup>™</sup> for high refraction, high thermal optics and also plano polishing. Fully integrated custom metrology and assembly services. Contact: Thomas Goundry, tgoundry@syntecoptics.com; Richard Arndt, VP/GM, rarndt@syntecoptics.com.

### #735

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# Taboada Research Instruments, Inc.

1923 N New Braunfels, San Antonio, TX, 78208 210/224-8876; fax 210/224-8834 info@taboada.com; www.taboada.com

# New Product: Improved Omni Mount provides a stable, rigid mounting for a wide range of optical components.

Taboada Research Instruments, Inc. was founded in 1999 and specializes in custom research, robotic, and optical instruments. TRI sells laser plane generators and structured light ribbons, both with no moving parts, for various applications. TRI provides novel optical mounts that can accommodate optics having a wide range of diameters. TRI also designs and manufactures Q-switch modifications for high powered Er glass lasers. To this day, TRI remains focused on Advancement Through Innovation. Contact: John Taboada, President, j@taboada.com; John M. Taboada, Ph.D., J.D., Vice President, jm@taboada.com.

# TATSUTA Electric Wire & Cable Co., Ltd. #4106

Nihonseimei Bldg 3F, 1-1 Minami-cho Kawasaki-ku, Kawasaki, Japan, 210-0015 81 44 221 7692; fax 81 44 221 7695 telecom-sales@tatsuta.co.jp; www.tatsuta.co.jp/en/index.html

# TDK-Lambda Americas Inc.

#5405

#1837

405 Essex Rd, Neptune, NJ, 07753 732/922-9300; fax 732/922-1441 sales@us.tdk-lambda.com; www.us.tdk-lambda.com/hp

# New Product: Highest Density Programmable Power with identical user interfaces.

Highest Density Programmable Power - TDK-Lambda Genesys™ Series - most complete set of Programmable DC sources with identical user interfaces, Platforms: 1U Half Rack 750W, 1U 750/1500W, 2U 3.3/5kW and 3U 10/15kW. Standard features: reliable Front Panel encoders, built-in standard RS-232/485, Remote Analog Programming, Last Setting Memory, Auto/Safe Re-start, optional remote IEEE, Isolated Analog or LXI Certified LAN Control. Wide range power factor corrected AC Inputs for operation world-wide. Contact: John Breickner, Product Manager, john. breickner@us.tdk-lambda.com.

# **TEC Microsystems GmbH**

#4601

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

# New Product: Thermoelectric sub-assemblies, TE micro modules in various packages, modular TEC controller, Z-meters.

TEC Microsystems GmbH, founded in 2007, is a growing company that is offering standard and custom thermoelectric cooling solutions for laser and optoelectronic applications. We are committed to provide maximum service to our customers, especially focus on delivery reliability, securing high-quality of the products and good communication. Contact: Alexander Hoferichter, Managing Director, info@tec-microsystems.com.

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# tec5USA, Inc.

SPIE Corporate

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

# New Product: Electronics for Hamamatsu S11071 CCD Array with USB and Ethernet Interfaces.

High-quality products for spectroscopy, light sources, light guides, fiberoptic 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 soft-ware support. Custom designed components and systems. Contact: Gert Noll, General Manager, gert.noll@tec5usa.com; Dan Fields, General Manager, dan.fields@tec5usa.com.

# Techmetals, Inc.

SPIE Corporate

PO Box 1266, Dayton, OH, 45401 937/253-5311; fax 937/253-5096 info@techmetals.com; www.techmetals.com

Techmetals offers Optakoat - the coating of choice for SPDT applications of precision optics, mirrors, critical optic molding applications, BEF, solar film and printed circuit production. Techmetals also offers Optic Grade EN, Anodize, Silver and TM-Rx Medical Coating. See our complete list of specially designed coatings at www.techmetals.com. "Solving your Problems with our Solutions". Contact: Steve Deisher, GM-Optics Division, sdeisher@techmetals.com; Kenny Hindman, Metal Finishing Specialist, khindman@techmetals.com.

# Technical Manufacturing Corp.

SPIE Corporate Member

15 Centennial Dr, Peabody, MA, 01960 978/532-6330; fax 978/531-8682 sales@techmfg.com; www.techmfg.com

New Product: Stacis SEM-Base and Stacis Stage-Base for piezo vibration cancellation for SEMs and metrology tools.

TMC manufactures a complete line of Optical Tops and Vibration Isolation systems. Key features include the patented CleanTop<sup>®</sup> II spill-proof tops and Gimbal Piston<sup>®</sup> isolators for vertical and horizontal vibration isolation. New products include Non-Magnetic and Vacuum Compatible CleanTop Optical Tops, STACIS<sup>®</sup> piezoelectric active vibration isolators, Lightweight Breadboards, Cleanroom Compatible systems and Radius Corner Tops. TMC has full custom capabilities. Contact: Kyle Erlandsen, Applications Engineer, kylee@techmfg.com; John Allegrezza, Applications Engineer, johna@techmfg.com.

# **Technobis Group**

**#4201** 

Geesterweg 4B, Uitgeest, Netherlands, 1911 NB 31 251 362777 www.technobis.nl

# New Product: Deminsys is the fastest multi-sensor/multi-channel FBG interrogator system on the market.

Technobis Fibre Technologies (TFT-FOS) is specialized in the development and supply of total solutions in high speed multi-sensor fibre interrogators and sensors. TFT-FOS was founded in 2006 to focus on the development of a high speed multi-sensor/multi-channel system for Fibre Bragg Grating (FBG) interrogation to expand the use of FBG up to audible sound levels, making it suitable for research on resonances and eigenfrequency responses in highly demanding environments. Contact: T.J. van Els, Sales Director, thomas.vanels@technobis.nl.

**#817** 

#332

# **Tech-X Corporation**

5621 Arapahoe Ave Ste A, Boulder, CO, 80303 303/448-0727: fax 303/448-7756 sales@txcorp.com; www.txcorp.com

New Product: VORPAL allows researchers to solve the most challenging problems in RF and plasma modeling.

At Tech-X Corporation we specialize in electromagnetic simulations and high-performance computing. Among our core competencies is the simulation of processes, devices, and physical systems related to photonics, plasma physics, and electromagnetic or electrostatic phenomena, performed on computer systems ranging from desktops to Leadership Class high-performance computers. Contact: Ed Kase, VP, Marketing & Business Development, ekase@txcorp.com.

# **TecOptics**, Inc.

SPIE Corporate

1760 Grand Ave, Merrick, NY, 11566-3300 516/379-1203; fax 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.**

SPIE Corporate

6901 TPC Dr Ste 450, Orlando, FL, 32822 407/855-1212; fax 407/855-1213 jkim@tecportoptics.com; www.tecportoptics.com

An industry leading manufacturer of top quality Vacuum Coating Systems. Sophisticated 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. TOP QUALITY + EXTREME COMPETITIVE PRICING. Contact: Frank Helmes, Sales Director, fhelmes@comcast.net; Joseph Kim, Vice President, jkim@ tecportoptics.com.

# **Teem Photonics**

61 Chemin du Vieux Chêne, Meylan, France, 38240 33 4 76 04 03 09; fax 33 4 76 04 03 02 sales@teemphotonics.com; www.teemphotonics.com

#### New Product: We are featuring PicoSpark, our picosecond 100kHz multiWatt lasers with nanosecond economics.

Teem Photonics is the leader in passively Q-switched microchip lasers, which generate picosecond pulses with peaks up to 200kW, irradiances of TW/cm2 and repetition rates to 100kHz. Wavelengths of operation are 1064, 532, 355, 266 and 1535nm. Applications include micromachining, drilling, scribing, wafer dicing, microsurgery, fluorescence and breakdown spectroscopy. Our lasers are compact, lightweight and rugged. Teem Photonics is a privately held company located near Grenoble France. Contact: Jacques Bourgoin, Director, North American Sales & Marketing, j.bourgoin@teemphotonics.com; Jean-Edouard Communal, Manager, Eurasian Sales & Marketing, je.communal@teemphotonics.com.

### #2228

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#1723

**Teledyne Judson Technologies** SPIF Corporate

221 Commerce Dr, Montgomeryville, PA, 18936-9641 215/368-6900; fax 215/362-6107 www.teledynejudson.com

A global designer/manufacturer in the IR Sensor market with design/ fabrication expertise in FPAs (InGaAs, InSb, and HgCdTe) and photodetectors (Ge, InGaAs, InAs, InSb, PbS(e), and 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, Engineering, jkimchi@teledynejudson.com.

# **Telops Inc.**

SPIE Corporate

100 - 2600 ave St-Jean-Baptiste, Quebec, QC, Canada, G2E 6J5 418/864-7808; fax 418/864-7843

contact@telops.com; www.telops.com

Telops specializes in the design and production of advanced manufacturing, burn-in, lifetest and characterization solutions for high power laser diodes, and other photonic devices. Optimize your development and manufacturing process with a COTS or customized solution adapted to meet your needs and specifications. Photonic device manufacturing systems include wafer scribing/cleaving, stacking/ unstacking of edge emitters, fully automated test and inspection and more. Contact: Philippe Lagueux, Business Development Manager, philippe.lagueux@telops.com.

# Temmek Optics Ltd.

SPIE Corporate

PO Box 159, Yavne, Israel, 81101 972 8 943 8408; fax 972 8 943 8390

temmek@temmek.com; www.temmek.com Temmek Optics is a global leader in the design and manufacture of highperformance infrared zoom lenses for both uncooled LWIR and cooled MWIR large format FPA. Temmek lenses offer OEMs unprecedented

capability combining patented zoom mechanisms, compact size; with lightweight, low power mil-spec packaging. Temmek lenses prove their reliability and performance every day in US theaters of operation. For thirty years, Temmek has been the choice of optical system OEMs in the US and around the world. Contact: Rony Zilberman, Director Marketing, rony@ temmek.com; Dony Maresse, Director Operations, donny@temmek.com.

# **Tempo Clean Room Foam**

1227 N Miller Park Ct, Visalia, CA, 93291 559/651-7711; fax 559/651-0123 tempo@tempo-foam.com; www.tempo-foam.com

#### New Product: Fiber coil management stack pack 304mm spool and 101mm x 4mm thick square glass packages.

Stock and custom packages for optics, fiber coils and assemblies. Static dissipative, lint free, labor saving packages, over 200 stock items. Low cost mold inserts for customization. Contact: Doug Rogers, President, tempo@tempo-foam.com.

Get the training you need to stay ahead of the technology curve.

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### **#701**

#1040

#4218

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Colorado is home to over 250 photonics companies, seven universities with photonics programs/ research, four federally funded labs with photonics facilities, and three Nobel Physics prize winners for photonics research.

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Booth 2230

# **Tempotec Optics Co., Ltd.**

### #5026

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

# New Product: Achromatic Waveplate, Magnesium Fluoride (MgF<sup>2</sup>) window.

Tempotec Optics is a professional manufacturer of precision optical components. Our products and services are including Waveplate, Optical window, Filter, Mirror, Beamsplitter, Prism, Lens, Polarizer, Polarization rotator, Solid Etalon, Opto-mechanical assemble, etc. Tempotec has completed in house optics production lines including raw material cutting, grinding, polishing, ultrasonic cleaning and optical coating. The company is ISO 9001:2000 certificated by SGS. Contact: Hongbo Hou, VP, Sales & Marketing, hongbo.hou@tempotec.com; Tony Lin, President, tonylin@ tempotec.com.

### **TeraView Ltd.**

#5305

#504

#5443

Platinum Bldg, St John's Innovation Park, Cambridge, United Kingdom, CB4 0WS 44 1223 435380; fax 44 1223 435382 enguiries@teraview.com; www.teraview.com

New Product: Spectra 3000I is the fusion of TeraView's spectroscopic and imaging products.

TeraView Limited is the world's leading innovator of imaging and spectroscopic systems which exploit the properties of terahertz to characterize a wide range of materials. Terahertz technology provides a non-destructive technique to investigate materials from market sectors such as pharmaceutical, dental, aerospace and electronics. Our products include the TPS spectra 3000 for imaging and spectroscopic applications. TeraView also provides contract services. Contact: Philip Taday, Application Group Leader, philip.taday@teraview.com; Alessia Portieri, Buiness Development, alessia.portieri@teraview.com.

# **Teraxion Inc.**

2716 Einstein, Sainte-Foy, QC, Canada, G1P 4S8 418/658-9500; fax 418/658-9595 info@teraxion.com; www.teraxion.com

New Product: The PureSpectrum<sup>™</sup> - MNL ruggedized chassis is a fully integrated system comprising up to 10 laser modules.

TeraXion is a manufacturer of high performance optical components such as Narrow Linewidth Laser, Frequency Stabilized Laser, High power reflectors, Pulse stretchers, Pulse compressors, Narrow Band Laser Stabilizers, Filters and Customized functions optical components and sub assemblies for Fiber based lasers, and Tunable or Latchable dispersion compensator for High speed communication systems. Contact: Nicholas Gagnon, Product Manager, Industrial/Energy, info@teraxion.com; sales@teraxion.com.

# **TERMIONA LLC**

Zavodskaya 1 B bld 1, Moscow Zelenograd, Russia, 124365 7 499 729 74 20; fax 7 499 731 65 37 info@termiona.ru; www.termiona.ru

# New Product: Non-ceramic aluminum alloy based Peltier (unique CERATOM technology).

TERMIONA is manufacturer of unique non-ceramic Peltier, cooling and generating thermoelectric systems. Hot side up to 350C, units of any shapes, large sizes (up to 400X300 mm), simple to assemble – no lapping, no polishing, no torque control. We set new standards by increasing efficiency of cooling and heat outputs by 15-25% and lowering production costs by 20-30%. Use of special materials and manufacturing operations guarantee higher performance, low maintenance expenses and longer functioning. Contact: Andey Zykin, CEO, Global Director Sales & Marketing, azykin@termiona.ru; Alexey Malinov, Research & Development Director, amalinov@termiona.ru.

### **Tessera Inc.**

#### SPIE Corporate Member

3025 Orchard Pkwy, San Jose, CA, 95134-2054 408/321-6000; fax 408/321-8257 sales@tessera.com; www.tessera.com

Tessera provides innovative technologies that are transforming nextgeneration wireless, consumer and computing products. The company's imaging and optics solutions provide low-cost, high-quality camera functionality in electronic products, and include image sensor packaging, wafer-level optics and "smart" image enhancement intellectual property (IP). The company also offers customized micro-optic lenses, from diffractive and refractive optical elements to integrated micro-optical subassemblies.

# CONFERENCE BAG INSERT SPONSOR

### **Texas Instruments DLP**

7839\* Churchill Way MS 3900, Dallas, TX, 75251 www.ti.com

DLP<sup>®</sup> Products, a division of Texas Instruments, creates world-class digital technology allowing electronics manufacturers, scientists, and engineers to innovate. DLP technology enables development in a vast array of light processing applications such as 3D imaging, chemical analysis, 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.dlpdiscovery.com.

# **Thales Optronique SA**

#2616

#315

Laser Business Unit, 2 Avenue Gay Lussac, Elancourt, France, 78995

33 1 30 96 89 46; fax 33 1 30 96 75 50

thales-laser@fr.thalesgroup.com; www.thales-laser.com

# New Product: Now proposing a turn-key PetaWatt system including Gaïa-R HP pump (up to 14J @532nm, up to 5Hz).

Nanosecond to Femtosecond lasers, ultrafast solid-state pulsed lasers, turn-key systems and custom solutions are the core business of THALES OPTRONIQUE S.A. Laser Solutions Unit. The quality and the stability of its products meet the needs of both industrial and scientific applications. Contact: Fabien GHEZ, Sales Engineer Products and Systems, fabien. ghez@fr.thalesgroup.com; Ariane ANDREANI, Sales Manager, ariane. andreani@fr.thalesgroup.com.

# **Thermal Technology LLC**

#5327

#2000

1911 Airport Blvd, Santa Rosa, CA, 95403 408/893-6383

switter@thermaltechnology.com; www.thermaltechnology.com

# **Thermo Fisher Scientific**

SPIE Corporate

101 Commerce Blvd, Liverpool, NY, 13088-4507 315/451-9410; fax 315/451-9421 tony.chapman@thermofisher.com; www.thermo.com

# New Product: 2K x 2K Random access 16bit camera with eXtreme Dynamic Range. Radiation hard digital Color camera.

Thermo Scientific - CIDTEC, high performance UV–NIR Charge Injection Device (CID) cameras for demanding scientific imaging applications, radiation environments, and machine vision applications. Features include eXtremely wide dynamic range (XDR), anti-blooming, UV – NIR response, and color radiation hardened technology. Formats include Scientific, and intensified cameras for low light imaging or high speed gating. Deep UV and X-Ray coating deposition services are available. Contact: Tony Chapman, Sales and Marketing Director, tony.chapman@thermofisher. com; Mike Pilon, General Manager, michael.pilon@thermofisher.com.

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### Thermo Scientific, Scientific Instruments #2000

5225 Verona Rd, Madison, Wl, 53711 608/276-6100 analyze@thermofisher.com; www.thermo.com

### ThermoTek Inc.

1200 Lakeside Parkway Bldg 2 #200, Flower Mound, TX, 75028 972/874-4949; fax 972/874-4945 thermotek@thermotekusa.com: www.thermotekusa.com

Thermal management systems for precise temperature control. Solid state recirculating chillers from 100-1200 watts of cooling power in small portable packages. Patented power supply & 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, tq@thermotekusa. com; Debra Thomas, Customer Service Manager, dthomas@ thermotekusa.com.

### Thermoteknix Systems Ltd.

2 Pembroke Ave, Waterbeach, Cambridge, United Kingdom, CB5 9QR 44 1223 204 000; fax 44 1223 201 010 sales@thermoteknix.com: www.thermoteknix.com

# New Product: VisIR 640-S high resolution thermal imaging camera with ThermaGRAM real time analysis software.

Thermoteknix launch the groundbreaking VisIR 640-S high resolution thermal imaging camera. VisIR 640-S for scientific and industrial applications works with ThermaGRAM thermal image analysis package for real-time data streams. Also showing is the range of MIRICLE miniature high resolution thermal cameras, cores and engines available in 384x288 or 640x480 resolution versions and range from hermetically sealed space-qualified units, ultra-lightweight, low-power UAV and XTi shutterless models. Contact: Alistair Brown, Product Manager (Imaging), a.brown@thermoteknix.com; Dick Ludwig, Sales Manager USA, d.ludwig@thermoteknix.com.

# Thorlabs, Inc.

SPIE Corporate Member

435 Rt 206, Newton, NJ, 07511 973/300-3000; fax 973/300-3600 sales@thorlabs.com; www.thorlabs.com

Thorlabs is a leading designer and manufacturer of photonics equipment for research, manufacturing, and biomedical applications. Founded in 1989, Thorlabs is headquartered in Newton, New Jersey with over 500 employees at manufacturing and sales offices throughout the United States, United Kingdom, Germany, France, Sweden, Japan, and China. For information, visit www.thorlabs.com. Contact: Sales at Thorlabs, sales@thorlabs.com.

# METER BOARD SPONSOR Time Bandwidth, Inc.

61 Union St, Westfield, MA, 01085 413/564-0610; fax 413/564-0611 sales-usa@time-bandwidth.com; www.tbwp.com

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**

#### SPIE Corporate

#503

#5315

World Headquarters, 9849 N 21st Ave, Phoenix, AZ, 85021-1825 602/866-8208; fax 602/866-8280

mlinden@tlcinternational.com; www.tlcinternational.com New 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@tlcinterntional.com.

# TNO

Stieltjesweg 1, Delft, Netherlands, 2628 CK 31 15 2692707 www.tno.nl

### **TOPAG Lasertechnik GmbH**

Nieder-Ramstaedter-Str 247, Darmstadt, Germany, 64285 49 6151 4259 78; fax 49 6151 4259 88 info@topag.de; www.topag.de

# New Product: TOPAG Lasertechnik offers new solutions for laser beam shaping and diffractive laser attenuators.

TOPAG Lasertechnik supplies CW and pulsed solid-state lasers (Nd:YAG, tunable lasers including Ti:Sapphire, OPO), diode lasers, laser diode modules, spectrometers, monochromators, THz spectroscopy equipment, laser accessories, mechanical mounts and positioners, laser and nonlinear crystals and materials, optical components, infrared viewers, holographic recording material, microchannel plates and detectors. Contact: Dr. Udo Umhofer, CEO, info@topag.de.

# METER BOARD SPONSOR Toptica Photonics, Inc.

SPIE Corporate Member

1286 Blossom Dr Ste 1, Victor, NY, 14564-1402 585/657-6663; fax 877/277-9897 office@toptica-usa.com; www.toptica-usa.com

# New Product: The new FemtoFiber pro: Hands-off operation with maximum flexibility and highest performance.

TOPTICA is the world leader in diode laser and femto-fiber technology for industrial and scientific markets offering the widest range of single mode tunable light from 205 to 3000 nm spectral region. Our FemtoFiber product spectrum covers a wavelength spectrum between 480 and 2100 nm including visible and infrared spectrum. We also offer the highest quality wavelength measurement meters. Contact: Mark Tolbert, Director of OEM, sales@toptica-usa.com; Michael Holmes, Director of Scientific Sales, sales@toptica-usa.com.

#4119

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#1612

# Toshiba America Information Systems #5300

9740 Irvine Blvd, Irvine, CA, 92618 949/461-4986; fax 949/470-9390 www.cameras.toshiba.com

# New Product: Toshiba Imaging's Newest High Definition Camera – IK-HR1H with Ultra-Small, Remote-Head CMOS Sensor.

Toshiba Imaging Systems Division (Irvine, CA), the global leader in highdefinition (HD) video imaging, now offers seven models in their everexpanding HD camera suite with both 3-chip CCD and CMOS sensors. Pioneers in advanced 3CCD industrial video color camera technology, Toshiba Imaging delivers high performance and high resolution color and monochrome CCD video cams, remote heads, and monitors for scientific, machine vision, R&D, entertainment, broadcast and industrial applications.Contact: Vincent Giovinco, National Sales Manager, Vincent. Giovinco@tais.toshiba.com

# **Tower Optical Corp.**

#2523

#704

SPIE Corporate

3600 S Congress Ave Unit J, Boynton Beach, FL, 33426 561/740-2525; fax 561/740-2518 joel@toweroptical.com; www.toweroptical.com

New Product: Double yoke optical mount for laser mirrors and lenses. Features top adjustments.

Tower is a manufacturer of zero order and Achromatic waveplates, beamsplitters, prisms of all kinds, mirrors, windows, lenses, optical flats, Transmission flats and custom optics built to print. Machined metal parts and assembly of optical components also available. Both commercial and military business accommodated. Tower is an SD-VOSB company certified to ISO 9001:2008. Contact: Joel Kramer, Director of Sales, Joel@ toweroptical.com; Mel Kantor, President, mkantor@toweroptical.com.

### Translume, Inc.

SPIE Corporate Member

655 Phoenix Dr, Ann Arbor, Ml, 48108 734/528-6371; fax 734/528-6334 www.translume.com

# New Product: Standard and custom microfluidic chips for life science, chemical and industrial applications.

Translume is a leader in femtosecond micromachining of fused silica glass and offers a variety of fabrication and integration services for custom applications. Using proprietary laser writing and etching techniques, Translume creates devices that combine optical waveguides, microfluidic components, and glass micromechanical (glass MEMS) elements. Contract manufacturing for any volume, from prototyping to large production runs. Contact: Eric Jacobson, Vice President, ej@translume. com; Philippe Bado, President, pbado@translume.com.

# Tresky Corp.

#4128

#2230

50 Route 9 Ste 304, Morganville, NJ, 07751 732/536-8600 sales@tresky.com; www.tresky.com

# **Triad Technology Inc.**

3131 Indian Rd Ste B, Boulder, CO, 80301 720/494-0717; fax 720/306-3716 sales@triadtechno.com: www.triadtechno.com

Triad Technology is a supplier of atomic and molecular reference cells, fiber coupled reference cells and tunable laser source used in spectroscopic applications. Contact: Archie Brown, Vice President, abrown@triadtechno.com; Frederick Brown, President, fbrown@triadtechno.com.

### **TRIOPTICS GmbH**

#### SPIE Corporate

Hafenstr 35-39, Wedel, Germany, 22880 49 4103 18006 0; fax 41 4103 18006 20 info@trioptics.com; www.trioptics.com

# New Product: OptiCentric<sup>®</sup> automatic lens centering and cementing station. WaveSensor<sup>®</sup> wavefront sensor system.

Leading manufacturer of accurate and fully PC controlled optical test equipment for industrial and scientific use: OptiCentric<sup>®</sup> - automated alignment, centering, cementing and bonding, centration error measurement; OptiSpheric<sup>®</sup> - Industry's standard for complete optical characterization (EFL, BFL, MTF, radius); ImageMaster<sup>®</sup> - Leading MTFcharacterization-UV-VIS-IR; WaveMaster<sup>®</sup> - Real time wave front analysis; PrismMaster<sup>®</sup> - Prism measurement; SpectroMaster<sup>®</sup> - Refractive Index measurement; Wafer level technology. Contact: Simon Zilian, Sales Manager, s.zilian@trioptics.com; Eugen Dumitrescu, Managing Director, e.dumitrescu@trioptics.com.

# Triumph HT Optics Suzhou Ltd. #6074

158-28 Hua Shan Rd, Suzhou New District Jiangsu, Taiwan, 215129 86 512 66900101; fax 86 512 65360965

info@triumph-ht-optics.com; www.triumph-ht-optics.com

# New Product: Lens module for imaging. Polymer optics for laser collimation, flash window. Prisms. Fiber Optics.

Triumph HT Optics (former Philips High Tech Plastics) design and manufacture optical components and systems. Combining the strengths in injection molding and precision tool making, leading edge, costefficient solutions are developed expeditiously, giving our customers the competitive edge of short time-to-market, technological edge and pricing to compete in their market segment. Effective local support is provided from our offices located globally with production base in Suzhou, China. Contact: McCoy Wong, Marketing and Sales Manager, mccoy.wong@ triumph-ht-optics.com; Tan Yong Chuang, General Manager, yctan@ triumph-ht-optics.com.

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6741 Commerce Ave, Port Richey, FL, 34668 727/847-2300; fax 727/847-2304 sales@twinstaroptics.com; www.twinstaroptics.com

New Product: Solderable Edge Metalizations & Optical Assemblies.

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: Peter Thomas, Director of Sales & Marketing, peter@ twinstaroptics.com; Mark Gruttadauria, General Manager, markg@ twinstaroptics.com.

### **UC Instruments Corp.**

#5525

#635

37498 Glenmoor Dr, Fremont, CA, 94536 510/366-7353; fax 510/535-1809 jim\_wang@ucinstruments.com; www.ucinstruments.com

### **UCM AG**

#5523

Langenhagstr 25, Rheineck, Switzerland, 9424 41 71 886 67 60; fax 41 71 886 67 61 ucm@ucm-ag.com; www.ucm-ag.com

New Product: Individual and complete solutions to industrial precision cleaning for surfaces free from residues.

Ultrasonic Cleaning Machines – 25 years of know-how and experience in cleaning of surfaces, systems in Swiss quality, bench markets with world wide re-known companies from many industries. You have a cleaning requirement and we design the system to meet your demands. Contact: Rolf Hohl, CEO, r.m.hohl@ucm-ag.com; Manuel Gemperle, Electrical Engineer, m.gemperle@ucm-ag.com.

### ULTRA Tec Mfg., Inc.

#4911

#4328

1025 E Chestnut Ave, Santa Ana, CA, 92701-6425 714/542-0608 rob@ultratecusa.com; www.ultratecusa.com

### **UltraSource**, Inc.

22 Clinton Dr, Hollis, NH, 03049 603/881-7799; fax 603/881-9966 sales@ultrasource.com; www.ultrasource.com

UltraSource<sup>™</sup>, Inc. is a custom thin film fabrication company incorporated in 1991, specializing in complex thin film circuits and interconnects. We process substrate materials including Al<sub>2</sub>O<sub>3</sub>, AlN, BeO, quartz, sapphire, ferrite, garnet, PZT and titanates. We offer thin film interconnect options integrating passive circuit elements on a single or multilayer substrate utilizing our UltraBridge<sup>™</sup>, UltraInductor<sup>™</sup>, and UltraCapacitor<sup>™</sup> technologies. Contact: Kevin Callery, Director of Business Development, kcallery@ultrasource.com.

# UltraVolt, Inc.

1800 Ocean Ave, Ronkonkoma, NY, 11779 631/471-4444; fax 631/471-4696 csd@ultravolt.com; www.ultravolt.com

# New Product: Microsize, Micropower HV Power Supplies from 0 to 6kV at 100mW to 6W.

UltraVolt manufactures over 600 models of standard product high efficiency high-voltage power supplies. Output voltages range from 0 to 62V through 0 to 50kV 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 and rack-mount units available. Contact: Scott Wilson, Director of Business Development, csd@ultravolt.com.

# **Umicore Thin Film Products**

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4 Townsend West Unit 12, Nashua, NH, 03063 800/248-7073; fax 603/594-1538 sales.materials.na@umicore.com; www.thinfilmproducts.

umicore.com

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# **Unice E-O Services Inc.**

Chung Li Industrial Park, 3F No 25-2 Ji Lin Rd Chung Li, Chung Li, Taiwan, 32062 886 3 462 6569; fax 886 3 462 5586 www.unice.com.tw/en

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# Union Optic, Inc.

SPIE Corporate Member

Bldg #5-2, Guandong Science & Technology Industrial Park, Wuhan, China, 430074

86 27 87531505; fax 86 27 87531525 sales@u-optic.com; www.u-optic.com

# New Product: Achromatic Waveplate, Optical Isolator, Lateral Displacement Polarization Beamsplitter.

Manufacturer in Optics Valley of China, products include waveplates, polarizers, prisms, windows, lenses, 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.

**#740** 

#4839

#3008

#4208

217

### **Unioriental Optics Co., Ltd.**

#### #4840

Rm B908 TYG Ctr No C2 Dongsanhuanbeilu, Chaoyang District, Beijing, China, 100027 86 10 84417633; fax 86 10 84417622 sales@unioriental.com; www.unioriental.com

# New Product: YLF, LBO and VUV $MgF_2$ have been well developed by Unioriental with consistant good quality.

Unioriental Optics Company is a professional manufacturer in Beijing with engineers from top China institutions. The company has 17 years' industrial experience specialized in crystal growth and fabrication. The quality assurance system maintains the traceability from finished crystals to starting materials and is certified by ISO. Products include LiSAF, YLF, UV/VUV CaF<sub>2</sub>, MgF<sub>2</sub> and BaF<sub>2</sub>; LBO, BBO, KTP, KDP, KD<sup>P</sup>, PPLN; optical components by Sapphire, BK<sub>7</sub>, Ge, Si, Fused Silicon and Calcite. Contact: Kylie Chen, Marketing and Sales Director, kylie@unioriental.com; Rebecca Yang, Sales Manager, rebecca@unioriental.com.

### **United Lens Co., Inc.**

#1634

#1025

#4327

259 Worcester St, Southbridge, MA, 01550-1376 508/765-5421; fax 508/765-0500 www.unitedlens.com

Manufacturer of custom molded lens blanks, precision machined blanks, flat polished and coated optics. Supplier of machining and coating of customer supplied materials. Large inventories of Optical Glass, Fused Silica and Quartz along with various Low Expansion materials allow for rapid deliveries when needed. Contact: Ken Plouffe, Sales Manager - Molding Division, kplouffe@unitedlens.com; Mike Albrecht, Sales Manager - Service Center Division, malbrecht@untitedlens.com.

# Univ. of Arizona College of Optical

Sciences SPIE Corporate

1630 E University Blvd, PO Box 210094, Tucson, AZ, 85721 520/621-4111; fax 520/626-1480 allison@optics.arizona.edu; www.optics.arizona.edu

# **Universal Laser Systems**

7845 E Paradise Ln, Scottsdale, AZ, 85260 480/483-1214; fax 480/315-3630 moreinfo@ulsinc.com; www.ulsinc.com

Universal Laser Systems manufactures air- and water-cooled CO2 lasers for OEM use. Lasers are sealed-off and RF-excited with patented Free-Space Slab Technology<sup>™</sup>, providing high beam quality in both near and far fields without optical enhancement. Universal's lasers are easily integrated and can be configured in basic and Class 4 models. Available with power levels from 10-150 watts, Universal's OEM lasers ship with a 24-month standard warranty on materials, workmanship and rated output power. Contact: David Adaline, OEM Sales Manager, dadaline@ulsinc.com.

### **Universal Photonics, Inc.**

SPIE Corporate Member

495 W John St, Hicksville, NY, 11801-1014 516/935-4000; fax 516/935-4059 info@universalphotonics.com; www.universalphotonics.com

# New Product: SOMOS High-Speed, Double-Sided Lapping & 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: Justin Mahanna, Technical Sales Representative, justinm@universalphotonics.com; Kevin Paulson, Sales Representative, kevinp@universalphotonics.com.

# University of Rochester, Institute of Optics

**#733** 

#1931

275 Hutchison Rd Wilmot 114, Rochester, NY, 14627 585/275-0056; fax 585/244-4936 www.optics.rochester.edu

Optical Engineering. Industries and National Laboratories can interact with The Institute's faculty and students through The Institute's Industrial Associates Program, which meets on campus twice annually. Also of interest to Industry is the Optics Summer School Program. See www. optics.rochester.edu for more details. Contact: Prof. Wayne Knox, Director and Professor, wknox@optics.rochester.edu; Prof. Gary Wicks, Associate Director and Professor, wicks@optics.rochester.edu.

# **University of Twente**

#4201

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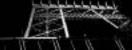
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Vacuum Process Technology LLC (VPT) designs and manufactures precision thin film deposition systems for a wide range of applications including precision optics, health care and solar. VPT provides physical vapor deposition systems using electron beam, thermal evaporation, sputtering, and ion beam assisted thin film deposition technologies. Our applications laboratory is available for development and verification of coating processes. Contact: Steven Chiavaroli, Sales Manager, schiavaroli@vptec.com; Mark Dykstra, VP - Sales and Marketing, mdykstra@vptec.com.

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### **PROMOTIONAL PARTNER**

# Vacuum Technology & Coating 27 Walker Ln, Weston, CT, 06883

203/454-5678; fax 203/454-5454 richard.cowan@snet.net; www.vactechmag.com

### Valencia Community College

1800 S Kirkman Rd, Orlando, FL, 32811 407/582-1904; fax 407/582-1808 nhedayat@valenciacc.edu; www.valencia.edu

### Valley Design Corp.

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151-D Harvey W Blvd, Santa Cruz, CA, 95060 831/420-0595; fax 831/420-0592 info@valleydesign.com; www.valleydesign.com

New Product: Ultra-thin, polished PEEK wafers and similar materials, tight tolerances, optical finishes.

ISO 9001:2000 certified manufacturer of substrates, discs, wafers, flat optics of various materials. Services: precision lapping, polishing, dicing, grinding, hole drilling, thinning, photomachining, OD/ID grinding. Ultrathin <25µm, ultra-flat 1/10 wave, superpolishing <5A, tight tolerances ±.5µm. Materials: Fused Silica and Quartz, Optical Glasses, Filter Glass, Aluminum Nitride, 96% and 99.6% Alumina, Stainless Steel, Sapphire, Silicon, Polyimides, many in stock. Contact: Mandi Indars, Director, Marketing & Sales, mandi@valleydesign.com; Laura Taguinod, Customer Service, info@valleydesign.com.

# Varian, Inc.

SPIE Corporate 2700 Mitchell Dr, Walnut Crrek, CA, 94598 800/926-3000

custcare@varianinc.com; www.varianinc.com

Varian, Inc. will be displaying recent advances in UV-Vis NIR through Mid Infrared Spectroscopy products. The Cary 6000i is unmatched in performance, accessories and software for the most demanding researcher. A performance FT-IR with relectrance and transmission accessories will also be on display. Visit with our applications specialist to discuss your measurement needs. Contact: Jim Steensrud, UV Product Specialist, jim.steensrud@varianinc.com.

### Veeco Instruments Inc.

SPIF Corporate

1 Terminal Dr, Plainview, NY, 11803 516/677-0200 www.veeco.com

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 Hertzstr 1B, Garbsen, Germany, 30827

49 511 762 17219; fax 49 511 762 17220 info@venteon.com; www.venteon.com

New Product: The new VENTEON | PULSE: FOUR SPIDER allows for an accurate few-cycle pulse reconstruction.

VENTEON Laser Technologies offers a comprehensive solution in ultrafast femtosecond laser technology including broadband Ti:Sapphire oscillators, ultrafast pulse characterization tools and optics. The oscillator product portfolio ranges from lasers producing pulse durations as short as 6 fs, octave-spanning spectra or high pulse energies, to CEP stabilized systems. With the new VENTEON SPIDER few-cycle pulses with the shortest durations commercially available can be accurately characterized. Contact: Dr. Thomas Binhammer, CEO, binhammer@igo. uni-hannover.de; Stefan Rausch, M.Sc., rausch@igo.uni-hannover.de.

### Vermont Photonics

22 Browne Ct, Unit 110, Brattleboro, VT, 05301 802/460-1790; fax 802/460-1796

mail@vermontphotonics.com; www.vermontphotonics.com Vermont Photonics supplies high-accuracy autocollimators and custom metrology systems, including the Elcomat series electronic autocollimators from Möller-Wedel. From simple opto-mechanical alignment to the most demanding aerospace applications requiring 0.005 arcsecond angle accuracy, Elcomat autocollimators are the recommended choice. Products include autocollimators, collimators, dioptometers, alignment telescopes, focometers, and refractometers, and calibration services. Contact: Mike Mross, mail@vermontphotonics.com; Tom Lowell, mail@vermontphotonics.com.

### Verrillon, Inc.

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### V-Gen Ltd.

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New Product: The DSS Series are design scalable, compact, and durable bi-stable shutters. Patent Pending.

Vincent Associates is the manufacturer of UNIBLITZ electronically programmed shutters and 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 and 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, spasq@uniblitz.com; Adam J. Lamb, VP Manufacturing, alamb@uniblitz.com.

### Virtual Industries, Inc.

#2223

**#728** 

2130 Victor Pl, Colorado Springs, CO, 80915 719/572-5566: fax 719/572-5504 info@virtual-ii.com; www.virtual-ii.net

Manufacturer of vacuum handling tools and accessories. Products include self-contained vacuum tweezers, battery operated units, benchtop systems and a variety of vacuum cups and tweezer tips. Uses include the handling of electronic components, lenses, wafers or any parts ranging in size from .003 inches to over 12 inches. All products are manufactured in the U.S.A.

### VisiMax Technologies, Inc.

9177 Dutton Dr, Twinsburg, OH, 44087 330/405-8330; fax 330/405-8332

dclark@visimaxtechnologies.com; www.visimaxtechnologies.com VisiMax is an 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, hot and cold mirrors, protective hardcoatings, ND filters, bandpass filters/ dichroics, metal and dielectric reflectors, as well as custom coating designs. VisiMax is a cleanroom coating facility with state-of-the art optical coating systems and automation. Contact: Dane Clark, President, dclark@visimaxtechnologies.com.

### Vision - Messe Stuttgart USA

1836 Winchester Trl, Atlanta, GA, 30341 678/799-9565; fax 678/935-0464 Nicole.Essawy.usa@messe-stuttgart.com; www.vision-fair.de

New Product: Vision Nov. 3 - 5, 2009 www.vision-messe.de; Lasys June 8 - 10, 2010 www.lasys-messe.de.

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#### New Product: LUXBEAM 4500 Formatter, Compact On-axis LUXBEAM UV Light Engine, LEDBEAM High-power LED light source.

VISITECH is an independent DLP engineering company and VAR for TI, offering products and engineering services for DLP applications in emerging and industrial markets, utilizing the full scope of DLP chip sets and formatters. Products include LUXBEAM DLP Light Engines and DLP Formatter Boards and other custom product development and series production. Further VISITECH has particular design experience in imaging systems, high speed image processing, system integration, and light sources. Contact: Oyvind Tafjord, Director Business Development, oyvind. tafjord@visitech.no; Alfred Jacobsen, Manager Business Development, alfred.jacobsen@visitech.no.

# Vistec Electron Beam Lithography Group #4601

Goeschwitzer Str 25, Jena, Germany, 07745 49 3641 651955; fax 49 3641 651922

electron-beam@vistec-semi.com; www.vistec-semi.com The Vistec Electron Beam Lithography Group is a world leader in the design and manufacture of electron beam lithography systems. The Group provides leading edge technology solutions for all areas of advanced electron-beam lithography. The application areas span a wide range of existing and emerging semiconductor and nanotechnology applications including silicon direct write, compound semiconductor, mask making, advanced research, integrated optics and several new emerging markets. Contact: Ines Stolberg, Manager Strategic Marketing.

# Vixar

SPIE Corporate

15350 25th Ave N Ste 110, Plymouth, MN, 55447 763/746-8045; fax 763/746-8048 www.vixarinc.com

#### New Product: Laser scanning arrays and IR VCSEL with integrated PD.

Vixar is the leading independent designer and manufacturer of Vertical Cavity Surface Emitting Lasers (VCSELs). Our expertise includes the design and manufacturing of high performance VCSELs for volume applications. Our VCSEL based solutions reduce power consumption in handheld or body worn devices, improve the range or precision of motion control or timing sensors, enhance the quality of office peripherals and vehicle/home networks. Contact: Bouchaib Nessar, Business Development, bnessar@vixarinc.com.

# VLOC

7826 Photonics Dr, New Port Richey, FL, 34655 727/372-4425; fax 727/375-5300 info@vloc.com; www.vloc.com

Manufacturer of fluoride and oxide crystals including YAG, YLF, ruby, LiSAF, LiSGaF and YVO<sub>4</sub>. Nonlinear materials include KTP and KNbO<sub>3</sub>. Components include laser cavity flow tubes, mirrors, prisms, lens duct and waveplates. Custom services include wafer fabrication, repolishing and coatings. Coatings are dielectric, metallic, ion-assisted deposition and ion-beam sputtering. Contact: Jim Keck, Director of Sales and Marketing, JKeck@vloc.com; John Sutton, West Coast Sales, JSutton@vloc.com.

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### **Voltage Multipliers Inc.**

8711 W Roosevelt, Visalia, CA, 93291 559/651-1402; fax 559/651-0740

mfulley@voltagemultpiliers.com; www.voltagemultipliers.com VMI is the largest U.S. manufacturer of high voltage components and power supplies. Comprehensive product lines include high voltage optodiodes, opto-couplers, glass and plastic diodes, hybrid multipliers, power supplies, and more. Voltages range from 2.0kV to 45kV for components; 120kV 250W for standard power supplies. VMI specializes in custom designs and solutions for the toughest high voltage problems. VMI is ISO9001:2008 certified. Contact: Karen Spano, Sales Administration Manager, kspano@voltagemultipliers.com; Margaret Fulleylove, Inside Sales, mfulley@voltagemultipliers.com.

### Vortran Laser Technology, Inc.

#### #5430

#2611

SPIE Corporate Member

21 Goldenland Ct Ste 200, Sacramento, CA, 95834 916/283-8208; fax 916/648-9751 sales@vortranlaser.com; www.vortranlaser.com

New Product: New Enhanced Stradus™ family of laser diode modules with 200 MHz Digital Modulation and much more.

Vortran, a successful business for 26 years is now developing and manufacturing high-end Laser Diode Modules. Made in the USA to your specific wavelengths from UV to IR. Experienced R&D team and manufacturing staff is developing lasers exhibiting beam specifications perfect for flow cytometry, confocal, microscopy, defect analysis, laboratory and other demanding applications. Specializing in OEM applications Contact: Ken Stout, Director of Sales & Marketing, kstout@vortranlaser. com; Doug Wilner, Executive VP/COO, dwilner@vortranlaser.com.

### VTT Technical Research Centre of Finland/ Electronics #5319

Tietotie 3, PO Box 1000, Espoo, Finland, 02044 358 20 722 6720; fax 358 20 722 7012 www.vtt.fi

# New Product: Silicon-on-insulator (SOI) platform for the hybrid integration of optoelectronics.

VTT Technical Research Centre of Finland is a globally networked multitechnological contract research organization. VTT develops stateof-the-art micro- and nanophotonic technologies for a wide variety of applications, such as telecom, datacom, lab-on-chip and sensing applications. Silicon photonics, polymer optics and fiber optics are our main technology platforms. Contact: Kai-Erik Elers, Customer Manager, kai-erik.elers@vtt.fi; Timo Aalto, Senior Research Scientist, timo.aalto@vtt.fi.

# **VueMetrix**

SPIE Corporate Member

960 Hamlin Ct, Sunnyvale, CA, 94089 408/734-9974; fax 408/734-7997 info@vuemetrix.com; www.vuemetrix.com

# New Product: TEC temperature controller with Bidirectional DC drive and automatic servo tune.

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, CEO, jim.chiu@vuemetrix.com.

### Vytran LLC

1400 Campus Dr W, Morganville, NJ, 07751 732/972-2880; fax 732/972-4690 info@vytran.com; www.vytran.com

# New Product: GPX-3000 versatile glass processing system fusion splicing for precision fused fiber laser components.

Vytran is an innovative supplier of high performance fiber fusion splicing and glass processing for fiber laser, sensing, medical, and specialty fiber. Solutions are designed to reduce customers' risk, speed products to market and lower cost of ownership. The patented filament fusion technology provides process control unattainable by other methods. Innovations in fiber cleaving and recoating make Vytran a leader in reliable, R&D development and manufacturing for precision fiber processing. Contact: Jim Stathis, Business Development Manager, jstathis@vytran.com.

# Wasatch Photonics

1305 N 1000 W Ste 120, Logan, UT, 84321 435/752-4301; fax 435/752-4306

info@wasatchphotonics.com; www.wasatchphotonics.com Manufacturer of high quality Volume Phase Holographic Gratings, Holographic Optical Elements and related photonic devices. Contact: Gerald L Heidt, President, gheidt@wasatchphotonics.com.

# WaveFront Sciences,

### #2105

#1141

#### see AMO WaveFront Sciences, LLC

14820 Central Ave SE, Albuquerque, NM, 87123 505/275-4747; fax 505/275-4749 info@wavefrontsciences.com; www.wavefrontsciences.com

# Wavelength Electronics, Inc.

**#2202** 

SPIE Corporate

51 Evergreen Dr, Bozeman, MT, 59715-2458 406/587-4910; fax 406/587-4911 sales@teamwavelength.com; www.teamwavelength.com

# New Product: 10A Chassis Mount P-Series laser diode driver and matching ultra-stable temperature controller.

Laser Diode Drivers and 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: Dana Hinckely, Applications Engineer, dana@teamwavelength.com; Lars Rasmussen, Applications Engineer, lars@teamwavelength.com.

### **Wavelength References**

**#5106** 

33809 SE Eastgate Circle, Corvallis, OR, 97333 541/740-1030; fax 541/738-0998 sales@wavelengthreferences.com; www. wavelengthreferences.com

#### New Product: Narrow linewidth ultra stable laser source.

Wavelength References is the world's leading supplier of hermetic gas cells. Gas cells are used as precision wavelength standards for traceable calibration of optical instrumentation and in the sensing industry. At the show we will also be introducing a line of laser sources that offer narrow linewidth, high power, and wavelength diversity. Versions will be available locked to gas lines that provide wavelength stability to better than 10^-10 Allen Varience. Contact: Steve Blazo, President, steve.blazo@ wavelengthreferences.com; John Ebner, Director of Engineering, john. ebner@wavelengthreferences.com.

**#928** 

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### Wavelength Technology Singapore #336

Blk 2 Bukit Batok St 24, #06-03 Skytech Building, Singapore, Singapore, 659480 65 6864 9624; fax 65 6564 3862 bob@wavelength-tech.com; www.wavelength-tech.com

New Product: SWIR Lenses, IR Camera Lenses, Double Side Telecentric Lens, Digital Beam Expander.

Wavelength Technology Singapore Pte. Ltd. specializes in high quality design and manufacture stock, custom, and OEM Optics and Optical Component for Laser industry, Research Institute and University. Wavelength Technology leader in Ftheta Lens, Beam Expander and High Power Laser Optics. Contact: Robert Huang, CEO, bob@wavelengthtech.com; Jenny Zhu, Operation Manager, jenny@wavelength-tech.com.

### Webcom Communications (LED Journal) #6096

7355 E Orchard Rd Ste 100, Greenwood Village, CÓ, 80111 780/528-3770; fax 780/528-3771 softpub@infowebcom.com; www.infowebcom.com

#### New Product: Publisher of LED Journal Online. http://www. ledjournal.com.

Webcom Communications Corp. is an integrated media company serving advanced technology industries worldwide through its magazines, events, online media, directories, buyers guides, market reports, data products and marketing services. Contact: Julie Williams, Trade Show Coordinator, juliew@infowebcom.com.

### **Wells Research & Development**

#6044

#4235

#4833

#1140

15 A Lewis St, Lincoln, MA, 01773 781/259-8667; fax 781/259-8009 info@wellsresearch.com; www.wellsresearch.com

### **Westboro Photonics**

1505 Carling Ave Ste 301, Ottawa, ON, Canada, K1Z 7L9 613/729-0614; fax 613/729-9067 info@wphotonics.com; www.wphotonics.com

# Western Photonics Technology

SPIE Corporate Member

626 S Sierra Vista Ave Ste 101, Alhambra, CA, 91801 626/289-1686; fax 626/289-1048 info@wptec.com; www.wptec.com

# New Product: Precision cemented lens. Rigid borescope and fiber scope.

Headquarters in USA and factories in China. 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; Alison, info@ wptec.com.

# **Wiley-Blackwell**

111 River St, Hoboken, NJ, 07030 201/748-6000 www.wiley.com

Wiley-Blackwell, the publishing partner of the IEEE, is the world's number one electrical engineering publisher, offering peer-reviewed primary research and thousands of books, online journals, reference works, and databases.

# **Williams Advanced Materials**

SPIE Corporate Member

2978 Main St, Buffalo, NY, 14214 716/837-1000

kimberly\_schoen@beminc.com; www.williams-adv.com Williams Advanced Materials has a full range of Thin Film and Micro electronic Packaging Materials and related services. Materials range from high purity precious and non-precious metals to inorganic chemicals and ceramics designed to meet the characteristics for the LED, Optics, Laser, IR Imaging & Sensors markets, including CIGS materials for Solar applications. WAM services include precious metal reclamation and PVD shield kit cleaning as well as in house refining services. Contact: Kim Schoen, Marketing Specialist, kimberly\_schoen@beminc.com.

### Witcore Co., Ltd.

No 609 Yingxiu Rd, High Tech Zone, Jinan, China, 250101 86 531 85056878; fax 86 531 88873658 sales@witcore.com; www.witcore.com

# New Product: Large size of KTP with high efficiency. High quality KTA for OPO. Diffusion bonding crystal.

Witcore Co., Ltd. - a professional crystal manufacturer (formerly CORTECH since 1990, from ICM) will provide you superior products and satisfactory services, with the high yields and powerful technological support. NLO Crystals: Super-KTP, KTA, LBO,BBO, DKDP. Laser Crystals: Nd:YAG, Nd:YVO4, Nd:GdVO4, Diffusion Bonding Crystal. E-O&A-O Crystals: LiNbO3, LitaO3. Other Crystals Components: SBN, YVO4, TGG, CaF2, MgF2. Contact: Peixuan Liu, Sales Manager, Px.liu@witcore.com.

# Wordingham Technologies

SPIE Corporate

580 Fisher Station Dr, Victor, NY, 14564 585/924-2294; fax 585/924-7660 borcutt@wordingham.com; www.wordingham.com

# **World Star Technologies**

#4514

#4407

#2039

SPIE Corporate Member

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

New Product: New Compact Computer Controlled Laser from 405 nm to 1064 nm 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: Emily Hodgkinson, Customer Support, emily@worldstartech.com; Cetin Karakus, CTO, info@worldstartech.com.

# WT&T Inc.

2459 46th Ave, Lachine, QC, Canada, H8T 3C9 514/804-0822; fax 514/551-0617 sales@wttechnology.com; www.wttechnology.com

WT&T Inc. specializes in research and manufacturing of fiber coupled lasers, LED and SLED modules, specialty micro- lensed fibers and integrated optical fiber systems. WT&T develops customized fiber optical sources/system meeting challenging requirement such as fast modulation, power, spectral and polarization stability, output beam control. Contact WT&T for the solution meeting your specific needs. Contact: Connie Wang, Director, sales@wttechnology.com.

**#911** 

# WZWOPTIC AG

SPIF Corporate

Wegenstr 18, Balgach, Switzerland, 9436 41 71 722 12 14; fax 41 71 722 12 40 optics@wzw.ch; www.wzw.ch

#### New Product: Super Polishing - surface roughness <1 Angstrom. New waffer dicing capability.

Since 1965 WZWOPTICAG have been producing optics for customers all over the world with Swiss precision. High-end optical fabrication and optomechanical assemblies all under one roof. As of 2008 WZW has "super polishing capabilities, RMS <1 angstrom, guaranteed with meterology. A further investment in 2009 now gives WZW dicing capability with new tilting spindle technology, all defined angles now possible. Contact: David Varrie, Sales & Marketing Director, david@wzw.ch.

# GENERAL REFRESHMENT SPONSOR Xactra Technologies

#738

#611

#304

9 Marway Circle, Rochester, NY, 14624 585/426-2030: fax 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 guality standards are well known to many major OEM optical companies. We provide precision components for all optical devices: Lenses, laser instrumentation, machine vision, positioning systems, and medical devices. Xactra Technologies: Quality obsessed, Schedule driven and Competitively focused. Contact: J. Michael Grady, VP, michael. grady@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

#### New Product: Laser beam profiling with SWIR camera High-speed NIR linescan Non-destructive testing

Xenics is Europe's only designer and manufacturer of NIR InGaAs arrays (2D & linear). In addition we design and manufacture advanced infrared cameras based on InGaAs, HgCdTe (MCT), InSb, and other detector technologies. Contact: Marketing & Sales Department. sales@xenics. com; Bob Grietens, CEO, bob.grietens@xenics.com.

#### Xi'an Focuslight Technologies Co., Ltd. #5439

No 17 Xinxi Rd, New Industrial Park Xi'an High-Tech Zone, Xi'an, China, 710119

86 29 88880786: fax 86 29 88887075

sales@focuslight.com.cn; www.focuslight.com.cn New Product: High-power Laser Diodes (CS, HCS, HA, VS, MCC,

### GS, C-mount, F-mount, FC).

We engage in research, technology consultation, technology transfer, service, manufacture, sales and application of high power semiconductor lasers. Established in 2007, located in Xi'an City, China. Now Focuslight has 8 series around 100 kinds of products, they are: CS, HCS, HA, VS, MCC, GS, C-mount, F-mount, FC. Contact: Lin Yang, Vice President of Sales & Marketing, yangl@focuslight.com.cn; Victor Liu, General Manager, liuxs@focuslight.com.cn.

### XiO Photonics B.V.

PO Box 1254, Enschede, Netherlands, 7500 BG 31 53 4836688

secretary@xiophotonics.com; www.xiophotonics.com

#### New Product: The Integrated Photonic Beamcombiner combines multiple wavelengths in the UV to visible range.

XiO Photonics delivers a photonics integration platform from the UV to IR offering integrated optical solutions for products ranging from telecom, datacom and sensing to visible light applications. XiO Photonics supplies besides the standards in fiber optical products, also the next generation optical modules. The innovative photonic components and modules can be adapted to customer specific needs in an open and sustained customer-relationship, so customers can benefit optimal from our expertise. Contact: Willem Hoving, CEO, info@xiophotonics.com.

# Xiton Photonics GmbH

Opelstr 10, Kaiserslautern, Germany, 67661 49 631 414 9944 0; fax 49 631 414 9944 9 sales@xiton-photonics.com; www.xiton-photonics.com

#### New Product: Q-Switched SLM 1064nm DPSS Laser.

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: Philip Crowley, Sales, Phil@markettechinc.net.

### X-Scan Imaging Corp.

#6070

#4201

#1231

70 Bonaventura Dr, San Jose, CA, 95134 408/432-9888; fax 408/432-9889 sales@x-scanimaging.com; www.x-scanimaging.com

New Product: XH8800 Line-Scan Cameras for high-energy x-ray and gamma-ray scanning applications up to 450 KeV.

Manufacturer and provider of high-performance, CMOS linear photodiode arrays and line-scan cameras designed for x-ray imaging applications. Our unique device structure offers users high-speed imaging with sensor reliability required for applications including product quality inspection, non-destructive testing, and security inspection. Contact: Chinlee Wang, President, sales@x-scanimaging.com; Lin-Bo Yang, Directory of Technology, techsupport@x-scanimaging.com.

# Yangtze Optical Fibre and Cable Co., Ltd. #4333

No 4 Guanshan Er Rd, Wuhan Hubei, China, 430073 86 27 67887338; fax 86 27 8742 5978 panlin@yofc.com; www.yofc.com

#### New 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.

TEL: +1 360 676 3290 · +1 888 504 8171 · customerservice@spie.org

### Yokogawa Corporation of America

#### #2609

#4829

2 Dart Rd, Newnan, GA, 30265 770/254-0400; fax 770/254-1337 info@us.yokogawa.com; www.tmi.yokogawa.com/products/optical-measuringinstruments/

### Z&Z Optoelectronics Tech. Co., Ltd.

SPIE Corporate

No3 Keyuan South Road, High-Tech District, Chengdu, China, 610041 86 28 85139768; fax 86 28 85255889 zz\_optic@vip.163.com; www.zzoptic.com

#### New Product: High precision ZnSe product with S-D 10-5; Super polishing optics.

Z&Z is specialized in high precision IR and visible optical components. By years experience and efforts, Z&Z has achieved a high tech level in the fields of IR optical components and laser application components. We are outstanding both in super polish and super thin wafer. We can meet Roughness 0.07nm for IR parts, surface guality 10-5 for ZnSe and 30µm thin wafer. Contact: Cynthia Qi, Business Manager, sales@zzoptic.com; Kevin Zhang, President, zz optic@vip.163.com.

#### **CONFERENCE BAG INSERT SPONSOR** Zaber Technologies Inc.

#### #2635

SPIE Corporate Member

1st Floor 1777 W 75th Ave, Vancouver, BC, Canada, V6P 6P2 604/569-3780; fax 604/648-8033

contact@zaber.com; www.zaber.com

#### New Product: T-LSM Miniature Motorized Linear Slides: 25 to 200 mm travel, very compact w/built-in controllers.

Zaber's extensive line of computer controlled motorized linear slides, miniature linear actuators, motorized rotary stages, motorized mirror mounts, goniometers and other devices make automating sub-micron positioning applications quick, easy, and affordable. With a built-in controller, set-up is as easy as 1-2-3. Multiple devices can be daisychained to a single serial or USB port on any computer. No additional hardware or motor controllers are required. Contact: Support Team, Customer Support, contact@zaber.com.

# ZC&R Coatings for Optics, Inc.

1401 Abalone Ave, Torrance, CA, 90501 310/381-3060; fax 310/782-9951 info@zcrcoatings.com; www.zcrcoatings.com

#### New Product: LuxVu<sup>™</sup> Heated Optical Glass - New Conductive Optical Coatings are Ideal for Outdoor Cameras.

ZC&R Coatings for Optics (recently acquired by Abrisa), together with Abrisa (www.abrisa.com) now offer complete, customized optical product solutions. As manufacturers of high quality glass products and precision thin film optical coatings, Abrisa provides integrated glass fabrication and precision coatings from the ultraviolet spectrum out to the longwave infrared. OEM custom engineering, design, and support services are available for defense, medical, display, and lighting markets. Contact: Jim Veler, President/CEO, jveler@abrisa.com.

#### ZEMAX Development Corp.

3001 112th Ave NE Ste 202, Bellevue, WA, 98004-8017 425/822-3406: fax 425/889-4687 sales@zemax.com; www.zemax.com

ZEMAX Development Corporation publishes the ZEMAX<sup>®</sup> 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: Sales Department, sales@zemax. com; Technical Support, support@zemax.com.

### Zemetrics, Inc.

SPIE Corporate Member

3708 E Columbia St Ste 110, Tucson, AZ, 85714 520/202-4399; fax 520/901-6526 sales@zemetrics.com; www.zemetrics.com

#### New Product: ZeScope Optical Profiler: high-res 3D surface metrology, sub-nm RMS precision, loaded, versatile.

Manufacturer of non-contact optical metrology systems for precision 3D surface measurements. Systems feature high-automation ease-of-use features in packages for highest repeatability and resolution. ZeMapper Optical Profilometer features two scanning modes for super polished surfaces and general applications, and a 4 million pixel image sensor for the largest data plots on the market. ZeScope Optical Profiler features a high resolution camera (standard) in an open and versatile configuration. Contact: David Basila, Vice President of Marketing, david.basila@ zemetrics.com; Edgar Schrock, Marketing Communications, edgar. schrock@zemetrics.com.

# Zeon Chemicals

4111 Bells Ln, Louisville, KY, 40211 502/775-2000; fax 502/775-2055 zeonex@zeonchemicals.com; www.zeonex.com

#### New Product: ZEONEX 350R COP for next-generation blue laser applications.

ZEONEX® and ZeonorFilm® cyclo-olefin polymer (COP) from ZEON are designed for high-precision optical components including camera lenses, mirrors, prisms, f-theta lenses and optical film applications. ZEONEX exhibits excellent transparency, low birefringence and superior moldability. Contact: Toshiro Katayama, Product Manager, zeonex@ zeonchemicals.com

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#506

#1934

#2300, 2301

# Zhejiang Quartz Crystal OptoelectronicTechnology Co., Ltd.#2500, 2501

Bldg A5 Xingxing Electronic Industry Zone, JiaoJiang District, Taizhou City ZheJiang, China, 318015 86 576 88011411 sales@zqcot.com; www.zqcot.com

# 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

# New Product: Advanced lasers available with wavelengths of red, green, blue and IR with output powers up to 200mW.

Z-LASER is THE laser provider for innovative customer applications in the sectors: Vision/Measurement, Biophotonics/Medical, Laser projection as positioning aid. The high quality laser sources are always adjusted and designed according to the specifications and needs of the customers. Z-LASER features: Customized laser systems, Solid and precise straightness of the lines, Non standard laser source wavelengths, State-of-the-art techniques, High product lifetime, and Prime quality-easy to use. Contact: Gary Rees, International Sales Manager, Rees@z-laser.com; Stephan Broche, Sales Department, broche@z-laser.de.

### Zomega Terahertz Corp.

1223 Peoples Ave, Troy, NY, 12180 518/833-0577; fax 518/833-6718 zomega@z-thz.com; www.z-thz.com

# New Product: THz-ZAP provides unparalleled THz spectral coverage (0.1 - 20 THz) with intense E-field < 100kV/cm.

Zomega Terahertz is a manufacturer of THz systems and components for R&D and industrial applications. Systems include both Time Domain Spectrometers (TDS) and Continuous Wave (CW) transceivers, 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-2 TDS offers lab-based high-dynamic range performance. Contact: Thomas Tongue, CEO, ttongue@zomega-terahertz.com.

# Zygo Corp. SPIE Corporate

Laurel Brook Rd, Middlefield, CT, 06455-1291 860/347-8506; fax 860/347-8372 inquire@zygo.com; www.zygo.com

#### Booth #2300

#305

#2632

Leveraging proprietary metrology based optical manufacturing and assembly technologies, Zygo Optical Systems Division specializes in high precision optical components and complex optical system design and manufacturing for demanding life science, semiconductor, defense & aerospace, and commercial applications. Optical component specialties include sapphire, Cleartran, silicon, fused silica, and BK-7 windows, high fluence products, reference mirrors, flats, and prisms. Electro-optic device product experience includes medical laser delivery systems, fluorescence microscopy/imaging, illumination and maskless projection systems, military fire control systems, and more. Contact: Matt Giza, Director of Sales & Marketing, Optical Sytems Division, mgiza@zygo.com; Robert Flynn, Manager Business Operations, Optical Systems Division, rflynn@zygo.com.

#### Booth #2301

Since 1970 the world's leading optics manufacturers have relied on ZYGO products for critical production testing, quality control, research and development. Our unmatched commitment to superior quality and world-class service has established ZYGO as the industry leader with a global install base of over 10,000 interferometric-based products. Today, ZYGO continues to deliver the most advanced optical metrology tools for precise, noncontact measurement of surface and material characteristics of flats, spheres, and aspheres. Contact: Eric Felkel, Product Manager, efelkel@zygo.com; Dan Musinski, Senior Product Manager, dmusinski@ zygo.com.

# Abrasives, Chemicals & Process Materials

AIM Specialty Materials Applied Thin-Film Products **Brush Ceramic Products** Chardon Tool DCM Tech. Inc. Diemat, Inc. **Engineered Surface Finishes** Fiber Optic Center, Inc. Fuzhou USTRON Optoelectronic Materials Co., Ltd. KINIK Logitech Ltd. Micro Care Corp. Mildex, Inc. **Optonetic LLC** Plasmaterials, Inc. RASIRC Salem Distributing Co. SCHNEIDER Optical Machines LLC Seikoh Giken USA Inc. SGS Slicing Solutions, Inc. Spartan Felt Company, Inc. SSCP USA Tecport Optics, Inc. Umicore Thin Film Products Universal Photonics, Inc.

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#### Cameras and CCD Components

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Sinclair Manufacturing

Light Age. Inc. LightComm Technology Lockheed Martin Aculight M Squared Lasers Ltd. m2k-laser GmbH Micro Laser Systems, Inc. Micron Optics, Inc. MicrOptix Technologies, LLC **MIRTHE Center, Princeton** University Naval Research Laboratory Ocean Thin Films OptiSwitch Technology Corp. OXXIUS Photonics Industries International, Inc. PLX, Inc. QD Laser, Inc. QPC Lasers - Laser Operations LLC QPhotonics, LLC Quantel USA Semrock, Inc. Sensor Electronic Technology, Inc. Silios Technologies Taboada Research Instruments, Inc. TeraView Ltd. Translume, Inc. Wavelength References Xenics Xiton Photonics GmbH Zomega Terahertz Corp.

#### Clinical, Chemical and Biological Instrumentation

ALPAO Asahi Spectra USA Inc. Barr Associates Inc. Boston Electronics Corp. Cobolt AB CryLaS GmbH Diode Laser Concepts, Inc. Dyoptyka Edinburgh Instruments Ltd. Fastlite Fibertronix Flowstar, Inc. Genia Photonics Gorman-Rupp Industries **Headwall Photonics** High Q Laser (US), Inc. Hitachi High Technologies America ICA Corp. Imagine Optic Institute of Photonics International Light Technologies JenLab GmbH Kaiser Optical Systems, Inc. Lockheed Martin Aculight Lumencor, Inc. Luminostix b.v.

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#### **Communications**

3Bridge Consultancy Ltd. **3S PHOTONICS** Advanced Microoptic Systems GmbH Alphion Corp. Amonics Ltd. Analog Modules, Inc. **Applied Optronics** Avo Photonics, Inc. Calmar Laser, Inc. Carl Hanser Verlag GmbH & Co. KG DenseLight Semiconductors Pte Ltd. Draka Communications Optical Fiber EM4, Inc. Fiberlogix International Ltd. Fraunhofer Heinrich-Hertz-Institute Fraunhofer-Institut für Silicatforschung Grintech GmbH Harz University of Applied Sciences InPhenix Inc. Lanmark Controls Inc. Laser Diode, Inc.

Leoni Fiber Optics GmbH LightComm Technology MANLIGHT Mitsubishi Electric & Electronics USA, Inc. MPB Communications Inc. Nextreme Thermal Solutions, Inc. Noren Products, Inc. NTT Electronics Corp. **OFS - Specialty Photonics Division** O-m6 Technologies Inc. Onefive GmbH Optiwave Systems Inc. OptoIndex OSA - The Optical Society Photop Technologies, Inc. QD Laser, Inc. Remtec, Inc. **RSoft Design Group** Santec Spectroscopy Magazine Stellar Industries Corp. TEC Microsystems GmbH UltraSource, Inc. Wasatch Photonics Webcom Communications (LED Journal) Wiley-Blackwell XiO Photonics B.V.

#### **Displays**

Advanced Microoptic Systems GmbH Boulder Nonlinear Systems, Inc. Cascade Optical Corp. **Changchun New Industries** Optoelectronics Tech. Co. Ltd. Chardon Tool China Opto-Electro Industries, Co., Ltd. Commax Co., Ltd. Corning Inc. CREOL, The College of Optics & Photonics, Univ. of Central Florida Dyoptyka Exciton, Inc.

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#### **Distributor or Reseller**

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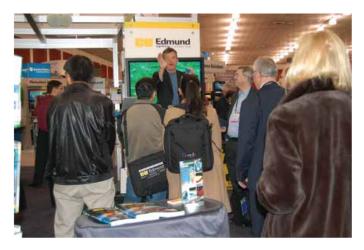
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#### Electronic Imaging Components, Equipment, Systems

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#### Electronics, Signal Analysis Equipment

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UltraSource, Inc. Varian, Inc. Vixar Vytran LLC Wavelength References Western Photonics Technology WT&T Inc. XiO Photonics B.V.

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#### SensL

Sofradir EC, Inc. Specim Spectral Imaging Ltd. Stanford Computer Optics, Inc. Stanford Photonics, Inc. Sutter Instrument Co. Sydor Instruments, LLC Technobis Group Telops Inc. Tessera Inc. Texas Instruments DLP Thorlabs. Inc. Varian, Inc. Vision - Messe Stuttgart USA Xactra Technologies Xenics X-Scan Imaging Corp.

#### Illumination Engineering

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IIC

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JENOPTIK Laserdiode GmbH JP Sercel Associates, Inc. Kaiser Optical Systems, Inc. Kaiser Systems, Inc. Kapteyn-Murnane Labs. Inc. Kentek Corporation Kiare. Inc. **Kimmon Electric** Kiyohara Optics USA KLASTECH - Karpushko Laser Technologies GmbH Lambda Scientific Pty Ltd. LASCAD Lasence Inc. Laser 2000 Benelux CV Laser Components Canada Laser Components DG, Inc. Laser Components GmbH Laser Components IG, Inc. Laser Diode, Inc. Laser Drive, Inc. Laser Institute of America Laser Quantum Ltd. Laser Research Optics Laser Zentrum Hannover e.V. Laser-compact Co., Ltd. Laser-export Co. Ltd. Laserline Inc. Lasertel Inc. LASOS Lasertechnik GmbH Lee Laser. Inc. Light Age, Inc. Light Conversion Ltd. LightComm Technology Lighthouse Photonics LightMachinery Inc. LightVision Technologies, Corp. LIMO Lissotschenko Mikrooptik GmbH Litron Lasers Lockheed Martin Aculight LT Ultra Precision Optics Lumencor, Inc. Lumera Laser GmbH Lumina Power, Inc. Luna Technologies M Squared Lasers Ltd. m2k-laser GmbH MANLIGHT Market Tech, Inc. Meller Optics, Inc. Menlo Systems GmbH MeshTel - INTELITE, INC. Metrology Concepts LLC MICOS USA Micro Laser Systems, Inc. Microcertec Micro-Hybrid Electronic GmbH Micron Optics, Inc. Mindrum Precision. Inc. **MIRTHE Center, Princeton** University MLD Technologies, LLC MLOPTIC Corp. Modu-Laser, LLC



Modulight, Inc. MPB Communications Inc. **Multiwave Photonics** Nanofoot Finland Ov Nanoplus Nanosystems and Technologies GmbH NEOARK Corp. neoLASE GmbH neoplas control GmbH New Focus, A Brand of Newport Corp. New Source Technology, LLC Newport Corp. Nextreme Thermal Solutions, Inc. Nichia Corp. nLIGHT Corp. NM Laser Products Inc. NOIR LaserShield Northrop Grumman Cutting Edge Optronics Northrop Grumman-SYNOPTICS/ Aerospace Systems NovaWave Technologies **NP** Photonics NTT Electronics Corp. Nufern O/E Land Inc. Olympus America Inc. O-m6 Technologies Inc. Omicron Laserage Laserprodukte GmbH Ondax, Inc. **Onefive GmbH** Ophir-Spiricon, Inc. Opnext, Inc. Optical Support, Inc. Optics for Hire OptiGrate Corp. **Optilab LLC** OptiSwitch Technology Corp. **Optoelectronics Research** Centre/Tampere University of Technology OptoSci Ltd. optoSiC GmbH Optoskand AB Oriel Instruments, A Brand of Newport Corp.

OXXIUS OZ Optics Ltd. Pangolin Laser Systems Inc. PD-LD, Inc. Penta HT Optics PERFOS **PhaseView** Philips Research, MiPlaza Philips Technologie GmbH U-L-M Photonics Photodigm, Inc. Photon Engineering, LLC Photon etc Photon Gear, Inc. Photonic Products Ltd. Photonic Solutions Ltd. Photonics Finland Photonics Industries International, Inc. Photop Technologies, Inc. Photo-Sonics, Inc. PicoQuant GmbH **PicoQuant Photonics North** America, Inc. PLX, Inc. PolarOnyx, Inc. Power Technology, Inc. Powerlase Photonics Ltd. Pranalvtica. Inc. Precision Glass & Optics PRIMES GmbH **Princeton Optronics** QD Laser, Inc. Qioptig QPC Lasers - Laser Operations LLC QPhotonics, LLC Quanta Tech Inc. Quantel USA Quantronix Corp. Quantum Technology, Inc. Quarton USA. Inc. Radiant Dyes Laser & Accessories GmbH Rainbow Photonics AG Ravbium RAYLASE AG

Redfern Integrated Optics, Inc. Remtec, Inc. Research Electro-Optics, Inc. RoMack, Inc. RPMC Lasers Inc. Sacher Lasertechnik GmbH Santec Sapphire Technology Co., Ltd. SCANLAB America, Inc. SCD-SemiConductor Devices Scientech, Inc. Scientific Materials Corp., a FLIR Systems Company Scottish Development International Seikoh Giken USA Inc. SemiNex Corp. Semrock, Inc. Sensor Electronic Technology, Inc. Shasta Crystals Sheaumann Laser Inc. Silicon Sensor International AG Siltint Industries Ltd. Snake Creek Lasers Spectralus Corp. Spectra-Physics, A Brand of Newport Corp. Spectrogon US Inc. SPI Lasers Spire Semiconductor, LLC Standa StockerYale, Inc. SU Squared Partnership Sumitomo Metal Mining Co. Ltd. Super Optronics Inc. SUPERLUM SUSS MicroOptics SA Sutter Instrument Co. Swamp Optics, LLC Sydor Instruments, LLC Taboada Research Instruments, Inc. Technical Manufacturing Corp. TecOptics, Inc. Teem Photonics Teraxion Inc. **TERMIONA LLC** Thales Optronique SA ThermoTek Inc. Thorlabs, Inc. Time Bandwidth, Inc. TOPAG Lasertechnik GmbH Toptica Photonics, Inc. Tower Optical Corp. Triad Technology Inc. TRUMPF Inc. Union Optic, Inc. Unioriental Optics Co., Ltd. Universal Laser Systems **VENTEON Laser Technologies** GmbH Vincent Associates Vision - Messe Stuttgart USA Vixar Vortran Laser Technology, Inc.

Wavelength References Wavelength Technology Singapore Western Photonics Technology World Star Technologies WT&T Inc. Xi'an Focuslight Technologies Co., Ltd. XiO Photonics B.V. Xiton Photonics GmbH Z-LASER Optoelektronik GmbH

#### Law Enforcement Technologies

FJW Optical Systems, Inc. Frankfurt Laser Co. Optical Support, Inc. OPTIX Co. Pyreos Ltd. Quarton USA, Inc. Rubicon Technology, Inc. Sensor Electronic Technology, Inc. Voltage Multipliers Inc.

#### Life Sciences

89 North Ambios Technology, Inc. APE - Angewandte Physik und Elektronik GmbH Asahi Spectra USA Inc. Barr Associates Inc. Berliner Glas US Biophotonic Solutions, Inc. Boston Micromachines Corp. Chroma Technology Corp Cobolt AB CryLaS GmbH Crystal Technology, Inc. Dongwoo Optron Co., Ltd. **DRC** - Metrigraphics DVC Co. DZ Laser Service, Inc. Eagleyard Photonics GmbH Edinburgh Instruments Ltd. **ELCAN Optical Technologies** Elliot Scientific Ltd. Energetig Technology, Inc. EPIGAP Optoelektronik GmbH Fastlite Fibertech Optica Fraunhofer Institut für Photonische Mikrosysteme IPMS **Genia Photonics** Gooch & Housego (UK) Ltd. **Gould Fiber Optics** Grintech GmbH HB Optical Technology Co., Ltd. Hitachi High Technologies America **INGENERIC GmbH** INO Institute of Photonics JenLab GmbH JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Digital Imaging

Wavelength Electronics, Inc.

JENOPTIK Laser. Optik. Systeme GmbH - Laser Systems **Business Unit** JENOPTIK Polymer Systems, Inc. Kinetic Systems, Inc. KLASTECH - Karpushko Laser Technologies GmbH Lambda Research Corp. Lambert Instruments LASOS Lasertechnik GmbH Leica Microsystems CMS GmbH Leoni Fiber Optics GmbH Light Age, Inc. Lumencor, Inc. Mad City Labs, Inc. Market Tech, Inc. Media Cybernetics, Inc. Mightex Systems Nanofoot Finland Oy Nanonics Imaging Ltd. Nanoscribe GmbH NTT Electronics Corp. Nutfield Technology, Inc. O2view B.V. Omicron Laserage Laserprodukte GmbH Ondax, Inc. OptoScribe OXXIUS P&P Optica PhaseView Photek, Ltd. PI (Physik Instrumente) LP **PicoQuant Photonics North** America, Inc. Power Technology, Inc. **Princeton Instruments** Prior Scientific Inc. Pyreos Ltd. Quanta Tech Inc. Radiant Dyes Laser & Accessories GmbH Scottish Development International SemiNex Corp. Snake Creek Lasers Spectral Instruments Inc. Stanford Computer Optics, Inc. Steinmeyer, Inc. SU Squared Partnership SUSS MicroOptics SA Technical Manufacturing Corp. TeraView Ltd. Texas Instruments DLP Toptica Photonics, Inc. Translume, Inc. XiO Photonics B.V.

#### Metrology, Inspection and Process Control

4D Technology Corp. Aerotech, Inc. AF Optical Inc. ALIO Industries, Inc. Ambios Technology, Inc. AMETEK Taylor Hobson Inc AMO WaveFront Sciences, LLC Applied Surface Technologies Arroyo Instruments ASML Optics **Bid-Service LLC** Biophotonic Solutions, Inc. Brockton Electro-Optics Corp. Coholt AB Contour Metrological & Manufacturing, Inc. Corning Inc. DataRay, Inc. Davidson Optronics, Inc. **Davlight Solutions DIOPTIC GmbH** DZ Laser Service, Inc. Eagleyard Photonics GmbH Electro Optical Industries, Inc. **Electron Tubes** Element Six Energetiq Technology, Inc. **Engineered Surface Finishes** Engineering Synthesis Design, Inc. Epix, Inc. FEMTO Messtechnik GmbH Fibertech Optica FJW Optical Systems, Inc. Flemming Tinker, LLC Forth Dimension Displays Ltd. G-S PLASTIC OPTICS Headwall Photonics hema electronic GmbH High Q Laser (US), Inc. Hinds Instruments, Inc. Intellevation Ltd. J.A. Woollam Co. JCMwave GmbH JENOPTIK Laser, Optik, Systeme **GmbH** - Business Unit Optics KLASTECH - Karpushko Laser **Technologies GmbH** KLA-Tencor Lambda Scientific Pty Ltd. Lightspeed Technologies Inc. LightWorks Optics, Inc. Lincoln Laser Co. M Squared Lasers Ltd. m2k-laser GmbH Mad City Labs, Inc. Mahr Federal Inc. Market Tech. Inc. Max Levy Autograph, Inc. Meadowlark Optics, Inc. Metrology Concepts LLC Mildex. Inc. Minus K Technology, Inc. MLOPTIC Corp. Molded Plastic Optics, LLC Naked Optics Corp.

NEOARK Corp.

nPoint, Inc.

GmbH

Ondax, Inc.

Novacam Technologies Inc.

Omicron Laserage Laserprodukte

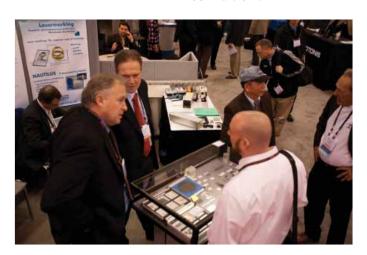
Olympus America Inc.

Onefive GmbH Ophir-Spiricon, Inc. Optical Support, Inc. **OptiPro Systems** Optocraft GmbH OWIS GmbH OXXIUS Pacific Coast Optics Pacific Laser Equipment PhaseView PHASICS Photon Gear, Inc. Piezosystem Jena, Inc. Power Technology, Inc. Precision Optics Gera Precitec Optronik GmbH PRIMES GmbH PROMET International Inc. PROVAC GmbH Pyreos Ltd. QED Technologies, Inc. Qioptiq Quanta Tech Inc. Redfern Integrated Optics, Inc. Resonon. Inc. Sacher Lasertechnik GmbH Semiconsoft, Inc. Showmark, LLC Silicon Sensor International AG Specim Spectral Imaging Ltd. Spectrum Detector Inc. Steinmeyer, Inc. StellarNet. Inc. Taboada Research Instruments, Inc. tec5USA, Inc. Thermo Fisher Scientific Toshiba America Information Systems TRIOPTICS GmbH **VENTEON Laser Technologies** GmbH Vermont Photonics Technologies Corp. Vincent Associates VI OC Vortran Laser Technology, Inc.

WaveFront Sciences, see AMO WaveFront Sciences, LLC Xiton Photonics GmbH Zemetrics, Inc. Z-LASER Optoelektronik GmbH Zomega Terahertz Corp. Zygo Corp.

#### Nanotechnology

AdTech Optics. Inc. Advanced Optowave Corp. Aerotech, Inc. ALIO Industries, Inc. Ambios Technology, Inc. AMETEK Precitech, Inc. Applied Surface Technologies BENEQ **Bid-Service LLC** Boulder Nonlinear Systems, Inc. Brockton Electro-Optics Corp. Cascade Optical Corp. **CEDRAT** Technologies Clemson University/COMSET CREOL, The College of Optics & Photonics, Univ. of Central Florida Crosslight Software, Inc. Curamik Electronics Inc. Del Mar Photonics. Inc. DPSS Lasers Inc. Energetiq Technology, Inc. Engineering Synthesis Design, Inc. EpiWorks, Inc. Epner Technology, Inc. Fastlite Flowstar, Inc. Fraunhofer Institut für Photonische Mikrosysteme IPMS Fraunhofer Institute for Applied **Optics and Precision Engineering IOF** Fresnel Optics GmbH Heidelberg Instruments Inc. IMT North America Infotonics Technology Center IntlVac JCMwave GmbH



JenLab GmbH Joensuu Science Park Ltd. Kapteyn-Murnane Labs. Inc. **Kimmon Electric** Kinetic Systems, Inc. Kohoku Kogyo Co., Ltd. Kurt J. Lesker Company LightSmyth Technologies, Inc. LightTrans VirtualLab GmbH Logitech Ltd. Luminit Mad City Labs, Inc. Max Levy Autograph, Inc. MICOS USA Minus K Technology, Inc. Nanofoot Finland Ov Nano-Master, Inc. Nanonics Imaging Ltd. Nanoscribe GmbH Naval Research Laboratory NEOARK Corp. Nextreme Thermal Solutions, Inc. Optiwave Systems Inc. **Optoelectronics Research** Centre/Tampere University of Technoloav OptoScribe **OWIS GmbH** Pacific Laser Equipment Philips Research, MiPlaza Photo Sciences, Inc. Photonics Finland PI (Physik Instrumente) LP Picodeon Ltd Oy Piezosystem Jena, Inc. Plasmaterials, Inc. Polaris Electronics Corp. Prior Scientific Inc. Roth & Rau MicroSystems GmbH RSoft Design Group Scottish Development International SmarAct GmbH Spectrum Scientific, Inc. Steinmever. Inc. Universal Photonics, Inc. Valley Design Corp. Veeco Instruments Inc. Vistec Electron Beam Lithography Group VTT Technical Research Centre of Finland/Electronics Vytran LLC

#### Non-Optical Lithography

Advance Reproductions Corp. Applied Image, Inc. Applied Thin-Film Products Bid-Service LLC Vistec Electron Beam Lithography Group

#### **Optical Components**

3Bridge Consultancy Ltd. 3S PHOTONICS

3SAE Technologies. Inc. 4AD Enterprises, Inc. Absolute Coating AC Photonics, Inc. Accina, Inc. AccuCoat, Inc. Accumold Active Optics - Night N (opt) Ltd. AdTech Optics, Inc. AdValue Photonics Inc. Advanced Glass Industries Advanced Microoptic Systems GmbH Advanced Optics Solutions (AOS) GmbH Advanced Photonix, Inc. Advanced Thin Films AdvR. Inc. Aegis Technology Inc. AF Optical Inc. **AFL** Telecommunications Aixtooling GmbH ALPAO Alphion Corp. ALTECHNA Co., Ltd. AMF Optics. Inc. AMO WaveFront Sciences. LLC Anchor Optics Andover Corp. Anson Optical Products Co., Ltd. Anteryon BV AOC Technologies, Inc. Apollo Instruments Inc. Apollo Optical Systems, Inc. Applied Image, Inc. **APS** Optics Archer OpTx, Inc. ARGES GmbH Argus International, Ltd. Argyle International Inc. asphericon GmbH Astro- und Feinwerktechnik Adlershof GmbH Astron Avensys Tech/ITF Labs Axcel Photonics Inc. Ayase America, Inc. **AZURE Photonics USA Inc.** Baikowski/Konoshima Barr Associates Inc. BeamExpander.com Beamtech Optronics Co. Ltd. Beijing Century Sunny Technology Co., Itd. Beijing Delfa Optoelectronics Inc. Beijing Glass Research Institute Berliner Glas US BMV Optical Technologies Inc. Bo Xin Optics, Ltd. Boston Micromachines Corp. Boulder Nonlinear Systems, Inc. **Brush Ceramic Products** Brush Wellman Inc. Bte Bedampfungstechnik GmbH

Cambridge Technology, Inc.

Canadian Photonics Fabrication Centre Cascade Laser Corp. CASIX, Inc. CASTECH Inc. CASTON Inc. CeNing Optics Co., Ltd. CeramOptec Industries, Inc. Chengdu Ultra Pure Applied Materials Co., Ltd. China Daheng Group Inc. China International Optoelectronics Exposition China Opto-Electro Industries, Co., Ltd. Chroma Technology Corp Cimcoop Holding Ltd. **CLASER** Photonics Inc. Clear Alian **Coastal Connections** CODIXX AG Compound Semiconductor Technologies Global Ltd. Computer Optics Inc. Conex Systems Technology, Inc. Contour Metrological & Manufacturing, Inc. Coresix Precision Glass, Inc. CRi Cristal Laser SA Crosslight Software, Inc. CryLight Photonics, Inc. Crystal GmbH Crystal Systems, Inc. Crystal Technology, Inc. CRYSTECH Inc. Crystran Ltd. **CVI Melles Griot** Davidson Optronics, Inc. Dayoptics, Inc. Del Mar Photonics, Inc. DenseLight Semiconductors Pte Itd. Deposition Sciences, Inc **Diablo Industries Thin Film** DiCon Fiberoptics, Inc. Diffractive Optics Ltd. **DIOPTIC GmbH** Docter Optics, Inc. Doric Lenses Inc. **DRC** - Metrigraphics **Edmund Optics EKSMA Optics** ELCAN Optical Technologies Electro Optical Components Inc. Electro-Optics Technology, Inc. Element Six Elliot Scientific Ltd. FM4 Inc. **Engineered Surface Finishes** EOTRON LLC EpiWorks, Inc. **ER Precision Optical** Evaporated Coatings, Inc. EXALOS AG

Fairchild Imaging, Inc. Fairfield Crystal Technology, LLC Feldmann GmbH FemtoLasers, Inc. Ferson Technologies, Inc. Fiber Optic Center, Inc. Fiberlogix International Ltd. Firebird Technologies Inc. Flemming Tinker, LLC FLIR Systems, Inc. Foctek Photonics, Inc. Foreal Spectrum, Inc. Forth Dimension Displays Ltd. Fotofab Fraunhofer Institute for Applied Optics and Precision Engineering IOF Fraunhofer-Institut für Produktionstechnologie IPT Fraunhofer-Institut für Silicatforschung Fresnel Optics GmbH Fresnel Technologies Inc. Fuzhou Alpha Optics Co., Ltd. Fuzhou USTRON Optoelectronic Materials Co., Ltd. Gavish, Inc. GD Optical Competence GmbH General Dynamics Axsys Technologies **Genia Photonics** Gentex Corp. GerLat Fiber Technologies LLC GiGa Concept Inc. Glass & Ceramic Engineered Solutions LLC **Global Communication** Semiconductors, Inc. Global Laser Ltd. Gooch & Housego (UK) Ltd. Gould Fiber Optics Grintech GmbH **G-S PLASTIC OPTICS** Guild Optical Associates, Inc. Gurley Precision Instruments, Inc. Hagitec Co., Ltd./Jalux Americas Hamamatsu Corp. Hardin Optical Company Harold Johnson Optical Labs. HB Optical Technology Co., Ltd. HC Photonics Corp. Helia Photonics Ltd. Hellma USA, Inc. Heraeus HIGHYAG Lasertechnologie GmbH Hinds Instruments, Inc. HOLOEYE Photonics AG Hova Corp. USA **Ibsen Photonics** ICA Corp. **II-VI Infrared** Imagine Optic IMM Photonics GmbH IMT North America Incom, Inc.

Infinite Graphics Infinite Optics Inc. Infotonics Technology Center **INGENERIC GmbH** Inlight Technology (HK) Limited Innovation Photonics InPhenix Inc. Intense I td International Radiation Detectors, Inc. **IRD** Glass Iridian Spectral Technologies **IRphotonics** Isomet Corp. **ISP** Optics Corporation Isuzu Glass Inc. Janos Technology LLC JDSU JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Digital Imaging JENOPTIK Laser, Optik, Systeme **GmbH** - Business Unit Optics JENOPTIK Optical Systems, Inc. JENOPTIK Polymer Systems, Inc. JingBo Optical Technology Inc. Shanghai JML Optical Industries Inc. JP Sercel Associates, Inc. JT Ingram Sales and Marketing Kaiser Optical Systems, Inc. Kaleido Technology ApS Kentek Corporation Keting Optical Technology Inc., Hangzhou Kinetic Systems, Inc. KINIK Kiyohara Optics USA Kohoku Kogyo Co., Ltd. Kreischer Optics, Ltd. Kugler of America LTD L-3 Communications, Tinsley Laboratories Labsphere, Inc. LaCroix Optical Co. Lambda Research Optics Inc. Lambda Scientific Pty Ltd. Laser 2000 Benelux CV Laser Diode, Inc. Laser Materials Corp. Laser Optics a PPGI company Laser Research Optics LASEROPTIK GmbH - laser optics and coatings Lattice Electro Optics, Inc. Lattice Materials LLC Leica Microsystems CMS GmbH Leister Technologies, LLC Leoni Fiber Optics GmbH Light Guide Optics Germany GmbH LightComm Technology LightMachinery Inc. LightPath Technologies, Inc. LightSmyth Technologies, Inc. LightTrans VirtualLab GmbH

LightWorks Optics. Inc. LIMO Lissotschenko Mikrooptik GmbH Lincoln Laser Co. Linden Photonics. Inc. LT Ultra Precision Optics Luminit Max Levy Autograph, Inc. Meadowlark Optics, Inc. Meller Optics, Inc. MEMS Optical Inc. METALLIFE, Inc. Micro Laser Systems, Inc. Micro Photon Devices (MPD) Micropac Industries Inc. Mitsubishi Cable Industries, Ltd. Mitsubishi Electric & Electronics USA, Inc. MLD Technologies, LLC MLOPTIC Corp. Molded Plastic Optics, LLC Molecular Technology GmbH (MolTech GmbH) Moore Nanotechnology Systems, LLC MOXTEK, Inc. MPA Crystal Corp. MPB Communications Inc. MRC a PPGI company mso jena GmbH Multi IR Optoelectronics Co., Ltd. Naked Optics Corp. Nanjing Sapphire Electro-Optics Co., Ltd. Nanocomp Ltd. National Instrument Technology Research Center neoplas control GmbH Neptec Optical Solutions, Inc. New England Photoconductor Corp. New Scale Technologies, Inc. New Source Technology, LLC Newsandgy Optronics Inc. Nextreme Thermal Solutions. Inc. nLIGHT Corp. North American Coating Laboratories Northrop Grumman-SYNOPTICS/ Aerospace Systems NovaWave Technologies O/E Land Inc. Ocean Optics. Inc. OFS - Specialty Photonics Division Ohara Corp. **Okamoto Optics Works** Olympus America Inc. O-m6 Technologies Inc. Omega Optical, Inc. Ondax, Inc. OP Mount Inc. OPCO Laboratory, Inc. Opnext, Inc. Optical Filter Source, LLC Optics Technology, Inc.

Optiforms OptiGrate Corp.

Optikron GmbH Optimax Systems, Inc. OptiSource, LLC Optiwave Systems Inc. OPTIX Co. Opto Diode Corp. **OptoElectronic Components Optoelectronics Research** Centre/Tampere University of Technology Optometrics Corp. **Optonetic LLC** OptoScribe optoSiC GmbH OptoSigma Corp. Optoskand AB OSA - The Optical Society **OWIS GmbH** OZ Optics Ltd. P&P Optica Pacific Coast Optics Pacific Rim Optical Paul Pleiger Maschinenfabrik GmbH & Co. KG PD-LD, Inc. Penta HT Optics PerkinElmer Illumination & Detection Perkins Precision Developments **PFG Optics** Phoenix Infrared Phoenix Optical Technologies Ltd. Photo Sciences, Inc. Photonic Products Ltd. Photonic Solutions Ltd. Photonics Finland Photop Technologies, Inc. **PicoQuant GmbH** PLX, Inc. Polaris Electronics Corp. Polymer Optics, LLC Polymicro Technologies A Subsidiary of Molex Incorporated PowerPhotonic Precision Glass & Optics Precision Optical Precision Optics Gera Precision Photonics Corp. **PROMET** International Inc. QED Technologies, Inc. Qioptiq Quality Thin Films, Inc. Quantum Technology, Inc. Radiant Dyes Laser & Accessories GmbH Raicol Crystals Ltd. Rainbow Research Optics, Inc. RAYLASE AG Research Electro-Optics, Inc. Reynard Corp. Rising Electro-Optics Ltd. **Rochester Precision Optics LLC** Rolyn Optics Co. RoMack, Inc.

**RPC** Photonics. Inc. Rubicon Technology, Inc. Saint-Gobain Crystals Santec Sapphire Technology Co., Ltd. SCANLAB America, Inc. Schneider Optics, Inc. SCHOTT North America, Inc. Scientific Materials Corp., a FLIR Systems Company Seikoh Giken USA Inc. Servometer/PMG, LLC Shanghai Optics Shasta Crystals Sheaumann Laser Inc. Shin-Etsu Chemical Sierra Precision Optics Inc. Silian Technical Import & Export Co., Ltd. Chongqing Silicon Valley Optics Technology, Inc. Sill Optics GmbH & Co., KG Siltint Industries Ltd. Sinclair Manufacturing Singapore Optics Inc. Space Optics Research Labs, LLC Special Optics Spectral Products Spectral Systems Spectra-Mat, Inc. Spectrogon US Inc. Spectrolab, Inc. A Boeing Company Spectrum Scientific, Inc. SRICO, Inc. Stemmerich, Inc. StockerYale. Inc. Sumitomo Metal Mining Co. Ltd. Super Optronics Inc. Suruga Seiki Co., Ltd. Swiss Jewel Company Sydor Optics, Inc. Syntec Optics Taboada Research Instruments, Inc. Techmetals, Inc. TecOptics, Inc. Temmek Optics Ltd. Tempotec Optics Co., Ltd. Teraxion Inc. Tessera Inc. The China and South Optical Crystal Co. TOPAG Lasertechnik GmbH Tower Optical Corp. Triad Technology Inc. Triumph HT Optics Suzhou Ltd. TwinStar Optics, Coatings, & Crystals UCM AG UltraSource, Inc. Unice E-O Services Inc. Union Optic, Inc. Unioriental Optics Co., Ltd. United Lens Co., Inc.

Vallev Design Corp. **VENTEON Laser Technologies** GmbH Vincent Associates Virtual Industries. Inc. VLOC Voltage Multipliers Inc. VTT Technical Research Centre of Finland/Electronics Vvtran LLC Wasatch Photonics WaveFront Sciences, see AMO WaveFront Sciences, LLC Wavelength Technology Singapore Western Photonics Technology Witcore Co., Ltd. WT&T Inc. WZWOPTIC AG Xactra Technologies XiO Photonics B.V. Yangtze Optical Fibre and Cable Co., Ltd. Z&Z Optoelectronics Tech. Co., Ltd. ZC&R Coatings for Optics, Inc. Zeon Chemicals Zhejiang Quartz Crystal Optoelectronic Technology Co., I td Z-LASER Optoelektronik GmbH Zygo Corp.

#### **Optical Detectors**

Advanced Laser Diode Systems A.L.S. GmbH Advanced Photonix, Inc. Aegis Technology Inc. Agiltron, Inc. Amplification Technologies, Inc. Analog Modules, Inc. **AZURE Photonics USA Inc.** Boston Electronics Corp. Cal Sensors, Inc. **Canadian Photonics Fabrication** Centre CI Systems, Inc. CMOSIS Computer Optics Inc. **Electron Tubes** Electro-Optical Systems, Inc. Electro-Optics Technology, Inc. EPIGAP Optoelektronik GmbH Epitaxial Technologies, LLC FEMTO Messtechnik GmbH Femtochrome Research, Inc. Fiberlogix International Ltd. Firebird Technologies Inc. Gentec Electro-Optics Inc. **Global Communication** Semiconductors, Inc. Goodrich ISR Systems Hamamatsu Corp. Helia Photonics Ltd. Hellma USA, Inc. Hinds Instruments, Inc.

Infratec Infrared LLC International Light Technologies International Radiation Detectors, Inc JT Ingram Sales and Marketing KLA-Tencor Kyosemi Corporation Lambert Instruments Laser Diode, Inc. LaserPoint s.r.l. Menlo Systems GmbH Micro Photon Devices (MPD) Micropac Industries Inc. MicrOptix Technologies, LLC Mitsubishi Electric & Electronics USA. Inc. Multi IR Optoelectronics Co., Ltd. New England Photoconductor Corp. New Focus, A Brand of Newport Corp. Ocean Optics, Inc. On-Trak Photonics, Inc. **OP Mount Inc.** Opto Diode Corp. **OptoElectronic Components** Orb Optronix, Inc. Oriel Instruments, A Brand of Newport Corp. PD-LD, Inc. PERFOS PerkinElmer Illumination & Detection PHASICS Philips Research, MiPlaza Photek, Ltd. Photon Inc. PHOTONIS USA Photo-Sonics. Inc. Photron **PicoQuant GmbH** Resonon, Inc. Rising Electro-Optics Ltd. **RSoft Design Group** Scientech. Inc. Sensor Electronic Technology, Inc. Silicon Sensor International AG Silios Technologies Singapore Optics Inc. Siskiyou Corp. Sofradir EC, Inc. Spectral Instruments Inc. Spectral Systems Spectrolab, Inc. A Boeing Company Spectrum Detector Inc. Sydor Instruments, LLC Teledyne Judson Technologies TeraView Ltd. Tessera Inc. Thorlabs, Inc. Toshiba America Information Systems United Lens Co., Inc. Varian, Inc.

VTT Technical Research Centre of Finland/Electronics

#### **Optical Fibers**

AdValue Photonics Inc. AFL Telecommunications Agiltron, Inc. Anchor Optics Apollo Instruments Inc. **Applied Optronics** Automation Engineering Inc. (AEI) Beijing Glass Research Institute Brimrose Corp. of America Cascade Optical Corp. CeramOptec Industries, Inc. China International Optoelectronics Exposition Clemson University/COMSET **Coastal Connections** Collimated Holes, Inc. CorActive High-Tech, Inc. Corning Inc. Diffractive Optics Ltd. Draka Communications Optical Fiber Epitaxial Technologies, LLC Fiber Optic Center, Inc. Fibercore Ltd. Fiberauide Industries. Inc. FiberLabs Inc. Fiberlogix International Ltd. Fiberoptic Systems, Inc. Fiberoptics Technology Inc. Fibertech Optica Fibertronix Fraunhofer Institute for Applied **Optics and Precision Engineering IOF** GerLat Fiber Technologies LLC Hagitec Co., Ltd./Jalux Americas Helia Photonics Ltd. **High Tech Photonics** HIGHYAG Lasertechnologie GmbH IMM Photonics GmbH Incom, Inc. INO **IRphotonics** JCMwave GmbH i-fiber GmbH JT Ingram Sales and Marketing Leister Technologies, LLC Leoni Fiber Optics GmbH Light Guide Optics Germany GmbH Linden Photonics, Inc. MeshTel - INTELITE, INC. Mitsubishi Cable Industries, Ltd. Neptec Optical Solutions, Inc. nLIGHT Corp. **NP** Photonics Nufern Ocean Optics, Inc. OFS - Specialty Photonics Division O-m6 Technologies Inc. Optoskand AB

OSA - The Optical Society PERFOS Photonics Industry & Technology Development Association (PIDA) Polymicro Technologies A Subsidiary of Molex Incorporated PROVAC GmbH Raybium RoMack, Inc. tec5USA, Inc. **Technobis Group** The China and South Optical Crystal Co. Unice E-O Services Inc. Vytran LLC Western Photonics Technology WT&T Inc. Yangtze Optical Fibre and Cable Co., Ltd.

#### Optical Materials and Substrates

4AD Enterprises, Inc. Abrisa Industrial Glass. Inc. Absolute Coating AC Photonics, Inc. Accuratus Corp. Acton Optics & Coatings/Princeton Instruments Advanced Thin Films AdvR, Inc. Aistana Inc. Aixtooling GmbH ALTECHNA Co., Ltd. American Beryllia, Inc. AMF Optics, Inc. Andover Corp. Antervon BV Applied Thin-Film Products **APS Optics** Archer OpTx, Inc. Argus International, Ltd. Argyle International Inc. Baikowski/Konoshima Barr Associates Inc. Beijing Delfa Optoelectronics Inc. Beijing Guojing Infrared Optical Technology Co., Ltd. BENEO CASTECH Inc. CASTON Inc. Chardon Tool China Opto-Electro Industries, Co., Ltd. Clemson University/COMSET CODIXX AG Collimated Holes, Inc. Computer Optics Inc. Conex Systems Technology, Inc. Coresix Precision Glass, Inc. Cristal Laser SA CryLight Photonics, Inc. Crystal GmbH Crystal Systems, Inc.

Crystran Ltd. Dayoptics, Inc. Deposition Sciences, Inc Diffractive Optics Ltd. Dynasil Corp. **EKSMA Optics ER** Precision Optical Exciton Inc. Fairfield Crystal Technology, LLC Ferson Technologies, Inc. FLIR Systems, Inc. Fraunhofer-Institut für Silicatforschung Fuzhou USTRON Optoelectronic Materials Co., Ltd. Gavish. Inc. Glass & Ceramic Engineered Solutions LLC Glass Fab Inc. Gooch & Housego (UK) Ltd. Guild Optical Associates, Inc. HB Optical Technology Co., Ltd. Heraeus **II-VI Infrared** Incom, Inc. Infinite Optics Inc. Insaco, Inc. Isomet Corp. **ISP** Optics Corporation Isuzu Glass Inc. J.A. Woollam Co. JingBo Optical Technology Inc. Shanghai JML Optical Industries Inc. Kentek Corporation KINIK Kohoku Kogyo Co., Ltd. Kurt J. Lesker Company Lambda Research Optics Inc. Laser Materials Corp. Laser Research Optics LASEROPTIK GmbH - laser optics and coatings Lattice Electro Optics, Inc. Lattice Materials LLC LightMachinery Inc. LightWorks Optics, Inc. Luminit m2k-laser GmbH Meller Optics. Inc. METALLIFE, Inc. Microcertec Mindrum Precision, Inc. Mitsui Chemicals America, Inc. Molecular Technology GmbH (MolTech GmbH) MPA Crystal Corp. Naked Optics Corp. Nanjing Sapphire Electro-Optics Co., Ltd. New England Photoconductor Corp. Nikon Corp. North American Coating Laboratories Northrop Grumman-SYNOPTICS/ Aerospace Systems

Novotech. Inc. NuSil Technology Ohara Corp. **Okamoto Optics Works** OPCO Laboratory, Inc. OptiGrate Corp. OptiSource, LLC Optometrics Corp. **Optonetic LLC Pacific Coast Optics** Pacific Rim Optical Perkins Precision Developments **Phoenix Infrared** Phoenix Optical Technologies Ltd. Plasmaterials, Inc. Polymer Optics, LLC Precision Glass & Optics Precision Optical Precision Photonics Corp. Quality Thin Films, Inc. Quantum Technology, Inc. Raicol Crystals Ltd. Rainbow Research Optics, Inc. Remtec. Inc. **Rochester Precision Optics LLC RSoft Design Group** Rubicon Technology, Inc. Saint-Gobain Crystals Sapphire Technology Co., Ltd. SCHOTT North America, Inc. Scientific Materials Corp., a FLIR Systems Company Scottish Development International Shanghai Jingsheng Industrial Co., I td. Shanghai Optics Shasta Crystals Shin-Etsu Chemical Silian Technical Import & Export Co., Ltd. Chongqing Spartan Felt Company, Inc. Spectral Systems Spectralus Corp. Spectra-Mat, Inc. Spectrogon US Inc. SSCP USA Stellar Industries Corp. Stemmerich. Inc. Sumitomo Metal Mining Co. Ltd. Super Optronics Inc. Swift Glass Co. Swiss Jewel Company Techmetals, Inc. TecOptics, Inc. Tempo Clean Room Foam Tempotec Optics Co., Ltd. Tessera Inc. The China and South Optical Crystal Co. Tower Optical Corp. TwinStar Optics, Coatings, & Crystals UCM AG UltraSource, Inc. Umicore Thin Film Products

Union Optic, Inc. Unioriental Optics Co., Ltd. United Lens Co., Inc. Vacuum Engineering & Materials Co., Inc. Valley Design Corp. Virtual Industries, Inc. VLOC VTT Technical Research Centre of Finland/Electronics Williams Advanced Materials Witcore Co., Ltd. WZWOPTIC AG Yangtze Optical Fibre and Cable Co., Ltd. Z&Z Optoelectronics Tech. Co., Ltd. ZC&R Coatings for Optics, Inc. Zeon Chemicals

#### Optical Test and Measurement Equipment, Interferometer

3SAE Technologies. Inc. 4D Technology Corp. Active Optics - Night N (opt) Ltd. Advanced Thin Films **AFL** Telecommunications Alphion Corp. Ambios Technology, Inc. AMETEK Taylor Hobson Inc AMO WaveFront Sciences, LLC Anchor Optics APE - Angewandte Physik und Elektronik GmbH ASML Optics B&W Tek, Inc. BaySpec, Inc. Biophotonic Solutions, Inc. Boulder Nonlinear Systems, Inc. Bristol Instruments, Inc. Brockton Electro-Optics Corp. Calmar Laser, Inc. Cascade Laser Corp. China Daheng Group Inc. China International **Optoelectronics Exposition** CI Systems, Inc. Colorado Photonics Industry Association Commax Co., Ltd. Control Development, Inc. DataRay, Inc. Davidson Optronics, Inc. DiCon Fiberoptics, Inc. **DIOPTIC GmbH** Electro Optical Industries, Inc. Electro-Optics Technology, Inc. Engineering Synthesis Design, Inc. **ER Precision Optical** Fastlite Femtochrome Research, Inc. Fiber Optic Center, Inc. Fiberlogix International Ltd.

Fibertronix Flemming Tinker, LLC FLIR Systems, Inc. Gentec Electro-Optics Inc. Harz University of Applied Sciences HB Optical Technology Co., Ltd. Hinds Instruments, Inc. Hitachi High Technologies America Intellevation Ltd. International Light Technologies J.A. Woollam Co. JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Optics Joensuu Science Park Ltd. Kinetic Systems, Inc. Kiyohara Optics USA KLASTECH - Karpushko Laser Technologies GmbH **KLA-Tencor Krell Technologies** Labsphere, Inc. Laser 2000 Benelux CV Laser Diode. Inc. LaserPoint s.r.l. Light Age, Inc. Lightspeed Technologies Inc. Logitech Ltd. LT Ultra Precision Optics Luna Technologies Mahr Federal Inc. Market Tech, Inc. MeshTel - INTELITE, INC. Metrology Concepts LLC Micro Photon Devices (MPD) Mightex Systems Mildex, Inc. Minus K Technology, Inc. Moeller-Wedel Optical GmbH Molded Plastic Optics, LLC Naked Optics Corp. Nanonics Imaging Ltd. National Instrument Technology **Research Center** Neptec Optical Solutions, Inc. New Focus, A Brand of Newport Corp. New Source Technology, LLC Newport Corp. Novacam Technologies Inc. O/E Land Inc. Ohara Corp. Okamoto Optics Works OP Mount Inc. Optical Support, Inc. Optikos Corp. Optilab LLC OptiPro Systems Opto-Alignment Technology Optocraft GmbH OptoSci Ltd. Orb Optronix, Inc. OXXIUS PhaseView PHASICS

Photon Inc. Photron PI (Physik Instrumente) LP PLX, Inc. PolarOnyx, Inc. Polytec Inc. Precision Optics Gera Precitec Optronik GmbH PRIMES GmbH Prior Scientific Inc. PROMET International Inc. QED Technologies. Inc. QPhotonics, LLC Radiant Dyes Laser & Accessories GmbH Redfern Integrated Optics, Inc. Reynard Corp. Sacher Lasertechnik GmbH SCHNEIDER Optical Machines LLC Showmark, LLC Silicon Valley Optics Technology, Inc. Singapore Optics Inc. Space Optics Research Labs, LLC Spectral Products Spectrecology **SphereOptics** Spica Technologies, Inc. Stanford Research Systems, Inc. StellarNet, Inc. Swamp Optics, LLC tec5USA, Inc. Telops Inc. Teraxion Inc. Thermo Fisher Scientific Toptica Photonics, Inc. **TRIOPTICS GmbH** Unice E-O Services Inc. Universal Photonics, Inc. **VENTEON Laser Technologies** GmbH Vermont Photonics Technologies Corp. Vortran Laser Technology, Inc. VueMetrix Vytran LLC WaveFront Sciences, see AMO WaveFront Sciences, LLC Wavelength References Witcore Co., Ltd. Zemetrics, Inc. Zygo Corp.

#### Optical/Laser Microlithography

Accina, Inc. Advance Reproductions Corp. Advanced Optowave Corp. Applied Image, Inc. Applied Optronics ASML Optics Beijing Glass Research Institute CASTON Inc. DPSS Lasers Inc. Engineered Surface Finishes

EOTRON LLC Fairfield Crystal Technology, LLC Feldmann GmbH FLIR Systems, Inc. Fraunhofer-Institut für Silicatforschung Heidelberg Instruments Inc. Imagine Optic Infinite Graphics Ion Beam Milling Inc. JCMwave GmbH JingBo Optical Technology Inc. Shanghai **Kimmon Electric** KLASTECH - Karpushko Laser Technologies GmbH Laser Quantum Ltd. Light Age, Inc. LIMO Lissotschenko Mikrooptik GmbH MEMS Optical Inc. Nanocomp Ltd. Nanoscribe GmbH NEOARK Corp. Optical Filter Source, LLC **Optical Research Associates Opto-Alignment Technology** OptoScribe Photo Sciences, Inc. Photon Gear, Inc. Photonics Industries International, Inc **PicoQuant Photonics North** America, Inc. Rising Electro-Optics Ltd. SUSS MicroOptics SA Texas Instruments DLP ThermoTek Inc. Translume. Inc.

#### **Optics Manufacturing**

4D Technology Corp. Abrisa Industrial Glass, Inc. Absolute Coating AC Photonics, Inc. Accina, Inc. Accumold Active Optics - Night N (opt) Ltd. Advanced Microoptic Systems GmbH Advanced Research Corp. Advanced Thin Films **AFL** Telecommunications Aixtooling GmbH AMF Optics, Inc. AMO WaveFront Sciences, LLC Anchor Optics Andover Corp. Anson Optical Products Co., Ltd. Anteryon BV AOC Technologies, Inc. Apollo Optical Systems, Inc. Applied Surface Technologies **APS** Optics Archer OpTx, Inc.

Argus International. Ltd. Argyle International Inc. ASML Optics asphericon GmbH Astro- und Feinwerktechnik Adlershof GmbH Astron Axcel Photonics Inc. AZURE Photonics USA Inc. Baikowski/Konoshima Beijing Delfa Optoelectronics Inc. Berliner Glas US **Bid-Service LLC** BMV Optical Technologies Inc. Breault Research Organization CASTECH Inc. CASTON Inc. CeramOptec Industries, Inc. Chardon Tool Chengdu Ultra Pure Applied Materials Co., Ltd. China Daheng Group Inc. Chroma Technology Corp Cimcoop Holding Ltd. CODIXX AG Collimated Holes, Inc. Colorado Photonics Industry Association Computer Optics Inc. Conex Systems Technology, Inc. Contour Metrological & Manufacturing, Inc. CryLight Photonics, Inc. Crystal GmbH Crystal Systems, Inc. CRYSTECH Inc. Crystran Ltd. **CVI Melles Griot** DAC International, Inc. Dayoptics, Inc. DCM Tech, Inc. Deposition Sciences, Inc **Diablo Industries Thin Film** Diffractive Optics Ltd. Docter Optics, Inc. Doric Lenses Inc. Dynavac **Edmund Optics EKSMA Optics ELCAN Optical Technologies Engineered Surface Finishes ER** Precision Optical Fairfield Crystal Technology, LLC Feldmann GmbH FemtoLasers, Inc. Ferson Technologies, Inc. FiberLabs Inc. Fiberlogix International Ltd. Flemming Tinker, LLC FLIR Systems, Inc. Flowstar, Inc. Foctek Photonics, Inc. Foreal Spectrum, Inc. Fraunhofer-Institut für Produktionstechnologie IPT

Fresnel Optics GmbH Fresnel Technologies Inc. Fuzhou Alpha Optics Co., Ltd. Fuzhou USTRON Optoelectronic Materials Co., Ltd. Gavish, Inc. GD Optical Competence GmbH General Dynamics Axsys Technologies Glass & Ceramic Engineered Solutions LLC Glass Fab Inc. **Global Communication** Semiconductors, Inc. Grintech GmbH G-S PLASTIC OPTICS Hardin Optical Company Harold Johnson Optical Labs. HB Optical Technology Co., Ltd. Headwall Photonics Helia Photonics Ltd. Hellma USA, Inc. HIGHYAG Lasertechnologie GmbH Hoya Corp. USA **II-VI Infrared** Imagine Optic Infinite Optics Inc. INGENERIC GmbH Inlight Technology (HK) Limited Insaco, Inc. **IRD Glass IRphotonics ISP** Optics Corporation Isuzu Glass Inc. Janos Technology LLC JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Optics JENOPTIK Optical Systems, Inc. JingBo Optical Technology Inc. Shanghai JML Optical Industries Inc. Joensuu Science Park Ltd. Kaleido Technology ApS Kentek Corporation Keting Optical Technology Inc., Hangzhou KINIK Kiyohara Optics USA Kreischer Optics, Ltd. Kugler of America LTD L-3 Communications. Tinslev Laboratories Lambda Research Optics Inc. Laser Components Canada 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 Leybold Optics LightMachinery Inc. LightPath Technologies, Inc. LightSmyth Technologies, Inc. LightWorks Optics, Inc.

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Qioptia Quality Thin Films, Inc. Rainbow Research Optics, Inc. Research Electro-Optics, Inc. Reynard Corp. Rising Electro-Optics Ltd. **Rochester Precision Optics LLC** RoMack Inc. Roth & Rau MicroSystems GmbH **RPC** Photonics, Inc. Saint-Gobain Crystals Sapphire Technology Co., Ltd. Schneider Optics, Inc. SCHOTT North America, Inc. Scientific Materials Corp., a FLIR Systems Company Servometer/PMG, LLC Shanghai Optics Sheaumann Laser Inc. Shin-Etsu Chemical Sierra Precision Optics Inc. Silian Technical Import & Export Co., Ltd. Chongqing Silicon Valley Optics Technology, Inc. Silios Technologies Sill Optics GmbH & Co., KG Siltint Industries Ltd. Singapore Optics Inc. SlicingTech Space Optics Research Labs, LLC **Special Optics** Spectral Products Spectrogon US Inc. Spectrum Scientific, Inc. Stemmerich, Inc. Swift Glass Co. Sydor Optics, Inc. Syntec Optics Techmetals, Inc. TecOptics. Inc. Temmek Optics Ltd. Tempo Clean Room Foam Tempotec Optics Co., Ltd. The China and South Optical Crystal Co. **TLC** International Tower Optical Corp. **TRIOPTICS GmbH** Triumph HT Optics Suzhou Ltd. TwinStar Optics, Coatings, & Crystals Union Optic, Inc. Unioriental Optics Co., Ltd. United Lens Co., Inc. Valley Design Corp. Virtual Industries, Inc. VLOC WaveFront Sciences, see AMO WaveFront Sciences, LLC Wavelength Technology Singapore Williams Advanced Materials Witcore Co., Ltd. WZWOPTIC AG Yangtze Optical Fibre and Cable Co., Ltd.

Z&Z Optoelectronics Tech. Co., Ltd. ZC&R Coatings for Optics, Inc. Zhejiang Quartz Crystal Optoelectronic Technology Co., Ltd. Zygo Corp.

#### Photonics Equipment Manufacturer

3SAE Technologies, Inc. 89 North Advanced Optowave Corp. American Beryllia, Inc. Applied Image, Inc. Applied Surface Technologies **APS Optics** Astro- und Feinwerktechnik Adlershof GmbH Automation Engineering Inc. (AEI) Avantes, Inc. Avo Photonics, Inc. B&W Tek, Inc. BENEO **Biophotonic Solutions. Inc.** Boston Micromachines Corp. Brimrose Corp. of America Brooks Automation Inc. Calmar Laser, Inc. Cimcoop Holding Ltd. Colorado Photonics Industry Association Control Development, Inc. Critical Link LLC DAC International, Inc. Dausinger+Giesen GmbH Davidson Optronics, Inc. DCM Tech, Inc. Diode Laser Concepts, Inc. Dongwoo Optron Co., Ltd. Doric Lenses Inc. DPSS Lasers Inc. Dyoptyka DZ Laser Service, Inc. Edinburgh Instruments Ltd. **EKSPLA UAB** Electro Optical Industries, Inc. **Electron Tubes** Electro-Optical Products Corp. FEMTO Messtechnik GmbH Fiberguide Industries, Inc. Fiberoptics Technology Inc. ficonTEC Corp. Finetech **GEL-PAK** GiGa Concept Inc. Hamamatsu Corp. Heraeus HOLOEYE Photonics AG ICA Corp. **Innovative Photonic Solutions** InPhenix Inc. Intense Ltd. International Light Technologies IntlVac

Isomet Corp. IZOTERM, JSC Res & Dev Institute JDSU JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Digital Imaging JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Optics Kaiser Optical Systems, Inc. Kaiser Systems, Inc. Kapteyn-Murnane Labs. Inc. KDF Kimmon Electric Kugler of America LTD Kurt J. Lesker Company Labsphere, Inc. Lambert Instruments Larsen Equipment Design, Inc. Lasence Inc. Laser Drive, Inc. Litron Lasers Loaitech Ltd. Lumina Power, Inc. Luminostix b.v. M Squared Lasers Ltd. MANLIGHT Meadowlark Optics, Inc. Micro Laser Systems, Inc. Modu-Laser, LLC Molecular Technology GmbH (MolTech GmbH) Moore Nanotechnology Systems, LLC MPB Communications Inc. **Multiwave Photonics** Nanofoot Finland Oy Nanonics Imaging Ltd. Nanoscribe GmbH NEOARK Corp. New Focus, A Brand of Newport Corp. Newport Corp. nLIGHT Corp. NM Laser Products Inc. nPoint. Inc. Nutfield Technology, Inc. O2view B.V. Ocean Optics, Inc. Optometrics Corp. OptoSci Ltd. OSA - The Optical Society OWIS GmbH P&P Optica Pangolin Laser Systems Inc. PERFOS PerkinElmer Illumination & Detection **PhaseView** Phillips Plastics Corp. Photonics Industry & Technology **Development Association (PIDA)** PLX, Inc. Polaris Electronics Corp. PolarOnyx, Inc. Power Technology, Inc. **Princeton Instruments** 

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PROVAC GmbH Qioptiq Quantum Technology, Inc. Satisloh North America Inc. Scientech, Inc. Seikoh Giken USA Inc. Sensl SGS Slicing Solutions, Inc. Showmark, LLC Siskiyou Corp. Sofradir EC, Inc. Specim Spectral Imaging Ltd. Spectrum Detector Inc. **SphereOptics** SPI Lasers Standa Stanford Photonics, Inc. StellarNet. Inc. Strasbaugh Tecport Optics, Inc. **Teem Photonics** Telops Inc. TeraView Ltd. Teraxion Inc. **TLC** International Vacuum Process Technology, Inc. Visitech AS Voltage Multipliers Inc. Vortran Laser Technology, Inc. Wasatch Photonics Wavelength Electronics, Inc. Xactra Technologies

#### Positioning Equipment

Aerotech, Inc. AF Optical Inc. ALIO Industries. Inc. Altos Photonics, Inc. ARGES GmbH Beijing Century Sunny Technology Co., Ltd. **Bid-Service LLC** Cambridge Technology, Inc. **CEDRAT** Technologies China Daheng Group Inc. **CVI Melles Griot** DAC International, Inc. **Edmund Optics EKSMA Optics EKSPLA UAB** Elite Optoelectronics Co., Ltd. Elliot Scientific Ltd. ficonTEC Corp. **GEL-PAK** GiGa Concept Inc. Gurley Precision Instruments, Inc. ICA Corp. IKO International, Inc. Kugler of America LTD Lanmark Controls Inc. Laser 2000 Benelux CV Lightspeed Technologies Inc. Mad City Labs, Inc. MeshTel - INTELITE, INC.

MICOS USA MicroE Systems Minus K Technology, Inc. Nanonics Imaging Ltd. New Focus, A Brand of Newport Corp. New Scale Technologies, Inc. Newport Corp. nPoint, Inc. Nutfield Technology, Inc. On-Trak Photonics, Inc. **Opto-Alignment Technology** OptoSigma Corp. **OWIS GmbH** Pacific Laser Equipment PI (Physik Instrumente) LP Piezosystem Jena, Inc. Prior Scientific Inc. Radiant Dyes Laser & Accessories GmbH RAYLASE AG SCANLAB America, Inc. Silicon Sensor International AG Siskiyou Corp. SmarAct GmbH Standa Steinmeyer, Inc. StockerYale, Inc. Suruga Seiki Co., Ltd. Sutter Instrument Co. Taboada Research Instruments, Inc. Technical Manufacturing Corp. Thorlabs, Inc. Unice E-O Services Inc. Zaber Technologies Inc. Z-LASER Optoelektronik GmbH

#### **Resist Technology** and Processing

Applied Thin-Film Products Diablo Industries Thin Film Feldmann GmbH Filmetrics, Inc. Fraunhofer-Institut für Silicatforschung Gurley Precision Instruments, Inc. Infinite Graphics Ion Beam Milling Inc. Kimmon Electric Nanoscribe GmbH Noren Products, Inc. Philips Research, MiPlaza RASIRC UltraSource, Inc.

#### Sensor & Sensor Systems

3Bridge Consultancy Ltd. Active Optics - Night N (opt) Ltd. Advanced Optics Solutions (AOS) GmbH Advanced Photonix, Inc. Advanced Research Corp. Aegis Technology Inc. Agiltron, Inc.

#### ALPAO Alphion Corp. AMETEK HCC Industries AMO WaveFront Sciences, LLC Amonics Ltd. AMTRON GmbH Analog Modules, Inc. Antervon BV Avantes, Inc. Avensys Tech/ITF Labs Brooks Automation Inc. Cal Sensors. Inc. **CEDRAT** Technologies Clear Align CMOSIS CODIXX AG Control Development, Inc. CREOL. The College of Optics & Photonics, Univ. of Central Florida Curamik Electronics Inc. **Daylight Solutions** DiCon Fiberoptics, Inc. Draka Communications Optical Fiber **DRC** - Metrigraphics Electro-Optical Systems, Inc. EOTRON LLC EPIGAP Optoelektronik GmbH Fairchild Imaging, Inc. FEMTO Messtechnik GmbH Femtochrome Research, Inc. Fiber Optic Valley FiberLabs Inc. Fiberlogix International Ltd. Fibertronix Firebird Technologies Inc. Fraunhofer Heinrich-Hertz-Institute Fraunhofer Institut für Photonische Mikrosysteme IPMS Fraunhofer Institute for Applied **Optics and Precision Engineering IOF** GD Optical Competence GmbH General Atomics Aeronautical Systems Inc. Goodrich ISR Systems **Gould Fiber Optics** Gurley Precision Instruments, Inc. HC Photonics Corp. Headwall Photonics Hellma USA. Inc. **High Tech Photonics Ibsen Photonics** Infotonics Technology Center

Laser Components Canada Laser Components DG, Inc. Laser Components GmbH Laser Components IG, Inc. LaserPoint s.r.l. Light Guide Optics Germany GmbH LT Ultra Precision Optics Luna Technologies Metrology Concepts LLC **MicroE Systems** Micron Optics, Inc. Micropac Industries Inc. MicrOptix Technologies, LLC **MIRTHE Center, Princeton** University Multi IR Optoelectronics Co., Ltd. Naval Research Laboratory neoplas control GmbH New England Photoconductor Corp. New Scale Technologies, Inc. Nextreme Thermal Solutions, Inc. Novacam Technologies Inc. NovaWave Technologies **NP** Photonics nPoint, Inc. NTT Electronics Corp. Nufern O/E Land Inc. Ocean Thin Films On-Trak Photonics, Inc. Ophir-Spiricon, Inc. Optics Technology, Inc. **Optilab LLC** OptiSwitch Technology Corp. Opto Diode Corp. Optocraft GmbH **OptoElectronic Components** OptoSci Ltd. OZ Optics Ltd. PerkinElmer Illumination & Detection PHASICS Philips Technologie GmbH U-L-M Photonics Photo Sciences, Inc. Photon Engineering, LLC PicoQuant GmbH Pranalytica, Inc. Precitec Optronik GmbH PRIMES GmbH Pyreos Ltd. Redfern Integrated Optics, Inc. Resonon, Inc. Rising Electro-Optics Ltd. Santec Scientech, Inc. Scottish Development International SensL Sensor Electronic Technology, Inc. Silicon Sensor International AG Silios Technologies Specim Spectral Imaging Ltd. Spectral Instruments Inc. Spectrecology

Infratec Infrared LLC

Institute of Photonics

Kyosemi Corporation

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International Radiation Detectors.

JENOPTIK Polymer Systems, Inc.

inno-spec GmbH

INO

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Intex Corp.

**KLA-Tencor** 

Labsphere, Inc.

Spectrolab, Inc. A Boeing Company Spectrum Detector Inc. Spectrum Scientific, Inc. SRICO. Inc. Star Tech Instruments StellarNet, Inc. SU Squared Partnership **TEC Microsystems GmbH** Telops Inc. Thermo Fisher Scientific Toshiba America Information Systems Translume, Inc. Triad Technology Inc. TRIOPTICS GmbH VTT Technical Research Centre of Finland/Electronics WaveFront Sciences, see AMO WaveFront Sciences, LLC Wavelength Electronics, Inc. Wavelength References WT&T Inc. **Xenics** Zomega Terahertz Corp.

#### Services and Publications (Including Professional Societies)

Baden-Württemberg International Bordeaux Route des Lasers Breault Research Organization Canadian Institute for Photonic Innovations (CIPI) Canadian Photonics Consortium CRC Press - Taylor and Francis Group LLC CREOL, The College of Optics & Photonics, Univ. of Central Florida EDP Sciences Electro Optics Magazine Florida Photonics Cluster Fraunhofer Institut für Photonische Mikrosysteme IPMS French Pavilion-Ubifrance Holland Pavilion Industrial Laser Solutions Japan **IOP** Publishing Joensuu Science Park Ltd. Laser Focus World Laser Focus World Japan Laser Institute of America LightSmyth Technologies, Inc. LightTrans VirtualLab GmbH LIMO Lissotschenko Mikrooptik GmbH McGraw-Hill Ontario Photonics Industry Network (OPIN) OptecNet Deutschland e.V. OptoIndex Optronics Co., Ltd. Photonex '10 Photonics and Plastic Electronics **KTN** 

Photonics Media/Laurin Publishing Photonics Tech Briefs Physics Today Quebec Photonic Network SlicingTech Springer SU Squared Partnership Vision - Messe Stuttgart USA Wiley-Blackwell

#### Software

4D Technology Corp. Active Optics - Night N (opt) Ltd. AMTRON GmbH ARGES GmbH Beijing Century Sunny Technology Co., Ltd. Breault Research Organization COMSOL Inc. Crosslight Software, Inc. DAC International, Inc. Electro Optical Industries, Inc. Engineering Synthesis Design, Inc. Fraunhofer-Institut für Produktionstechnologie IPT Infinite Graphics JCMwave GmbH Labsphere, Inc. Lambda Research Corp. Lanmark Controls Inc. LASCAD Laser Institute of America LightTrans VirtualLab GmbH Media Cybernetics, Inc. Moeller-Wedel Optical GmbH NorPix, Inc. Nutfield Technology, Inc. Olympus America Inc. **Optical Research Associates** Optiwave Systems Inc. Orb Optronix, Inc. Pangolin Laser Systems Inc. Photon Engineering, LLC Quantronix Corp. RAYLASE AG RSoft Design Group Semiconsoft, Inc. Stanford Photonics, Inc. Tech-X Corporation VueMetrix ZEMAX Development Corp.

#### Solar and Alternative Energy

3Bridge Consultancy Ltd. Abet Technologies, Inc. Accuratus Corp. Advanced Optowave Corp. AIM Specialty Materials ALIO Industries, Inc. ALTECHNA Co., Ltd. Andover Corp. APS Optics Brush Ceramic Products China Opto-Electro Industries. Co., Ltd. Colorado Photonics Industry Association Contour Metrological & Manufacturing, Inc. Crosslight Software. Inc. Curamik Electronics Inc. Deposition Sciences, Inc Dynavac Edinburgh Instruments Ltd. EpiWorks, Inc. Epner Technology, Inc. Filmetrics, Inc. Fotofab Fresnel Optics GmbH GD Optical Competence GmbH **Global Communication** Semiconductors. Inc. Gorman-Rupp Industries hema electronic GmbH High Q Laser (US), Inc. Hitachi High Technologies America Hoya Corp. USA Infotonics Technology Center Innovations In Optics, Inc. Isuzu Glass Inc. IZOTERM, JSC Res & Dev Institute JDSU JENOPTIK Laser, Optik, Systeme GmbH - Laser Systems **Business Unit** JENOPTIK Polymer Systems, Inc. KELK KINIK **KLA-Tencor** Kyosemi Corporation Lambda Research Corp. Lee Laser. Inc. Leoni Fiber Optics GmbH Lumina Power, Inc. Marlow Industries, Inc. MICOS USA Nano-Master, Inc. Nutfield Technology, Inc. Ondax, Inc. **Optoelectronics Research** Centre/Tampere University of Technology Pacific Rim Optical Photonics Finland Photonics Industries International. Inc. Photonics Industry & Technology **Development Association (PIDA)** Picodeon Ltd Oy Plasmaterials, Inc. Powerlase Photonics Ltd. Quantel USA RASIRC Remtec. Inc. Semiconsoft, Inc. SGS Slicing Solutions, Inc. Shanghai Optics

Stemmerich, Inc. SU Squared Partnership Swift Glass Co. Techmetals, Inc. Tecport Optics, Inc. Teem Photonics TLC International Vacuum Process Technology, Inc. Wasatch Photonics Western Photonics Technology

#### Vacuum, Cooling, Gas Handling Equipment

**AMETEK HCC Industries** Astro- und Feinwerktechnik Adlershof GmbH Brooks Automation Inc. Dvnavac Electro-Optical Products Corp. IZOTERM, JSC Res & Dev Institute KFI K Kurt J. Lesker Company Lattice Electro Optics, Inc. Leybold Optics Marlow Industries, Inc. Nano-Master, Inc. RASIRC Roth & Rau MicroSystems GmbH TEC Microsystems GmbH Tecport Optics, Inc. **TERMIONA LLC** ThermoTek Inc. Vacuum Process Technology, Inc. Williams Advanced Materials

#### Wafer Handling Automation

Aerotech, Inc. Berliner Glas US Brooks Automation Inc. Dongwoo Optron Co., Ltd. Excell Technology **GEL-PAK** JP Sercel Associates, Inc. MICOS USA Olympus America Inc. SGS Slicing Solutions, Inc. Steinmeyer, Inc. Tempo Clean Room Foam WZWOPTIC AG Zhejiang Quartz Crystal Optoelectronic Technology Co., Ltd.

#### **X-Ray Lithography**

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SPI Lasers

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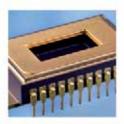
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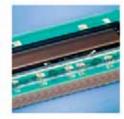
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