

Exhibition Guide

# DEFENSE & SECURITY

S Y M P O S I U M

An **SPIE** Event

*Exhibition: 18–20 April 2006*

*Technical Program: 17–21 April 2006*

*Gaylord Palms Resort and Convention Center  
Orlando (Kissimmee), Florida USA*



The International Society  
for Optical Engineering

# infrared optics

We have an eye for it

But an eye for infrared isn't enough. We focus on your critical needs to provide the most advanced optical solutions, combining high precision optical, mechanical and electrical systems – in quantities from prototype to high volume production. We oversee your project and get the job done – on time and on budget. Because sometimes you need more than an optics supplier. You need a partner who will anticipate your design challenges and provide an integrated solution, start to finish. And that's what we do.

From automated optical fabrication, precision coatings, and metrology capabilities, to opto-mechanical design and assembly, Janos provides high-performance optical solutions across the spectrum – visible through IR – for defense and security, commercial OEM, R&D, and astronomy applications.

Janos Technology. *Where seeing is believing.*

Thermal Imaging Lenses  
Missile Seeker Heads  
Opto-Mechanical Assemblies  
Complex Collimators  
Precision Optics  
Optical Coatings  
Custom Design Solutions

 **JANOS**<sup>TM</sup>  
TECHNOLOGY  
THE POWER OF FOCUS

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

Tel: 603-757-0070 Fax: 603-757-0069

# DEFENSE & SECURITY

S Y M P O S I U M

An SPIE Event

**Exhibition:** 18–20 April 2006  
**Technical Program:** 17–21 April 2006  
Gaylord Palms Resort and Convention Center  
Orlando (Kissimmee), Florida USA

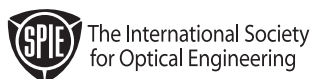
## Contents

General Information . . . . .	2–6
Courses . . . . .	8–12
Industry Workshops . . . . .	13
Industry Perspectives . . . . .	14–15

### DSS06 Exhibition

SPIEWorks Career Fair . . . . .	7
Exhibition Sponsors . . . . .	16
Product Spotlight . . . . .	18–19
Exhibition Map and Index . . . . .	20–23
Advertiser Index . . . . .	23
Exhibitor Directory . . . . .	25–75
Product Index . . . . .	76–84
SPIE Corporate Members . . . . .	86–87

*Sponsored by:*



Building a Better World with Light

**spie.org**

*Promotional Partners:*

Advanced Imaging

Electro Optics

Industrial Hygiene  
News

Laser Focus World

Military & Aerospace  
Electronics

NASA Tech Briefs

Optics.org

Opto & Laser Europe

Optronics Magazine

Photonics Online

Photonics Spectra

Photonics.com

Physics Today





# General Information

## DEFENSE & SECURITY SYMPOSIUM An SPIE Event

Gaylord Palms Resort and Convention Center  
6000 West Osceola Parkway  
Orlando (Kissimmee), FL, 34746  
Hotel Tel: 409 586 0000  
Hotel Fax: 407 586 1799

### Technical Exhibition

Gaylord Palms Resort and Convention Center,  
Exhibition Hall Level, Halls A-E

Tuesday 18 April . . . . . 10 am to 5 pm  
Wednesday 19 April . . . . . 10 am to 5 pm  
Thursday 20 April . . . . . 10 am to 2 pm

### Onsite Registration and Information Hours

Gaylord Palms Resort and Convention Center  
Exhibition Hall Level, Hall B

Sunday 16 April . . . . . 5:00 pm to 8:00 pm  
Monday 17 April . . . . . 7:00 am to 4:00 pm  
Tuesday 18 April . . . . . 7:15 am to 5:00 pm  
Wednesday 19 April . . . . . 7:30 am to 5:00 pm  
Thursday 20 April . . . . . 7:30 am to 4:00 pm  
Friday 21 April . . . . . 7:30 am to Noon

For Safety and Security reasons, please be prepared to show a picture ID at registration to receive your event badge!

### Course Materials Desk

Located near the SPIE Registration Area  
Open during registration hours

If you have registered to attend a short course, please stop by the Course Materials Desk to pick up your course notes and to find out where the class will be located. You may also get a copy of the latest Education Services catalog to see the many courses SPIE has available at symposia, on video and cd-rom, and to discover the opportunities of customized In-Company courses.

### Audio/Video/Digital Recording Policy

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

**In the Meeting Rooms:** Due to copyright restrictions, no recordings of any kind are permitted without prior written consent of the presenter in any and all conference sessions, short courses or posters. Consent forms are available at the SPIE Audiovisual Desk and anyone wishing to record must have a written consent form signed and filed for each presenter being recorded. Individuals not complying with this policy will be asked to leave a given session and asked to surrender their film or recording media.

### Underage Persons on Show Floor

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

### SPIE Copy Center

Located near registration

Monday through Thursday

During registration hours San Diego Copy will provide a copy service during the week for symposium attendees. The discounted rates are:

5 cents/copy and \$1 per transparency

Other services are available.

### Internet Pavilion

Sponsored by



Located near Registration. At no charge attendees can browse the web and check and send e-mail. There will be a 10-minute time limit per each person's internet session.

Monday . . . . . 7:00 am to 4:00 pm  
Tuesday . . . . . 7:15 am to 5:00 pm  
Wednesday . . . . . 7:30 am to 5:00 pm  
Thursday . . . . . 7:30 am to 4:00 pm

### Complimentary Internet Wireless Access

Sponsored by



SPIE and OCTEC Ltd. are pleased to provide complimentary wireless access to the Internet for all conference attendees bringing 802.11b wireless-enabled laptops or PDAs. Properly secure your computer before accessing the public wireless network. Failure to do so may allow unauthorized access to your laptop.

Coverage locations (Gaylord Palms Convention Center).

Lunch Area, Hall E

Sun Ballroom Foyer

Osceola Ballroom Foyer

**Connection Settings:** Please configure your wireless settings as follows:

SSID: OCTEC (case-sensitive — all capital letters)

WEP: Disabled

Network Card Settings: DHCP

If you unfamiliar with configuring wireless access or for any reason cannot connect using these settings, you can instead use the computers at the Internet Pavilion in Registration.

### SPIE Message Center

To leave messages for attendees call the Gaylord Palms Resort at (407) 586-0000. When you call you will hear a recording, press 3 and ask for the SPIE Message Center located in the hotel Convention Center. Messages will be taken during registration hours Monday through Friday.

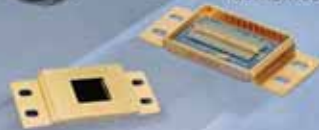
Our near-infrared sensors image in daylight or low light.



SWIR Snapshot MicroCam, < 70 g is the smallest NIR infrared camera available, anywhere.



Visible-InGaAs MiniCam and MicroCam produce a single combined visible/SWIR image.



## RIGHT VISION. SWIR. PERFECT.

Sensors Unlimited is now part of Goodrich Corporation. Our name may have changed but our products are more innovative than ever. Take our InGaAs cameras. They operate over the visible, NIR and SWIR range, providing information thermal devices can't – with clear, lifelike detection in daylight or low light. Our sensors can image laser designators and range finders, and even see through glass and plastic.

Our uncooled cameras operate at room temperature with no moving parts, for point and shoot video operation. They're compact and light, and ideal for use on UAVs, on helmets, and in any application where size and weight limitations are a factor. In fact, our Snapshot MicroCam is the smallest SWIR camera in existence.

Call or visit [www.oss.goodrich.com](http://www.oss.goodrich.com) today for more project and program solutions. No one comes closer to NIR perfection. Because Sensors knows IR™.

- ▶ weapons & laser tracking
- ▶ covert & fixed site surveillance
- ▶ ground & air UV payloads
- ▶ gimbal sensor assemblies
- ▶ target recognition
- ▶ test range systems

# General Information

## SPIE Marketplace

City Hall Lobby (near meetings rooms)  
Open during registration hours

The SPIE Marketplace is your source for the latest SPIE Press books, Proceedings, and Educational and Professional Development materials. You can become a member of SPIE, explore the Digital Library, and take home a souvenir.

## Membership

SPIE Members, through their collective talents, influence the future of optical, technical and scientific discovery. Membership in SPIE equals resources for you, anytime, anywhere:

- Peer-reviewed journals
- Discounted subscription for the SPIE Digital Library
- Publications
- Education
- International technical conferences and exhibitions
- SPIE Professional (SPIE's new quarterly membership magazine)
- Significant discounts on most SPIE products and services

Join now: [spie.org/membership](http://spie.org/membership)



Special 2-Day Event!

## SPIEWorks Career Fair

Located near registration, front of 100 aisle

Tuesday 18 April . . . . . 10:00 am to 5:00 pm  
Wednesday 19 April . . . . . 10:00 am to 5:00 pm

Begin or advance your career with a visit to the SPIEWorks Career Fair. Meet face to face with recruiters from companies actively hiring and come prepared to discuss your skills and experience, network with technical staff and human resource recruiters; learn more about employment opportunities and interview for positions. Don't forget to post your resume and search job listings on [SPIEWorks.com](http://SPIEWorks.com).

**NOTE:** Many of the positions listed at this career event require an active security clearance or the ability to acquire one.

Membership in SPIE is not required.

## Free Services for Employers

Stop by the SPIEWorks booth in the Career Fair and gain access to our proprietary resume database at no charge during this event.

Post jobs for free. That's right, there's no charge to post jobs to the Defense & Security Career Fair. Go to [spieworks.com](http://spieworks.com), create an account and sign-in to post jobs online. Your free job(s) will be live 17 - 21 April.

For information on future recruiting events contact Robert Dentel or Dave Baggenstos at +1 360 715 3705 or email [sales@spieworks.com](mailto:sales@spieworks.com)

## Media Center

The on-site Media Center provides press conference facilities, refreshments, and convenient one-stop-shopping for press releases. Credentialed media are invited to communicate news via the provided phone, and modem hook-up. Registration and exhibition fees are waived for media representatives. You are encouraged to pre-register by e-mailing: name, organization, title, address, e-mail, and phone number to [media@spie.org](mailto:media@spie.org). For more information about SPIE media services, see <http://spie.org/info/media>.

## Breakfast Breads

Breakfast breads and coffee will be served from 7:30 to 8:30 am Monday through Friday for Symposium attendees, while supplies last.

## Cash Lunches

Cash lunch service will be available Monday from 11:30 to 1:30 pm in the City Hall Lobby, located on the Ballroom level of the Convention Center. To allow attendees time to visit the exhibitions during lunch breaks Tuesday through Thursday, cash lunch service will be located in the Exhibition Hall (Florida E) from 11:30 am to 2:00 pm.

Attendees will need to access hotel restaurants for lunch on Friday.

## Coffee Breaks

Tuesday Morning Sponsored by

## Raytheon

Coffee will be served at the following times:

Monday through Friday . . . . . 10:00 to 11:00 am,  
3:00 to 4:00 pm

Check individual conference listings for actual break times.

## Desserts

Tuesday Afternoon Sponsored by



Wednesday Afternoon Sponsored by



Dessert snacks will be served in the Exhibition Hall, (Halls A-E) Tuesday & Wednesday from 3:00 to 3:30 pm during the coffee break. Complimentary dessert tickets will be included in attendee registration packets.

## Guest Hospitality Suite

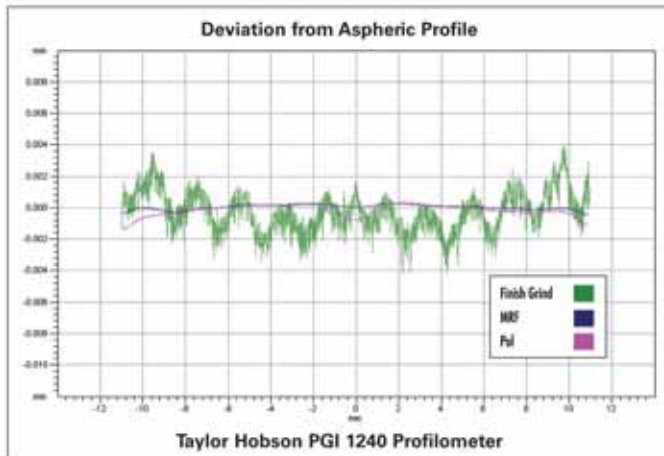
Gaylord Hotel, Suite 4301

Tuesday through Friday . . . . . 8:30 to 10:00 am

Guests of attendees are invited to meet, relax, and enjoy a cup of coffee and breakfast breads in SPIE's Guest Hospitality Suite at the Gaylord Palms Resort. The Suite will be open Tuesday through Thursday from 8:30 to 10:00 am. This event is for guests of Defense and Security Symposium attendees only. A representative from Convention Planning Services, Inc. (CPS) will be available to answer travel, shopping, and tourist questions and to sell discount tickets for the major attractions. This hospitality suite is sponsored by SPIE.



# Need Aspheres?



Edmund Optics' new custom aspheric manufacturing unit is capable of producing high-departure aspheric geometries rapidly and cost-effectively in glass, ceramic or crystalline materials. The state-of-the-art facility houses advanced aspheric grinding and polishing capabilities, coupled with MRF finishing technology.



## ASPHERIC LIMITS

	STANDARD	HIGH PRECISION
Diameter (mm)	15-120	15-120
Dimensional Tolerances (mm)	0.025	0.005
Center Thickness Tolerance (mm)	0.100	0.035
Wedge Tolerance (mm)	0.075	0.025
Surface Quality	60/40	10/5
Radius Limits (mm)	LRC Limited	LRC Limited
Concave	>30.0	>30.0
Convex	>75	>75
Radius Tolerance (%)	0.1	0.05
Total SAG (mm)	<25	<25
Aspheric Surface Accuracy (waves)	3	1/2

Contact **Edmund Optics™** today for custom **Aspheres**.



Submit your **RFQ** today!

[SPIE@edmundoptics.com](mailto:SPIE@edmundoptics.com)

800.363.1992

[www.edmundoptics.com/SPIE](http://www.edmundoptics.com/SPIE)

Visit us at **Defense and Security 2006**,  
**Booth #625**

**EO** Edmund  
optics | america

[www.edmundoptics.com](http://www.edmundoptics.com) | 800.363.1992

# General Information

## Student Lunch with the Experts - A Networking Event

Monday 17 April · 12:30 to 1:30 pm

Combine fun, food and networking at this engaging, free event open to all students. Hosted by SPIE Student Services, this event will feature experts willing to share their accumulated wisdom on career paths within the optics and photonics industry. Please come early, as space is limited.

## SPIE Women in Optics Lunch

Tuesday 18 April · Noon to 1:00 pm

Join us for an opportunity to network with other optics professionals, generate new contacts, and expand your resources and referrals. This SPIE hosted luncheon at Defense and Security is the perfect way to meet and develop relationships with others in your field. Register for this lunch at the SPIE Cashier onsite; location information will be provided upon sign-up.

## Child Care

Guest child care is available in-house at the Gaylord Palms Resort's La Petite Academy Kids Station, a 4,000-sq.-ft. facility designed to delight kids ages 3-14. Kids can stay and play for one to four hours or make a day of it. Kids Station offers a variety of themed activities including Construction Station (blocks, trucks and building toys), Creation Station (art studio and crafts), Kidz Space (Sega, PlayStation and Nintendo), Imagination Station (karaoke stage, dress up, singing, dancing), Relaxation Station (reading, watching videos, or napping), and Soft Play Zone (climbing, scaling, exploring). The Gaylord Palms also offers in-room child care for guests with younger children. 24 hour advance reservations are required for in-room care. For further information call the hotel at (407) 586-2505, or 1.866.KIDS-STATION.

All About Kids Professional Child Care, (407) 812-9300, [www.All-About-Kids.com](http://www.All-About-Kids.com), or email [AAboutKids@aol.com](mailto:AAboutKids@aol.com)

SPIE does not imply an endorsement nor recommendation of these services. They are provided on an "information only" basis for your further analysis and decision. Other services may be available.

## Information Booth

SPIE will have an Information Booth located in the lobby outside of Hall B which will be open during registration hours. Brochures on the local area from the Kissimmee Convention and Visitors Bureau will be available complimentary.

## Convention Planning Services Inc. CPS – Attraction Tickets

Convention Planning Services, Inc., CPS, will have a fully staffed guest relations booth near SPIE registration to assist Defense and Security Symposium attendees with attraction tickets at discounted rates. All international attendees who ordered tickets on-line can pick-up their tickets at the CPS booth near Registration during the conference. On-line ticket orders received after the deadline date will still be processed but not mailed out.

## Parking at the Gaylord Palms

The Gaylord Palms is pleased to offer parking via electronic ticket machines which allows a quicker entrance into the parking lot. To gain entrance into the Gaylord Parking lot you will push the button to receive your parking ticket. Guests staying at the hotel will be charged for parking on their hotel bill. An express exit lane will be open if you have prepaid for your parking or are using your room key.

Overnight self parking is \$10 plus 7% tax. Daily self parking is \$10. tax included. Overnight valet parking is \$16 plus 7% tax, and daily valet parking is \$12. tax included.

The Gaylord Palms will validate for daily parking if you eat in their restaurants. The restaurants that validate are Villa De Flora, Sunset Sam's and Old Hickory. Please have your ticket with you to receive validation.

## Location

SPIE's Defense and Security Symposium will be held at The Gaylord Palms Resort and Convention Center, at the intersection of Osceola Parkway and International Boulevard South in Kissimmee-St. Cloud, Florida. The hotel is approximately 17 miles from the Orlando International Airport, centrally located to area attractions such as Walt Disney World Resort, Seaworld Orlando, and Universal Studios Escape.

## Property Highlights

The Gaylord Palms Resort and Convention Center will bring the spirit, excitement and adventure of a grand tour through Florida. The Grand Atrium is designed to offer a taste of Florida with its old world charm. A colorful stroll will reveal cobblestone streets lined with a variety of eateries, restaurants and shops reminiscent of Old St. Augustine. The Key West area will feature a seaside wharf with bright colors and a 60-foot Sail Boat with its own seafood bar. A hike through the Everglades will evoke a feeling of mysterious swamps including bogs and cypress trees with a tree-top path through the area to a steakhouse. The meeting rooms are conveniently located on two levels and connected to the hotel via an enclosed walkway. There are two swimming pool areas and three restaurants on the premises.





**Special 2-Day Event!**

# The SPIEWorks Career Fair

- Network with technical staff and human resource recruiters
- Interview for positions
- Learn more about career opportunities
- Post your resume online
- Search job postings online, anytime— [spieworks.com](http://spieworks.com)

Visit the SPIEWorks Career Fair and meet face-to-face with leading industry employers.

*Located near registration, front of 100 aisle*

Tuesday 18 April . . . . . 10:00 am to 5:00 pm

Wednesday 19 April . . . 10:00 am to 5:00 pm

**BAE SYSTEMS**



Ball Aerospace  
& Technologies Corp.

**GOODRICH**

**LOCKHEED MARTIN**



**LINCOLN LABORATORY**  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

***NORTHROP GRUMMAN***

**PENNSTATE**



Electro-Optics Center

**TEXTRON** Systems

Advancement

**Development**

Growth

*Depth*

**Expansion**

---


#### **Students Save 50% on Course Registration**

Proof of 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 not also full-time employees in the industry, government, or academia.

#### **Money-back Guarantee**

We are confident that your SPIE technical course experience will be a positive one. However, if for any reason you are dissatisfied, SPIE will refund your money. We just ask that you tell us what you did not like and give suggestions for improvements.

#### **Continuing Education Units**

 SPIE is an authorized provider of Continuing Education Units (CEUs) through ICAET—The International Association of Continuing Education and Training. SPIE awards CEUs to participants who successfully attend courses, and complete and return the evaluation form within 30 days of the course presentation. SPIE maintains a record of all CEUs earned for each participant for seven years.

SPIE reserves the right to cancel a course due to insufficient advance registration.

## Continue Your Education with SPIE

Further your career with SPIE technical courses. By registering for a course with SPIE you will:

- Enhance your technical knowledge
- Add value to your position and organization
- Stay up-to-date within your ever-changing industry

**Register for an SPIE Course Today!**

**Students—Save \$50!**

# Daily Course Schedule

Monday  
**17 April**

Tuesday  
**18 April**

Wednesday  
**19 April**

Thursday  
**20 April**

Friday  
**21 April**

## Optical and Optomechanical Engineering

SC156 <b>Basic Optics for Engineers</b> ( <i>Ducharme</i> ) 8:30 am to 5:30 pm, \$495 / \$580	SC178 <b>Introduction to Radiometry and Photometry</b> ( <i>McCluney</i> ) 8:30 am to 12:30 pm, \$395 / \$435	SC725 <b>Optical &amp; Laser Scanning Technology: Devices, Systems &amp; Applications</b> ( <i>Marshall</i> ) 8:30 am to 5:30 pm, \$630 / \$715	SC781 <b>Optomechanical Analysis</b> ( <i>Hatheway</i> ) 8:30 am to 5:30 pm, \$460 / \$555
SC010 <b>Introduction to Optical Alignment Techniques</b> ( <i>Ruda</i> ) 8:30 am to 5:30 pm, \$885 / \$1035		SC447 <b>Principles for Mounting Optical Components</b> ( <i>Yoder, Jr.</i> ) 8:30 am to 5:30 pm, \$955 / \$1105	
		SC220 <b>Optical Alignment Mechanisms</b> ( <i>Guyer</i> ) 1:30 to 5:30 pm, \$285 / \$325	SC785 <b>Aerospace Miniaturization Using Multifunctional MEMS</b> ( <i>Bruhn</i> ) 1:30 to 5:30 pm, \$290 / \$330

## Law Enforcement and Homeland Security

SC584 <b>Night Vision Tools for Homeland Security</b> ( <i>Kaplan</i> ) 1:30 to 5:30 pm, \$315 / \$365	SC719 <b>Chemical &amp; Biological Detection: Overview of Point and Standoff Sensing Technologies</b> ( <i>Gardner</i> ) 1:30 to 5:30 pm, \$285 / \$325	SC766 <b>Information Processing for Video Surveillance</b> ( <i>Ebrahimi, Dufaux</i> ) 8:30 am to 5:30 pm, \$460 / \$545	SC633 <b>Algorithms for Biometric Recognition</b> ( <i>Vijaya Kumar</i> ) 1:30 to 5:30 pm, \$390 / \$430
SC586 <b>When Sonar Isn't Enough: Marine Optics for Port Security</b> ( <i>DeWeert, Gilbert</i> ) 8:30 am to 12:30 pm, \$285 / \$325			

## Sensor Networks

SC640 <b>Introduction to Sensor Networks</b> ( <i>Rao</i> ) 8:30 am to 5:30 pm, \$460 / \$545				SC728 <b>Network Centric Target Tracking and Classification</b> ( <i>Drummond</i> ) 8:30 am to 5:30 pm, \$460 / \$545
---	--	--	--	---

## Signal and Image Processing

SC066 <b>Fundamentals of Electronic Image Processing</b> ( <i>Weeks</i> ) 8:30 am to 5:30 pm, \$520 / \$605	SC714 <b>From FFTs to Wavelets for Image &amp; Signal Processing</b> ( <i>Smith, Burrus</i> ) 8:30 am to 12:30 pm, \$285 / \$325	SC197 <b>Fundamentals of Digital Signal/Image Processing</b> ( <i>Dianat</i> ) 8:30 am to 5:30 pm, \$460 / \$545	SC536 <b>Image Based Motion Analysis</b> ( <i>Sanders-Reed</i> ) 8:30 am to 12:30 pm, \$285 / \$325	SC162 <b>SAR Signal Processing</b> ( <i>Soumekh</i> ) 8:30 am to 5:30 pm, \$540 / \$625
	SC715 <b>Real World Solutions by Blind Sources Separations &amp; ICA</b> ( <i>Szu, Makino</i> ) 1:30 to 5:30 pm, \$395 / \$435	SC189 <b>Image Recognition Using Statistical Filtering Techniques, Wavelets and Neural Networks</b> ( <i>Javidi</i> ) 8:30 am to 5:30 pm, \$515 / \$600		
		SC766 <b>Information Processing for Video Surveillance</b> ( <i>Ebrahimi, Dufaux</i> ) 8:30 am to 5:30 pm, \$460 / \$545		

**Registration is required.**  
See SPIE Cashier to Register.



# Daily Course Schedule

Monday **17 April**      Tuesday **18 April**      Wednesday **19 April**      Thursday **20 April**      Friday **21 April**

## Multisource, Multisensor Information Fusion and Knowledge

SC149 **Multi-Sensor, Multi-Source Information Fusion: Architectures, Algorithms, and Applications** (Dasarathy) 8:30 am to 5:30 pm, \$460 / \$545

SC174 **Multispectral Image Processing** (Schowengerdt) 8:30 am to 5:30 pm, \$550 / \$635

## Target Acquisition and Recognition

SC545 **Infrared Characterization of Sources and Backgrounds** (Jacobs) 8:30 am to 5:30 pm, \$470 / \$555

SC158 **Fundamentals of Automatic Target Recognition** (Nasr) 8:30 am to 5:30 pm, \$460 / \$545

SC728 **Network Centric Target Tracking and Classification** (Drummond) 8:30 am to 5:30 pm, \$460 / \$545

SC181 **Predicting Target Acquisition Performance of Electro-Optical Imagers** (Vollmerhausen) 8:30 am to 5:30 pm, \$460 / \$545

## Modeling and Simulation

SC783 **How to Validate Your Models and Simulations** (Law) 1:30 to 5:30 pm, \$365 / \$405

## Displays

SC159 **Head-Mounted Displays: Design and Applications, Including Night Vision** (Melzer, Browne) 8:30 am to 5:30 pm, \$500 / \$545

## GPS Technology

SC549 **Incorporating GPS Technology into Commercial and Military Applications** (Uijt de Haag) 8:30 am to 12:30 pm, \$285 / \$325

# Daily Course Schedule

Monday  
17 April


Tuesday  
18 April

Wednesday  
19 April

Thursday  
20 April

Friday  
21 April

## Laser Sensing and Systems

SC167 <b>Introduction to Laser Radar</b> ( <i>Kammerman</i> ) 8:30 am to 12:30 pm, \$285 / \$325	SC168 <b>Advanced Coherent Laser Radars Design and Applications</b> ( <i>Kammerman, Molebny</i> ) 8:30 am to 5:30 pm, \$460 / \$545	SC784 <b>Fiber Lasers for Defense Applications: Fibers, Components and System Design Considerations</b> ( <i>Samson, Torruellas</i> ) 8:30 am to 5:30 pm, \$460 / \$545 <b>NEW</b>	SC789 <b>Introduction to Optical and Infrared Sensor Systems</b> ( <i>Shaw</i> ) 1:30 to 5:30 pm, \$285 / \$325 <b>NEW</b>	SC717 <b>3D Visualization Techniques for Laser Radar</b> ( <i>Roth</i> ) 8:30 am to 12:30 pm, \$285 / \$325
SC160 <b>Precision Stabilization and Laser Pointing Systems</b> ( <i>Stockum, Masten</i> ) 8:30 am to 5:30 pm, \$460 / \$545	SC178 <b>Introduction to Radiometry and Photometry</b> ( <i>McCluney</i> ) 8:30 am to 12:30 pm, \$395 / \$435	SC188 <b>Laser Beam Propagation for Applications in Laser Communications, Laser Radar, and Active Imaging</b> ( <i>Phillips, Andrews</i> ) 8:30 am to 5:30 pm, \$520 / \$605		
	SC338 <b>Limitations to Imaging and Laser Propagation in the Atmosphere</b> ( <i>Farmer</i> ) 8:30 am to 5:30 pm, \$550 / \$635	SC725 <b>Optical &amp; Laser Scanning Technology: Devices, Systems &amp; Applications</b> ( <i>Marshall</i> ) 8:30 am to 5:30 pm, \$630 / \$715		
	SC649 <b>Optical Phased Array Design &amp; Implementation</b> ( <i>McManamon</i> ) 1:30 to 5:30 pm, \$285 / \$325			

## Tactical Sensors and Imagers

SC713 <b>Engineering Approach to Imaging System Design</b> ( <i>Holst</i> ) 8:30 am to 5:30 pm, \$510 / \$595	SC178 <b>Introduction to Radiometry and Photometry</b> ( <i>McCluney</i> ) 8:30 am to 12:30 pm, \$395 / \$435	SC725 <b>Optical &amp; Laser Scanning Technology: Devices, Systems &amp; Applications</b> ( <i>Marshall</i> ) 8:30 am to 5:30 pm, \$630 / \$715	SC782 <b>Zone Plate Antennas for Millimeter-Wave and Terahertz Frequencies</b> ( <i>Wiltse</i> ) 8:30 am to 12:30 pm, \$285 / \$325 <b>NEW</b>	SC154 <b>Electro-Optical Imaging System Performance</b> ( <i>Holst</i> ) 8:30 am to 5:30 pm, \$530 / \$615
	SC157 <b>MTF in Optical and Electro-Optical Systems</b> ( <i>Ducharme</i> ) 8:30 am to 5:30 pm, \$495 / \$580	SC547 <b>Terahertz Wave Technology and Applications</b> ( <i>Zhang</i> ) 8:30 am to 12:30 pm, \$285 / \$325	SC789 <b>Introduction to Optical and Infrared Sensor Systems</b> ( <i>Shaw</i> ) 1:30 to 5:30 pm, \$285 / \$325 <b>NEW</b>	SC068 <b>Use of CCD and CMOS Sensors in Visible Imaging Applications</b> ( <i>Lomheim</i> ) 8:30 am to 12:30 pm, \$285 / \$325
	SC067 <b>Testing and Evaluation of E-O Imaging Systems</b> ( <i>Holst</i> ) 8:30 am to 5:30 pm, \$525 / \$610			SC194 <b>Multispectral and Hyperspectral Image Sensors</b> ( <i>Lomheim</i> ) 1:30 to 5:30 pm, \$285 / \$325

**Registration is required.**  
See SPIE Cashier to Register.

# Daily Course Schedule

Monday  
17 April

Tuesday  
18 April

Wednesday  
19 April

Thursday  
20 April

Friday  
21 April

## Infrared Systems Engineering

SC545 <b>Infrared Characterization of Sources and Backgrounds</b> ( <i>Jacobs</i> ) 8:30 am to 5:30 pm, \$470 / \$555	SC152 <b>Infrared Focal Plane Arrays</b> ( <i>Dereniak, Hubbs</i> ) 8:30 am to 12:30 pm, \$285 / \$325	SC710 <b>NIR and SWIR Imaging Applications</b> ( <i>Richards</i> ) 8:30 am to 12:30 pm, \$325 / \$365	SC214 <b>Infrared Window and Dome Materials</b> ( <i>Harris</i> ) 8:30 am to 5:30 pm, \$520 / \$605
SC155 <b>Infrared Systems Design</b> ( <i>Daniels</i> ) 8:30 am to 5:30 pm, \$665 / \$750	SC178 <b>Introduction to Radiometry and Photometry</b> ( <i>McCluney</i> ) 8:30 am to 12:30 pm, \$395 / \$435		SC164 <b>Dynamic Infrared Scene Projection</b> ( <i>Williams</i> ) 1:30 to 5:30 pm, \$285 / \$325
SC134 <b>Optical Design Fundamentals for Infrared Systems</b> ( <i>Riedl</i> ) 8:30 am to 5:30 pm, \$500 / \$585	SC165 <b>Uncooled Thermal Imaging Arrays, Systems, and Applications</b> ( <i>Kruse</i> ) 8:30 am to 12:30 pm, \$320 / \$360		
SC628 <b>IR Threat Detection Systems</b> ( <i>de Jong</i> ) 1:30 to 5:30 pm, \$285 / \$325	SC278 <b>Infrared Detectors</b> ( <i>Dereniak</i> ) 1:30 to 5:30 pm, \$385 / \$435		

## Thermosense

SC786 <b>Practical Thermography for Nondestructive Testing</b> ( <i>Shepard</i> ) 8:30 am to 12:30 pm, \$285 / \$325	SC710 <b>NIR and SWIR Imaging Applications</b> ( <i>Richards</i> ) 8:30 am to 12:30 pm, \$325 / \$365
	SC711 <b>Techniques for Accurate Infrared Temperature Measurement</b> ( <i>Seffrin</i> ) 1:30 to 5:30 pm, \$285 / \$325

## Professional Development Workshops

WS774 <b>Essential Interpersonal Skills for Technical Professionals</b> ( <i>Hinkle</i> ) 8:30 am to 5:30 pm, \$465 / \$550
WS667 <b>The Craft of Scientific Presentations: A Workshop on Technical Presentations</b> ( <i>Alley</i> ) 8:30 am to 12:30 pm, \$105 / \$160
WS668 <b>The Craft of Scientific Writing: A Workshop on Technical Writing</b> ( <i>Alley</i> ) 1:30 to 5:30 pm, \$105 / \$160



## The Craft of Scientific Presentations: A Workshop on Technical Presentations

This course provides attendees with an overview of what distinguishes the best scientific presentations. The course introduces a new design for presentation slides that is both more memorable and persuasive from what is typically shown at conferences.

### LEARNING OUTCOMES

This course will enable you to:

- account for the audience, purpose, and occasion in a presentation,
- logically structure the introduction, middle, and ending of a scientific presentation,
- create a memorable and persuasive set of presentation slides, and
- deliver a presentation with more confidence.

### INTENDED AUDIENCE

This material is intended for anyone who needs to present scientific research. Those who either have not yet presented or have made several presentations will find this course valuable.

### INSTRUCTOR

**Michael Alley** teaches writing and speaking to engineering and science students at Virginia Tech. Alley has taught this workshop at Sandia National Labs, Los Alamos National Laboratory, and United Technologies.

**COURSE PRICE INCLUDES** the text *The Craft of Scientific Presentations* by the instructor. This workshop is **free** to SPIE Student Members. **You must register to attend.**

**Course level: Introductory**

**WS667 CEU .35 \$55 / \$110 USD**

**Thursday 8:30 am to 12:30 pm**

## The Craft of Scientific Writing: A Workshop on Technical Writing

This course provides an overview on writing a scientific paper. The course focuses on the structure, language, and illustration of scientific papers.

### LEARNING OUTCOMES

This course will enable you to:

- account for the audience, purpose, and occasion in a scientific paper,
- logically structure the introduction, middle, and ending of a scientific paper,
- understand how to make your language clear, energetic, and fluid, and
- avoid the most common mechanical errors in scientific writing.

### INTENDED AUDIENCE

This material is intended for anyone who needs to write about scientific research. Those who either have not yet written a paper or have written several papers will find this course valuable.

### INSTRUCTOR

**Michael Alley** teaches writing and speaking to engineering and science students at Virginia Tech. Alley has taught this workshop at Sandia, Lawrence Livermore, and Los Alamos National Laboratory.

**COURSE PRICE INCLUDES** the text *The Craft of Scientific Writing* by the instructor. This workshop is **free** to SPIE Student Members. **You must register to attend.**

**Course level: Introductory**

**WS668 CEU .35 \$55 / \$110 USD**

**Thursday 1:30 to 5:30 pm**

## Optimizing Your Resume

Today's job market pits you against hundreds, if not thousands, of candidates who have approximately the same credentials as you do. How do you stand out in the crowd? This workshop, which concentrates on students and recent graduates, will review a number of strategies, tips, and tools that you can use to increase the impact of your resume and cover letter. We'll examine ways to translate your educational experience into a format that is attractive to potential employers, and how to create tailored versions of your job search materials for multiple targets. The process of creating your resume will be discussed, with a focus on both layout/formatting and writing style. We'll also look at cover letters, lists of references, and other materials used in your job search.

### LEARNING OUTCOMES

This course will enable you to:

- translate your educational and work experience into a focused and effective resume
- avoid common mistakes and misconceptions
- understand how HR and hiring managers typically review resumes
- tailor your resume and cover letter for multiple job targets
- use an effective layout and format to ensure maximum impact
- write a cover letter that helps you stand out from the crowd

### INTENDED AUDIENCE

This student-only course is focused toward students and recent graduates who want to improve the quality and effectiveness of their job search materials.

### INSTRUCTOR

**John Cain** is a former professional resume writer, and has written more than 500 resumes and cover letters for multiple industries and professions, focusing primarily on technical fields. He currently develops technical education programs for SPIE.

**NOTE:** This workshop is **only** open to students. There is no cost for the workshop, **but you must register to attend;** student ID will be required.

**Course level: Introductory**

**WS777 CEU .35 FREE to students;**

**student ID is required to attend**

**Friday 1:30 to 4:00 pm**

**Registration is required.**  
See SPIE Cashier to Register.

# Industry Perspectives

## Technology Review and Forecasts in the Defense Industrial Base

In this new series of sessions, R&D leaders from DoD, DARPA, civilian agencies, and the commercial sector share their views on the future of technology, while spotlighting outstanding applications that support defense and security.

Industry panelists will stimulate your thinking in a discussion format that will enrich your perspective, help you identify new opportunities to collaborate, and solve critical problems using COTS technology spanning optics, photonics, and imaging.

*These sessions are **FREE** for all attendees, including technical conference attendees, exhibitors and exhibition-hall visitors.*

### Wednesday Morning · April 19

9:00 to 9:40 am · Orange Blossom Ballroom

#### **DARPA/MTO Photonics Overview**

**John Zolper**, Director, Defense Advanced Research Projects Agency (DARPA), Microsystems Technology Office (MTO)

DARPA/MTO has played a central role in developing photonics technology for the DoD. Photonics continue to be a key enabler for future DoD systems. In this presentation, you'll hear about the key themes and future capabilities spanning photonic integration, imaging and sensing, RF photonics, communications, and nanotech. This is one overview no one in business should miss.

### Wednesday Morning · April 19

9:40 to 10:20 am · Orange Blossom Ballroom

#### **The Future of Terahertz Imaging**

**Panel session with leaders from R&D and industry will discuss emerging technology, applications, and vision of what's next for terahertz imaging.**

*Panelists will include executives from **Picometrix, QinetiQ, and TeraView***

Terahertz imaging has grown in importance as new and sophisticated devices come to market, enabling applications for detection and imaging of concealed weapons, explosives, or toxic substances. This regime between microwaves and the infrared (i.e., ~ 0.3 – 3.0 THz), offers many advantages for sensing and characterizing chemical and biological systems. This session brings together a panel of industry experts to discuss the most promising applications (including security screening and remote sensing of biological warfare agents), future technologies, and deployment issues relevant for assessing the future of Terahertz imaging.



**Wednesday Afternoon · April 19**

2:00 to 3:15 pm · Orange Blossom Ballroom

## The Future of Fiber Lasers

Panel session with leaders from R&D and industry will discuss emerging technology, applications, and vision of what's next for fiber lasers.

Panelists will include executives from **Aculight, OZ Optics, IPG Photonics, Nufern, and JDSU.**

Fiber lasers are increasing in popularity especially where high beam quality, cooling, efficiency, small size, light weight and maintenance-free longevity are essential. Today, performance rates are increasing to the point that applications ranging from industrial lasers (marking, cutting, welding, etc.) to laser weapons are in sight. The compact size, reliability, flexible path, reduced power consumption, and distances delivered via fiber allow easier placement and integration than ever before. Attend this session to hear from industry executives about their different architectures, case studies, technology roadmaps, and vision of the future.

**Wednesday Afternoon · April 19**

3:30 to 4:45 pm · Orange Blossom Ballroom

## The Future of Infrared Imaging

Panel session with leaders from R&D and industry will discuss emerging technology, applications, and vision of what's next for infrared imaging.

Panelists will include executives from **iRobot, Raytheon, L-3 Cincinnati Electronics, Sensors Unlimited, and BAE Systems.**

High resolution night vision and thermal imagery are critical aspects of battlefield awareness and information superiority. Whether for night-vision systems on the ground or space-based surveillance, new technologies continue to improve the ability to detect, identify and track items of interest. In this session, you will hear from the R&D leaders and product suppliers devoted to increasing the quality of imagery – while reducing weight and power— in solutions for homeland defense and military applications.

**Thursday Morning · April 20**

9:00 am to 11:30 am · Osceola Ballroom D

## The Future of Hyperspectral Imaging: an Industry Perspective

Special session with leaders from R&D and industry will discuss emerging technology, applications, and vision of what's next for hyperspectral imaging.



Session Chair: **David Bannon**, COO, Headwall Photonics

Hyperspectral imaging, which involves detection and spectral analysis using hundreds of narrow, contiguous spectral channels, has been deployed by the DoD as a critical enabling technology to

enhance battlespace awareness and homeland security. The acquisition of spectral information within a spatial framework is important for many applications ranging from UAV surveillance and target classification to land-mine detection to chemical/biological threat assessment. Hyperspectral sensors have also proven an extremely valuable for environmental monitoring and remote sensing for earth sciences applications. Now, technology developments and innovation have enabled the deployment of hyperspectral sensors to new application areas.

In this comprehensive session – industry leaders and program managers who have deployed hyperspectral sensors – you will hear and discuss what is being achieved today with COTS products. Developments include the reduction in size and cost of hyperspectral sensors for both the visible and infrared, along with more efficient processing techniques for hyperspectral data. The result is a greater understanding of the hyperspectral technology landscape, the opportunities, and the deployment options that must be considered. Don't miss this session!

### I. Hyperspectral Technology Perspective: Where We've Been and Where We're Going

**Keynote: Alex Goetz**, Professor, Geological Sciences Director, Center for the Study of Earth from Space University of Colorado/Boulder; Chairman, Analytical Spectral Devices Inc.

### II. An Industry Perspective: Hyperspectral Applications - How and Where it's Used

15 minute presentations each

Speakers:

**Agilent Technologies**  
**Florida Environmental Research Institute**  
**Naval Research Labs.**  
**US Dept of Agriculture**

### III. Hyperspectral Imaging Technology: Hardware and Software Solutions

30 minute panel discussion

Participants:

**Naval Research Labs**  
**Research Systems Inc.**  
**Sensors Unlimited**  
**XenICs**





# Sponsors

*SPIE thanks the following sponsors  
for their generous support*

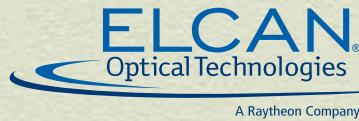
## Lanyard Sponsor



Booth #931

[www.cedip-infrared.com](http://www.cedip-infrared.com)

## Conference Bags



Booth #1011

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

## Hotel Room Key



Booth #311

[www.optics.umicore.com](http://www.optics.umicore.com)

## Internet Pavilion



Booth #424

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

## Wi-Fi Internet



Booth #230

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

## Meterboard Sponsor



Booth #1411

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

## Tuesday Morning Coffee Break



Booth #1023

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

## Tuesday Afternoon Dessert



Booth #810

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

## Wednesday Afternoon Dessert



Booth #1231

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

## General Refreshment

**Adimec**  
Booth #611

**JENOPTIK Laser Optik,  
Systeme GmbH**  
Booth #1304

**Nufern**  
Booth #717

**Onyx Optics**  
Booth #1018

# LASER EXPO 2007

**Related event : Technical Seminar**

Co-located with

**Lens Design and Manufacturing Expo 2007**

**April 18-21, 2007 Pacifico Yokohama**

Sponsored by

**The Laser Society of Japan**

**Total Projected Participation: Exhibitors - 200 / Attendees - 10,000**

"LASER EXPO 2007" will present the broad spectrum of laser and Opto-electronics products, technology and services to influential laser professionals - scientists, researchers and engineers from wide range of users, manufacturers, dealers, national and private laboratories and universities.

"LASER EXPO 2007" will be attended not only by members of the Laser Society of Japan but also by wide range of individuals involved in lasers and laser technology.

Japan is currently one of the most active markets for laser products in the world.

<http://www.optronics.co.jp/en/le>

For further information

**The Optronics Co., Ltd. International Dept.**

Sanken Bldg., 5-5, Shin-Ogawamachi, Shinjuku-ku, Tokyo 162-0814 Japan

Fax +81 3 5229-7253 E-mail: intl@optronics.co.jp <http://www.optronics.co.jp>



**Reserve  
space  
now !**

# Product Spotlights

TIME	Tuesday 18 April	Wednesday 19 April	Thursday 20 April
10:30 am	<p><b>FieldSpec® 3 – the next generation in spectroradiometers!</b>  <b>Brian Curtiss, Ph.D.</b>, Analytical Spectral Devices, Inc.</p> <p>The improved design with expanded built-in diagnostics, FiberChecker™, wireless connectivity, and LabVIEW® interface takes portability and flexibility to a higher level, empowering users to perform applications never before possible.</p>	<p><b>High Brightness Laser Diodes in the Near IR</b>  <b>Franck Leibreich</b>, Newport Corp.</p> <p>Details of new products from SPECTRA-PHYSICS featuring enhanced spatial and spectral brightness of laser diode bars and stacks of bars, including reduced spectral bandwidth.</p>	<p><b>Trace Detection of Explosive Using Quantum Cascade Lasers</b>  <b>Richard Cooper</b>, Cascade Technologies</p> <p>Cascade Technologies have successfully demonstrated trace explosive fingerprinting and detection using Quantum Cascade Lasers. It is confident that this capability can successfully be transferred to a commercial instrument, which will be compact, robust and cost competitive.</p>
11:30 am	<p><b>Affordable, All-Condition Thermal Imaging – Making CMOS See Heat</b>  <b>Stuart Nixdorff</b>, RedShift Systems</p> <p>The RedShift Thermal Light Valve™ translates difficult-to-image thermal radiation into light which can be imaged by a standard CMOS camera. The result – an immediate 5x price/performance advantage that brings high-quality thermal imaging to price-sensitive applications in the video security and surveillance, handheld vision enhancement and automotive active safety markets. See the demo!</p>	<p><b>A New Era in Thermal Imaging: Thermograms Sharp &amp; Large Like Digital Photographs!</b>  <b>Heiko Richter</b>, JENOPTIK Laser, Optik, Systeme GmbH</p> <p>No more grainy &amp; small thermograms: At this presentation you'll learn how thermographers can realize to get sharpest thermal images. Hard- and software solutions will be discussed.</p>	<p><b>NEC's Uncooled Infrared Detector</b>  <b>N. Oda</b>, NEC Corporation</p> <p>NEC presents new products, uncooled IR detector, 320 x 240 GEN3 and 640 x 480 with 23.5 um pixel pitch. You can see the fine quality of these detectors through our demonstration.</p>
12:30 pm	<p><b>Disposable Sensor Systems</b>  <b>John McQuiddy</b>, McQ</p> <p>A small low cost disposable sensor system to include seismic, magnetic, acoustic and PIR which detects activity for up to one week. Uses a mesh network to communicate to user.</p>	<p><b>Remote Controlled Robot For IED &amp; Explosive Detection</b>  <b>Sean Moore</b>, HiEnergy Technologies</p> <p>The Starray Model 3R3 system is a robotically deployed IED and explosive detector. The system uses HiEnergy's Atometer™, which is a neutron-gamma device to non-intrusively detect and identify hidden IED's or explosives.</p>	<p><b>Visible Quality (VQ) Diamond Point Turned Mirrors for Broadband Imaging Applications</b>  <b>John Schaefer</b>, ELCAN Optical Technologies</p> <p>VQ finishing is a patented process for smoothing the surface of diamond point turned aluminum mirrors for low-scatter, visible-wavelength applications. Surface finishes of less than 30 angstroms RMS are achievable.</p>
1:30 pm	<p><b>Lumenera's Intelligent Cameras – The Future Of Video Surveillance</b>  <b>Greg Bell</b>, Lumenera Corporation</p> <p>Increase the effectiveness of your surveillance system with Lumenera's Intelligent Cameras, featuring on-board video-analysis and instant threat notification. Distinguish suspicious actions in real-time with Lumenera's megapixel network cameras.</p>	<p><b>Seekur – a New Generation of Unmanned Infrastructure Protection</b>  <b>Seth Allen</b>, MobileRobots, Inc (formerly ActivMedia Robotics, LLC)</p> <p>If seamless indoor-outdoor protection is your goal, Seekur provides an unmatched system for dynamic sensing and response, with sliding autonomy from manual to limited-authority-remote-control to autonomous, even when GPS reception is not available.</p>	<p><b>Exhibition Closes at 2:00 pm</b></p>
2:30 pm	<p><b>Image Processing Using MATLAB</b>  <b>Bruce Tannenbaum</b>, The MathWorks</p> <p>MATLAB provides a complete environment for image acquisition, processing, analysis, algorithm development, and application deployment. See a demonstration of The MathWork's software tools for these tasks.</p>	<p><b>30nm PiezoMotor Actuator Technology For Fast and Reliable Positioning</b>  <b>Jim Fisher</b>, Newport Corp.</p> <p>Newport unveils the most reliable and highest performance actuator available, the NanoPZ. This unique device provides 30nm motions, 12.7mm travel, speeds in excess of 0.2mm/sec and a load capacity of 50N.</p>	



TIME	Tuesday 18 April	Wednesday 19 April	Thursday 20 April
3:30 pm	<p><b>Broadband Optical Test Bench to Measure MTF &amp; Transmittance of Visible and IR Optical Components</b> Efraim Tzafir, CI Systems</p> <p>A new rugged and modular optical test bench measures MTF, transmittance and other optional parameters of lenses in the visible and infrared ranges. The design allows wide band spectral coverage.</p>	<p><b>Solutions for Infrared Optics</b> Christopher Strohine, Precitech, Inc.</p> <p>Recent advancements in ultra precision technology including the nanoform 250 ultra with new 15,000 rpm high speed spindle for IR manufacturing.</p>	
4:30 pm	<p><b>Pelican, 640x512 InSb IDCA, 15 <math>\mu</math>m</b> Joelle Schlesinger, SCD-Semi Conductor Devices</p> <p>Pelican 640x512 InSb IDCA (15 <math>\mu</math>m). The full TV format detector with size and package of a standard half TV. The best solution for systems with power and weight constrains.</p>	<p><b>Spatial Feature Extraction with ENVI</b> RSI/ITT</p> <p>Join us to learn about the functionality of ENVI's new Spatial Feature Extraction Module. Learn how the Spatial Feature Extraction Module can help you quickly and easily extract linear and are features from your imagery and be an invaluable tool for creating and updating GIS data.</p>	

## Nova Engineering's Sensor Communication Equipment Protects US Armed Forces

Customers trust Nova Engineering with their most demanding missions. Supporting multiple sensor system/munition programs, including TRSS, REMBASS, and SPIDER, Nova Engineering offers leading-edge wireless communications systems that provide:

- Secure Data Encryption and Embedded GPS
- Increased Reliability with Error Correction
- Dual Bands and Multiple Data Rates
- Ruggedized, yet Revolutionary Designs

**NOVA**  
ENGINEERING

[www.nova-eng.com/go/sc1](http://www.nova-eng.com/go/sc1)  
[star@nova-eng.com](mailto:star@nova-eng.com)  
1-800-341-NOVA

Visit us at Booth # 513

Tactical Remote Sensor System (TRSS)  
Product: **Nova's TRSS Imager II**

The TRSS Imager II system employs multiple sensor modalities to detect targets for imaging. Captured images are automatically selected for transmission based on "best image" criteria. Selectable compression ratios, transmission rates, and encryption are used to securely transfer high quality images in near-real-time. Day/night operation is assured through EO and IR cameras.

Photo Courtesy of U.S. Army, photographer Pvt. Daniel D. Meacham



# DEFENSE & SECURITY

SYMPOSIUM

An SPIE Event

Exhibition: 18 – 20 April 2006



spieworks.com

# SPIEWORKS

APPLY YOUR MIND.

**Special  
2-Day Event!**

## Career Fair

Located near registration, front of 100 aisle

Meet face-to-face with leading defense and aerospace employers. Begin or advance your career with a visit to the SPIEWorks Career Fair at the SPIE Defense & Security Symposium. Come prepared to discuss your skills and experience with representatives from the following companies:

**BAE Systems**

**Ball Aerospace & Technologies Corp.**

**Goodrich**

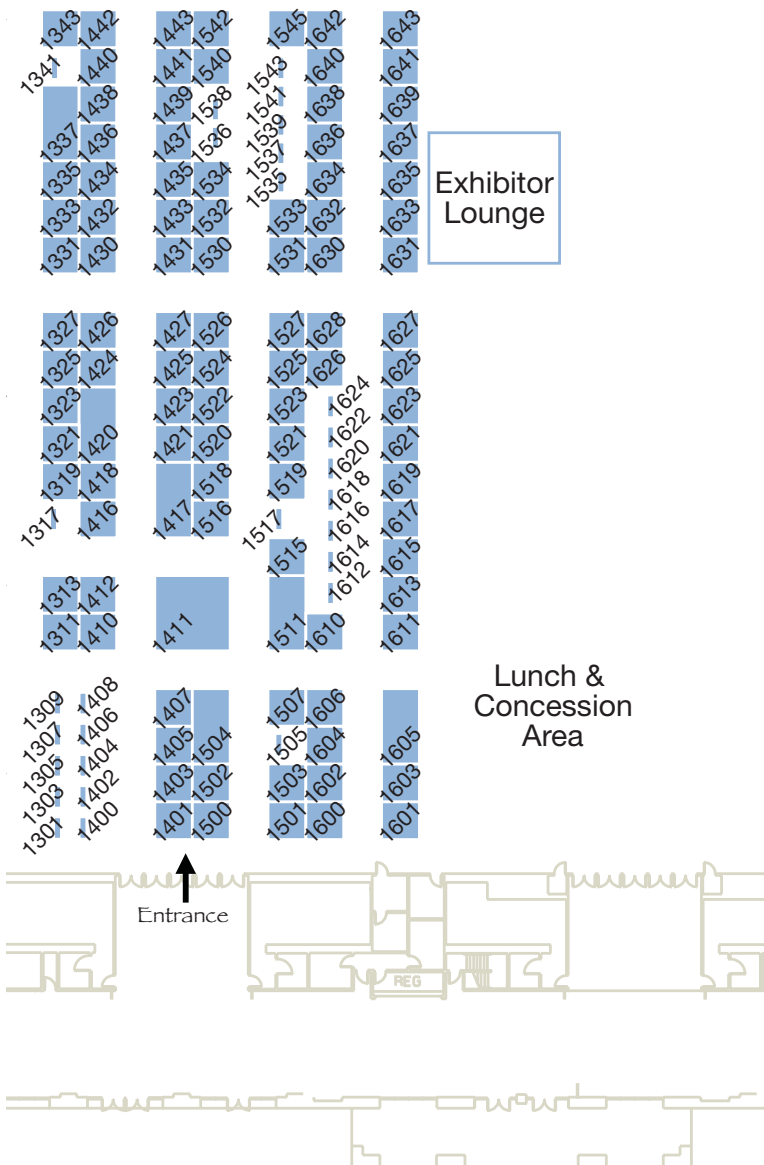
**Lockheed Martin**

**MIT/Lincoln Laboratory**

**Northrop Grumman**

**PennState, Electro-Optics Center**

**Textron Systems**



Florida Exhibition Halls, A-E  
1st Floor

## Exhibitor Index

4D Technology Corp . . . . .	1410	Canesta, Inc. . . . .	1408
A.J. Tuck Co. . . . .	327	Cantronic Sytems, Inc. . . . .	1123
ABB Analytical . . . . .	122	Carleton Life Support Systems Inc. . . . .	1102
Access Laser Co. . . . .	1406	Carolinas MicroOptics Triangle . . . . .	1539
AccuCoat, Inc. . . . .	741	Cascade Technologies Ltd. . . . .	325
Acreo AB . . . . .	1303	CBC (AMERICA) Corp. . . . .	1040
Active Silicon . . . . .	1007	CEDIP Infrared Systems . . . . .	931
ActivMedia Robotics MobileRobots . . . . .	217	CeramOptec Industries, Inc. . . . .	843
Aculight Corp. . . . .	1042	CI Systems, Inc. . . . .	1119
Acutronic USA, Inc. . . . .	114	Cincinnati Sub-Zero Products, Inc. . . . .	919
Adimec . . . . .	611	Clear Align, LLC . . . . .	1313
Advanced Imaging Magazine . . . . .	722	CMC Electronics Inc. . . . .	1403
Advanced Laser Systems Technology, Inc. (L-3 ALST) . . . . .	231	CMPC Surface Finishes . . . . .	224
Aerotech, Inc. . . . .	710	Coastal Optical Systems, Inc. . . . .	1216
AFRL Sensor Directorate . . . . .	1603	Coherent Inc. . . . .	120
AFRL Technology Horizons . . . . .	234	Coherent Optics Europe Ltd. . . . .	119
Agilent Technologies . . . . .	142	Cohu, Inc. . . . .	937
AGM Container Controls, Inc. . . . .	1418	Colibrys SA . . . . .	1204
AIM Infrarot-Module GmbH . . . . .	731	Computer Optics Inc. . . . .	840
Air Force Research Lab. . . . .	1205	Conduant Corp. . . . .	1331
Alpes Lasers . . . . .	325	The Cooke Corp. . . . .	130
Alpine Research Optics Corp. . . . .	1517	CorActive High-Tech, Inc. . . . .	240
Ametek HCC Industries . . . . .	721	Copley Networks . . . . .	1239
Ampex Data Systems Corp. . . . .	1237	Core by Indigo, A Division of FLIR Systems, Inc. . . . .	1003
Analog Modules, Inc. . . . .	617	Corning Inc. . . . .	631
Analytical Spectral Devices, Inc. . . . .	1001	Correlated Solutions, Inc. . . . .	1525
Andor Technology . . . . .	1412	Critical Imaging LLC . . . . .	1323
AOptix Technologies, Inc. . . . .	132	CrystaLaser . . . . .	1601
Apollo Optical Systems . . . . .	1440	Crytur USA . . . . .	243
APPLIED IMAGE Group . . . . .	643	CVI Laser LLC . . . . .	940
Applied Signal Technology, Inc. . . . .	1104	CYCLONE Central Research Institute . . . . .	1437
Applied Technology Associates (ATA) . . . . .	543	D&P Instruments . . . . .	533
Ariel Optics, Inc. . . . .	640	DALSA, Inc. . . . .	1426
Army Research Lab . . . . .	542	Digital Infrared Imaging, Inc. . . . .	1016
Atlantic Positioning Systems . . . . .	1020	Digital Optics Corp. . . . .	730
Avo Photonics, Inc. . . . .	1405	Directed Perception, Inc. . . . .	1515
Axsys Technologies, Inc. . . . .	911	Dontech Inc. . . . .	1417
B&W Tek, Inc. . . . .	822	DRS Technologies, Inc. . . . .	1231
B.E. Meyers & Co. Inc. . . . .	1211	Dynamic Aviation . . . . .	1521
BAE Systems . . . . .	1111	Dynetics, Inc. . . . .	1220
Bandwidth Semiconductor, LLC . . . . .	819	Eclipse Energy Systems, Inc. . . . .	1540
Barr Associates Inc. . . . .	537	Edmund Optics . . . . .	625
Bodkin Design & Engineering, LLC . . . . .	1402	ELCAN Optical Technologies . . . . .	1011
Boston Electronics Corp. . . . .	325	Electro Optical Industries, Inc. . . . .	926
Boulder Imaging Inc. . . . .	112	Electro Optics Magazine . . . . .	1305
Boulder Nonlinear Systems, Inc. . . . .	1407	Electro-Optical Imaging, Inc. . . . .	212
Brandywine Optics . . . . .	1602	Electrophysics Corp. . . . .	912
Brysen Optical Corp, A Division of FLIR Systems, Inc. . . . .	226	Electrosonic Systems, Inc. . . . .	1542
BURLE INDUSTRIES, INC. . . . .	1527	ELS Electronic Laser System Corp. . . . .	1524
Cabot Microelectronics Corp./Engineered Surface Finishes . . . . .	224	ELTEK Ltd. . . . .	1500
Cal Sensors, Inc. . . . .	1443	EM Photonics . . . . .	134
CALCULEX, Inc. . . . .	523	EM4 Defense . . . . .	918
Calmar Optcom, Inc. . . . .	1543	eMagin Corp. . . . .	322
		EMF Corp. . . . .	634
		EOSPACE, Inc. . . . .	943
		Epitaxial Technologies, LLC . . . . .	1503
		Eper Technology, Inc. . . . .	828
		Equinox Corp. . . . .	612

# Exhibitor Index

Evaporated Coatings, Inc. . . . .	1615	IRISYS . . . . .	1522	Melles Griot . . . . .	743	Panavision Federal Systems . . . . .	108
Exotic Electro-Optics . . . . .	216	iRobot Corp. . . . .	1545	MEMS Optical Inc. . . . .	1423	Phoenix Diamond Turning . . . . .	739
FARO Technologies Inc. . . . .	1606	IRphotonics . . . . .	723	Met One Instruments, Inc. . . . .	1532	Photo Sciences, Inc. . . . .	143
FastVision, LLC . . . . .	932	ISG Thermal Systems USA Inc. . . . .	825	Metavac . . . . .	732	Photon Engineering, LLC . . . . .	1620
Federal Laboratory Consortium for Technology Transfer . . . . .	1623	Isorad Ltd. . . . .	838	Micro Laser Systems, Inc. . . . .	837	Photon Gear, Inc. . . . .	1536
Ferson Technologies, Inc. . . . .	727	ISP Optics Corp. . . . .	624	MicroDISC, Inc. . . . .	1343	Photonic Cleaning Technologies . . . . .	1404
Fiberguide Industries, Inc. . . . .	317	Isuzu Glass Inc. . . . .	622	MicroE Systems . . . . .	734	Photonic Products Ltd. . . . .	1309
Fibertek Inc. . . . .	1610	ITF Optical Technologies Inc. . . . .	240	MIDAC Corp. . . . .	1439	Photonic Sense GmbH . . . . .	1219
Firebird Technologies Inc. . . . .	729	ITT Industries, AES Division . . . . .	1411	Military & Aerospace Electronics . . . . .	1101	Photonics Industries International, Inc. . . . .	816
Fisba Optik LLC . . . . .	742	ITT Industries, Night Vision . . . . .	1411	Mindrum Precision, Inc. . . . .	213	Photonics Industry Association of New York (PIANY) . . . . .	738
FJW Optical Systems, Inc. . . . .	610	ITT Industries, RSI . . . . .	1411	Missile Defense Agency SBIR . . . . .	813	Photonics Spectra - Laurin Publishing . . . . .	210
Flex Interconnect Technologies . . . . .	1516	Janos Technology, Inc. . . . .	416	Moore Nanotechnology Systems LLC . . . . .	1613	Photonics.com/Photonics Directory . . . . .	1225
FLIR Systems, Inc. . . . .	423	JDSU . . . . .	1206	Moulded Optics GmbH . . . . .	1217	Physical Optics Corp. . . . .	1316
Fosta-Tek Optics . . . . .	1336	JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems . . . . .	1304	MPA Crystal Corp. . . . .	1438	Physics Today . . . . .	922
Fotofab . . . . .	1335	JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Optics . . . . .	1216	MRC a PPGI company . . . . .	811	Phytron Inc. . . . .	1628
Fresnel Technologies Inc. . . . .	340	JMAR Technologies, Inc. . . . .	835	Multitel . . . . .	826	PI (Physik Instrumente) LP . . . . .	238
General Optics, Inc. . . . .	734	JT Ingram Sales & Marketing . . . . .	621	Naked Optics Corp. . . . .	739	Picometrix, An API Company . . . . .	920
General Scanning . . . . .	734	Judson Technologies, LLC . . . . .	521	Nanjing Saifei Electro-Optics Co., Ltd. . . . .	1438	Planar Systems, Inc. . . . .	1320
General Services Administration . . . . .	1538	K&Y Diamond Ltd. . . . .	1616	National Aperture, Inc. . . . .	726	PolarOnyx, Inc. . . . .	318
Geospatial Systems Inc. . . . .	443	Kigre, Inc. . . . .	531	National Reconnaissance Office . . . . .	718	POLLUTION EQUIPMENT NEWS/Rimbach Publishing Inc. . . . .	1341
Glass Fab Inc. . . . .	133	Kollsman, Inc. . . . .	1622	NDIA - National Defense Industrial Association . . . . .	924	Polymer Optics, LLC . . . . .	1105
Goodrich Corp. . . . .	923	Kopin Corp. . . . .	1337	NEC Corp. . . . .	834	Precision Asphere, LLC . . . . .	725
GPD Optoelectronics Corp. . . . .	1502	L-3 BAI Aerosystems . . . . .	231	Neptec Design Group . . . . .	1333	Precision Optical . . . . .	131
Great River Technology . . . . .	113	L-3 Brashear . . . . .	231	New England Photoconductor Corp. . . . .	221	Precitech, Inc. . . . .	1327
GSI Group . . . . .	734	L-3 Communication Systems East . . . . .	231	New Scale Technologies, Inc. . . . .	126	Princeton Instruments/Acton . . . . .	441
H.N. Burns Engineering Corp. . . . .	626	L-3 Communications Advanced Products & Design . . . . .	231	Newcon Optik . . . . .	225	Princeton Lightwave, Inc. . . . .	220
Hamamatsu Corp. . . . .	1201	L-3 Communications Cincinnati Electronics . . . . .	231	Nippon Avionics Co., Ltd. . . . .	1017	PVP Advanced EO Systems, Inc. . . . .	343
Heraeus Quartz America . . . . .	1621	L-3 Communications Infrared Products . . . . .	231	nLight Corp. . . . .	1213	Pyramid Imaging, LLC . . . . .	1239
Headwall Photonics . . . . .	917	Labsphere, Inc. . . . .	1507	Northrop Grumman Corp. . . . .	110	Qioptiq Polymer . . . . .	1533
Heim Data Systems, Inc. . . . .	1203	LaCroix Optical Co. . . . .	1311	Northrop Grumman, Cutting Edge Optronics . . . . .	936	QmagiQ, LLC . . . . .	135
Hellma International, Inc. . . . .	737	Lake Shore Cryotronics, Inc. . . . .	1626	Nova Engineering, Inc. . . . .	513	Quality Thin Films, Inc. . . . .	1625
HiEnergy Technologies, Inc. . . . .	1416	Lambda Research Corp. . . . .	1224	Nova Sensors . . . . .	1221	Quebec Photonic Network . . . . .	240
High Plains Optics . . . . .	1424	Lambda Research Optics, Inc. . . . .	712	Nozomi Photonics . . . . .	820	QuickSet International Inc. . . . .	839
High Tech Photonics . . . . .	621	LAS-CAD GmbH . . . . .	117	Nufern . . . . .	717	Quintessence Photonics Corp. . . . .	1520
Hitachi Kokusai, formerly Hitachi Denshi America Corp. . . . .	136	LASER COMPONENTS IG, Inc. . . . .	316	Ocean Optics, Inc. . . . .	1501	Rainbow Research Optics, Inc. . . . .	716
HOLOEYE Systems, Inc. . . . .	540	Laser Focus World . . . . .	1101	Octec Ltd. . . . .	230	Rapiscan Systems . . . . .	727
Ideal Aerosmith, Inc. . . . .	1600	Laser Optics, a PPGI company . . . . .	811	OFIL/Eklund Innovations Inc. . . . .	1618	Raytheon Vision Systems . . . . .	1023
IEEE . . . . .	1617	Laser Research Optics . . . . .	1223	Olympus Industrial America . . . . .	1523	Redlake . . . . .	441
II-VI Infrared . . . . .	218	Lasertel, Inc. . . . .	1319	ONTAR Corp. . . . .	916	RedShift Systems . . . . .	125
IMPERX . . . . .	1542	Liebmann Optical Co. . . . .	1216	Onyx Optics Inc. . . . .	1018	Research Center of Magnetic Tomography and Spectroscopy . . . . .	1430
IMPERX . . . . .	1542	Lightel Technologies, Inc. . . . .	1535	Opgal Optronics Industries Ltd. . . . .	1125	Research Electro-Optics, Inc. . . . .	417
IMT Masken und Teilungen AG . . . . .	1302	LightPath Technologies, Inc. . . . .	616	Ophir Optics, Inc. . . . .	1036	Ricor - Cryogenic & Vacuum Systems . . . . .	930
Infotonics Technology Center Inc. . . . .	641	Lincoln Laser Co. . . . .	1526	Opnext, Inc. . . . .	1436	Riegl USA, Inc. . . . .	613
Infrared Associates, Inc. . . . .	938	Lumenera Corp. . . . .	711	Optech, Inc. . . . .	1342	Rochester Precision Optics LLC . . . . .	642
Infrared Systems Development Corp . . . . .	1312	Lumics . . . . .	1518	Optical Surface Technologies, LLC . . . . .	128	Rockwell Collins . . . . .	1504
Innovative Wireless Technologies . . . . .	836	Lumitron . . . . .	1310	OPTICS 1, Inc. . . . .	324	Rockwell Scientific Co. . . . .	236
INO . . . . .	821	LxSix Photonics Inc. . . . .	240	Optikos Corp. . . . .	927	RPC Photonics, Inc. . . . .	1441
Institute on Laser & Information Technology (ILIT RAS) . . . . .	1434	M3 Measurement Solutions Inc. . . . .	1612	Optimax Systems, Inc. . . . .	636	RPMC . . . . .	320
Instro Precision Ltd. . . . .	623	The MathWorks Inc. . . . .	810	OptiPro Systems . . . . .	639	RSI . . . . .	1411
Intercon 1 Nortech . . . . .	1239	Matrix, Inc. . . . .	941	Opto Diode Corp. . . . .	1531	Rugate Technologies, Inc. . . . .	1541
International Display Consortium Inc. . . . .	1401	Max Levy Autograph, Inc. . . . .	1226	OptoSigma Corp. . . . .	517	Saint-Gobain Crystals . . . . .	516
Intevac, Inc. . . . .	440	McPherson Inc. . . . .	1117	Optronics Laboratories, Inc. . . . .	619	Sandia National Laboratories . . . . .	342
InterSense, Inc. . . . .	1619	McQ . . . . .	111	Orion RD & P Center . . . . .	1431	Sandia National Laboratories Santa Barbara Focalplane - Lockheed Martin . . . . .	223 137
IO Industries, Inc. . . . .	1425	MegaWatt Lasers, Inc. . . . .	541	OSI Optoelectronics, Inc. . . . .	921		
IOP Publishing . . . . .	824	Meller Optics, Inc. . . . .	1223	OZ Optics Ltd. . . . .	817		
				Pacific Advanced Technology . . . . .	1427		

# Exhibitor Index

Santa Barbara Infrared, Inc. . . . .	411	Space Optics Research Labs. . . . .	1117	ThermoAnalytics, Inc. . . . .	910	Williams Advanced Materials	241
Sarnoff Corp. . . . .	1338	Special Optics, Inc. . . . .	121	Thermoteknix Systems Ltd. . . . .	831	Wordingham Technologies . . . . .	740
SBS Technologies . . . . .	934	Specim Spectral Imaging Ltd. . . . .	539	ThruVision Ltd. . . . .	1534	Y-12 National Security Complex . . . . .	1322
Sc. & Technological Center of Unique Instrumentation, RAS . . . . .	1435	Spectral Systems . . . . .	227	Tietronix Optics . . . . .	1200	Zygo Corp. . . . .	1321
SCD-Semi Conductor Devices . . . . .	525	Spectrogon U.S. Inc. . . . .	341	TNO . . . . .	1420		
Schneider Optics, Inc. . . . .	1239	Spectrum Scientific, Inc. . . . .	1307	Topica Photonics, Inc. . . . .	211		
SCHOTT North America, Inc. - Fiber Optics Division . . . . .	118	Spectrum Thin Films Corp. . . . .	720	Trinity Technologies . . . . .	724		
Scientific Solutions, Inc. . . . .	1400	SphereOptics LLC . . . . .	140	U.S. Army Natick Soldier Center . . . . .	124		
SELEX Sensors and Airborne Systems . . . . .	1511	Spica Technology Corp. . . . .	1317	U.S. Naval Research Lab. . . . .	1241		
SENSIAC . . . . .	1421	SPIE Newsroom/ SPIE Professional . . . . .	1604	ULIS . . . . .	830		
Sensor Technology Systems, Inc. . . . .	1442	SPIE Professional Development . . . . .	1614	Umicore . . . . .	311		
Sensors Unlimited, Goodrich Corporation . . . . .	310	SRICO, Inc. . . . .	818	Univ. of Central Florida . . . . .	618		
Sensplex, Inc. . . . .	1106	Steinmeyer, Inc. . . . .	1530	Univ. of Massachusetts/ Lowell . . . . .	1325		
Servometer/PMG, LLC . . . . .	735	StellarNet, Inc. . . . .	319	Universal Photonics, Inc. . . . .	1301		
Siskiyou Design Instruments . . . . .	1300	StockerYale, Inc. . . . .	1207	Ural Optical and Mechanical Plant . . . . .	1433		
SOCC Optoelectronics (USA), Inc. . . . .	141	Strategic Displays . . . . .	1537	Vacuum Process Technology, Inc. . . . .	841		
SOFRADIR . . . . .	1022	SuperImaging Inc. . . . .	1505	Vavilov State Optical Institute & BAL Corp. . . . .	1432		
Solid State Cooling Systems . . . . .	1227	Surmet Corp. . . . .	842	Vectronix Inc. . . . .	1100		
Solid State Scientific Corp. . . . .	511	Sydor Optics, Inc. . . . .	632	Vigo Systems SA . . . . .	325		
Sonoma Photonics, Inc. . . . .	321	Syntec Technologies, Inc. . . . .	630	Vincent Associates . . . . .	638		
Southern Research Institute . . . . .	138	tec5USA, Inc. . . . .	737	Vionics . . . . .	823		
		Technest, Inc. . . . .	1319	Vision Systems Design . . . . .	1101		
		TELOPS Inc. . . . .	1107	Vitron GmbH . . . . .	739		
		Teraxion Inc. . . . .	1611	Voltage Multipliers Inc. . . . .	1326		
		Thales Angenieux . . . . .	1519	WaveFront Sciences, Inc. . . . .	117		
		Thales Cryogenics . . . . .	1519	Wideband Systems, Inc. . . . .	519		

## Advertisers

4D Technology . . . . .	23
Adimec . . . . .	27
Calculus, Inc. . . . .	41
CEDIP Infrared Systems . . . . .	35
Edmund Optics . . . . .	5
Electro-Optical Imaging, Inc. . . . .	63
Federal Laboratory Consortium . . . . .	31
Janos Technology Inc. . . . .	Cover 2
Lumenera Corp. . . . .	57
Neptec Design Group Ltd. . . . .	59
Nova Engineering, Inc. . . . .	19
Optronics Co., Ltd . . . . .	17
Photonics Industries International Inc. . . . .	33
Photonics Online . . . . .	24
Photonics.com . . . . .	85
SCD-SemiConductor Devices . . . . .	Cover 4
Sensors Unlimited-Goodrich Corp. . . . .	3
Servometer . . . . .	47, 49
Univ. of Central Florida . . . . .	65
Voltage Multipliers, Inc. . . . .	53

# PhaseCam™

## Totally Insensitive

*The World's Most Discriminating Manufacturers Trust PhaseCam™ Dynamic Interferometers.*



Wide Range of Optics

- No Isolation Required
- Compact and Portable
- 1000 x 1000 Resolution
- World Class 4Sight™ Software
- Fast, Easy, and Works Every Time



**VISIT US AT BOOTH #412**

■ 3280 E. Hemisphere Loop ■ Suite 146 Tucson, Arizona ■ 85706 ■ Sales 800-261-6640 ■ Fax 520-294-5601 ■ Info@4DTechnology.com ■ www.4DTechnology.com ■





---

# Photonics Online

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

The leading Web site for  
optical engineers since 1998



# DEFENSE & SECURITY

## SYMPOSIUM

An SPIE Event

### How to use this directory

Exhibitors are listed in alphabetical order with details about products or services they are exhibiting. Companies are additionally cross-indexed by technology areas in the Product Index on pages 76-84, to allow you to quickly shop for products for your engineering and business needs.

Booth numbers are provided in the Exhibitor Directory, and may be cross-referenced with the map on pages 20-23.

### 4D Technology Corp

#1410

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: 4D Technology will demonstrate the PhaseCam Family of dynamic interferometers and 4Sight software.**

4D Technology offers dynamic interferometer systems for non-contact surface metrology. Employing innovative phase sensors, the systems are insensitive to vibration and air turbulence and are capable of high speed, high spatial resolution acquisition of phase data in as little as 1microsec. 4D combines its expertise in metrology, opto/mechanical design, software development and strong manufacturing capabilities to develop, engineer and commercialize innovative products for a wide variety of industries. Contact: Stephen Martinek, Director of Sales and Marketing, steve.martinek@4dtechnology.com; Chip Ragan, Sales and Marketing Engineer, chip.ragan@4dtechnology.com.

### A.J. Tuck Co.

#327

PO Box 215, 32 Tuck Rd, Brookfield, CT, 06804  
203/775-1234; fax 203/775-4705  
ajtuckco@snet.net; www.ajtuckco.com

### ABB Analytical

#122

585 Charest Blvd E Ste 300, Quebec, QC, Canada, G1K 9H4  
418/877-2944; fax 418/877-2834  
ftir@ca.abb.com; www.abb.com/analytical

Featuring our line of high-performance, FT-IR based spectroradiometers, including the MR154 used for military signature characterization, temperature profiling of the atmosphere and passive monitoring of gasses, and the fast scanning MR254 for time-resolved signature measurements of rockets, motors and flares. Also available, R&D contracting on imaging and airborne spectroradiometers. More at www.bomem.com.

### Defense and Security Exhibition

Florida Exhibition Halls A-E, 1st Floor

Tuesday 18 April	10:00 am to 5:00 pm
Wednesday 19 April	10:00 am to 5:00 pm
Thursday 20 April	10:00 am to 2:00 pm

### Access Laser Co.

#1406

SPIE Corporate Member

5603 47th Ave NE Unit B, Marysville, WA, 98270  
360/651-6141; fax 360/ 657-4841  
yzhang@accesslaserco.com; www.accesslaserco.com

**New Product: Portable, battery operated CO<sub>2</sub> laser.**

RF excited CO<sub>2</sub> and CO lasers for spectral analyzer. Line selectable, power stabilized, and external modulated versions available. Contact: Yong Zhang, President and Chief Scientist.

### AccuCoat, Inc.

#741

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

### Acreo AB

#1303

Electrum 236, Kista, Sweden, SE-16440  
46 8 632 7700; fax 46 8 750 5430  
www.qwip.se

Acreo is the leading supplier of high quality, high performance Quantum Well Infrared Photodetectors (QWIPs) Focal lane Arrays and ROIC's. Our FPA's are available in different formats: 2-D arrays with 640x480, 640x512, 320x240 or 384x288 pixels, based on Acreo's own ROIC design or (Indigo). We do also offer FPA's and ROIC designed and manufactured according to customer specifications. Contact: Bernhard Hirschauer, Manager, Bernhard.hirschauer@acreo.se.

### Active Silicon

#1007

SPIE Corporate Member

17 Wilson St Ste 13, Chelmsford, MA, 01824  
978/244-0490; fax 978/244-0491  
info@activesilicon.com; www.activesilicon.com

**New Product: New PCI Express versions of Phoenix & LFG frame grabbers, plus a USB convertor for standard video.**

Active Silicon will exhibit their complete range of LFG and Phoenix frame grabbers. Boards are available in most industry standard formats including PCI, PMC, CompactPCI and PC/104-Plus. All major operating systems are supported, including Windows 98/NT/2000/XP, DOS and Linux ...plus VxWorks, Mac OS X and QNX. Active Silicon will also showcase their broader capability to develop custom solutions for a diverse range of fully integrated vision systems throughout science and industry. Contact: Shaun Saber, Sales Manager, USA, shaun.saber@activesilicon.com.

## ActivMedia Robotics MobileRobots #217

19 Columbia Dr, Amherst, NH, 03031  
603/881-7960; fax 603/881-3818  
sales@mobilerobots.com; www.mobilerobots.com

## Aculight Corp. #1042

**SPIE** Corporate Member

11805 N Creek Pky S Ste 113, Bothell, WA, 98011-8803  
425/482-1100; fax 425/482-1101  
info@aculight.com; www.aculight.com

Founded in 1993, Aculight is focused on being the leader in providing quality, innovative and cost-effective laser system solutions for our customers' needs in national defense, aerospace and medical applications. Aculight develops and manufactures lasers operating from the ultraviolet through the mid-infrared. Technology portfolio includes fiber lasers, DPSS lasers, mid-IR lasers, nonlinear optics and optical parametric oscillators. Contact: Andrew Brown, Director of Business Development, andrew.brown@aculight.com.

## Acutronic USA, Inc. #114

640 Alpha Dr, Pittsburgh, PA, 15238  
412/963-9400; fax 412/963-0816  
aus@acutronic.com; www.acutronic.com

Acutronic USA, Inc. supports the aerospace and defense industries with products ranging from single-axis rate and positioning tables to five-axis HWIL simulation systems. In February, 2005, Acutronic acquired Carco Electronics, a well-known manufacturer of high quality flight motion simulator and inertial navigation test equipment. Acutronic has integrated both product lines and offers an unparalleled selection of flight motion simulation systems and inertial navigation test equipment. Contact: Dennis Whitehead, Director of Marketing.

\*\*\*\*\*  
General Refreshment Sponsor

## Adimec #611

**SPIE** Corporate Member

245 North St, Stoneham, MA, 02180  
781/279-0770; fax 781/279-0571  
salesus@adimec.com; www.adimec.com

**New Product: Rugged Megapixel Cameras; Shock, vibration, & temperature qualified CCD cameras; COTS; Tailorable.**

Adimec is a leading supplier of high performance industrial cameras with over 13 years experience partnering with major OEMs around the world. We have the distinction of serving industry leading companies in three application areas; machine vision, medical and defense imaging. Our experience allows us to produce cameras that have superior image quality, speed and reliability, and deliver a performance advantage to high-end systems. Contact: Gretchen Alper, Sales and Marketing Associate, salesus@adimec.com.

## Advanced Imaging Magazine #722

Cygnus Publishing, 3 Huntington Quadrangle Ste 301W,  
Melville, NY, 11747

631/845-2700; fax 631/845-2736  
questions@advancedimagingmag.com;  
www.advancedimagingmag.com

**New Product: AI's March issue includes a Military and Homeland Defense electronic imaging technology supplement.**

Advanced Imaging magazine's mission is to provide developers, design engineers and technical managers the most up-to-date information on the electronic imaging core technologies of illumination, optics, backplane, data path, processing, storage, display, software and cameras/sensors. Please visit [Advancedimagingpro.com](http://Advancedimagingpro.com) to request a free subscription to Advanced Imaging. Contact: Edward Youdell, Publisher, Edward.Youdell@Cygnuspub.com.

## Advanced Laser Systems Technology, Inc. (L-3 ALST) #231

2500 N Orange Blossom Trail, Orlando, FL, 32804  
407/295-5878; fax 407/298-6012  
marketing.alst@l-3com.com; www.l-3com.com/alst

## Aerotech, Inc. #710

**SPIE** Corporate Member

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

Aerotech is a leading supplier of motion control and positioning components and systems. The company's product lines include nanopositioners; air-bearing and mechanical-bearing linear, rotary and lift stages; high-speed gantries; brushless linear and rotary servomotors and drives; PC-based, software-only and stand-alone motion controllers; a complete line of optical mounts and gimbals; goniometers. Custom and vacuum-prepped systems are available. Contact: Tom Markel, Product Manager, Positioning Systems Division, tmarkel@aerotech.com.

## AFRL Sensor Directorate #1603

Bldg 255 Area B, 2079 Tenth St,  
Wright-Patterson AFB, OH, 45433  
937/255-6184; fax 937/656-7620  
gary.cunningham@wpafb.af.mil

## AFRL Technology Horizons #234

1466 Broadway #910, New York, NY, 10036  
212/490-3999; fax 212/986-7864  
joe@abpi.net; www.afrlhorizons.com

Sign up for a FREE subscription to Technology Horizons — the U.S. Air Force Research Laboratory's official new technology magazine — featuring the state of the art in defense electronics. Reaching over 120,000 design engineers and managers who purchase electronic components, boards and systems, Horizons is the largest-circulation engineering magazine for the mil/aero market. Contact: Joe Pramberger, Publisher; Winn Hardin, Editor, Embedded Technology & PTB, winn@abpi.net.

## Agilent Technologies #142

MS 26M-3, 3500 Deer Creek Rd, Palo Alto, CA, 94304  
650/485-7382

**New Product: Active millimeter wave system for real time threat analysis.**

Agilent is the premier measurement company servicing communications, chemical, life sciences and electronics industries. Contact: Tad Weems, Business Development Consultant, william\_weems@non.agilent.com; Marty Neil, Business Development Manager, marty\_neil@agilent.com.

## AGM Container Controls, Inc. #1418

3526 E Fort Lowell Rd, Tucson, AZ, 85716  
800/995-5590; fax 520/881-4983  
sales@agmcontainer.com; www.agmcontainer.com

**New Product: Custom desiccator for optical enclosures.**

Desiccators are commonly used in electro-optical systems to prevent the buildup of moisture which can lead to fogging of optical components and, in the long term, corrosion and ultimately failure. AGM manufactures a wide range of standard and custom desiccators to meet this need. AGM has supplied desiccators to virtually all U.S. missile programs for the last 30 years. In addition, AGM distributes the NEPS 1000 Advantage, single point nitrogen purging system. Contact: Lydia Steadman, Inside Sales Representative; Melissa Leyvas, Inside Sales Representative.



# Finally: Rugged Megapixel Digital Cameras!



- Rugged COTS
- Tailored COTS solutions available
- Qualification according to MIL-STD-810E
- Monochrome or color
- High dynamic range & sensitivity
- 1, 2 and 4 Megapixel resolution
- Small outline and low power consumption
- Full image capture control & CameraLink interface

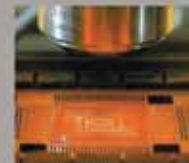


Adimec RA 1000 Camera Family

**Contact us today to find out why top OEM's rely on Adimec.**

## Adimec

**Image Quality, Dynamic Range, and Reliability**



Sales North America  
Phone: (+1) 781-279-0770  
E-mail: salesus@adimec.com

Sales Europe  
Phone: (+31) 40 235 3900  
E-mail: saleseu@adimec.com

Sales Japan & S. Korea  
Phone: (+81) 3 59688377  
E-mail: salesjp@adimec.com

Sales Asia-Pacific  
Phone: (+65) 96743711  
E-mail: salesap@adimec.com

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



## AIM Infrarot-Module GmbH #731

Theresienstr 2, Heilbronn, Germany, 74072  
49 7131 6212 0; fax 49 7131 6212 929  
mail@aim-ir.de; http://www.aim-ir.de

**New Product: In a significant breakthrough, AIM has demonstrated two color superlattice FPAs in MWIR.**

AIM develops and manufactures linear and matrix-detectors and modules for IR-seekers and thermal imaging systems (FLIRs) and is considered as a leader in infrared technology worldwide. Furthermore AIM has many years of experience in national and international programs and an outstanding performance record in supplying matrix-modules integrated up to fully autonomous IR-cameras. With 290 employees at the facility located in Heilbronn, Germany, AIM achieves currently a revenue of 50 million €. Contact: Wolfgang Cabanski, Manager IR- Modules, wolfgang.cabanski@aim-ir.de; Juergen Maier, Manager Sales, Juergen.Maier@aim-ir.de.

## Air Force Research Lab. #1205

AFRL/XPTC, 2275 D St Rm 107, Wright Patterson  
AFB, OH, 45433  
937/656-9875; fax 937/255-4145  
ruth.sensabaugh@wpafb.af.mil

## Alpes Lasers #325

1-3 Max.-de-Meuron, Neuchatel, Switzerland, CH-2000  
41 3272 99510; fax 41 3272 13619  
info@alpeslasers.ch; www.alpeslasers.com

**New Product: CW room temp Quantum Cascade Lasers devices now available on special order.**

Manufacturer of Quantum Cascade Lasers - tunable infrared lasers in the 3.5 to 17 micron region operating on thermoelectric coolers (pulsed) or LN2 cooled (CW). Contact: Fred Perry, President, fsp@boselec.com.

## Alpine Research Optics Corp. #1517

**SPIE** Corporate Member  
6810 Winchester Cir, Boulder, CO, 80301  
303/444-3420; fax 303/444-1686  
sales@arocorp.com; www.arocorp.com

**New Product: Spectral-Shaping Filter; a pulse shortener for Titanium:sapphire ultrafast amplifiers.**

Alpine Research Optics, now offering on-line mirrors & polarizers, supplies high performance laser optics & has developed a reputation for manufacturing excellence. We support a wide range of applications in the areas of lithography, R&D, LASIK, Energy Research, etc. Our capabilities in optical fab and thin film coatings include: Windows, Mirrors, Partial Reflectors, Polarizers, Spherical and Cylindrical lenses. Contact: Rod Schuster, Marketing Manager, rschuster@arocorp.com; Katie White, Inside Sales Manager, kwhite@arocorp.com.

## Ametek HCC Industries #721

4232 Temple City Blvd, Rosemead, CA, 91770  
626/443-8933; fax 626/443-6610  
tstgame@hccindustries.com; www.hccindustries.com

AMETEK HCC Industries is a leading designer and manufacturer of highly engineered glass-to-metal seals, ceramic-to-metal seals and sophisticated hybrid and microelectronic packages for harsh environments. HCC serves the aerospace, defense, petrochemical, automotive, communications and industrial markets. Contact: Traci St. Geme, Marketing Director, Robert Ashman, Sales Director, Aegis Division, rashman@hccaegis.com.

## Ampex Data Systems Corp. #1237

**SPIE** Corporate Member  
1228 Douglas, Redwood City, CA, 94063  
650/367-3365; fax 650/367-3106  
sales@ampexdata.com; www.ampexdata.com

**New Product: New IRIG106 Chapter 10 MiniR 700 Solid State Recorder and Data Acquisition System.**

Ampex Data Systems is a manufacturer and world-wide supplier of leading data recording and acquisition systems and turn-key solutions. Our product line features high-performance Solid State Memory and Disk-based recorders, which are IRIG106 Chapter 10 based. These units are available as rugged airborne and ground/lab recording and acquisition systems. These systems can be integrated with Mass Storage Library systems for network retrieval and archival purposes. Contact: Don Downing, Sales and Field Program Manager, don\_downing@ampexdata.com.

## Analog Modules, Inc. #617

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

**New Product: Model 772 - highly efficient, compact and lightweight Pulsed Laser Diode Driver.**

Founded in 1979, Analog Modules is an ISO 9001 certified company located in Longwood, (Orlando) FL where 65 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: Tim Ayres, Product Manager; Kelly Pacy, Sales Support Manager.

## Analytical Spectral Devices, Inc. #1001

**SPIE** Corporate Member  
5335 Sterling Dr Ste A, Boulder, CO, 80301-2344  
303/444-6522; fax 303/444-6825  
info@asdi.com; www.asdi.com

**New Product: FieldSpec® 3-the next generation spectroradiometer: Wireless, expanded flexibility/functionality.**

ASD manufactures the highest quality Vis/NIR spectroradiometers and the only truly portable, full range field systems for remote sensing. Our instruments are rapid, sensitive and extremely rugged. All the performance you expect in a lab system, even in harsh environments, ASD's user friendly instrumentation, accessories and software are dramatically enhancing the quality, productivity and efficiency of applications requiring measurement of radiance, irradiance, reflectance or transmission. Contact: David Hatchell, Senior Sales/Product Line Manager, Remote Sensing, hatchell@asdi.com; Amanda Griffin, Marketing Communications Manager, griffin@asdi.com.

### Product Spotlights

Open to all attendees and visitors, various exhibiting companies will be showcasing new and successful products in half-hour question-and-answer sessions. Spotlights will be held in the Exhibition Hall. See pages 18-19 for more information.

**Andor Technology**

#1412

**SPIE** Corporate Member

425 Sullivan Ave Ste 2, South Windsor, CT, 06074  
860/290-9211; fax 860/290-9566  
info@andorcom; www.andor.com

**New Product: SurCam: Highly sensitive, imaging camera with EMCCD technology for defense and homeland security.**

Andor Technology is one of the world's leading manufacturers of CCD, Intensified CCD, EMCCD detectors and spectrographs for the global scientific imaging and spectroscopy market. With years of academic and industrial experience, Andor specializes in cameras for research applications as well as in the creation of complete OEM system solutions. We also provide ICCD and spectrograph solutions for chemical and biological sensing. Contact: Chris Calling, President, c.calling@andor.com; John Alford, Senior Sales Engineer, j.alforddd@andor.com.

**AOptix Technologies, Inc.**

#132

695 Campbell Technology Pkwy, Campbell, CA, 95008  
408/558-3304; fax 408/558-3301  
dableson@aoptix.com; www.aoptix.com

**New Product: AOptix announces our newest production product, the GT1.0 Communicator Lasercom System.**

AOptix manufactures ultra high bandwidth lasercom systems utilizing AOptix's patented Curvature Adaptive Optics technology, which corrects atmospheric distortions in real time. This technology enables All-Optical free-space communication links over long ranges, with demonstrated bandwidths in the multiple hundreds of gigabits per second. Curvature adaptive optics technology also enables a wide variety of other applications that require real time imagery correction and/or enhancement. Contact: David Abelson, Vice President Business Development.

**Apollo Optical Systems**

#1440

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, Vice President of Manufacturing, Tribastone@ApolloOptical.com.

**APPLIED IMAGE Group**

#643

**SPIE** Corporate Member

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

"Your Single Source Photonics Solution Provider" dedicated to innovative OPTO-IMAGING Products & Services. Providing worldwide custom and "off the shelf" linear scales, test targets, reticles, encoders, image analysis standards sinusoidal arrays, photo masks, ronchi rulings and other complex answers to today's photonics needs. APPLIED IMAGE, where image concepts become reality. Contact: Paul Anderson, Business Manager, panderson@appliedimage.com.

**Applied Signal Technology, Inc.**

#1104

1555 Wilson Blvd Ste 703, Arlington, VA, 22209  
703/417-5320; fax 703/841-8395  
melissa\_nelson@appsig.com; www.appsig.com

Applied Signal Technology is a leading provider of advanced digital signal processing products, systems and services in support of intelligence, surveillance and reconnaissance for global security. We develop and manufacture equipment for the collection and processing of signals in the areas of Communications Intelligence, Electronic Intelligence and sensor signal processing for radar, sonar, electromagnetic and imaging missions. Contact: Melissa Nelson, Senior Marketing Communications Specialist; David Penn, Director, Homeland Security, dpenn@appsig.com.

**Applied Technology Associates (ATA)**

#543

1300 Britt St SE, Albuquerque, NM, 87125  
505/767-1200; fax 505/768-1379  
info@aptec.com; www.aptec.com

**New Product: Optical Inertial Reference Unit with 125 nanoradian stability in package 25 cu in and 2.5 pound mass.**

Applied Technology Associates (ATA) is a world leader in precision sensing, measurement and control. ATA produces space qualified sensors and subsystems, optical inertial measurement units and high performance fast steering mirrors to 12 inch, 1 kHz. ATA aerospace testing services offers inertial testing, thermal cycling, EMI/EMC and space qualification of components and subsystems. ATA develops technologies in target identification, multi-spectral polarimetry & adaptive optics. Contact: Jerry Harris, Director Strategic Marketing, jharris@aptec.com; Steve Dolbey, Director Test Services, dolbey@aptec.com.

**Ariel Optics, Inc.**

#640

6935 N Slocum Rd, Ontario, NY, 14519  
315/524-8211; fax 315/524-9662  
info@arieloptycs.com; www.arieloptycs.com

Ariel Optics specializes in the manufacture of precision and ultra precision plano optical components. Products include Prisms, Light Pipes, Beam Splitters, Mirrors and Reference Flats with dimensions ranging from .7mm to 350mm. Quantities from prototype to mid volume production. Average lead times are less than 4 weeks with expedited deliveries on request. Contact: Robb Sawyer, Marketing Manager, robb@arieloptycs.com.

**Army Research Lab**

#542

Sensors & Electron Devices Directorate, 2800 Powder Mill Rd, Adelphi, MD, 20783  
301/394-3260; fax 301/394-1553  
lsharf@arl.army.mil

**New Product: Persistent Sensing — The Way Ahead.**

For current and future operations, the goal is unattended sensing for persistent situational understanding. To this end, the Army Research Laboratory is developing advanced technologies to provide enhanced battlefield reconnaissance, intelligence, surveillance and targeting acquisition through electro-optic and photonics devices. The exhibit will be in an urban setting in Iraq showing the current and possible future applications of these technologies. Contact: Thomas Bower, Chief Research Operations, Sensors and Electron Devices, tbower@arl.army.mil; Laurel Sharf, Marketing/Exhibit Manager.

## Atlantic Positioning Systems

#1020

11528 53rd St N, Largo, FL, 33760  
727/299-0150; fax 727/299-0804  
custserv@atlanticpositioners.com;  
www.atlanticpositioners.com

Atlantic Positioning Systems is a world leader in design and manufacture of high accuracy, highly reliable, modular stabilized gimbals and controls that support the military Electro-Optical, C3I, and radar markets. Our systems are ideally suited for pointing optical sensors, lasers, radars and communications antennas and are designed for ground stabilization, shipboard stabilization and airborne stabilization applications. Contact: Alex Doig, Manager, Business Development, adoig@atlanticpositioners.com.

## Avo Photonics, Inc.

#1405

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

## Axsys Technologies, Inc.

#911

**SPIE** Corporate Member

2909 Waterview Dr, Rochester Hills, MI, 48309-4600  
248/293-2900; fax 248/293-2968  
info@axsys.com; www.axsys.com

For over 40 years, Axsys has been designing accurate and reliable optical and motion control solutions to the US government and to high performance commercial markets. Axsys engineers are applying this experience to create increasingly sophisticated, vertically integrated systems that combine optics and motion. These systems are enabling a growing range of demanding optical applications such as thermal weapons systems, nighttime surveillance cameras and highly precise medical imagers.

## B&W Tek, Inc.

#822

**SPIE** Corporate Member

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

**New Product: Field Raman & portable NIR spectrometers for assessment & identification of hazardous materials.**

Photonic total solution and OEM building block provider for spectroscopic security instrumentation. Rapid time to market for Portable Raman spectrometers, fluorescence, NIR, broadband spectrophotometers for field and lab assessments & identifications of hazardous materials and bio threats. Unique high brightness lighting systems for demanding defense applications. TE cooled CCD, InGaAs, PbS array spectrometers; high stability high resolution lasers for Raman and other spectroscopic applications. Contact: Miemie Joe Strickler, Marketing and Sales, mie@bwtek.com; Stanley Huang, Marketing and Business Development, stanleyh@bwtek.com.

## B.E. Meyers & Co. Inc.

#1211

**SPIE** Corporate Member

14540 NE 91st St, Redmond, WA, 98052  
425/881-6648; fax 425/867-1759  
meyers@bemeyers.com; www.bemeyers.com

**New Product: MOUT Tracker 0.00005 lux, NV-covert, ultra low-light day/night, color/bw camera surveillance system.**

B.E. Meyers & Co. Inc. is proud of its reputation as the technology leader in manufacturing low-light cameras, multi-purpose night vision equipment, and high power laser targeting and surveillance systems for defense and law enforcement. B.E. Meyers products are designed to be rugged and reliable, and are field proven to withstand the repetitive challenges experienced in training exercises, and more importantly to meet the critical performance requirements demanded on the actual battlefield. Contact: Clint Meyers, East Coast Sales, clint@bemeyers.com; Rob Goodkind, New Business, rob.goodkind@bemeyers.com.

## BAE Systems

#1111

PO Box 868 NHQ3-1109, Nashua, NH, 03061  
603/885-3522; fax 603/885-9805  
kim.campbell@baesystems.com; www.baesystems.com

BAE Systems is a leading provider of high performance uncooled IR camera cores, based on our MicroIR technology, to commercial and government OEMs, integrators and end-users. Our SCC500 Series of camera cores (160x120, 320x240 and 640x480) provide the ideal solution for system OEMs and integrators. Our fixed mount and handheld IR cameras provide high performance day/night imaging capability for surveillance and other Homeland Security applications. Contact: Simon Pongratz, Manager, Commercial MicroIR Sales, simon.pongratz@baesystems.com; Dave Smialek, Manager, Business Development, david.c.smialek@baesystems.com.

## Bandwidth Semiconductor, LLC

#819

25 Sagamore Park Dr, Hudson, NH, 03051  
603/595-8900; fax 603/595-0975  
sales@bandwidthsemi.com; www.bandwidthsemi.com

Bandwidth Semiconductor's mission is to be the preeminent "Pure Play" service provider in the custom III-V Epi wafer, device foundry and thin/thick film hybrid circuit business. Contact: Edward Gagnon, General Manager, Egagnon@bandwidthsemi.com.

## Barr Associates Inc.

#537

**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. has been a maker of optical filter and coating solutions since 1971 and a supplier to DoD and Aerospace applications at all levels since the 1980's. We proudly provide certified filters and coatings used on many legacy Defense and Space based programs from a few to 1000's. Our senior technical expertise, application engineering and state of the art processes combine to provide Advanced Optical Coating Technology to the Warfighter. Contact: Jack Bosch, Defense Manager, jbosch@barrassociates.com; Kevin Downing, Aerospace Manager, kdowning@barrassociates.com.





*THE ONLY GOVERNMENT-WIDE FORUM FOR TECHNOLOGY TRANSFER*

**T**he Federal Laboratory Consortium for Technology Transfer (FLC), a nationwide network of over 700 federal laboratories, is the only government-wide forum for technology transfer (T<sup>2</sup>).

Organized in 1974 and formally chartered by the Federal Technology Transfer Act of 1986, the FLC provides the framework for developing T<sup>2</sup> strategies and opportunities by promoting and facilitating technical cooperation among federal laboratories, industry, academia, and state and local governments.

As the recognized leader in maximizing collaborative research for the transfer of technologies, the FLC enhances the socioeconomic well-being of the nation in the global marketplace.

Industry, government, and academic personnel looking to strengthen their T<sup>2</sup> capabilities to capitalize on the nation's investment, better their position in the marketplace, or research technology can look to the FLC to foster the rapid movement of federal laboratory research results into the mainstream of the U.S. economy.

[www.federallabs.org](http://www.federallabs.org)

The FLC web site makes it easy for you to find people, capabilities, and applications within the FLC's network of federal laboratories and centers. The site publicizes T<sup>2</sup> news and technology trends, and allows you to request personalized information about FLC services.

#### Technology Locator

The Technology Locator is a free service that locates federal laboratories ready to transfer their technologies to the marketplace and also brings these laboratories together for collaborative R&D. Call the Locator toll-free at 1-888-388-5227.

#### FLC NewsLink

This free monthly newsletter reports on a host of technologies and training events, and highlights the technological advances of federal laboratories, industry, and academia.

#### Education and Training

The FLC provides education and training on all aspects of T<sup>2</sup> to laboratory personnel. This service includes fundamentals and advanced training courses offering continuing education units (CEUs), a wide range of publications, and a training resources database.

### PUBLICATIONS OF THE FLC



*Federal  
Technology Transfer  
2005*



*FLC NewsLink*



*FLC Technology  
Transfer  
Desk Reference*



*Federal Technology Transfer  
Legislation and Policy  
'The Green Book'*



## **Bodkin Design & Engineering, LLC #1402**

PO Box 81368, Wellesley, MA, 02481  
617/795-1968; fax 617/795-1969  
info@bodkindesign.com; www.bodkindesign.com

**New Product: High-speed, TE cooled/heated blackbody source.**  
5-85°C range; 30-50°C in < 2 min; 65-5°C in 5 min.

Bodkin Design & Engineering provides optics/cameras, instruments, engineering and products. Founded in 1988, the firm has developed numerous patented devices and overseen the successful introduction of a diverse spectrum of products, including EO/IR imaging systems in all wavebands, hyperspectral imagers, infrared calibration equipment and interferometers. Customers include the industrial, commercial, military and research communities. Please visit us at [www.bodkindesign.com](http://www.bodkindesign.com). Contact: Andrew Bodkin, Principal, [wab@bodkindesign.com](mailto:wab@bodkindesign.com); Timothy Shea, Business Development, [tshea@bodkindesign.com](mailto:tshea@bodkindesign.com).

## **Boston Electronics Corp. #325**

**SPIE** Corporate Member

91 Boylston St, Brookline, MA, 02445  
617/566-3821; fax 617/731-0935  
[boselec@boselec.com](mailto:boselec@boselec.com); [www.boselec.com](http://www.boselec.com)

**New Product: Sensitivity breakthrough! Now delivering TE-cooled MCT with D\* > 1x10<sup>9</sup> at 12 microns.**

Supplier of photon sources, photodetectors and signal processing electronics. Photon sources include Quantum Cascade lasers, blackbody sources and picosecond diode lasers. Photodetectors include single photon counting silicon and InGaAs APDs, room temp and TE-cooled MCT and UV photodiodes. Signal processing electronics include picosecond time correlated single photon counting electronics, lock in amplifiers and choppers.

## **Boulder Imaging Inc. #112**

1500 Cherry St Ste C, Louisville, CO, 80027  
303/604-2368; fax 720/890-7731  
info@boulderimaging.com; [www.boulderimaging.com](http://www.boulderimaging.com)

**New Product: VisionRecorders™ - cutting-edge, 1GB/s digital video recording systems for project-critical imaging.**

A proven partner for military and other critical imaging projects provides VisionRecorder™ systems for cutting-edge, real-time digital video recording, image processing, analysis & archiving. Complete high quality systems support any number of simultaneous video inputs (HOTLink, CameraLink, LVDS/RS422, DVI, Firewire, NTSC/PAL, RS170, RGB/VGA) and continuously record for hours, with zero data drops, at speeds exceeding 1 GB/s for image capture in military testing, tracking, security & research. Contact: Darlene Davis, Marketing & Sales Manager, [ddavis@boulderimaging.com](mailto:ddavis@boulderimaging.com).

## **Boulder Nonlinear Systems, Inc. #1407**

**SPIE** Corporate Member

450 Courtney Way Unit 107, Lafayette, CO, 80026  
303/604-0077; fax 303/604-0066  
info@bnonlinear.com; [www.bnonlinear.com](http://www.bnonlinear.com)

Boulder Nonlinear Systems is an innovative technology company specializing in liquid crystal polarization control solutions for both laser-based and imaging systems. Company strengths in scientific R&D are leveraged into OEM and standard product offerings targeted for astronomy, biomedical, defense, microscopy, optical computing and telecommunications applications. Products include: Optical Shutters, Polarization Rotators, Variable Waveplates, Beam Attenuators and High Resolution SLMs. Contact: Kelly Gregorak, Sales & Marketing Director, [kelly@bnonlinear.com](mailto:kelly@bnonlinear.com).

## **Brandywine Optics #1602**

216 S. Walnut St, West Chester, PA 19382  
610/429-4127; fax 484/214-0247  
[john@brandywineoptics.com](mailto:john@brandywineoptics.com); [www.brandywineoptics.com](http://www.brandywineoptics.com)

## **Brysen Optical Corp, A Division of FLIR Systems, Inc. #226**

946 Main St, Safety Harbor, FL, 34695  
727/726-0555; fax 727/726-2362  
info@brysenoptical.com; [www.brysenoptical.com](http://www.brysenoptical.com)

Brysen Optical, a division of FLIR Systems, designs & manufactures optical components. Capabilities include coating design & production of windows, filters, mirrors from 180 nm to 25 µm including antireflection, bandstop, bandpass, dichroic, metal, dielectric, dark mirrors and durability coatings. Also do reticles, patterned optics & solderable edge metalizations for hermetic seal applications. Manufacturer of Surface Quality Standards Scratch & Dig sets conforming to US Army drawing 7641866. Contact: Dan Bronstrop, Sales Manager, [dbronstrop@brysenoptical.com](mailto:dbronstrop@brysenoptical.com); Brett Lombardo, Business Development, [blombardo@brysenoptical.com](mailto:blombardo@brysenoptical.com).

## **BURLE INDUSTRIES, INC. #1527**

1000 New Holland Ave, Lancaster, PA, 17601-5688  
717/295-6888; fax 717/295-6096  
[burlesls@burle.com](mailto:burlesls@burle.com); [www.burle.com](http://www.burle.com)

## **Cabot Microelectronics Corp./ Engineered Surface Finishes #224**

870 N Commons Dr, Aurora, IL, 60504  
630/375-2525; fax 630/978-3033  
[sales@ensurfin.com](mailto:sales@ensurfin.com); [www.ensurfin.com](http://www.ensurfin.com)

**New Product: Advanced Nanoscale Surface Technology- to achieve Angstrom level finishes on photonic materials.**

From the world's leading supplier of chemical mechanical planarization materials and processes for the semiconductor industry, Engineered Surface Finishes provides state-of-the-art finishing, polishing, cleanroom and metrology services. ESF leverages a large portfolio of patents and the expertise of 150 scientists and engineers to offer advanced technology and custom fabrication services. These are designed to deliver Angstrom level breakthroughs on glass, metals and many other materials. Contact: Daniel McMullen, Director, Business Development, [daniel\\_mcmullen@ensurfin.com](mailto:daniel_mcmullen@ensurfin.com); Susan Wilson, Senior Optical Engineer, [engineering@ensurfin.com](mailto:engineering@ensurfin.com).

## **Cal Sensors, Inc. #1443**

5460 Skylane Blvd., Santa Rosa, CA, 94503  
707/545-4181; fax 707/545-5113  
info@calsensors.com; [www.calsensors.com](http://www.calsensors.com)

Celebrating its 20th year, Cal Sensors is a manufacturer of standard and custom IR detectors, sources and accessories. PbS & PbSe detectors packaged in standard or custom assemblies with TE coolers, optics & electronics. Miniature pulsable IR sources include parabolic or elliptical mirrors, a variety of window materials. 256 element multiplexed linear arrays in a standard 28 pin package with interface electronics for spectroscopy to 5µm, providing a low cost, high performance alt to InGaAs. Contact: Suneet Deol, Sales Engineer, [suneet@calsensors.com](mailto:suneet@calsensors.com); Patricia Elias, Manager, Sales & Marketing, [patti@calsensors.com](mailto:patti@calsensors.com).

## **CALCULEX, Inc. #523**

132 W Las Cruces Ave, Las Cruces, NM, 88001  
505/525-0131; fax 505/524-4744  
[sheril@calculex.com](mailto:sheril@calculex.com); [www.calculex.com](http://www.calculex.com)

# EYE-SAFE WAVELENGTH LASERS

## CHOICE OF HIGH OR LOW POWER LASERS

*Photonics Industries' offers compact eye-safe wavelength lasers that can operate at 10kHz in repetition rate, and in Q-switched mode.*



High Power DS Series

### Features

- Wavelength 1.5 $\mu$ m
- Pulse Energy up to 3mJ
- Average Power up to 10Watts
- Pulse Width 10ns
- Peak Power from 1kWatt to 300kWatts
- Repetition Rate Single Shot to 50kHz
- Patented Intracavity OPO Generation Technology
- Compact, Rugged Design
- Large Installed Base of Systems for Eyesafe Applications

### Applications

- Eye-safe Illumination
- Laser Range Finders
- Eye-safe Laser Target Designators
- Military Target and Security Illumination
- Environmental Sensing
- Aerosol/Cloud LIDAR
- And More



Low Power DC Series

**VISIT US AT THE 2006 DEFENSE & SECURITY SYMPOSIUM - BOOTH # 816**

*Please contact us if you have any questions, or if you would like more information on our products.*



**Photonics Industries**

International, Inc.

*The Pioneer of Intra-Cavity Solid-State Harmonic Lasers.*

390 Central Avenue, Bohemia, NY 11716, Tel: (631) 218-2240 Fax: (631) 218-2275  
Web: [www.photonix.com](http://www.photonix.com) Email: [info@photonix.com](mailto:info@photonix.com)

## Calmar Optcom, Inc.

**SPIE** Corporate Member

755 N Pastoria Ave, Sunnyvale, CA, 94085  
408/733-7800; fax 408/733-3800  
lin@calmaropt.com; www.calmaropt.com

#1543

 Lanyard Sponsor

## CEDIP Infrared Systems

#931

**SPIE** Corporate Member

19 Blvd Georges Bidault, Croissy-Beaubourg, France, F-77183  
33 1 60 37 01 00; fax 33 1 64 11 37 55  
emilie.cornee@cedip-infrared.com; www.cedip-infrared.com

**New Product: The SILVER 450M, an affordable ultra-fast infrared camera for R&D and Thermography applications.**

Cedip Infrared Systems provides world class infrared imaging cameras and systems to industrial, R&D organisations worldwide. Our technology is actively assisting customers in a wide variety of thermal imaging and thermographic applications including: Measuring, imaging and controlling temperature in industrial processes, NDT, stress analysis and mechanical testing; Infrared signature analysis and day/night surveillance and observation of sensitive sites (defence, security, law enforcement). Contact: Cornee Emilie, Marketing Manager, cedip-marketing@cedip-infrared.com.

## Canesta, Inc.

440 N Wolfe Rd, Sunnyvale, CA, 94085  
408/530-1530; fax 408/530-1527  
support@canesta.com; www.canesta.com

#1408

Canesta has developed a single chip 3D CMOS based imager that is small, light weight and power efficient. Canesta's 3D imager obtains both spatial and depth data and can be used as a stand alone 3D sensor or utilized to build a 3D color camera when very high resolution is required. Contact: Jim Goldberger, Vice President, Business Development, jgoldberger@canesta.com.

## Cantronic Sysms, Inc.

63A Clipper St, Coquitlam, BC, Canada, V3K 6X2  
604/516-6667; fax 604/516-6618  
info@cantronic.com; www.cantronic.com

#1123

## Carleton Life Support Systems Inc. #1102

2734 Hickory Grove Rd, Davenport, IA, 52804  
563/383-6000; fax 563/383-6433  
info@carletonls.com; www.carletonls.com

Carleton Life Support is a leading designer and manufacturer of quality, linear cryocoolers and cryocooler controllers for tactical military applications. Carleton's linear cryocooler line is well suited to be inserted as a technology refreshment on 1st generation systems and exhibits the high performance and long-life characteristics desired by 2nd generation IR systems. These cryocoolers are also well suited and affordable for commercial, industrial or homeland security applications. Contact: Robert Nelson, Business Development Manager, bnelson@carletonls.com.

## Carolinas MicroOptics Triangle

Burson Rm 135A, 9201 University City Blvd, Charlotte, NC, 28223  
704/687-6078; fax 704/687-6077  
www.cmotriangle.org

#1539

## Cascade Technologies Ltd.

141 St James Rd, Glasgow, United Kingdom, G4 0LT  
44 141 303 8382; fax 44 141 552 3886  
info@cascade-technologies.com; www.cascade-technologies.com

#325

**New Product: Complete Quantum Cascade Laser System.**

Quantum Cascade Laser System consisting of a pulsed QC laser driver capable of operating at high power and duty cycle. Peltier Cooling enables laser temperatures down to -45°C. Variable pulse lengths from 10ns to 10µs allow the laser to be operated either in true pulsed or in quasi-CW regimes. Contact: Fred Perry, President, fsp@boselec.com.

## CBC (AMERICA) Corp.

55 Mall Dr, Commack, NY, 11725  
631/864-9700; fax 631/543-5426  
jterlouw@cbcamerica.com; www.cbcamerica.com

#1040

**New Product: Continuous zooms for 3-5 & 8-14 infrared; also visible channel for optically corrected image fusion.**

CBC (America), known for its Computer lenses, CCD cameras & related security products, has joined with other US firms to develop advanced concepts in thermal imaging. The patent-pending products will be employed in the fields of night vision & image fusion. Contact: Jan Ter Louw, Senior Vice President.

## CeramOptec Industries, Inc.

#843

515 A Shaker Rd E, East Longmeadow, MA, 01028  
413/525-0600; fax 413/525-1112  
salesengineering@ceramoptec.com; www.ceramoptec.com

**New Product: Replacement fiber optic cables, bundles and assemblies for most spectrometer systems.**

Specialty optical fiber, bundles, assemblies and spectroscopic fiber accessories for the scientific, industrial and medical markets. Stock and custom silica/silica, hard polymer-clad silica, PCS, silver halide optical fibers, capillary tubing and bundles and assemblies for UV, VIS and IR transmission. Products for high (+380°C) or low (-190°C) temperature, low to high NA (0.12 to 0.53). Low cost replacement bundles and assemblies for most spectrometer systems and UV curing systems. Contact: Cheryl Smith, Sales Engineer, cheryl.smith@ceramoptec.com; Kevin Bakhshpour, Director of Sales & Marketing, kevinb@ceramoptec.com.

## CI Systems, Inc.

#1119

**SPIE** Corporate Member

90 W Cochran St Ste D, Simi Valley, CA, 93065  
805/520-2233; fax 805/520-2234  
us@ci-systems.com; www.ci-systems.com

CI Systems develops and manufactures sophisticated standard and customized electro-optical test and measurement systems for defense, industrial and scientific markets worldwide. This includes blackbodies, collimators, complete range of remote sensing systems, early warning and countermeasure testing products, automatic testing software, boresight units and laser test systems. Contact: Garrick Matheson, Manager, North America Operations; Tim Owens, Sales and Marketing.

## Cincinnati Sub-Zero Products, Inc. #919

12011 Mosteller Rd, Cincinnati, OH, 45241  
513/772-8810; fax 513/772-9119  
indsales@cszinc.com; www.cszindustrial.com

Cincinnati Sub-Zero Products manufactures a full range of standard and customized environmental chambers including temperature cycling, humidity, altitude, AGREE vibration, thermal shock and accelerated stress testing chambers including low temperature freezers. Sizes range from benchtop to full walk-in rooms with typical temperature ranges from -73°C to 190°C and humidity from 10% to 98%. Contact: Kristal Yelton, Marketing Manager, yelton@cszinc.com; Mark Chrusciel, Sales Director, chrusciel@cszinc.com.



## Clear Align, LLC

#1313

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 is a premier optical engineering and systems integration company. Clear Align designs and delivers custom imaging, sensing and fiber optic systems. Applications include thermal and visible imaging, acoustic sensing, as well as complex fiber optic, laser and optical switching systems for defense. Our deep domain expertise allows us to balance the optical, mechanical and electrical aspects of your custom systems and subsystems to ensure a reliable, cost-effective solution. Contact: Angelique Irvin, President, angelique.irvin@clearalign.com.

## CMC Electronics Inc.

#1403

600 Dr Frederick Philips Blvd, Montreal, QC, Canada, H4M 2S9  
514/748-3148  
www.cmcelectronics.ca

CMC Electronics designs and produces highly reliable military and commercial electronics products for the aviation and global positioning markets. CMC's Custom Electronics business specializes in the design and manufacture of electronic components for the military and commercial aerospace markets as well as the military ground vehicle and manpack communications market. Its main product lines include displays, microelectronics and junction boxes. Contact: Andrew Krilick, Director, Andrew.Krilick@cmcelectronics.ca; Sammy Di Tommaso, Director, Saverio.DiTommaso@cmcelectronics.ca.

## CMPC Surface Finishes

#224

**SPIE** Corporate Member

39 Official Rd, Addison, LuCL, 60101  
630/543-6682; fax 630/543-4013  
surf-fin@att.net; www.surfacefinishes.com

**New Product: Custom fabrication metal mirrors; optical flats.**

Fabrication services including optical polishing, diamond machining and lapping. Optical flats in glass, ceramic or metal to 1/20 wave. Surface roughness to less than 20 angstroms. Typical applications include optical components for laser scanning and imaging, airborne or spaceborne sensors, optical flats and molds for optical surfaces including audio CD, CD-ROM and DVD production. Tolerances achieved are .000001" (1/20th wave) flatness, angularity 0.2 arc seconds and surface roughness less than 20 angstroms (0.08 microinch). Contact: Mark Drzewiecki, President, surf-fin@att.net.

## Coastal Optical Systems, Inc.

#1216

**SPIE** Corporate Member

4480 S Tiffany Dr, West Palm Beach, FL, 33407  
561/881-7400; fax 561/881-1947  
sales@coastalopt.com; www.coastalopt.com

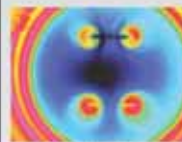
Coastal Optical Systems (www.coastalopt.com) specializes in rapid design and manufacture of custom precision lens assemblies and sensor integration for aerospace and defense, biomedical, machine vision, astronomical research, telecom and 3-D entertainment markets. Design, optical fabrication, assembly, system alignment and optical testing are performed in-house in West Palm Beach, FL. Contact: Ray Malcom, Vice President of Sales & Marketing, ray.malcom@coastalopt.com; Michele Rhode, Inside Sales, michele@coastalopt.com.

### Product Spotlights

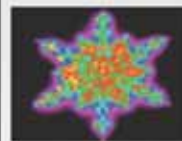
Open to all attendees and visitors, various exhibiting companies will be showcasing new and successful products in half-hour question-and-answer sessions. Spotlights will be held in the Exhibition Hall. See pages 18-19 for more information.

## Silver

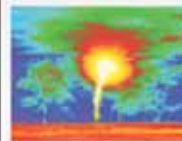
The winning move  
for your thermal  
applications.



ELECTRONICS



MATERIALS TESTING



TARGET SIGNATURE

The Silver family is Cedip's latest achievement in high-end IR imaging, a highly engineered camera with world-class features and the highest available performance on the market. If you are involved in non-destructive testing, materials analysis, IR signature, thermal modeling or electronic development, the Silver is your solution.

DESIGN EVALUATION • FAST FRAME RATE



**Cedip**  
Infrared Systems  
A World Class Supplier of IR Imaging Systems

www.cedip-infrared.com

(in USA) www.electrophysics.com



## Coherent Inc.

**SPIE** Corporate Member

5100 Patrick Henry Dr, Santa Clara, CA, 95054  
408/764-4983; fax 408/764-4646  
tech.sales@coherent.com; www.coherent.com

#120

## Coherent Optics Europe Ltd.

27-35 Ashville Way, Whetstone, Leicester,  
United Kingdom, LE8 6NU

44 116 284 6200; fax 44 116 275 1673  
coel.sales@coherent.com; www.coherent.com

#119

Coherent Optics is a manufacturer of IR optical components, including windows, domes, lenses, prisms, filters and subassemblies. Combining wide-ranging optical skills with advanced coating technology, the company can support optronics programmes from conception to volume production. Specialist capabilities include window assemblies, tightly-toleranced prisms and infrared bandpass and edge filters. These capabilities also make Coherent the ideal UK offset partner for infrared systems. Contact: Bill Jones, Business Development Manager, bill.jones@coherent.com; Graham Cole, Business Development Manager, graham.cole@coherent.com.

## Cohu, Inc.

PO Box 85623, San Diego, CA, 92186-5623  
858/277-6700; fax 858/277-0221  
info@cohu.com; www.cohu-camers.com

#937

**New Product: IP-enabled CCTV cameras, video transmission equipment and recorders.**

Cohu Electronics is a US-based manufacturer of high performance CCTV cameras and products for security, surveillance, process monitoring, automated imaging and traffic management. Contact: Curt Duplack, System Sales Engineer, sales@cohu.com; Richard Smith, Federal Sales Engineer, sales@cohu.com.

## Colibrys SA

Maladiere 83, Neuchatel, Switzerland, CH-2007  
41 32 720 5811; fax 41 32 720 5784  
sales@colibrys.com; www.colibrys.com

#1204

**New Product: MS8000 Series Capacitive Accelerometer.**

Colibrys is the world-leading supplier of Micro Electro-Mechanical (MEMS) and Micro Optical Electro-Mechanical (MOEMS) systems and components. The company provides unique solutions for high reliability applications in the following market sectors: Aerospace & defence, energy (gas and oil detection), industrial applications, instrumentation and telecommunications. Contact: James Aberson, Vice President, Business Development, jim.aberson@colibrys.com; Soheil Habibi, Product Development Manager, soheil.habibi@colibrys.com.

## Computer Optics Inc.

120 Derry Rd, Hudson, NH, 03051  
603/889-2116; fax 603/889-2393  
sales@computeroptics.com; www.computeroptics.com

#840

## Conduant Corp.

1501 S Sunset St Ste C, Longmont, CO, 80501  
303/485-2721; fax 303/485-5104  
mail@conduant.com; www.conduant.com

#1331

**New Product: - Conduant StreamStor™ Amazon Disk Controller provides 400 Megabytes/Sec of sustained performance.**

Conduant designs and manufactures real-time recording and playback disk systems. In environments where large volumes of raw, high-speed data are generated (radio astronomy, high-resolution video imaging, radar surveillance) Conduant's StreamStor™ products excel at error free recording and playback. Contact: Tom Skrobacz, Vice President of Business Development, tom@conduant.com; Chris Groff, Vice President of North American Sales, chris@conduant.com.

## The Cooke Corp.

**SPIE** Corporate Member

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

#130

Infrared Interferometers perform routine qualitative monitoring of optical components and systems in the infrared region. The Interfire II series of IR interferometers are available in 10.6µm, 3-5µm, 1.55µm and 850nm measurement ranges. The Interfire II features a choice of lasers operating in the above spectral ranges allowing fringes to be obtained rapidly with excellent signal-to-noise. Contact: Steve Daicos, President, steved@cokecorp.com.

## CorActive High-Tech, Inc.

2700 Jean-Perrin Ste 121, Quebec, QC, Canada, G2C 1S9  
418/845-2466; fax 418/845-2609  
sales@coractive.com; www.coractive.com

#240

## Copley Networks

709 Brea Canyon Rd Ste 10, Walnut, CA, 91789  
909/718-0988; fax 909/718-0508  
clee@pyramidimaging.com; www.copleynetworks.com

#1239

## Core by Indigo, A Division of FLIR Systems, Inc.

70 Castillian Dr, Goleta, CA, 93117  
805/964-9797; fax 805/685-2711  
www.corebyindigo.com

#1003

## Corning Inc.

**SPIE** Corporate Member

60 O'Connor Rd, Fairport, NY, 14450  
585/388-3500; fax 585/377-6332  
youngdj@corning.com; www.corning.com

#631

## Correlated Solutions, Inc.

**SPIE** Corporate Member

952 Sunset Blvd, West Columbia, SC, 29169  
803/926-7272; fax 803/926-7221  
sales@correlatedsolutions.com;  
www.correlatedsolutions.com

#1525

**New Product: Vic3D XS high-speed measurement system. Displacement resolution better than 0.01mm. Up to 10,000fps.**

Correlated Solutions, Inc., a global leader in non-contacting measurement solutions, has served the worldwide market for the past decade through the development of advanced, full-field, non-contacting measurement technologies. The company's state-of-the-art measurement systems combine precision shape, deformation and strain measurement with advanced 3D motion analysis and target tracking. Systems can be specified as turnkey solutions or integrated with existing image acquisition hardware. Contact: Seth Lindner, Sales Manager, lindner@correlatedsolutions.com.

**Critical Imaging LLC**

#1323

2306 Bleecker St, Utica, NY, 13501  
315/732-1544; fax 315/732-5931  
info@criticalimaging.net; www.criticalimaging.net

**New Product: Day camera, Unattended Ground Sensing Thermal Camera, Long Range Thermal Camera Systems.**

CI manufactures thermal and day cameras for military, governmental, commercial and municipality applications. On display will be our new ruggedized day camera, the StrongView EO, our new and improved LYNX Unattended Ground Sensing System and our LOFTI Long Range 1500mm, 400mm, 105mm InSb camera system. Thermal Imaging; Day Cameras; perimeter protection; surveillance. Contact: Dick Evans, Marketing, devans@criticalimaging.net; Jonathan Knauth, Manager of Technology/R&D, jknauth@criticalimaging.net.

**Crystalaser**

#1601

**SPIE** Corporate Member

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

Designs and manufactures ultra-compact pulsed and continuous wave DPSS laser systems, diode laser systems in broad wavelength selection, from ultraviolet, violet, blue, green, red to infrared for applications in aerospace, defenses, flow cytometry, confocal microscopy, particle sizing and counting, genomics and proteomics, Biomedical diagnostics, DNA sequencing, fluorescence, holography, data storage, interferometers, seeder lasers, Optical communication and laser entertainment, etc. Contact: Tianfeng Jin, Vice President, Sales Manager, jin@crystalaser.com; Gale Weng, Sales Engineer, gale@crystalaser.com.

**Crytur USA**

#243

**SPIE** Corporate Member

1720 Natchez Trace Blvd, Orlando, FL, 32818  
407/578-6469; fax 407/578-6104  
alnagy@crytur-usa.com; www.crytur-usa.com

Crytur grows YAG, YAP and Sapphire and we manufacture a full line of laser rods. Laser Crystal are Nd:YAG and YAP, Er:YAG and YAP, Tm:YAG and Yb:Yag, V:YAG, LuAG:Ce. Crytur offers Laser rod repair service Laser Optics and Coatings. Contact: Al Nagy, Sales Manager.

**CVI Laser LLC**

#940

**SPIE** Corporate Member

200 Dorado Pl SE, Albuquerque, NM, 87123  
505/296-9541; fax 505/298-9908  
sales@cvilaser.com; www.cvilaser.com

**New Product: Optically contacted optical assemblies.**

CVI is a leading US manufacturer of high precision prisms, cubes, lenses, cube beamsplitters. Standard and custom coatings cover the spectrum from 193nm to 12 microns. Get your free copy of the 2006 CVI Optical Components and Assemblies catalog by calling or going online at www.cvilaser.com. Contact: Maria Lopez, Sales, mlopez@cvilaser.com; Rich Drake, Sales, rdrake@cvilaser.com.

**CYCLONE Central Research Institute**

#1437

**SPIE** Corporate Member

77 Schelkovskoye Shosse, Moscow, Russia, 107497  
7 095 460 4800; fax 7 095 460 4800  
cyclone@asvt.ru; www.cyclone-jsc.ru

Design and development of modern electro-optical devices and systems (thermovision cameras, low-light TV cameras, multispectral systems); Development of the thermovision cameras together with L-3 Communications. Infrared Products, USA; Delivery of the thermovision cameras from L-3 Communications. Infrared Products, USA. Contact: Victor Tarasov, General Director.

**D&P Instruments**

#533

**SPIE** Corporate Member

1280 Hopmeadow St Unit E, Simsbury, CT, 06070  
860/658-0458; fax 860/651-0698  
info@dpinstruments.com; www.dpinstruments.com

**New Product: The TurboFT: Portable, Rugged, Fast FT-IR Spectrometer, Remotely Detect, Identify and Quantify.**

We design, develop and manufacture portable, compact and fast Fourier transform infrared (FT-IR) spectrometers. Let us partner with you to provide a solution to your application where portability, small size, light weight, low power consumption or high speed are critical. From researchers and geophysicists to industrial and government organizations, our customers love our flexibility and close support, remote sensing expertise and innovative designs. Give us a call! Contact: Drew Stone, Director of Marketing & Sales, drew.stone@dpinstruments.com; Winthrop Wadsworth, President, microfts@aol.com.

**DALSA, Inc.**

#1426

605 McMurray Rd, Waterloo, ON, Canada, N2V 2E9  
519/886-6000; fax 519/886-2317  
sales@dalsa.com; www.dalsa.com

**New Product: DALSA's S.**

DALSA designs, manufactures and markets digital imaging products and solutions. Core competencies include specialized integrated circuit and electronics technology, software and semiconductor wafer processing. Products and services include image sensors and cameras; vision processors; image processing software; and semiconductor wafer foundry services for use in MEMS, high-voltage semiconductors, sensors and mixed-signal CMOS chips. Contact: Catherine Cline, Sales Manager, DALSA Custom Solutions, catherine.cline@dalsa.com; George Streb, Sales Director, DALSA Custom Solutions, george.streb@dalsa.com.

**Digital Infrared Imaging, Inc.**

#1016

515 Cooper Commerce Dr Ste 150, Apopka, FL, 32703  
407/884-0202; fax 407/884-8282  
info@thermalsecurity.com; www.thermalsecurity.com

**New Product: The DI-2000 is a low-cost OEM thermal imager which boasts new board and chip set configurations.**

Digital Infrared Imaging is a leader in the development, custom design and manufacture of infrared camera systems. These highly specialized cameras detect infrared radiation and then provide images enabling you to see objects in total darkness and adverse conditions including smoke, haze and most types of fog. Contact: Nirav Pandya, Vice President, Business Development, npandya@thermalsecurity.com; Chris Peterson, Director of Sales, cpeterson@thermalsecurity.com.



**Electro Optical Industries, Inc. #926**

859 Ward Dr, Santa Barbara, CA, 93111-2960  
805/964-6701; fax 805/967-8590  
eoi@electro-optical.com; www.electro-optical.com

**New Product: VIP100 - Visible Image Projector -a testing and calibration system for sensors and cameras.**

For over 40 years, Electro Optical Industries Inc. (EOI) has provided industry and government with advanced optical testing equipment and systems. Product solutions include calibration of the most sensitive infrared sensors, thermometers, imaging systems, radiometric devices and visible spectrum devices. From target projectors and blackbodies to collimators and test lab software, EOI sets the performance standard in the most demanding laboratories, worldwide, since 1964. www.electro-optical.com. Contact: Brent Lindstrom, Director of Sales and Marketing, lindstrom@electro-optical.com; Dennis Caudle, Director of New Technology and Business Development, caudle@electro-optical.com.

**Electro Optics Magazine #1305**

27 Queen Sq, Bristol, United Kingdom, BS1 4ND  
44 117 929 2505; fax 44 117 929 2506  
sales.electro@europascience.com;  
www.europascience.com

**Electro-Optical Imaging, Inc. #212**

4300 Fortune Pl Ste C, West Melbourne, FL, 32904  
321/435-8722; fax 321/435-8723  
info@eoimaging.com; www.eoimaging.com

Electro-Optical Imaging is a world recognized leader in the design and development of video trackers and tracking systems for tactical, test range, surveillance and industrial applications. The company offers a broad array of tracker products for VME, PCI and cPCI platforms. The company specializes in customizing its standard products for user unique applications including custom packaging, target simulators, algorithms, sensor interfaces and alphanumeric/graphics.

**Electrophysics Corp. #912**

373 Rte 46 W, Fairfield, NJ, 07004-2442  
973/882-0211; fax 973/882-0997  
info@electrophysicscorp.com; www.electrophysicscorp.com

Electrophysics will exhibit new products including the ultra portable HotShot thermal camera and the Sliver 400 series featuring a high performance InSb focal plane array and powerful analysis and data acquisition software. On display will be our complete line of night vision products including the AstroScope line of intensifier based systems, our SunStar line of low light CCD cameras, thermal imagers and the World's most powerful infrared illuminator. Contact: Art Stout, Vice President - Sales and Marketing, astout@electrophysics.com; Chris Alicandro, Director - Sales and Marketing, calicandro@electrophysics.com.

**Electrosonic Systems, Inc. #1542**

10320 Bren Rd E, Minnetonka, MN, 55343  
952/931-7500; fax 952/938-9311  
karl.johnson@electrosonic.com; www.vn-matrix.com

**ELS Electronic Laser System Corp. #1524**

1320 Lake St, Fort Worth, TX, 76102-0000  
866/357-2677; fax 866/357-5761  
info@els.de; www.els.de

**ELTEK Ltd. #1500**

55 Crystal Ave, PMB 289, Derry, NH, 03038-1725  
603/329-5452; fax 603/329-7047  
jmbarry@comcast.net; www.eltekglobal.com

Eltek is a global supplier of High-Density Rigidflex and PCB Technologies. Established in 1970, the company's primary facility located in Israel is known for its innovative high technology manufacturing solutions and its commitment to exceptional customer service. Eltek's products support some of the most demanding and challenging applications around the world including; Optics, Medical, Military and Aerospace. Contact: Jim Barry, North American Sales & Applications Manager.

**EM Photonics #134**

51 E Main St, Newark, DE, 19711  
302/456-9003; fax 302/456-9004  
info@emphotonics.com; www.emphotonics.com

**EM4 Defense #918**

7 Oak Park, Bedford, MA, 01730  
781/275-7501; fax 781/221-8510  
wgatewood@em4inc.com; www.em4defense.com

EM4, Inc. and it's wholly owned subsidiary EM4 Defense, designs, develops and manufactures state-of-the-art, optoelectronic components for the Defense, Broadband and Industrial markets. We offer both Commercial-Off-the-Shelf (COTS) optoelectronic modules, subsystems and unique Optoelectronic Design and Manufacturing Services (ODMS). We are ITAR registered and US-based. Contact: Beth Haskell, Director of Sales and Marketing, bhaskell@em4inc.com; Basil Garabet, Chief Executive Officer, bgarabet@em4inc.com.

**eMagin Corp. #322**

2070 Rte 52 Bldg 334, Hopewell Junction, NY, 12533  
845/838-7900; fax 845/838-7901  
sales@emagin.com; www.emagin.com

eMagin manufactures high performance, low-power, wide-temperature-range OLED microdisplays and prism optics to provide a virtual image comparable to large-screen monitors. eMagin OLEDs are used in near-eye products for military, industrial and consumer applications. eMagin's Z800 3Dvisor combines 3D stereovision and headtracking for training and simulation and other applications. The Z800 won CEA's Best Innovation of Year award for digital displays. For information, go to www.emagin.com.

**EMF Corp. #634**

**SPIE** Corporate Member  
239 Cherry St, Ithaca, NY, 14850  
607/272-3320; fax 607/272-3369  
info@emf-corp.com; www.emf-corp.com

**New Product: Dual band gold coating - superior IR reflector w/ 150nm photopic band (your choice) exhibiting >90%R.**

Evaporated Metal Films Corporation offers thin film coatings for applications with high complexity and rapid turnaround requirements. Coatings can be applied to glass, metal or plastic components for optical, conductive, reactive and decorative performance. Call us for antireflection coatings, mirrors, beamsplitters, neutral density filters. Substrate sizes from .25 inches to 2 meters. In-house design, prototyping, production teams available for consultation. Contact: Megan Shay, Chief Executive Officer, mdshay@aol.com.



## **EOSPACE, Inc.**

**#943**

8711 148th Ave NE, Redmond, WA, 98052  
425/869-8673; fax 425/869-8872  
info@eospace.com; www.eospace.com

### **New Product: Ultra Low Vpi EO Modulator.**

EOSPACE is the technology and product leader in manufacturing lithium niobate-based electro-optic devices and large-scale optical integrated circuits (ICs). Guided-wave electro-optical modulators, switches and ASIC optical ICs from EOSPACE are commonly characterized as ultra-low-loss, very-wide-bandwidth and very-high-extinction ratio. In addition, we also make various custom electro-optic IC modules for operating wavelength ranging from < 800 nm to >1900 nm. Contact: Ed Miao, Customer Relations, ed.miao@eospace.com.

## **Epitaxial Technologies, LLC**

**#1503**

1450 S Rolling Rd, Baltimore, MD, 21227  
410/455-5594; fax 410/455-5595  
info@epitaxialtechnologies.com;  
www.epitaxialtechnologies.com

## **Epner Technology, Inc.**

**#828**

**SPIE** Corporate Member

78 Kingsland Ave, Brooklyn, NY, 11222-5603  
718/782-5948; fax 718/963-2930  
epner78@aol.com; www.epner.com

## **Equinox Corp.**

**#612**

9 W 57th St Ste 1650, New York, NY, 10019  
212/421-2999; fax 212/421-7004  
www.equinoxsensors.com

Equinox Corporation is one of the leading companies providing electro-optical image fusion technology to the US military. Equinox produces low power, compact electronic hardware implementing real-time video image fusion algorithms on visible/intensified and thermal infrared modalities. Products include visualization, automatic target detection, tracking and recognition, as well as biometric technologies.

## **Evaporated Coatings, Inc.**

**#1615**

2365 Maryland Rd, Willow Grove, PA, 19090-1708  
215/659-3080; fax 215/659-1275  
sales@evapcoat.com; www.evapcoatings.com

## **Exotic Electro-Optics**

**#216**

36570 Briggs Rd, Murrieta, CA, 92563-2347  
951/926-2994; fax 951/926-1984  
www.exotic-eo.com

IR windows, lenses, components, AR, HC, DLC coatings, DT services.  
Contact: Scot Quartucy, Business Development Manager,  
squartucy@exotic-eo.com; Evan Lundstedt, Director of Business  
Development, elundstedt@exotic-eo.com.

## **FARO Technologies Inc.**

**#1606**

125 Technology Park, Lake Mary, FL, 32746  
407/333-9911  
www.faro.com

## **FastVision, LLC**

**#932**

131 Daniel Webster Hwy #529, Nashua, NH, 03060  
603/891-4317; fax 603/891-1881  
sales@fast-vision.com; www.fast-vision.com

FastCamera's provide high-speed mega-pixel digital cameras and systems based on state-of-the-art imagers, high-speed, scalable, integrated FPGAs, processors and memory subsystems. The cameras enable stand-alone, high-speed in-camera image processing, long term compressed image recording. Advanced IP & optimized software can be added to allow stand-alone processing modes or integration. The cameras can be interfaced via USB2.0, Camera Link, or GigE. Intensified versions are available to spec. Contact: Lil Harris, Sales; Joseph Sgro, Chief Executive Officer.

## **Federal Laboratory Consortium for Technology Transfer**

**#1623**

950 N Kings Hwy Ste 208, Cherry Hill, NJ, 08034  
856/667-7727; 856/667-7586  
tgrayson@utrs.com; www.federallabs.org

## **Ferson Technologies, Inc.**

**#727**

5801 Gulf Tech Dr, Ocean Springs, MS, 39564  
228/875-8146; fax 228/875-5947  
ferson@datasync.com; www.ferson.com

Manufacturer of custom precision optical components including lenses, prisms, windows, mirrors, cylindrical lenses, filters and domes. Capabilities include optical coating design and services and optical assemblies. Contact: Connie Spence, Applications Engineer, cspence@ferson.com; Tom Schoemann, Program Manager, tschoemann@ferson.com.

## **Fiberguide Industries, Inc.**

**#317**

**SPIE** Corporate Member

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

### **New Product: Fiberguide Industries Introduces Line of Hard Optical Polymer Clad Silica Fibers.**

The Fiber Optic Solutions company to OEM market with line of multi-mode (including Hard Clad), singlemode and gradedindex optical fibers from the UV to NIR and temperature ranges from -269°C to +700°C (through the application of various coating materials). Design, prototype and manufacture custom assemblies from single fiber through multifurcated input/outputs. Design, manufacture ultra precision high density 2D arrays and V-Groove arrays. FDA registered as Custom Device Manufacturer. Contact: Konrad Lisi, Director Marketing and Sales, klisi@fiberguide.com; Ron Atanesian, Eastern Regional Sales Manager, ratanesian@fiberguide.com.

## **Fibertek Inc.**

**#1610**

510 Herndon Pkwy, Herndon, VA, 20170  
703/956-3600; fax 703/471-5866  
email@fibertek.com; www.fibertek.com

### **New Product: Obstacle Avoidance System and miniture laser designators for UAVs.**

Fibertek, Inc specializes in the design, development, manufacture, and testing of advanced diode-pumped, solid-state lasers and highly sophisticated electro-optical sensor systems for military and space applications.

## Firebird Technologies Inc.

#729

2950 Highway Dr, Trail, BC, Canada, V1R 2T3  
250/364-5605; fax 250/364-5643  
info@firebird.bc.ca; www.firebird.bc.ca

Firebird produces Antimonide-based wafers, specifically InSb and GaSb and high purity metals such as Antimony, Indium and Tin. We are now applying our expertise in zone-refining, Czochralski crystal growth, custom fabrication and epi-ready polishing towards a full suite of Germanium metal products. We remain fully dedicated to supplying high quality detector substrates and optical blanks to the IR imaging market while fostering R&D initiatives. Contact: Diane Wong, Sales and Marketing Manager, diane@firebird.bc.ca.

## Fisba Optik LLC

#742

Bldg E, 3495 Winton Pl Ste 120, Rochester, NY, 14623  
585/427-9155; fax 585/427-9026  
sales@fisbaoptik.com; www.fisbaoptik.com

Manufacturer of modular interferometer solutions for micro-optics, CNC optics, molded lenses, optical windows and precision flat components. Standard and high resolution systems available. Miniaturized units for SPDT lathes and other in situ applications. Standard apertures include 1, 10, 50, 100, 150, 300 millimeters. Contact: John Nemechek, Sales and Marketing Manager, jjn@fisbaoptik.com.

## FJW Optical Systems, Inc.

#610

322 N Woodwork Ln, Palatine, IL, 60067-6949  
847/358-2500; fax 847/358-2533  
www.findscope.com

**New Product: Speckle eliminator presents a speckle-free image of expanded laser beam (for profiling, beam inspection and fringe pattern viewing).**

Find-R-Scope infrared and ultraviolet viewers and infrared viewer/cameras, image converter, CCD and vidicon units. Sensitivity range from 180nm to 2200nm. All units are hand-held and battery operated. A wide range of attachments and accessories. Contact: Frank Warzak, President; Patrick Mazzie, Sales.

## Flex Interconnect Technologies

#1516

1603 Watson Ct, Milpitas, CA, 95035  
408/635-3540; fax 408/956-8278  
sales@fit4flex.com; www.fit4flex.com

FIT designs, manufactures, assembles and tests quickturn prototype to production volume Flex circuits, Rigid-flex and HDI flexes for Defense and Aerospace industries. Contact: Chetan Shah, chetan@fit4flex.com; Sue Graham, sue@fit4flex.com.

## FLIR Systems, Inc.

#423

**SPIE** Corporate Member

16 Esquire Rd, N Billerica, MA, 01862  
978/901-8000; fax 978/901-8532  
info@flir.com; www.flirthermography.com

**New Product: ThermoVision SC6000 scientific-grade IR camera features high-speed and high-resolution capabilities.**

FLIR Systems, Inc. designs, manufactures and markets infrared imaging systems worldwide. Product applications include non-destructive testing, research and development, manufacturing process control, predictive maintenance/condition monitoring, surveillance and search & rescue. With over 30 years experience and more than 30,000 of its IR systems in use, FLIR is the global leader in infrared cameras, software, service, training and support. Visit www.flirthermography.com for more information. Contact: Dave Bursell, Director, Scientific Segment Engineers, dave.bursell@flir.com.

# From the Co-authors of IRIG 106, Chapter 10 the **MONSSTR 2300[V1]** Multipurpose Recorder



FOUR USER SLOTS AVAILABLE  
FROM THE FOLLOWING:

- 4 Channel Video/Analog
- 4 or 8 Channel PCM
- 4 or 8 Channel MIL-STD-1553

CUSTOMER'S CHOICE OF  
REMOVABLE MEDIA

- Up to 320 Megabits/Sec. Bandwidth
- Built-in IEEE 1394b Download Port
- Convenient (3.5" x 7.0" x 1.5") Size

FlashCache® II

- Non-volatile Flash Memory
- 8.19GB to 81.9GB Capacity
- Simultaneous Input and Output
- Harsh Environments

SpinCache™

- Non-volatile Rotating Memory
- 60GB to 120GB Capacity
- Cost Effective for Less Harsh Environments



## **CALCULEX**

Electronics, Systems, Software and Support  
for the Scientific and Engineering Communities

W. Tom Beams  
(707) 578-2307

TBeams@calculex.com

www.calculex.com

**BOOTH # 523**

CALCULEX, MONSSTR and FlashCache are registered trademarks of CALCULEX, Inc. SpinCache is a trademark of CALCULEX, Inc.

## Fosta-Tek Optics

#1336

320 Hamilton St, Leominster, MA, 01453  
978/534-6511; fax 978/537-2168  
sales@fosta-tek.com; www.fosta-tek.com

Fosta-Tek Optics, Inc. is a state of the art manufacturer of quality molded optical and display components serving the electronics, medical and military markets. Our integrated operations include mold design, UV and siloxane optical hardcoats, mirror and AR thin film coatings, precision injection molded aspheric lenses and instrument displays. In addition, Fosta-Tek Optics, Inc. is a leading manufacturer of cast resin CR39 laser cut display windows. Contact: Thomas Long, National Account Sales Representative, tlong@fosta-tek.com.

## Fotofab

#1335

3758 W Belmont Ave, Chicago, IL, 60618  
773/463-6211; fax 773/463-3387  
sales@fotofab.com; www.fotofab.com

**New Product: Custom metal parts delivered fast. Two week standard with 24-hour premium service available.**

Fotofab manufactures Precision Metal Parts to meet the most critical design requirements in a wide range of applications. Typical applications: Optical apertures, encoders, RF/EMI shields, step lids, encoders, contacts, screens, flat springs, antennas, masks, lead frames and connectors, can be produced quickly and cost-effectively in prototype and production quantities. Standard delivery is two weeks, with same-day, three-day and five-day delivery options available. Contact: James Tankersley, Inside Sales, engineering@fotofab.com.

## Fresnel Technologies Inc.

#340

**SPIE** Corporate Member

101 W Morningside Dr, Fort Worth, TX, 76110  
817/926-7474; fax 817/926-7146  
info@fresneltech.com; www.fresneltech.com

Fresnel Technologies, Inc. manufactures infrared-transmitting materials and optics made from them, as well as plastics Fresnel lenses and related optical components. Specialties include lens arrays for passive infrared applications and optics for environmental monitoring at 3.4 microns. We also offer diamond turning for prototypes, tooling and production, including four-axis diamond machining of freeform optical surfaces, in plastics, metals and infrared materials such as Ge, ZnSe, and others. Contact: Nelson Claytor, President; Donald Combs, Diamond Machining Specialist, dcombs@fresneltech.com.

## General Optics, Inc.

#734

5390 Kazuko Ct, Moorpark, CA, 93021  
805/529-3324; fax 805/529-4298  
gosales@gSIG.com; www.generaloptics.com

General Optics is the premiere manufacturer of ultra-precision optics for OEM applications. The company manufactures a wide variety of custom optics from a broad selection of materials and is distinguished from other manufacturers by its unsurpassed manufacturing capabilities. These include super polishing, IBS coating of optics, machining of optics and the ability to process substrates up to twenty inches in diameter.

## General Scanning

#734

39 Manning Rd, Billerica, MA, 01821  
800/342-3757; fax 978/262-0039  
scannersales-america@gSIG.com; www.gSIG.com/scanners

General Scanning invented optical scanning technology and continues to lead the market with a complete line of optical scanners, resonant scanners, two and three-axis plug-and-play scan heads, laser quality mirrors, and control electronics. These devices may be combined to produce scanning, marking, drilling, welding, and cutting systems of world-class caliber.

## General Services Administration

#1538

2200 Crystal Dr, Arlington, VA, 20406  
703/605-5762  
shirley.zech@gsa.gov

## Geospatial Systems Inc.

#443

125 Tech Park Dr, Rochester, NY, 14623  
585/427-8310; fax 585/427-8422  
sue.kearney@geospatialsystems.com;  
www.geospatialsystems.com

**New Product: MOUPLIS Direct Geo-referenced Imaging Platform.**

Geospatial Systems is a Rochester, NY company that designs and manufactures modular components and systems for airborne, direct-georeferenced imaging. GSI has been in business for over 20 years, starting out as a provider of radar systems to DoD customers. GSI is primarily an OEM provider and through its customers serves the Homeland Security, Department of Defense and Environmental monitoring markets. Contact: Pano Spiliotis, Director Imaging Products, pano.spiliotis@geospatialsystems.com.

## Glass Fab Inc.

#133

257 Ormond St, Rochester, NY, 14605  
585/262-4000; fax 585/454-4300  
info@glassfab.com; www.glassfab.com

## Goodrich Corp.

#923

100 Wooster Heights Rd, Danbury, CT, 06810-7589  
203/797-5000; fax 203/797-5527  
eos@goodrich.com; www.goodrich.com

## GPD Optoelectronics Corp.

#1502

7 Manor Pkwy, Salem, NH, 03079  
603/894-6865; fax 603/894-6866  
sales@gpd-ir.com; www.gpd-ir.com

GPD Optoelectronics Corp. manufactures Ge pn, pin and Avalanche photodiodes as well as InGaAs photodetectors and arrays. We provide infrared detection solutions for wavelengths from 800 to 2600 nm. Custom AR coatings and filters allow optical properties to be tailored to your particular application. Devices are available in die form, on submounts and in a large variety of TO- and custom packages. Contact: Daniel LaPointe, Sales Manager, dlapointe@gpd-ir.com.

## Great River Technology

#113

6121 Indian School Rd NE Ste 141, Albuquerque, NM, 87110  
505/881-6262; fax 505/883-1375  
www.greatrivertech.com

**New Product: Serial Link Analyzer for 8B/10B encoded links and HOTLink systems.**

Great River Technology (GRT) specializes in high performance digital video and data link solutions. GRT's products are used by major defense and security contractors for applications such as IR countermeasures and UAV image processing. GRT's products include PCI and PMC frame grabbers, camera emulators, fiberoptic video generators/receivers and analyzer tools for 8b/10b encoded links. GRT offers SDKs allowing seamless integration of GRT products into automated test and embedded systems. Contact: Tim Keller, Director of Marketing, tkeller@greatrivertech.com.

## GSI Group

#734

39 Manning Rd, Billerica, MA, 01821  
800/342-3757  
info@gSIG.com; www.gSIG.com



**H.N. Burns Engineering Corp. #626**

3275 Progress Dr Ste A, Orlando, FL, 32826-3230  
407/273-3370; fax 407/273-0642  
misty@hnbec.com; www.hnbec.com

**Hamamatsu Corp. #1201**

360 Foothill Rd, Bridgewater, NJ, 08807-2932  
908/231-0960; fax 908/231-1539  
usa@hamamatsu.com; www.hamamatsu.com

Hamamatsu is the proven leader in the photonics industry; for more than 50 years, we have been unsurpassed in our number of innovations and dedication to ongoing research and development. We offer a vast range of products that are known around the world for quality and reliability as well as their ability to be customized to meet industry specific requirements. We manufacture detectors that are used in the detection of biological, chemical and radioactive threats. Contact: George Marshall, gmarshall@hamamatsu.com.

**Heraeus Quartz America #1621**

**SPIE** Corporate Member

100 Heraeus Blvd, Buford, GA, 30518  
678/714-4350; 678/714-4358  
bambi.everett@heraeus.com

**Headwall Photonics #917**

**SPIE** Corporate Member

601 River St, Fitchburg, MA, 01420  
978/353-4100; fax 978/348-1864  
information@headwallphotonics.com;  
www.headwallphotonics.com

**New Product: Hyperspectral Imaging Sensors for UAVs.**

Design & high volume manufacture of optical instruments to manage wavelengths for civilian agency and DoD customers. Products - integrated imaging sensors, spectral modules and original holographic diffraction gratings. Specialization-integration of detectors and spectral engines for application-specific performance. Multi-channel Raman, hyperspectral imaging systems, micro-spectrometers. Highest optical performance, low stray light, small form factor & rapid prototyping. Contact: Kirk Grim, Sales; David Bannon, Business Development.

**Heim Data Systems, Inc. #1203**

PO Box N, Belmar, NJ, 07719  
732/556-2318; fax 732/556-2319  
marketing@heimdata.com; www.heimdata.com

Heim Data Systems, Inc., a leading supplier of data acquisition equipment, distributes and supports a wide range of industrial, mobile, portable, airborne and laboratory data acquisition systems. These systems provide high quality, off-the-shelf solutions for stand-alone and computer integrated operation, suitable for flight test, range telemetry and general industrial data acquisition. Contact: Nick Duran, Regional Sales Manager, nick.duran@heimdata.com.

**Hellma International, Inc. #737**

**SPIE** Corporate Member

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

**New Product: PGS Nir Spectrometer 950-2200nm, MCS CCD Spectrometer for low light levels.**

Manufacturer of Laser Optics, Spectroscopy Cells, Fiber Optic Probes and more. Distributor of Carl Zeiss Diffraction gratings and OEM MMS/MCS/PGS Spectrometer modules covering 190-2200nm in combination; tec5 electronics for readout/display of PDA/CCD arrays including Zeiss Spectrometers; Heraeus Light Sources. Contact: Dan Fields, Sales Manager, dfields@hellmausa.com.

**HiEnergy Technologies, Inc. #1416**

1601 Alton Pkwy Ste B, Irvine, CA, 92606  
949/757-0855; fax 949/757-1477  
sales@hienergyinc.com; www.hienergyinc.com

**New Product: STARRAY robot borne detector of homemade bombs (IEDs).**

HiEnergy Technologies, Inc. is a nuclear technologies-based company focused on neutron-based "stoichiometric" sensor devices. The Company's Stoitech™ technology is unique in its ability to decipher the chemical formulas of selected substances and determine with 98% accuracy, automatically, without human intervention and through steel, whether an object or container carries dangerous or illicit selected substances such as explosives, biological agents or illicit drugs. Contact: HiEnergy Technologies, sales@hienergyinc.com.

**High Plains Optics #1424**

105 S Sunset Ste M, Longmont, CO, 80501  
303/678-1406; fax 303/678-0299  
nmcmillan@highplainsoptics.com; www.highplainsoptics.com

**New Product: Lenses, Mirrors, Prisms, Waveplates, Windows. Ultraviolet, visible, through infrared.**

High Plains Optics manufactures a broad range of high quality, precision optical components and related services. We provide custom fabrication for requirements in the ultraviolet, visible and across the infrared regions. Applications include aerospace, defense, security, medical instrumentation and precision substrates for coating. Complex optical prisms are an important company strength. New spherical and cylindrical lens capabilities have been recently added. Contact: Jay Perkins, President, jperkins@highplainsoptics.com; Natalie McMillan, Customer Service.

**High Tech Photonics #621**

23 Alafaya Blvd Ste 213, Oviedo, FL, 32765  
800/335-5582  
jim@ht-photonics.com; www.ht-photonics.com

**New Product: IR Fiber Optics 2-18um Bundles Cables Arrays Probes fiber coupled IR detectors and source.**

IR Fiber Optics Bundles Cables Arrays probes Multilegged Assemblies Fiber coupled IR Detectors and Sources. Contact: Jim Ingram, Marketing Manager.

**Hitachi Kokusai, formerly Hitachi Denshi America Corp #136**

150 Crossways Pk Dr, Woodbury, NY, 11797  
516/921-7200; fax 516/496-3718  
larry.ottaviano@hitachidenshi.com; www.hdal.com

**New Product: KP-DE500 new super-high sensitivity color electron multiplying EM-CCD camera, 00015 lux.**

Hitachi Kokusai Electric Inc. Industrial Video Systems Division, formed in 1963, HQ in Woodbury, NY. Manufacturer of video camera for Industrial, Medical, Scientific, Surveillance, telecommunications & Broadcast markets. Manufacturing miniaturized, solid state, digital cameras. Hitachi offers the largest selection of cameras in the imaging industry. From High Definition to board cameras. Hitachi is a ISO 9002 certified manufacturer. Assuring the end user of quality products "out of the box". Contact: Lawrence Ottaviano, Sales Manager, larry.ottaviano@hitachikokusai.us.



## **HOLOEYE Systems, Inc. #540**

23151 Verdugo Dr Ste 114, Laguna Hills, CA, 92653-1340  
949/461-7064; fax 949/581-6838  
contact@holoeyesystems.com; www.holoeyesystems.com  
HOLOEYE Systems is a distributor of high resolution OEM microdisplay components. Besides the great variety of liquid crystal microdisplay components for technical optics, specifically technical projection, imaging and display technologies, the primary focus is on Head Mounted Displays (HMD) and Heads Up Display (HUD) applications in the automotive, aerospace and defense industry. Contact: Ulli Hendricks, Senior Sales Manager OEM Microdisplays, ulli.hendricks@holoeyesystems.com; Marcel Rogalla, President & Chief Executive Officer, marcel.rogalla@holoeyesystems.com.

## **Ideal Aerosmith, Inc. #1600**

1510 Gateway Drive NE, East Grand Forks, MN 56721  
218/773-2455; fax: 218-773-7665  
sales@idealaero.com; www.ideal-aerosmith.com  
Ideal Aerosmith, Inc. is a leading supplier of precision inertial guidance test systems, rotational rate tables and centrifuges, and high dynamic flight test tables. Our systems test inertial sensors and navigation and guidance systems, and provide dynamic motion simulation for missiles, aircraft, launch vehicles, UAVs, and automobiles. We are a premier provider of aerospace test engineering services, ATE system engineering, and quality contract manufacturing services to the aerospace industry. Ideal has provided cutting-edge testing solutions since 1938. We built an early reputation on the quality and reliability of our Scorsby tables and Tilt & Turn tables. Since then, our capabilities have grown dramatically. Today, high-tech companies around the world rely on Ideal Aerosmith for precision motion simulation, inertial guidance, and avionics test equipment.

## **IEEE #1617**

445 Hoes Ln, Piscataway, NJ, 08855  
732/981-0600; fax 732/465-6430  
www.ieee.org

**New Product: IEEE Enterprise: buy just the number of IEEE journal and conference articles your organization needs.**

IEEE, a leading authority in electrical engineering and computing technologies, offers online resources vital to researchers worldwide. IEEE is the world's largest technical professional society and publishes the leading journals in the field, sponsors more than 300 conferences, and has developed over 900 industry standards. Additional information is available at www.ieee.org. Contact: Michael Petro, Account Manager, m.petro@ieee.org; Karen Hawkins, Product Manager, k.hawkins@ieee.org.

## **II-VI Infrared #218**

375 Saxonburg Blvd, Saxonburg, PA, 16056  
724/352-1504; fax 724/352-4980  
info@iiviiinfrared.com; www.ii-vi.com

**New Product: OEM-spec, non-rotationally symmetric diamond-turned optics: Faceted optics, deformable mirrors, more.**

II-VI INFRARED, a world leader in IR optics and materials for scientific, industrial and military applications, manufactures lenses, mirrors, windows, partial reflectors, beam splitters, phase retarders, beam expanders, polarizers, wave plates and modulators. IR materials include ZnSe, ZnS and ZnS MultiSpectral. Capabilities include optical design/engineering, optics manufacturing, diamond turning, thin film coating, assemblies, world-class quality assurance and international sales/support. Contact: Tom Neff, Domestic Sales Manager, tneff@ii-vi.com; Matt Novak, Sales Engineer, mnovak@ii-vi.com.

## **IMPERX #1542**

6421 Congress Ave Ste 204, Boca Raton, FL, 33487  
561/989-0006; fax 561/989-0045  
sales@imperx.com; www.imperx.com

**New Product: Imperx's feature rich 11, 4, 2 & 1 Megapixel and VGA cameras are now available in GigE output.**

Imperx designs and manufactures imaging equipment. The feature rich high-resolution and high-speed CCD cameras are based upon Kodak's KAI sensors. Imperx's cameras range in resolution from VGA to 11 megapixels. All cameras feature 8, 10 or 12-bit switchable, programmable features and field-upgradeable firmware. Imperx manufactures analog and CameraLink frame grabbers for laptops. Markets: military, surveillance, biometrics, aerial mapping, scientific imaging, machine vision and more. Contact: Nathan Cohen, Sales Manager, nathan@imperx.com.

## **IMT Masken und Teilungen AG #1302**

Im Langacher, Greifensee, Switzerland, CH-8606  
41 44 943 1900; fax 41 44 943 1901  
info@imtag.ch; www.imtag.ch

IMT manufactures reticles and structured coatings on glass and other substrate materials. We are among the leading suppliers of microlithographic products and microstructures. Our products are manufactured and packaged in a class 100/1,000 cleanroom environment and many of our processes are automated to ensure high quality and repeatability. We are ISO 9001 Certified and can supply certified calibrations. Contact: Robert Trottni, Sales Manager, rtrottni@imtmask.com.

## **Infotonics Technology Center Inc. #641**

5450 Campus Dr, Canandaigua, NY, 14424  
585/919-3000; fax 585/919-3001  
info@infotonics.org; www.infotonics.org

**New Product: Low cost miniature hyperspectral imager to enable enhanced real-time visualization and analysis.**

As a collaborative, world-class Center of Excellence in photonics and microsystems, Infotonics develops and prototypes microsystems concepts at our comprehensive in-house design, microfabrication and device packaging facility. Accelerating microsystems commercialization, we provide complete solutions for product development, reducing financial risk & expense often associated with the development process and increasing the probability of commercial success. Contact: Pam Sims, Business Development, pam.sims@infotonics.org; Mark Boyssel, Chief Scientist, mark.boysel@infotonics.org.

## **Infrared Associates, Inc. #938**

2851 SE Monroe St, Stuart, FL, 34997  
772/223-6670; fax 772/223-6671  
irassoc@gate.net; www.irassociates.com

**New Product: 2-Color detectors composed of any combination of PV InSb, PV HgCdTe and PC HgCdTe.**

Manufacturer of InSb (1-5.5 $\mu$ m), PV HgCdTe (1-13 $\mu$ m) and PC HgCdTe (1-15 $\mu$ m). PC arrays up to 128 elements available with matching electronics. Cooling options include TE, LN2 and Stirling Coolers! Contact: Irwin Kudman, Director Sales & Marketing.

## Infrared Systems Development Corp

**SPIE** Corporate Member

7319 Sandscope Ct Ste 4, Winter Park, FL, 32792  
407/679-5101; fax 407/679-5520

sales@infraredsystems.com; www.infraredsystems.com

**New Product: Femto-Second Laser Pulse Spectroscopy System, NEW Improved Performance Blackbody Systems.**

Designs and Manufactures High Quality Electro-Optical Systems and Components for all aspects of Infrared Sciences. Femto-Second Laser Pulse Spectroscopy System, Improved Performance Blackbody Systems, Cavity Sizes from .25"-2.25". Ultra-Low-Noise Single, Array and Mux Detector Preamplifier. Infrared Test Stations for R&D and Production Testing. Energy Modulators and Accessories. Spectral and Discrete Single and Multi-Channel Radiometer Systems. Custom Electro-Optical System Designs and Software. Contact: Andrew Duran, President/Chief Executive Officer; Kimberly Griffin, Sales Administrator.

#1312

## Innovative Wireless Technologies

1047 Vista Park Dr Ste A, Forest, VA, 24551  
703/405-4907; fax 434/316-5232

rpelto@iwtwireless.com; www.iwtwireless.com

#836

## INO

2740 rue Einstein, Sainte Foy, QC, Canada, G1P 4S4  
418/657-7006; fax 418/657-7009  
info@ino.ca; www.ino.ca

#821

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 designs and produces IR uncooled bolometers for thermal targeting devices, night vision and satellite imaging. Furthermore, we offer specialty fibers, fiber lasers and diffractive optical elements. INO also has expertise in biophotonics, micro-optics and micro-packaging. Contact: Pierre Talbot, Business Development Manager, pierre.talbot@ino.ca.

## Institute on Laser & Information Technology (ILIT RAS)

**SPIE** Corporate Member

1 Svyatoozerskaya Str, Shatura, Moscow Region, Russia, 140700

7 496 452 5995; fax 7 496 452 2535

panch@laser.ru

#1434

Samples of products fabricated by laser stereolithography technique. The hypersurface for research of efficiency deflation at wind tunnel tests. The form for manufacturing a wingleet from carbonplastic for tests in wind tunnel. Model paddle wheel the noiseless fan for bench tests. Model of the perspective passenger plane with internal channels for test in aerohydrodynamics tunnel. The product line of portable wavefront sensors - ShaH is designed for optical inspection and AO tasks. Sensors are featured with common interface (USB-2 or IEEE1394), high performance control and analytical software. Flat-top Bragg grating filter for DWDM applications (for 1.55  $\mu\text{m}$ ). Contact: Vladimir Dubrov, Scientific Secretary.

## Instro Precision Ltd.

#623

Hornet Close, Pysons Rd Industrial Estate, Broadstairs, Kent, United Kingdom, CT10 2YD  
44 1843 604 455; fax 44 1843 864 143  
marekting@instro.com; www.instro.com

**New Product: Instro now introduces the Hornet, our lightest and most compact motorized pan and tilt head.**

Instro manufactures equipment for surveillance, target acquisition and homeland defense. This includes a full range of rugged tripods, pan and tilts together with control consoles for mounting cameras, laser range finders and laser designators. Contact: Andrew Griffiths, Regional Sales Manager North America, andrewgriffiths@instro.com; Ian Mitchell, Sales and Marketing Director, ianmitchell@instro.com.

## Intercon 1 Nortech

#1239

7746 Goedderz Rd Ste 100, Baxter, MN, 56425  
800/237-9576; fax 218/828-1096

clee@pyramidimaging.com; www.nortechsys.com/intercon

## International Display Consortium Inc.

#1401

4080 McGinnis Ferry Rd Ste 1007, Alpharetta, GA, 30005  
770/886-3960; fax 770/886-3978  
info@idclcd.com; www.idclcd.com

## Intevac, Inc.

#440

3560 Bassett St, Santa Clara, CA, 95054  
408/986-9888; fax 408/988-8145  
imaging@intevac.com; www.intevac.com

**New Product: LIVAR (Laser Illuminated Viewing & Ranging) long range imaging systems. NightVista low light cameras.**

Intevac manufactures EO sensors/cameras for night vision applications. Intevac's electron bombarded sensor technology is based on III-V semiconductor photocathodes in proximity focus with a backside-thinned CMOS chip anode. The electrons emitted by the photocathode are injected via electron bombardment into the CMOS anode, where the electrons are collected and amplified producing digital video from the sensor. Contact: Steve Campano, Sales and Marketing Manager, scampano@intevac.com.

## InterSense, Inc.

#1619

36 Crosby Dr Ste 150, Bedford, MA, 01730  
781/641-6330; fax 781-541-6329

info@intersense.com; www.intersense.com

**New Product: IS-1200 FlightHawk - a new optical/inertial flight helmet tracking system utilizing advanced differential inertial techniques to met the requirement of cockpit enhanced vision and weapons cueing.**

InterSense develops motion tracking products used extensively for simulation & training systems. InterSense's patented technology, based on inertial tracking techniques, is deployed to track the motion of personnel and weapons for training. In flight cockpits and land vehicles, InterSense provides helmet tracking for cockpit enhanced vision and audio. InterSense offers both commercial off-the-shelf products and custom sensor technology for meeting the tracking requirements of systems integrators, contractors, and government agencies.

## IO Industries, Inc.

#1425

**SPIE** Corporate Member

12-1510 Woodcock St, London, ON, Canada, N6H 5S1  
519/663-9570; fax 516/663-9571

asharpe@ioindustries.com; www.ioindustries.com

# Exhibitor Directory

## IOP Publishing

#824

IOP Publishing Ltd., Dirac House Temple Back, Bristol, United Kingdom, BSI 6BE  
44 117 929 7481; fax 44 117 930 1178  
www.iop.org

*Opto & Laser Europe* is the leading European magazine for the photonics industry. Covering the global photonics industry, including opinion and analysis on the latest research and technologies, it provides it's readers with news, R&D, features, Product Guides, extensive show previews and the quarterly EOS newsletter. To subscribe free of charge to *Opto & Laser Europe* complete the online form at <http://optics.org/subscribe/ole>. Contact: Robert Fisher, US Advertising Manager, [fisher@ioppubusa.com](mailto:fisher@ioppubusa.com); Adrian Chance, Advertising Manager, [adrian.chance@iop.org](mailto:adrian.chance@iop.org).

## IRISYS

#1522

Towcester Mill, Moat Ln, Towcester, United Kingdom, NN12 6AD  
44 1327 357824; fax 44 1327 352825  
[sales@irisys.co.uk](mailto:sales@irisys.co.uk); [www.irisys.co.uk](http://www.irisys.co.uk)

## iRobot Corp.

#1545

63 South Ave, Burlington, MA, 01803  
781/345-0200; fax 781/345-0201  
[sales@irobot.com](mailto:sales@irobot.com); [www.irobot.com](http://www.irobot.com)

## IRphotonics

#723

627 McCaffrey, St-Laurent, QC, Canada, H4T 1N3  
514/578-5060; fax 514/227-5210  
[info@irphotonics.com](mailto:info@irphotonics.com); [www.irphotonics.com](http://www.irphotonics.com)

IRphotonics is a leading manufacturer of mid infrared (MIR) optical fibers and materials that can be customized for specific wavelengths and applications such as homeland security, aerospace, process analytics, medical and telecommunications. Using enhanced patented ZBLAN (fluoride fiber) manufacturing technology and unique chemical compositions, IRphotonics provides quality glass and fiber at the lower cost. Contact: Eric Geoffrion, Vice President Sales and Business Development, [egeoffrion@irphotonics.com](mailto:egeoffrion@irphotonics.com).

## ISG Thermal Systems USA Inc.

#825

305 Petty Rd, Lawrenceville, GA, 30043  
678/442-1235; fax 678/442-1295  
[info@isginfrared.com](mailto:info@isginfrared.com); [www.isginfrared.com](http://www.isginfrared.com)

ISG Thermal Systems is a specialist in high-level integration of infrared imaging technology. ISG's core competence is the design and development of electronic infrared camera engines.

## Isorad Ltd.

#838

PO Box 239, Yavne, Israel, IL-81800  
972 8 943 4688; fax 972 8 942 1446  
[www.isorad.co.il](http://www.isorad.co.il)

## ISP Optics Corp.

#624

1 Bridge St, Irvington, NY, 10533  
914/591-3070; fax 914/591-3715  
[sales@isoptics.com](mailto:sales@isoptics.com); [www.isoptics.com](http://www.isoptics.com)

**New Product: ISP Optics is very strong in Aspheric and Diffractive Optics.**

ISP is a manufacturer of high precision optical elements for the IR range. We produce windows, lenses, wedges, domes, beamsplitters, mirrors and micro-optics down to 2.0 mm size along with FTIR hygroscopic elements. Moreover, ISP offers diamond-pt turning to fabricate aspheric and diffractive optics. ISP can provide standard optics found in our catalog and custom parts polished from materials as BaF2, CaF2, LiF, MgF2, Ge, ZnSe, ZnS, Sapphire, KBr, NaCl and other exotic crystals as GaAs, CdTe. Contact: Joe Mignano, Sales Engineer, [JoeM@isoptics.com](mailto:JoeM@isoptics.com); Mark Lifshutz, Chief Executive Officer, [MarkL@isoptics.com](mailto:MarkL@isoptics.com).

## Isuzu Glass Inc.

#622

23505 Crenshaw Blvd Ste 130, Torrance, CA, 90505  
310/517-1866; fax 310/517-1869  
[sales@isuzuglass.com](mailto:sales@isuzuglass.com); [www.isuzuglass.com](http://www.isuzuglass.com)

**New Product: Super IR cut filter.**

We manufacture Integrator Lenses, Micro Lens Arrays, Aspheric Lenses and Optical Filters in sample quantity to full scale production in our own factory. Those products are all custom made to our customer's design and specifications. Our products are used for video projectors, medical, defense, optical sensing, CCD camera, communications and other research applications. We welcome inquiries on new applications. Contact: Hiro Yokoi, Sales Manager, [hiro@isuzuglass.com](mailto:hiro@isuzuglass.com); Robbi Tanimoto, Vice President, [tanimoto@isuzuglass.com](mailto:tanimoto@isuzuglass.com).

## ITF Optical Technologies Inc.

#240

**SPIE** Corporate Member

400 Montpellier Blvd, Saint-Laurent, QC, Canada, H4N 2G7  
514/748-4848; fax 514/744-2080  
[info@itfoptical.com](mailto:info@itfoptical.com); [www.itfoptical.com](http://www.itfoptical.com)

## ITT Industries, AES Division

#1411

5009 Centennial Blvd, Colorado Springs, Co, 80919  
719/599-1674; fax 719/599-1613  
[www.aes.itt.com](http://www.aes.itt.com)

ITT Advanced Engineering & Sciences (AES) provides leading-edge technology services and products to government, industrial, and commercial customers. Contact: Pamela Harrell.

## ITT Industries, Night Vision

#1411

7635 Plantation Rd, Roanoke, VA, 24019  
540/563-0371; fax 540/366-9015  
[nvsales@itt.com](mailto:nvsales@itt.com); [www.nightvision.com](http://www.nightvision.com)

ITT Night Vision, based in Roanoke, Va., is the world's leading developer, producer and supplier of Generation 3 image intensifier technology for U.S. and allied military forces as well as Federal, state and local law enforcement. Contact: Durene Cupp, Manager, Order Administration, [durene.cupp@itt.com](mailto:durene.cupp@itt.com).

### Product Spotlights

Open to all attendees and visitors, various exhibiting companies will be showcasing new and successful products in half-hour question-and-answer sessions. Spotlights will be held in the Exhibition Hall. See pages 18-19 for more information.



**ITT Industries, RSI**

#1411

**SPIE** Corporate Member

4990 Pearl East Circle, Boulder, CO, 80301-2476  
303/402-4664; fax 303/786-9909  
www.itt-vss.com

RSI, a wholly owned subsidiary of ITT, will demonstrate IDL and ENVI. ENVI offers a full suite of image exploitation tools and the most advanced, yet user-friendly, spectral processing for your imagery analysis, spectral processing, identification and multi-source fusion needs. IDL provides scientists, engineers and researchers with the tools they need to analyze and visualize complex data. Contact: Lori Thompson, lthompson@rsinc.com.

**Janos Technology, Inc.**

#416

**SPIE** Corporate Member

55 Black Brook Rd, Keene, NH, 03431  
603/757-0070; fax 603/757-0069  
info@janostech.com; www.janostech.com

**New Product: Short Wave Infrared Lens (SWIR) .9 μm to 2.1 μm, 50 mm, F 2.3.**

Janos Technology Inc. a world leader in advanced optical components and assemblies for both reflective and refractive systems. Combining opto-mechanical design, state-of-the-art fabrication, optical coating and extensive metrology capabilities. Janos provides high performance optical solutions for multi-spectral applications. Certified to MIL-STD specifications, Janos provides thermal imaging lens assemblies, complex collimators, missile seeker heads, optical components and assemblies. Contact: Karl Martinson, Director of Business Development, kmartinson@janostech.com; Anita Foss, Product Manager, anita@janostech.com.

**JDSU**

#1206

**SPIE** Corporate Member

1768 Automation Pkwy, San Jose, CA, 95131  
408/546-5000; fax 408/546-4300  
www.jdsu.com

JDSU is committed to enabling broadband & optical innovation in the communications, commercial and consumer markets. JDSU is a leading provider of laser and optical solutions for biomedical, semiconductor, aerospace and defense applications including singulation, semiconductor inspection, material processing, flow cytometry and instrumentation. More information is available at www.jdsu.com.

\*\*\*\*\*  
General Refreshment Sponsor

**JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems**

#1304

**SPIE** Corporate Member

Infrared Technology, Goeschwitzer Strasse 25, Jena, Germany, 07745  
49 3641 65 3942; fax 49 3641 65 3494  
infraredtechnology@jenoptik.com; www.jenoptik-los.com

**New Product: High resolution IR camera for R&D, IR camera modules for furnace inspection and for process control.**

Thermographic cameras and IR camera modules are uniquely suited to display and measure the temperature distribution of surfaces in a very fast non-contact procedure. The thermal cameras from JENOPTIK Laser, Optik, Systeme GmbH are ideally adapted for a large diversity of thermography applications in industrial and scientific R&D. Furthermore the company's IR cameras are the right OEM units for any application there temperature has to be indicated (e.g. security, process control, military). Contact: Heiko Richter, International Sales Manager Infrared Technology.

**ELECTROFORMS...**  
when unusual shapes, close tolerances & high strength are required.

- Lightweight - Low inertia
- Extremely close tolerances
- Variable wall thickness
- 125,000 psi min tensile strength
- Available in: Nickel, Copper, Nickel/Cobalt, Gold & Silver
- Can be made an integral unit with a bellows to produce a "moveable" component



Call for a **FREE** brochure

Precision Manufacturing Group, LLC  
**SERVOMETER**  
501 Little Falls Road  
Cedar Grove, NJ 07009

Fax: (800) 785-0756 (USA)  
Fax: (973) 785-0756  
Tel: (973) 785-4630  
www.servometer.com

**JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Optics**

#1216

Goeschwitzer Strasse 25, Jena, Germany, 07745  
49 3641 65 3311; fax 49 3641 65 3677  
optics@jenoptik.com; www.jenoptik-los.com

**New Product: Large IR lenses of high surface quality, DLC coatings, Diffractive & Multifunctional elements for IR.**

Capitalize on a broad range of knowledge and benefit from many years of practical experience in developing, manufacturing and testing of custom-specific infrared optical modules. JENOPTIK is your reliable partner for optical components, lenses, subassemblies and optical modules for the infrared spectral range. These optical elements are used in thermography, pyrometry, security and defence, sensor technology, gas analysis as well as spectroscopy. Contact: Wolfgang Seiferth, Manager Sales and Marketing Optics, wolfgang.seiferth@jenoptik.com; Thomas Weyh, Sales Optics, thomas.weyh@jenoptik.com.



## JMAR Technologies, Inc.

#835

**SPIE** Corporate Member

10905 Technology Pl, San Diego, CA, 92127  
858/946-6800; fax 858/946-6899  
info@jmar.com; www.jmar.com

**New Product: BioSentry Contamination Warning System provides continuous monitoring for waterborne microorganisms.**

JMAR's Sensor Products Group features BioSentry™ - a laser-based, online detection and classification system for microbiological contaminants and pathogens in water. JMAR is a leading innovator in laser-based equipment for imaging, analysis and fabrication at the nano-scale. The Company leverages over a decade of laser and photonics research to develop products for semiconductor, pharmaceutical, beverage, municipal water, cruise ships, Homeland Security and US military applications. Contact: Danette Szymanski, Inside Sales Manager, dszymanski@jmar.com.

## JT Ingram Sales & Marketing

#621

**SPIE** Corporate Member

316 Harlequin Ct, Oviedo, FL, 32765  
800/335-5582; fax 888/335-5587  
jim@jtingram.com; www.jtingram.com

**New Product: IR Optical Fibers UV-18µm Probes Arrays Bundles Cables Fiber Coupled IR detectors and Sources.**

Fiber Optics from the UV to 18µm, Bundles, Cables, Arrays, Fiber Coupled IR detectors, Sources, Instruments Fiber Coupled High Power LEDs. Contact: Jim Ingram, Marketing Manager.

## Judson Technologies, LLC

#521

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

Judson Technologies, a world leader in infrared sensor technology with military, satellite & industrial OEM heritage offers HgCdTe, InGaAs, InSb, InAs, PbS, PbSe and Ge detectors. Applications: Surveillance, laser & missile warning, missile guidance, laser range finding, laser position sensing, chemical & biological detection and military training. Judson offers electronics, optics and hermetically sealed cooler packages matched to each detector. Contact: Mark Sediva, Sales Engineer, msediva@judsontechnologies.com; Joe Kimchi, Vice President, Engineering, jkimchi@judsontechnologies.com.

## K&Y Diamond Ltd.

#1616

2645 Diab, St Laurent, QC, Canada, H4S 1E7  
514/333-5606; fax 514/339-5493  
kydiamond@kydiamond.ca; www.kydiamond.ca

## Kigre, Inc.

#531

100 Marshland Rd, Hilton Head Island, SC, 29926  
843/681-5800; fax 843/681-4559  
kigreinc@cs.com; www.kigre.com

**New Product: The MK-88 eye-safe laser (cigarette pack size) 1.54µm high peak power (4mj, 7ns, 10Hz).**

Kigre has developed a family of compact high peak power Diode Pumped Solid State (DPSS) Q-switched eye-safe microlasers for use in rangefinders and laser radar applications. The MK-81 1Hz, 3mj, 7ns, 1.54µm microlaser measures approximately 0.6" x 1.2" x 2.4" and the MK-88 10Hz, 4mj, 7ns, 1.54µm microlaser measures approximately 0.8" x 2" x 3". The mil spec laser head packages employ a conductively cooled, temperature insensitive design for use in adverse environmental conditions. Contact: Michael Myers, President, info@kigre.com; Jeffrey Myers, Vice President, jeffmyers@hargray.com.

## Kollsman, Inc.

#1622

220 Daniel Webster Hwy, Merrimack, NH, 03054  
603/889-2500; fax 603/886-2207  
www.kollsman.com

## Kopin Corp.

#1337

225 Technology Cir, Scotts Valley, CA, 95066  
831/430-0688  
tbacarella@kopin.com; www.kopin.com

**New Product: Full Color SXGA 1280x1024 TN and MVA Displays as well as a New SXGA and SVGA ASIC.**

Kopin is the leading provider of high-resolution microdisplays and integrated display subsystems for military, industrial and commercial applications. Kopin produces high reliability, high performance displays ranging from QVGA to full color SXGA. In addition to micro-display design and manufacturing, Kopin offers OEM's integration and test services for high-level assembly (HLA) manufacturing in Kopin's Class-10 clean room facilities. Contact: Tony Bacarella, Manager, Business Development.

## L-3 BAI Aerosystems

#231

9040 Glebe Park Dr, Easton, MD, 21601  
410/820-7500; fax 410/820-8500  
bail.sales@l-3com.com; www.bai.aero

BAI Aerosystems is a leading manufacturer of unmanned aerial vehicle (UAV) systems and support equipment. Headquartered in Easton, MD, BAI designs, manufactures and integrates UAVs, targeting the small UAV segment. BAI also offers a complete set of UAV subsystems, such as avionics and autopilots, imaging and sensor payloads, ground control stations, and support equipment. BAI's primary sensor platforms include its Series 66 miniature EO/IR PTZ and its Series 52 PTZ line of sensors.

## L-3 Brashear

#231

615 Epsilon Dr, Pittsburgh, PA, 15238  
412/967-7700; fax 412/967-7973  
sales.brashear@l-3com.com; www.l-3com.com/brashear

## L-3 Communication Systems East

#231

1 Federal St, Camden, NJ, 08103  
fax 856/338-2741  
david.micha@l-3com.com; www.l-3com.com/cs-east

L-3 Communication Systems-East designs, develops, produces and integrates communication systems and support equipment for space, air, ground, and naval applications, including C4I systems and products. For over 45 years, CS-E has developed and supplied high reliability, mission-critical communication and data storage systems for a wide array of applications including, avionics subsystems for missile and expendable launch vehicle systems, recording subsystems for space-based remote sensing systems, and ruggedized ISR recording systems for high data rate airborne ISR platforms.

## L-3 Communications Advanced Products & Design

#231

10636 Scripps Summit Ct Ste 101, San Diego, CA, 92131  
858/527-6100; fax 858/527-0150  
apd-info@l-3com.com; www.l-3com.com/apd

L-3 Communications Advanced Products & Design (AP&D) offers a unique product and service portfolio for military, government and commercial customers developing mission critical, real-time systems and applications. L-3 AP&D develops and markets the Vigma™ family of reconfigurable, customized boards and integrated systems, and VideoScout™, an Intelligent Video Management System designed to capture, annotate, edit and relay video data. Contact us today at 800-621-8474 or apd-info@L-3com.com.

**L-3 Communications Cincinnati Electronics** #231

**SPIE** Corporate Member  
600 Third Ave, New York, NY, 10016  
212/697-1111  
www.cmccinci.com

L-3 Communications. Electro Optical and Infrared Imaging Systems, Sensors and Components, Laser System Technologies, Intelligence, Surveillance and Reconnaissance, Secure Space, Ground and Naval Communications and Tactical UAVs and Subsystems Systems. L-3 has assembled the most innovative companies in the industry to deliver individual technologies, integrated systems and mission critical solutions for Aerospace and Defense, Secure Communications, Public Safety, Law Enforcement, and Homeland Security. We understand the mission. We develop the technology. We deliver. Contact: Philip H. Smith, Director Marketing, philip.smith@L-3Com.com.

**L-3 Communications Infrared Products** #231

MS 37, 13532 N Central Expwy, Dallas, TX, 75243  
972/528-1300; fax 972/528-1305  
irp.info@l-3com.com; www.thermal-eye.com

**Labsphere, Inc.** #1507

231 Shaker St, North Sutton, NH, 03260-0070  
603/927-4266; fax 603/927-4694  
labsphere@labsphere.com; www.labsphere.com

**LaCroix Optical Co.** #1311

**SPIE** Corporate Member  
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 9001:2000 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. Contact: Tom Cox, Manufacturing Engineer, tom@lacroixoptical.com; David Cossey, Manufacturing Engineer, david@lacroixoptical.com.

**Lake Shore Cryotronics, Inc.** #1626

575 McCorkle Blvd, Westerville, OH, 43082  
614/891-2244; fax 614/818-1600  
info@lakeshore.com; www.lakeshore.com

**Lambda Research Corp.** #1224

**SPIE** Corporate Member  
25 Porter Rd, Littleton, MA, 01460-1434  
978/486-0766; fax 978/486-0755  
sales@lambdare.com; www.lambdare.com

**New Product: Demo latest releases of OSLO, optical design software and TracePro, radiant energy modeling software.**

Lambda Research publishes TracePro for ghost image and narcissus simulations, stray light and out-of-field rejection calculations, thermal reference modeling and self-emission effects for analysis of space and surveillance applications and OSLO for optical design and analysis including MTF/Wavefront based tolerancing, environmental analysis, versatile coordinate tilt/decenter representation and component grouping for Line-of-Sight (LOS) sensitivity matrices to solve unique challenges in IR designs.

**Micro Miniature Metal Bellows**

**Great Things Come in Small Packages...**

Servometer® - PMG, LLC **Micro Miniature Electrodeposited Nickel Bellows** have diameters as small as 0.020 inch (0.5 mm), are ideal for dynamic applications where reliability and long life are critical requirements.

Servometer® bellows can be designed for a variety of stroke and pressure combinations and can be used as:

- Flexible Micro Couplings
- Micro-Hermetic Seals
- Pressure Responsive Devices
- Aneroids
- Electrical Contacts
- Precision Micro Springs

Call for a free sample and brochure.

**SERVOMETER**  
Precision Manufacturing Group, LLC  
501 Little Falls Road  
Cedar Grove, NJ 07009  
Fax: (800) 785-0756 (USA)  
Fax: (973) 785-0756  
Tel: (973) 785-4630  
www.servometer.com

**Lambda Research Optics, Inc.** #712

**SPIE** Corporate Member  
1695 W MacArthur Blvd, Costa Mesa, CA, 92626  
714/327-0600; fax 714/327-0610  
lambda@lambda.cc; www.lambda.cc

**New Product: IR imaging optics, MWIR and LWIR coatings, multi-wavelength coatings.**

Lambda Research Optics is a leading manufacturer of precision optics for visible and IR imaging applications. We specialize in advanced optical coatings for the 3-5 μm and 8-12 μm regions as well as multi-wavelength coatings. Plano, spherical and cylindrical surfaces are polished in glass, Ge, ZnSe, ZnS, CaF2, GaAs, and Si to produce lenses, windows, domes, mirrors, beamsplitters and prisms. Lambda provides optics worldwide to leading companies for both commercial and defense applications. Contact: Jae Oh, Marketing Assistant Manager, joh@lambda.cc; James Choi, Sales Assistant Manager, jchoi@lambda.cc.

## LAS-CAD GmbH

#117

Brunhildenstr 9, Munich, Germany, 80639  
49 89 173 607; fax 49 89 172 594  
info@las-cad.com; www.las-cad.com

**New Product: LASCAD computes output power for both 3-level and 4-level systems.**

LAS-CAD GmbH announces a new version of simulation tools for LASER Cavity Analysis and Design. Thermal and Structural Finite Element Analysis, Gaussian ABCD Algorithm and Wave Optics Beam Propagation Code are integrated in one software package to analyze thermal lensing, stability and efficiency of 3-level and 4-level diode-pumped solid state lasers. The new version 3.4 allows for multiple crystals inside and outside the cavity as well as for misalignment analysis. Contact: Harry Skolnik, U.S. Sales Representative, hskolnik@comcast.net; Konrad Altmann, President, dr.altmann@las-cad.com.

## LASER COMPONENTS IG, Inc.

#316

**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: Pulsed Laser Diodes (PLD) and Avalanche Photodiodes (APD) - A Perfect Match.**

Provides high power laser optics from 193nm to 10.6µm. IR lead salt diode lasers (3-25 µm) and SPECILAS selected diode lasers in the range of 750 to 2050nm, including VCSELs and DFBs. Quantum Cascade Lasers and Flexpoint miniature laser modules available. Glass polarizing filters, laser safety eyewear, fiberoptic assemblies and color sensors. Spectroscopic instrumentation including NIR SPECTROMETERS and Echelle spectrum analyzers. Avalanche photodiodes and Pulsed Laser Diodes in stock. Contact: Gary Hayes, Chief Executive Officer/General Manager, hayes@laser-components.com; Valerie King, Sales/Marketing, king@laser-components.com.

## Laser Focus World

#1101

**SPIE** Corporate Member

PennWell Publishing, 98 Spit Brook Rd,  
Nashua, NH, 03062-2810  
603/891-0123; fax 603/891-0574  
www.laserfocusworld.com

*Laser Focus World* provides engineers, researchers, scientists and technical professionals with comprehensive coverage of optoelectronic & photonic technologies, applications and markets. It reports on and analyzes the latest worldwide developments and significant trends in both technology and business for this industry. Contact: Stephen Anderson, Associate Publisher/Editor in Chief, stevega@pennwell.com.

## Laser Optics, a PPGI company

#811

181 Legrand Ave, Northvale, NJ, 07647  
201/767-1910; fax 201/767-9644  
sales@laseropticsinc.com; www.lasaeropticsinc.com

Manufacturer of optics, coatings and sub-assemblies for military, industrial and medical applications. Components from glass, fused silica, zinc selenide, silicon, germanium include plano, spherical, cylindrical and prismoid optics. Custom fabrication of mirrors, lenses, prisms, waveplates and cavity optics. Specialists in coatings for high power lasers. Contact: Jeff Brunner, Sales Manager, jbrunner@laseropticsinc.com; Devaunshi Sampat, Vice President Sales & Marketing, dsampat@laseropticsinc.com.

## Laser Research Optics

#1223

120 Corliss St, Providence, RI, 02904  
888/239-5545; fax 401/331-4004  
sales@laserresearch.net; www.laserresearch.net

**New Product: Laser Research Optics is proud to introduce our new innovative line of small CO<sub>2</sub> optics.**

Laser Research Optics is dedicated to supplying the highest quality replacement optics for industrial CO<sub>2</sub> lasers. Laser Research Optics maintains one of the largest CO<sub>2</sub> finished goods inventories in the business and is committed to keeping your laser running. Standard Optics for Lower Powered CO<sub>2</sub> lasers. Performance Proven OEM Quality Replacement Optics for Industrial 10.6 micron CO<sub>2</sub> Lasers. Contact: Scott Rouillard, Sales, scott@melleroptics.com.

## Lasertel, Inc.

#1319

**SPIE** Corporate Member

7775 N Casa Grande Hwy, Tucson, AZ, 85743  
520/744-5700; fax 520/744-5766  
sales@lasertel.com; www.lasertel.com

## Liebmann Optical Co.

#1216

1 Industrial Pky, Easthampton, MA, 01027  
413/527-0079; fax 413 527 5132  
sales@liebmann.com; www.liebmann.com

Liebmann Optical specializes in the manufacture of precision spherical glass lenses, typically in the 0.5 mm to 105 mm diameter. Prototypes to production. 18 CNC machines, full conventional optics shop, 7 interferometers, in-house AR Laser Damage Coatings. Contact: Robert Bush, Sales and Marketing Manager, Robert.Bush@Liebmann.com; Beth Saunders, Customer Service Representative, Bsaunders@Liebmann.com.

## Lightel Technologies, Inc.

#1535

1034 Central Ave S, Kent, WA, 98032  
253/831-2862; fax 253/831-2861  
info@lighteltech.com; www.lighteltech.com

**New Product: PM components including splitters, combiners, WDMs and Hi-Rel extended temperature devices.**

Lightel Technologies, Inc. manufactures a broad line of fiber optic components, manufacturing equipment, amplifiers and test equipment for the fiberoptic and defense/aerospace industries. Lightel is ITAR registered and has domestic capabilities in the design and manufacture of components and equipment. Contact: Kevin Shirk, Director, Sales & Marketing, kevin\_shirk@lighteltech.com.

## LightPath Technologies, Inc.

#616

2603 Challenger Tech Ct Ste 100, Orlando, FL, 32826  
407/382-4003; fax 407/382-4007  
info@lightpath.com; www.lightpath.com

**New Product: High-power Fusion™ collimators for laser delivery, Black Diamond™ molded LWIR aspherical optics.**

LightPath Technologies Inc. is a recognized leader in optical solutions for medical, industrial, defense & communication applications. LightPath offers a full line of UV to long wavelength infrared optics, including aspherical, gradium & traditional optics, fiber collimators, optical isolators & optical assemblies. Complete custom engineering & design support is available. Contact: Edward Patton, Vice President of Marketing, epatton@lightpath.com; Jim Magos, Vice President of Sales, jmagos@lightpath.com.



**Lincoln Laser Co.**

SPIE Corporate Member

234 E Mohave St, Phoenix, AZ, 85004  
602/257-0407; fax 602/257-9022  
www.lincolnlaser.com

#1526



Tuesday Afternoon Dessert Sponsor

**The MathWorks Inc.**

#810

3 Apple Hill Dr, Natick, MA, 01760-2098  
508/647-7000; fax 508/647-7010  
info@mathworks.com; www.mathworks.com

Engineers and scientists rely on MathWorks tools for model-based design and technical computing in programs such as the F-35 Joint Strike Fighter, Airbus A380, Mars Exploration Rover, as well as unmanned aerial vehicles and advanced wireless systems. With an extensive product set based on MATLAB® and Simulink®, The MathWorks provides software and services to solve challenging problems and accelerate innovation by increasing design efficiency and engineering productivity. Contact: Product, Pricing, Licensing and Service Information, service@mathworks.com; Dave Smith, Director, Public Relations, dave.smith@mathworks.com.

**Lumenera Corp.**

#711

7 Capella Ct, Ottawa, ON, Canada, K2E 8A7  
613/736-4077; fax 613/736-4071  
marketing@lumenera.com; www.lumenera.com

**New Product: Lumenera's Intelligent Cameras provide instant threat notification - The future of video surveillance!**

Lumenera offers innovative, high quality megapixel network cameras and custom imaging solutions for the most demanding security and industrial applications. With X4 to X12 greater resolution than typical CCTV, Lumenera leverages its leading edge technology to provide customized design services, continuous innovation and licensing options to our OEM partners. Camera models are based on highly sensitive image sensors, with optional true day/night feature for optimum images in low light conditions. Contact: Brian Tilson, BD Manager - Security Division, brian.tilson@lumenera.com; Greg Bell, Business Development - Security, greg.bell@lumenera.com.

**Lumics**

#1518

Carl-Scheele-Str 16, Berlin, Germany, 12489  
49 30 67806760; fax 49 30 678067626  
sales3@lumics.com; www.lumics.com

**New Product: 1064nm laser diodes with single mode fiber output & 975nm cooled pump laser.**

Lumics GmbH, based in Berlin, Germany is specialized in fiber coupled laser devices. The product range includes fiber coupled modules in 14-pin BTF, Mini DIL and TO220 designs and fiber laser systems for the use in optical communication networks, analytical instruments and industrial laser applications. The company is specialized in development and production of laser devices in the range from 800nm to 1080nm wavelength. Contact: Madlen Arend, Sales Assistant, Madlen.Arend@lumics.com.

**Lumitron**

#1310

10503 Timberwood Cir Ste 120, Louisville, KY, 40er233  
502/423-7225; fax 502/423-7064  
sales@lumitron-ir.com; www.lumitron-ir.com

**New Product: Visit the Lumitron booth to see our new LWIR, MWIR and SWIR thermal imaging products.**

Lumitron produces world class Infrared Imaging Cameras and Camera Cores for OEM clients globally. Our strength is in developing a very low noise camera engine that produces a superior image, from a number of IR detectors. Lumitron has existing solutions for your LWIR, MWIR & SWIR applications including ruggedized packaging if required. The Lumitron team invests in a direct working relationship with our clients to meet their product needs. Your Look, Your Feel, Your Camera says it all. Contact: Kyle Johnson, Director of Operations.

**LxSix Photonics Inc.**

#240

520 McCaffrey, St-Laurent, QC, Canada, H4T 1N1  
514/599-5714; fax 514/599-5729  
fdusablon@lxsix.com; www.lxsix.com

**M<sup>3</sup> Measurement Solutions Inc.**

#1612

PO Box 503854, San Diego, CA, 92150-3854  
760/749-7159; fax 760/749-7152  
m3msi@m3msi.com; www.m3msi.com

**Matrix, Inc.**

#941

One Catamore Blvd, East Providence, RI, 02914  
401/434-3040; fax 401/434-3822  
scot@matrixinc.net; www.matrixincorporated.com

**New Product: Micro lens for night vision system.**

Thermoplastic injection molding for components used in electronics and optics for pumps, valves, sensors, water filtration systems, high temperature plastics for replacement of ceramics or metals in microelectronics packaging. Molding over metal inserts for consolidation of components. Metal plating on plastic for EMI shielding and soldering applications. Matrix molds Ultem, LCP, PPS, PEEK, Nylon, Valox, Radel, Udel, Isoplast and several others in press sizes between 7 ton and 300 ton. Contact: Scot MacGillivray.

**Max Levy Autograph, Inc.**

#1226

220 W Roberts Ave, Philadelphia, PA, 19144-4298  
215/842-3675; fax 215/842-3637  
sales@maxlevy.com; www.maxlevy.com

Max Levy Autograph Manufactures patterned optics, reticles, encoder discs, metrology scales, grids, targets, and masks; specializing in ultra-precision patterned optical & mechanical components, NIST traceable metrology standards & X-Y calibration services, 3D diamond contour machining with sub-micron resolution, electroforming, MIL-SPEC, photochemical etching, and fine-line ceramic & flexible circuits. Engineering specialists are available to help you design cost-effective solutions from project concept through production. Visit our website for in-stock items, custom quotes, and technical information.

**McPherson Inc.**

#1117

7A Stuart Rd, Chelmsford, MA, 01824  
978/256-4512; fax 978/250-8625  
mcp@mcphersoninc.com; www.mcphersoninc.com

McPherson designs & manufactures Monochromators, Spectrometers and CCD Imaging Spectrographs. Specialties incl. High Resolution and Vacuum Ultraviolet. Instruments for the Visible to the Infrared & Extreme Ultraviolet and Soft X-ray regions. System Solutions for PDP, PL, Plasma Diagnostics, Raman, Microscopy, Multispectral Calibration, Optical Deposition Monitoring, Spectrophotometry, Multi Fiber Imaging, and Remote Spectral Sensing.



## McQ

#111

1551 Forbes St, Fredericksburg, VA, 22405  
540/373-2374; fax 540/371-1358  
sales@mcqinc.com; www.mcqinc.com

**New Product: Disposable Sensor System is a small, low cost, mesh networked sensor for cave and urban areas.**

McQ develops high technology surveillance and remote sensor systems for commercial and government customers. McQ has a complete "concept to product" capability with development engineers to design the product, production engineers to get the product ready for fielding. McQ is a ISO 9001/2000 Quality Company. Contact: Karen Lindsey, klindsey@mcqinc.com.

## MegaWatt Lasers, Inc.

#541

PO Box 24190, Hilton Head Island, SC, 29925-4190  
843/342-7221; fax 843/342-7223  
debbie@megawattlasers.com; www.megawattlasers.com

**New Product: ER-100 eyesafe Er:Glass laser, modified T0-3 housing, 50 kW, 2 ns pulses.**

Megawatt Lasers manufactures a complete line of high-quality pump chambers. Our designs are well suited for both breadboard experimentation as well as OEM applications. Our cavities are designed to provide unsurpassed performance, reliability and leak integrity. Through many years' experience, they have been optimized to provide features such as diffuse-reflectors and symmetric cooling. Contact us to learn about improving your performance and reducing cost of your pump chamber needs! Contact: Scott Hamlin, Chief Scientist, scott.hamlin@megawattlasers.com.

## Meller Optics, Inc.

#1223

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, Sapphire and Ruby. Meller has developed high-speed, low-cost finishing processes for a variety of Laser Glasses, Fused Silica, Zinc Selenide, Germanium, Silicon, Fluorides and Ceramic. Configurations include windows, substrates, lenses, domes and prisms. Meller Optics is an ISO 9002 certified company. Contact: Craig Schweriner, National Sales Manager, craig@melleroptics.com.

## Melles Griot

#743

55 Science Pky, Rochester, NY, 14620  
585/244-7220; fax 585/244-6292  
sales@rochester.mellesgriot.com; www.mellesgriot.com

Melles Griot designs and manufactures high-performance electronic shutters for the night-vision and thermal camera industries. We are a provider of contract manufacturing services for optics-enabled assemblies and specialize in the manufacture of gas and solid-state lasers, vibration-isolation work surfaces and opto-mechanical hardware for industry and science. Contact: Michael Richmond, Marketing Specialist, richmond@rochester.mellesgriot.com.

## MEMS Optical Inc.

#1423

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

**New Product: New products can use a larger range of material, creating flexibility for DUV to LWIR applications.**

MEMS Optical, Inc., is a leading supplier and manufacturer of both refractive (microlens arrays) and diffractive (beam shapers, beam splitters, etc.) micro optics and of MEMS devices such as scanning tilt micro mirrors and deformable mirrors. Contact: Mary Beth Key, Sales Representative, info@memsoptical.com.

## Met One Instruments, Inc.

#1532

1600 Washington Blvd, Grants Pass, OR, 97526  
541/471-7111; fax 541/471-7116  
www.metone.com

## Metavac

#732

**SPIE** Corporate Member

4000 Point St, Holtsville, NY, 11742  
800/739-9063; fax 631/447-7715  
info@metavac.com; www.metavac.com

**New Product: Metavac has introduced special low resistance conductive coatings for optoelectronic applications such as the U.S. Warlock RCIED Countermeasures program.**

Metavac is a global leader in the manufacture and development of thin film, optical and electro-optical products serving the defense and security industries since 1945. Products include ruggedized display shields, transparent heater panels, NVIS compatible filters, EMI/RFI shielding, contrast enhancement and polarized display filters and specialty coatings for optoelectronic applications. Contact: Richard Zinkiewicz, Sales Manager, rzinkiewitcz@metavac.com; Joseph Pozzolano, Business Development Manager, jpozolano@metavac.com.

## Micro Laser Systems, Inc.

#837

**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: Turnkey fiber coupled lasers and fiber collimators for fiber lasers.**

Manufacturer of diffraction limited diode lasers and optical systems, either Turnkey or OEM from 375nm to 1600nm. Our Free Space and Fiber Coupled Laser systems are highly stable with low noise and have Gaussian profiles with wavefront error <1/10 wave. Many accessories for expanding, focusing, shaping, combining and filtering the beam are available such as Fiber Collimators for high power lasers. Custom systems are routinely manufactured from the UV to IR region. Contact: Norma Adachi, Marketing Manager, norma@microlaser.com.

## MicroDISC, Inc.

#1343

301 Oxford Valley Rd Ste 1502, Yardley, PA, 19067  
215/321-9100; fax 215/321-9190  
sales@microdisc.com; www.microdisc.com

**New Product: MIL STD 810-F RATED 2U Dual Xeon System with 2 available PCI-X & 1 PCI-e x16 slot.**

MicroDISC, Inc. is a Systems Integrator/VAR/Distributor specializing in Computer/Machine Vision systems and component level products with focus on hardened systems used in US Military & airborne applications. Contact: Emmanuel Petritis, Operations Manager, eman@microdisc.com; Willaim Petritis, Government Sales Manager, basil@microdisc.com.

## MicroE Systems

#734

9 Erie Dr, Natick, MA, 01760  
800/342-3757; fax 978/262-0039  
info@microesys.com; www.microesys.com

MicroE Systems manufactures the world's smallest high-performance motion feedback encoders. Smaller, smarter and faster than competitive encoders, our Mercury™ encoder family contains twenty-four models in programmable, digital output, analog output, absolute, multi-axis and vacuum styles. Resolutions range from 5 microns to 5 nanometers, linear and up to 67.1 M CPR, rotary.

## MIDAC Corp.

#1439

130 McCormick Ave #111, Costa Mesa, CA, 92626  
714/546-4322; fax 714/546-4311  
info@midac.com; www.midac.com

## Military & Aerospace Electronics #1101

98 Spit Brook Rd, Nashua, NH, 03062  
603/891-0123; fax 603/891-9290  
www.milaero.com

*Military & Aerospace Electronics* reports on the technologies and issues that impact the design, development and integration of today's and tomorrow's military and aerospace electronics design. Targeted readers include high-level decision makers who specify, evaluate and purchase electronic, computer and communications equipment. Contact: Ron Mastro, Publisher, ronm@pennwell.com.

## Mindrum Precision, Inc. #213

**SPIE** Corporate Member

10000 Fourth St, Rancho Cucamonga, CA, 91730  
909/989-1728; fax 909/987-3709  
sales@mindrum.com; www.mindrum.com

Now Celebrating our 50th Anniversary in the Industry as a custom manufacturer of glass, quartz, ceramic and exotic material components. 5 axis capabilities in drilling and shaping. Special items include dampers, window assemblies, flow cells and optical filters. Flat, cylindrical and custom shapes. Class 1000 Clean room. ISO-9001 certified. Prototype to Production. Contact: Todd Van Son, Sales; Adam Pohl, Sales.

## Missile Defense Agency SBIR #813

1515 N Courthouse Rd #310, Arlington, VA, 22201  
703/841-5500; fax 703/841-5501  
andy.talbert@onpointcorp.com; www.winmda.com

The Small Business Innovation Research Program (SBIR), established by Congress in 1982 to open the door for small businesses to federal research and development and to speed the conversion of their research findings into commercial products. The SBIR program of the Missile Defense Agency seeks small businesses to develop technology and products for use in the program.

## Moore Nanotechnology Systems LLC #1613

426A Winchester St, Keene, NH, 03431-0605  
603/352-3030; fax 603/352-3363  
sales@nanotechsys.com; www.nanotechsys.com

## Moulded Optics GmbH #1217

c/o Doctor Optics, Inc., 1201 S Alma School Rd Ste 7550,  
Mesa, AZ, 85210  
480/844-7585; fax 480/844-7826  
dopticsinc@aol.com; www.mouldedoptics.com

**New Product: Precision molded glass micro half-ball lenses in diameter sizes of 3mm, 4mm, 5mm and 6mm.**

Moulded Optics GmbH will be displaying many types of precision glass molded optical components in sizes from 2mm to 100mm including singlet, aspheric, bubble, cylindrical, fly's eye array, free form, fresnel, half-ball, light pipe and tunnel, plano, prismatic and spherical lenses; concave first surface, flat, spherical and free form mirrors; dispersing, dove, penta and wedge prisms; ellipsoidal, multi-faceted, parabolic and prismatic reflectors; flat, free form and spherical windows. Contact: Martin Pfeil, Managing Director, Martin.pfeil@mouldedoptics.com; Bruce Nielsen, Vice President, Mouldedoptics@aol.com.

# HIGH VOLTAGE

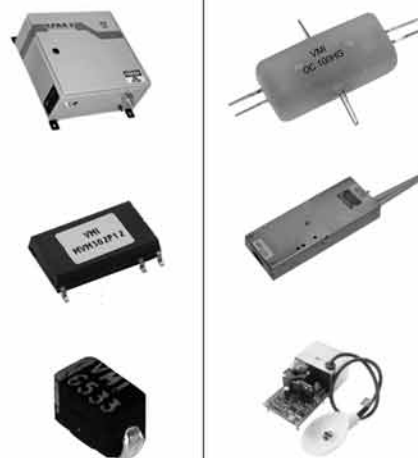
i n n o v a t i o n

## Voltage Multipliers, Inc.

- Diodes • Power Supplies • Rectifiers
- Multipliers • Opto-Couplers • Bridges
- Axial Leaded Diodes
- SMD diodes/tape and reel
- SMF series and MD diodes.
- Commercial and military applications
- Superior performance • High reliability
- RoHs Pb-free Compliance
- Standard or custom design solutions.
- Quality System ISO 9001:2000 Certified
- Meets or exceeds MIL-I-45208 standards

## Defense & Security 2006

Booth #1326



Download technical data at:  
[WWW.VOLTAGEMULTIPLIERS.COM](http://WWW.VOLTAGEMULTIPLIERS.COM)



HIGH VOLTAGE INNOVATION

1.559.651.1402

Voltage Multipliers, Inc. • 8711 W. Roosevelt Ave. • Visalia, CA 93291

## MPA Crystal Corp.

#1438

**SPIE** Corporate Member

1032 Irving St #968, San Francisco, CA, 94122  
415/681-2185; fax 415/681-0787  
pmpa@mpa-crystal.com; www.saifei.com

**New Product: Sapphire optics, quartz, optical glass Optics and coating, as well as non-linear crystals.**

Specializes in processing fine-precision crystal optics mainly made of SAPPHIRE and produced to customer's specifications. Also provides optics made of quartz, optical glass, fused silica and non-linear crystal (BBO, KTP, Nd: YVO<sub>4</sub>, AgGaS<sub>2</sub> and AgGaSe<sub>2</sub>). Coating is available as well. Products include windows, substrates, lenses, prisms, rods, spheres, cylinders and more. Contact: Pauline Liang, Chief Executive Officer.

## MRC a PPGI company

#811

6455 Parkland Dr, Sarasota, FL, 34243  
947/753-8707

mrcsales@mrcoptics.com; www.mrcoptics.com

Manufacturer and designer of precision metal and infrared optical components, systems and sub-assemblies. Full in-house aspheric diamond machining, plating, polishing and testing capability. Materials include all non-ferrous metals, crystals, beryllium and composites. Products include polygons, aspheric components, off-axis parabolics, large flat mirrors and multi-mirror systems. Contact: Steve Hobert, Vice President Sales & Marketing, shobert@mrcoptics.com.

## Multitel

#826

1 Ave Nicolas Copernic, Mons, Belgium, B-7000  
32 65 37 47 32; fax 32 65 37 47 29  
info@multitel.be; www.multitel.be

Multitel is a research center in signal and image processing and in telecommunications. Its activities include applied scientific research, consultancy and business services. As a Certified Red Hat training center in Belgium, Multitel offers trainings and organizes conferences to inform people of the latest technologies. Moreover, Multitel is internationally recognized for its active involvement in the Sixth Framework Program of the EC as well as in other European and national projects.

## Naked Optics Corp.

#739

**SPIE** Corporate Member

8 Heritage Ct, North Branch, NJ, 08876  
908/685-0352; fax 908/685-0353  
sales@nakedoptics.com; www.nakedoptics.com

**New Product: ZnS, Chalcogenide Glass, CaF<sub>2</sub> & BaF<sub>2</sub> materials.**

Supplier of IR optics and diamond-turned components with aspheric, diffractive & hybrid surfaces in IR materials, plastics and metals; optical design services; ZnS (clear & IR grades), chalcogenide and optical glasses in finished & blank forms: Raw strip glass, molded and CNC-machined blanks of all optical materials. Contact: Buzz Nesti, buzz@nakedoptics.com.

## Nanjing Saifei Electro-Optics Co., Ltd.

#1438

**SPIE** Corporate Member

219 N Zhong Shan Rd, Hong Tu Office Tower Ste 1001, Nanjing Jiangsu, China, 210006  
415/681-2185; fax 415/681-0787  
pmpa@mpa-crystal.com; www.saifei.com

**New Product: Sapphire optics, quartz, optical glass Optics and coating, as well as non-linear crystals.**

Specializes in processing fine-precision crystal optics mainly made of SAPPHIRE and produced to customer's specifications. Also provides optics made of quartz, optical glass, fused silica and non-linear crystal (BBO, KTP, Nd: YVO<sub>4</sub>, AgGaS<sub>2</sub> and AgGaSe<sub>2</sub>). Coating is available as well. Products include windows, substrates, lenses, prisms, rods, spheres, cylinders and more. Contact: Pauline Liang, Chief Executive Officer.

## National Aperture, Inc.

#726

16 Northwestern Dr, Salem, NH, 03079  
603/893-7393; fax 603/893-7857

sales@nationalaperture.com; www.nationalaperture.com

## National Reconnaissance Office

#718

14675 Lee Rd, Chantilly, VA, 20151-1715  
703/808-2769; fax 703/808-2646  
dii@nro.mil; www.dii.westfields.net

**New Product: The National Reconnaissance Office's Director's Innovation Initiative (DII).**

The National Reconnaissance Office's Director's Innovation Initiative invests in advanced technologies, fosters innovation and provide seed funding to push the boundaries of technology to dramatically improve our satellite reconnaissance capabilities. It presents an opportunity for developers not traditionally associated with the NRO's to participate in building the National Reconnaissance Office of the 21st Century. Contact: Bill Harter; Kevin Donaleski.

## NDIA - National Defense Industrial Association

#924

2111 Wilson Blvd Ste 400, Arlington, VA, 22201  
703/247-2571; fax 703/527-6945  
pcleasby@ndia.org; www.ndia.org

The only defense trade association concerned with all of the armed forces and all activities of the DoD and DHS. NDIA has 29 divisions, hundreds of yearly events, local chapters, scholarships, awards and more. NDIA is the organization that helps companies educate their staff, network and sell their products/services. Contact: Elaine Kash, Corporate Membership Manager, ekash@ndia.org; Patricia Cleasby, Director of Marketing, pcleasby@ndia.org.

## NEC Corp.

#834

7-1 Shiba 5-Chome, Minato-ku, Tokyo, Japan, 108-8001  
81 3 3454 1111  
http://www.nec.com

**New Product: 640x480 & 320x240 GEN3 Infrared Detector Units (VOx microbolometer) with 23.5µm Pixel Size.**

NEC Corp. is one of the leading companies in Japan that provides solutions including computer systems, networking, communication equipments, etc. We have also outstanding and unique experience in the field of electro-optics and are now starting the marketing of our new products, 640x480 & 320x240 GEN3 high performance infrared detector unit (VOx microbolometer) with 23.5µm small pixel size. You will be surprised at the marvelous quality of images generated by our detectors. Contact: Osamu Takeda, Marketing Manager, o-takeda@ct.jp.nec.com; Keiko Aoki, Marketing Staff, k-aoki@dq.jp.nec.com.

### Product Spotlights

Open to all attendees and visitors, various exhibiting companies will be showcasing new and successful products in half-hour question-and-answer sessions. Spotlights will be held in the Exhibition Hall. See pages 18-19 for more information.



**Neptec Design Group**

#1333

**SPIE** Corporate Member

302 Leggett Dr, Kanata, ON, Canada, K2K 1Y5  
613/599-7602; fax 613/599-7604  
ichristie@neptec.com; www.neptec.com

**New Product: A multi-range ANISR Sensor supports autonomous navigation, object extraction, recognition & tracking.**

Gathering More Information, Less Data is Neptec's philosophy. Specializing in 3D intelligent machine vision systems, Neptec maintains a stellar reputation of quality and reliability in the design, manufacture, installation and support of its products. A major contributor to the space industry, Neptec is also pioneering the innovative use of vision systems for mission critical applications - specifically with Intelligence, Surveillance and Reconnaissance (ISR) in the defense and security markets. Contact: Sylvain Carriere, scarriere@neptec.com; Philip Church, pchurch@neptec.com.

**New England Photoconductor Corp. #221****SPIE** Corporate Member

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: 256-element linear multiplexed array. Arrays can be PbSe or PbS.**

Infrared Detectors. PbS, PbSe and InGaAs. Many standard sizes and packages available, as well as custom detector manufacturing. Thermoelectric cooler controllers, pre-amplifiers, filtered and cooled packages. See us at 221. Contact: Richard Brennan, Operations Manager.

**New Scale Technologies, Inc.**

#126

10 E Main St Ste 301, Victor, NY, 14564  
585/924-4450; fax 585/924-4468  
sales@newscaletech.com; www.newscaletech.com

**New Product: Tiny piezo motor: robust, low-power linear motor for optics and surveillance, microfluidics and more.**

New SQL Series - tiny SQUIGGLE motors (as small as 2.4 mm) have high efficiency and nanometer precision. They operate in harsh environments including UHV, sub-Kelvin temps and high magnetic fields. Uses include mini camera optics (auto focus and zoom), surveillance, adaptive optics, micro UAVs, gun sight stabilization and microfluidics (lab-on-a-chip pumps and valves). Patented ceramic design with seven parts and no gears means less heating, lower power draw and less bulk than electromagnetic motors. Contact: Fred Haas, Sales Manager, fhaas@newscaletech.com.

**Newcon Optik**

#225

105 Sparks Ave, Toronto, ON, Canada, M2H 2S5  
416/663-6963; fax 416/663-9065  
newconsales@newcon-optik.com; www.newcon-optik.com

Newcon Optik is a world class manufacturer with a reputation for providing innovative, state of the art optical solutions, for military and law enforcement. Night Vision Systems: Image Intensifier tubes (Gen 2+, Gen 3); Goggles (Aviation & Ground Systems); Binoculars, monoculars; Weapon scopes; Laser Rangefinders and speed detectors; Image Stabilized Binoculars; Thermal Imagers; Laser aimers and illuminators. Contact: Alex Rudy, Senior Account Manager Law Enforcement & Military Sales, arudy@newcon-optik.com.

\*\*\*\*  
Internet Pavilion Sponsor

**Newport Corp.**

#424

**SPIE** Corporate Member

1791 Deere Ave, Irvine, CA, 92606-4814  
949/863-3144; fax 949/253-1680  
sales@newport.com; www.newport.com

**New Product: Enhanced spatial/spectral brightness laser diodes; NanoPZ high-performance, high-load nano-actuator.**

Newport has been enabling high-precision aerospace and defense technology development and production for over 30 years. We're a global leader in precision motion systems, vibration control, optics, high-reliability laser diodes and systems and photonics instrumentation. Newport provides the foundation for development, test, assembly and calibration systems that ensure the accuracy and reliability of our defense systems worldwide. Contact: Randy Heyler, Senior Director, Strategic Marketing, randy.heyler@newport.com; Mike Flores, Regional Sales Manager, mike.flores@newport.com.

**Nippon Avionics Co., Ltd.**

#1017

20-1 Nishi-Shinbashi, 3-Chome Minato-ku, Tokyo, Japan,  
105-0003  
81 3 5901 7386; fax 81 3 5401 7344  
www.avio.co.jp

**New Product: New TVS series thermography (radiometric IR camera) with world best image quality its class.**

Nippon Avionics Co., Ltd. (Avio) is a Japanese manufacturer with a history of developing and manufacturing radiometric IR camera (thermography) for more than 25 years. Avio is renown for TVS series thermography with high performance including high quality thermal image and user-friendly rich functions. Please come visit Avio booth to see the entire line of products including new additions. Contact: Yukinori Kimura, Marketing Manager, Overseas Department, yknr-kimura@avio.co.jp; Jun Mochizuki, Manager, Overseas Department, mochizuki-jun@avio.co.jp.

**nLight Corp.**

#1213

5408 NE 88th St, Vancouver, WA, 98665  
360/566-4460; fax 360/546-1960  
sales@nlight.net; www.nlight.net

nLight develops and manufactures high-power semiconductor diode lasers. Our diode laser devices provide state-of-the-art high-brightness and high-power with high-reliability enabling a broad range of laser-based products in the industrial, medical, graphic arts and defense markets. We offer the broadest range of wavelengths in the industry starting from 635 nm to 2000 nm. Contact: Jake Bell, Vice President Defense Group, jake.bell@nlight.net.

**Northrop Grumman Corp.**

#110

600 Hicks Rd, Rolling Meadows, IL, 60008  
847/259-9600  
www.ngc.com

**Northrop Grumman, Cutting Edge Optronics**

#936

**SPIE** Corporate Member

20 Point W Blvd, St Charles, MO, 63301  
636/916-4900; fax 636/916-4994  
st-ceolaser-info@ngc.com; www.st.northrop.com/ceolaser

Manufacturer of diode pumped solid state lasers and laser components for military and aerospace applications. We specialize in laser package for military environments. Also specializing in laser diodes, diode arrays and customized laser diode packaging. Contact: Wade Collins, Sales Manager Military & Aerospace Laser, wade.f.collins@ngc.com; John Goings, North American Sales Manager, john.goings@ngc.com.



## Nova Engineering, Inc.

#513

5 Circle Freeway Dr, Cincinnati, OH, 45246  
513/642-3000; fax 513/642-3300  
info@nova-eng.com; www.nova-eng.com

**New Product: TRSS UGSS Handheld Monitor - Dual-Band Transceiver, Encryption, GPS, Sensor Programmer.**

Nova Engineering, Inc. develops leading-edge wireless communications systems and supplies commercial & MIL-qualified devices. A pioneer in fielding ground sensor systems, Nova excels where size/power/weight considerations are paramount. Also, NovaRoam mobile routers from Nova provide tactical and practical mesh and mobile ad hoc networks (MANET) in a low cost RF data transceiver. Nova's extensive design services and quick turn prototyping provide custom solutions to your unique requirements. Contact: Tanya Heid, Marketing & Sales Assistant, theid@nova-eng.com; Kevin Bobier, Vice President, kbobier@nova-eng.com.

## Nova Sensors

#1221

320 Alisal Rd #104, Solvang, CA, 93463  
805/693-9600; fax 805/693-9668  
kathy@novasensors.com; www.novasensors.com

**New Product: Nova's LVASI\_1k is a high performance low-output-data-rate FPA with enhanced spatial resolution.**

Nova Sensors' FPAs have on-chip tailored spatial resolution output. Variable Acuity Superpixel Imaging (VASI) is a patented foveating technology that permits the user control over the sensor's resolution or "Resolution-on-Demand". Nova's foveating FPAs are available in 320x256 at 30µm and the latest 1024x1024 at 19.5µm in visible, SWIR and MVIR bands. The VASI FPAs operate at full FOV and resolution at 60Hz frame rates. In VASI mode, frame rate increases substantially (>1,000 fps). Contact: Raymond Coussa, Vice President Business Development, ray@novasensors.com; Mark Massie, President, mark@novasensors.com.

## Nozomi Photonics

#820

**SPIE** Corporate Member

174 Component Dr, San Jose, CA, 95131-1119  
408/321-9872; fax 408/321-9307  
info@nozomiphotonics.com; www.nozomiphotonics.com

**New Product: 1xN and NxN high speed optical switches.**

NOZOMI Photonics designs and manufactures high speed optical switch for the telecom, datacom, governmental industries. Based on its innovation PLZT electro-optic technology NOZOMI Photonics supplies 1x2, 1x4, 1x8 and 2x2 and 4x4 nanosecond optical switches. Switches delay lines are also available. Contact: Jerome Prieur, Director of Sales & Marketing, jprieur@nozomiphotonics.com.

\*\*\*\*\*  
General Refreshment Sponsor

## Nufern

#717

**SPIE** Corporate Member

7 Airport Park Rd, East Granby, CT, 06026  
866/408-5000; fax 866/844-0210  
info@nufern.com; www.nufern.com

Nufern designs, manufactures, sells and supports specialty fibers, fiber lasers and fiber amplifiers that enable diverse customer applications. Nufern products encompass a range of single and multimode fibers including Panda, Gyro, Visible Wavelength, Sensor, Rad-hard and Active fibers designed for performance and long service life. Nufern, a US small business, offers industry leadership with a broad range of high power active fibers and assemblies. Contact: Michael O'Connor, Product Line Manager, moconnor@nufern.com; Fred Martins, Technical Customer Support Specialist, fmartins@nufern.com.

## Ocean Optics, Inc.

#1501

**SPIE** Corporate Member

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

\*\*\*\*\*  
WiFi Internet Sponsor

## Octec Ltd.

#230

**SPIE** Corporate Member

The Western Ctr, Western Rd, Bracknell Berks, United Kingdom, RG12 1RW  
44 1344 465200; fax 44 1344 465201  
sales@octec.co.uk; www.octec.com

Octec, a member of the Radstone Group, is one of the leading suppliers of real time image processing solutions to the aerospace and defence markets, worldwide. Over 90% of the companies turnover is exported, the majority to the USA. The company's products encompass rugged, real time image processing modules that perform the following functions: Video tracking, moving target detection, image enhancement, image fusion, image stabilisation, image mosaicing and image matching. Contact: Roger Joel, Sales and Marketing Manager, roger.joel@octec.co.uk.

## OFIL/Eklund Innovations Inc.

#1618

13A Einstein St, Science Park, Nes Ziona, Israel, 74000  
972 8 940 7953; fax 972 8 940 7873  
ofil@ofilsystems.com; www.ofilsystems.com

## Olympus Industrial America

#1523

One Corporate Dr, Orangeburg, NY, 10962  
866/642-4725; fax 800/233-0697  
info@olympusindustrial.com; www.olympusindustrial.com

## ONTAR Corp.

#916

9 Village Way, North Andover, MA, 01845-2000  
978/689-9622; fax 978/681-4585  
info@ontar.com; www.ontar.com

**New Product: Ontar's new products couple MM5 with the AFRL's MODTRAN and Ontar's PcModWin software.**

Ontar Corporation is a Research and Development company dedicated to helping companies worldwide to develop, deploy and integrate software applications. We provide solutions to enterprises of all sizes, providing service to over 3500 Government, Universities and Commercial facilities. Ontar specializes in Atmospheric Sciences, Technical Software Development, Electronic Publishing, Advanced Distributive Learning and Web applications. Ontar also provides custom onsite and offsite Workshops. Contact: John Schroeder, President, jschroeder@ontar.com; Kristen Ross, Administrative Assistant, Kross@ontar.com.

\*\*\*\*\*  
General Refreshment Sponsor

## Onyx Optics Inc.

#1018

**SPIE** Corporate Member

6551 Sierra Ln, Dublin, CA, 94568  
925/833-1969; fax 925/833-1759  
lreo@onyxoptics.com; www.onyxoptics.com

Onyx Optics product capabilities include Adhesive-Free Bonded (AFB) crystal and glass laser components such as laser rods, slabs, preforms and waveguiding structures with doped and undoped YAG, YLF, YVO4, sapphire, other crystals and glasses. Our composites enable higher efficiency, more compact and higher power solid state laser and photonic devices. Contact: Lesley Reo, Sales, lreo@onyxoptics.com; Oliver Meissner, Chief Executive Officer, omeissner@onyxoptics.com.



# THERE'S MORE TO SEE WITH MEGAPIXEL CCTV

Not satisfied with  
NTSC video quality?  
Lumenera's innovative  
network cameras will SATISFY.

With **X4** to **X16**, greater detail than typical CCTV, Lumenera's Ethernet cameras are providing a new era in CCTV image quality. True Day/Night functionality is also available. Capture high quality images under all lighting conditions.

**Le075** High quality standard resolution camera

**Le275** 2.0 megapixel for superior image detail

**Le165** Highest performing network CCD camera on the market

**Le375** 3.1 megapixel with 1500 lines of resolution

**Le175** Live frame rates at 4X NTSC resolution

To learn more visit [www.lumenera.com](http://www.lumenera.com)  
or call 613-736-4077

Dealer and Integrator Inquiries Welcome

**Intelligent  
Cameras  
AVAILABLE SOON**

**Lumenera**  
corporation

Lumenera Corporation  
7 Capella Court | Ottawa | Ontario  
K2E 8A7 | Canada

**Opgal Optronic Industries Ltd.**

#1125

**SPIE** Corporate Member

Industrial Area 5, PO Box 462, Karmiel, Israel, IL-20100  
972 4 995 3907; fax 972 4 995 3900  
[info@opgal.com](mailto:info@opgal.com); [www.opgal.com](http://www.opgal.com)

**New Product: EYE R 25 - UNCOOLED 320X240 engine based on 25 MICRONS VOX detector.**

OPGAL has over 20 years of experience as an innovative developer of thousands of electro-optical and thermal imaging products, with sales throughout the world. Through our vast product offering, OPGAL demonstrates its proven ability to maximize the detector's performance and optimize it to various applications, using only the most sophisticated digital signal processing with proprietary software algorithms. Cooled and Uncooled state of the art products are available. Contact: Sylvie Dascalu, Vice President Sales & Contracts, [dascalu@opgal.com](mailto:dascalu@opgal.com); Dror Sharon, Vice President Marketing, [Sharon@opgal.com](mailto:Sharon@opgal.com).

**Ophir Optics, Inc.**

#1036

**SPIE** Corporate Member

260-A Fordham Rd, Wilmington, MA, 01887  
978/657-6410; fax 978/657-6056

[optics@ophiropticsinc.com](mailto:optics@ophiropticsinc.com); [www.ophiropticsinc.com](http://www.ophiropticsinc.com)

**Opnext, Inc.**

#1436

104 Treemonte Dr, Orange City, FL, 34763  
386/774-2404; fax 386/774-2403  
[info@opnext.com](mailto:info@opnext.com); [www.opnext.com](http://www.opnext.com)

Opnext, Inc. is a global leader in high-performance optical components, including high power lasers, laser diode modules, transmitters and receivers, optical transceivers and transponders (SerDes transceivers). Formed out of Hitachi, Opnext brings over 30 years experience to the design, development and manufacture of high-performance lasers and components that power today's access communications, backbone, metro, information and industrial markets. Contact: James Brown, Director, North American Sales, [JBrown@Opnext.com](mailto:JBrown@Opnext.com).

**Optech, Inc.**

#1342

100 Wildcat Rd, Toronto, ON, Canada, M3J 2Z9  
416/661-5904; fax 416/661-4168  
[inquiries@optech.ca](mailto:inquiries@optech.ca); [www.optech.ca](http://www.optech.ca)

**Optical Surface Technologies, LLC** #128

2801 Broadbent Pkwy NE Ste E, Albuquerque, NM, 87107  
505/341-0169; fax 505/341-1131  
[info@opticalsurfacetech.com](mailto:info@opticalsurfacetech.com); [www.opticalsurfacetech.com](http://www.opticalsurfacetech.com)

OST is a "print to ship" manufacturer of large custom optical components with complete fabrication, measurement, testing and coating capabilities. OST meets demanding specifications and demanding delivery schedules and works with a variety of materials including Zerodur, BK7, fused silica, molybdenum and silicon carbide. Products include lightweight mirrors and windows, aspheres, high energy laser coatings, enhanced metal coatings, filters, anti-reflection coatings and polarizers. Contact: Reed Schmall, President, [reedschmall@qwest.net](mailto:reedschmall@qwest.net); Donald Avritt, Vice President, [avritt@qwest.net](mailto:avritt@qwest.net).

## OPTICS 1, Inc.

#324

**SPIE** Corporate Member

1050 Holt Ave Ste 12, Manchester, NH, 03109  
603/296-0469; fax 603/296-0473  
jpeterston@optics1.com; www.optics1.com

Optics 1, Inc. is a technology leader in the design, development and production of precision optical and electro-optical systems for commercial and government applications. We leverage our multi-disciplined engineering expertise in systems, optics, electronics, software and mechanics to design and deliver state-of-the-art electro-optical integrated systems. Our highly responsive, highly skilled team provides our customers with the best solutions for their Electro-Optical System Product needs. Contact: Douglas Harwood, Vice President Business Development, dharwood@optics1.com.

## Optics Technology, Inc.

#637

3800 Monroe Ave, Pittsford, NY, 14534  
585/586-0950; fax 585/248-2371  
info@opticstechnology.com; www.opticstechnology.com

## Optikos Corp.

#927

**SPIE** Corporate Member

286 Cardinal Medeiros Ave, Cambridge, MA, 02140  
617/354-7557; fax 617/354-5946  
info@optikos.com; www.optikos.com

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's product line includes testing suites for measuring the performance of optical and electro-optical imaging systems. Contact: Barry Logue, Vice President Sales and Marketing, blogue@optikos.com; Ryan McDonough, Sales and Marketing, rmcDonough@optikos.com.

## Optimax Systems, Inc.

#636

**SPIE** Corporate Member

6367 Dean Pky, Ontario, NY, 14519-8939  
858/365-1020; fax 585/265-1033  
sales@optimaxsi.com; www.optimaxsi.com

Prototype optics in 1 week. Optimax provides rapid prototyping of precision optical components in sizes from 3 to 300mm and quantities of 1 to 100. Specializing in Asphere, Cylinder, Sphere and Plano/Flat optics. All parts are manufactured to customer supplied specifications and final inspection data is included with the optics. Contact: Rick Plympton, Vice President.

## OptiPro Systems

#639

6368 Dean Pky, Ontario, NY, 14519-8939  
585/265-0160; fax 585/265-9416  
sales@optipro.com; www.optipro.com

**New Product: OptiPro ePX 150 UltraForm - Spherical, Aspherical and Conformal 5-axis CNC Polishing machine.**

Fabrication products include CNC Optical Machining Centers and Cad/Cam software for 4/5 axis grinding & polishing of spherical, aspherical and conformal optics. Popular low-cost "eSX 150" is quickly becoming the industry standard for manufacturing complex optical components. Manufacturer and distributor of optical/surface metrology equipment - Electronic Spherometers, TSK Accretech Surface Profilometers and STIL MicroMeasure non-contact surface measurement systems with resolution to 1 nm. Contact: Mike Bechtold, President, Mike@optipro.com; David Mohring, Design & Applications Engineer, dmohring@optipro.com.

## Opto Diode Corp.

#1531

**SPIE** Corporate Member

750 Mitchell Rd, Newbury Park, CA, 91320  
805/499-0335; fax 805/499-8108  
sales@optodiode.com; www.optodiode.com

## OptoSigma Corp.

#517

**SPIE** Corporate Member

2001 Deere Ave, Santa Ana, CA, 92705  
949/851-5881; fax 949/851-5058  
sales@optosigma.com; www.optosigma.com

**New Product: New 2006 catalog available at Security Defense Show free.**

OptoSigma Corporation manufactures precision optics, custom optical coatings, manual and motor positioners. Contact: Dan Denison, Western Regional Sales Manager, dan@optosigma.com; Michelle Young, National Sales Manager.

## Optronic Laboratories, Inc.

#619

4632 36th St, Orlando, FL, 32811  
407/422-3171; fax 407/658-5412  
info@olinet.com; www.olinet.com

**New Product: OL 770-NVS Night Vision Display Test and Measurement System.**

Optronic Laboratories, Inc., designs and manufactures industrial and research-grade light measurement instrumentation for Science, Industry and the Military. Optronic Laboratories specializes in Spectroradiometers, LED Test & Measurement Systems, Radiometer/Photometers, Integrating Sphere Systems, Traceable Standards and Calibration and Measurement Services. Contact: Alex Fong, Vice President of Sales & Marketing, afong@olinet.com; Jim Dermody, Business Development Manager, jdermody@olinet.com.

## Orion RD & P Center

#1431

**SPIE** Corporate Member

46/2 Shosse Entuziastov, Moscow, Russia, 111123  
7 495 374 9400; fax 7 496 373 6862  
root@orion.extech.ru

"ORION", founded in 1946 in Moscow, is developing and manufacturing: Photodetectors for wide spectrum range from UV to far IR (0.2 - 120µm), both one and multielements (including matrix ones and preamplifier), working at room and liquid nitrogen temperatures, based on different semiconductor materials; microelectronic circuits of readout, amplification and processing of photo signals; technological devices for ion processing of the surface, various thin film coating, ion etching of these coatings. Contact: Anatoly Filachev, General Director.

## OSI Optoelectronics, Inc.

#921

12525 Chadron Ave, Hawthorne, CA, 90250-4881  
310/978-0516; fax 310/644-1727  
sales@osioptoelectronics.com; www.osioptoelectronics.com

A subsidiary of OSI Systems, Inc., OSI Optoelectronics, is a worldwide provider of opto-electronic devices, subsystems and optical components. Including standard and custom state-of-the-art silicon photodetectors for fiber optic, soft x-ray, UV and NIR applications. X-ray products and sub-assemblies for CT scanners, food processing, medical and other applications. Military/Aerospace devices which conform to the highest quality mil-specification and standards for countless military and space programs. Optics including lenses, windows, filters, prisms, cylinders, domes and assemblies. ISO 9002 registered. Contact: David Kozak, Hi-Rel Sales Manager, dkozak@udt.com; Steven Cuffel, Vice President of Sales & Marketing, scuffel@udt.com.



## OZ Optics Ltd.

#817

**SPIE** Corporate Member

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

### **New Product: Remotely Accessible Fiber Optic Equipment for Testing and Sensing.**

Turnkey UV/VIS/IR Light Sources, RGB Sources and Combiners, High Power CW/Pulsed Fiber Lasers, Optical Amplifiers, High/Low Power Laser to Fiber Delivery Systems, HighPower Patchcords, Laser/ Laser Diode/Photo Diode to Fiber Couplers, Collimators/Focusers Polarizing/ Polarization Maintaining Splitters/ Combiners, Polarization Rotators/ Controllers/Analyzers, Polarizers, Test Equipment, Power Meters, Optical Taps/Power Monitors, Connector Termination Kits, Bulkhead Receptacles, Sleeve Thru Adaptors. Contact: Omur Sezerman, President and Chief Executive Officer; Jamie Hackett, Marketing Manager, jhackett@ozoptics.com.

## Pacific Advanced Technology

#1427

85 Industrial Way Unit A, Buelton, CA, 93427  
805/688-2088; fax 805/686-2723  
patinc@patinc.com; www.patinc.com

## Panavision Federal Systems

#108

6219 DeSoto Ave, Woodland Hills, CA, 91367  
818/316-1000; fax 818/316-1120  
www.panavision.com

## Phoenix Diamond Turning

#739

Glascoed Rd, St Asaph, United Kingdom, LL17 0LJ  
44 1745 584484; fax 44 1745 584500  
sales@pogl.co.uk; www.phoenix-dt.co.uk

### **New Product: 3-Axis Diamond-Turning.**

Manufacturer of IR optics and diamond-turned components with aspheric, diffractive & hybrid surfaces in IR materials, plastics and metals; optical design services; optical materials in finished & blank forms: Molded and CNC-machined blanks of all optical materials. Contact: Buzz Nesti, buzz@nakedoptics.com.

## Photo Sciences, Inc.

#143

**SPIE** Corporate Member

2542 W 237th St, Torrance, CA, 90505  
310/634-1500; fax 310/784-3642  
sales@photo-sciences.com; www.photo-sciences.com

## Photon Engineering, LLC

#1620

**SPIE** Corporate Member

440 S Williams Blvd Ste 106, Tucson, AZ, 85711  
520/733-9557; fax 520/733-9609  
info@photonengr.com; www.photonengr.com

### **New Product: FRED 5.40 features multi-threaded raytracing, IES export and STEP export.**

FRED 5.40 is the premier proven optical engineering software to visualize and solve today's leading edge sensor-related defense and security engineering problems. FRED is ideal for simulating thermal emission, thermal imaging, ghosting, stray light and narcissus effects in both space and land based defense and surveillance systems. FRED uses a 3D virtual prototyping CAD environment to model virtually any type of optical system. Contact: Donna Hart, Sales Manager, sales@photonengr.com; Carolyn Johnson, Sales Manager, sales@photonengr.com.

# intelligence in three dimensions



Specializing in 3D intelligent machine vision systems, Neptec maintains a stellar reputation of quality and reliability in the design, manufacture installation and support of its products. A major contributor to the space industry, Neptec is also pioneering the innovative use of vision systems for mission critical applications - specifically with Intelligence, Surveillance and Reconnaissance (ISR) in the defense and security markets.

For more information visit Neptec at SPIE, April 18 to 20, 2006 at Booth 1333, check out our website at [www.neptec.com](http://www.neptec.com) or call us at 613.599.7602 between 8:00AM and 5:00PM EST.

\* Photos Courtesy of U.S. Army

# NEPTEC



## Photon Gear, Inc.

#1536

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

## Photonic Cleaning Technologies

#1404

PO Box 435, Platteville, WI, 53818  
608/770-7383; fax 608/467-5597  
sales@photoniccleaning.com; www.photoniccleaning.com

**New Product: Easy to use First Contact cleans, protects precision surfaces, leaves them optically clean.**

First Contact was designed to remove dust, oils and contaminants from precision optics. It does that and a lot more. First Contact cleans diffraction gratings, is valuable in nanotech research, cleans optics and first surface mirrors without damaging coatings. It cleans and protects precision surfaces in handling, storage, assembly and shipping operations. Removes completely, leaves surfaces optically clean. Contact: Phil Jackson, President, jacksonp@photoniccleaning.com.

## Photonic Products Ltd.

#1309

**SPIE** Corporate Member

Pierce Williams, Sparrow Ln, Hatfield Broad Oak Herts, United Kingdom, CM22 7BA  
44 1279 717170; fax 44 1279 717171  
sales@photonic-products.com; www.photonic-products.com

**New Product: 635nm-830nm laser diode modules with TTL modulation option and output powers from 0.9mW to 32mW.**

Photonic Products, established in 1995, is a manufacturer of optical sub-assemblies and standard and custom laser diode modules including TE cooled laser modules, green DPSS laser modules, pigtailed and receptacle packaged laser diodes and fibre-coupled laser modules. Photonic Products is also a specialist distributor of high performance industrial laser diodes and precision optical lenses, with sales offices in USA, UK and Germany offering competitive prices and fast worldwide delivery. Contact: David Stephen, Sales Manager USA; David McGuinness, Technical Sales Manager.

## Photonic Sense GmbH

#1219

Am Goldberg 3, Eisenach, Germany, 99817  
49 3691 73180; fax 49 3691 731879  
info@photonic-sense.com; www.photonic-sense.com

**New Product: New plant expansion offers the world's largest Germanium crystals of 600 mm diameter.**

Photonic Sense offers Germanium and Silicon manufactured entirely in our state-of-the-art facility. From crystal growth through recycling, we have total fabrication capability. We have strategically incorporated into our portfolio other materials in the IR spectrum including Zinc Selenide, Zinc Sulfide, Sapphire, Calcium Fluoride, Barium Fluoride, Magnesium Fluoride, Chalcogenide Glass, Gallium Arsenide, Indium Arsenide and Indium Phosphide. Make just one call for all your IR materials. Contact: Dawn Jennings, dawn@photonic-sense.com.

## Photonics Industries International, Inc.

#816

**SPIE** Corporate Member

390 Central Ave, Bohemia, NY, 11716-3147  
631/218-2240; fax 631/218-2275  
info@photonix.com; www.photonix.com

**New Product: High efficiency, high pulse rate laser source at the eye-safe wavelength of 1.516µm.**

Photonics Industries develops and manufactures a range of diode-pumped solid-state laser systems for industrial and scientific applications. TEM00 mode lasers are available in Nd:YAG, Nd:YLF, Nd:YVO4 platforms. Output powers range from 100mW-50W at 1064nm, 100mW-40W at 532nm, 50mW-20W at 355nm and 5mW-6W at 266nm. Eye-safe, OPO, Ti:Sapphire and SLM lasers are also available. Contact: Matt Corrello, Director of Sales and Marketing, mcorrello@photonix.com.

## Photonics Industry Association of New York (PIANY)

#738

312 W Commercial St, East Rochester, NY, 14445  
585/586-6906; fax 585/385-6053  
rick@riversorg.com

**New Product: Promoting New York State's photonics, optics, and imaging industry through cluster-based initiatives.**

Programs and services to help New York State companies increase visibility, grow sales, reduce costs, and attract the best talent. Group promotions, networking, information transfer, discount purchasing, government liaison, and workforce development. Host of NYS Pavilions at major trade shows.

## Photonics Spectra - Laurin Publishing

#210

**SPIE** Corporate Member

Berkshire Common, 2 South St, Pittsfield, MA, 01201-6109  
413/499-0514; fax 413/442-3180  
photonics@laurin.com; www.photonicspectra.com

*Photonics Spectra* is the leading photonics magazine serving industries that use photonic technology: Lasers, imaging, fiber optics, optics, electro-optics and photonic component manufacturing. It presents the latest news articles and in-depth reports on photonics technology. It is distributed free to those who use or apply photonics. Contact: David Dover, Regional Manager, sales@photonicsgroup.com; Anne Fischer, Senior Editor, pseditorial@laurin.com.

## Photonics.com/Photonics Directory

#1225

Laurin Publishing Co., Inc., 2 South St PO Box 4949, Pittsfield, MA, 01202-4949  
413/499-0514; fax 413/442-3180  
Directory@laurin.com; www.photonics.com

*Photonics.com* is the only complete on-line source of photonics information developed by the leading photonics publisher for over 50 years. This Web site, which averages over 175,000 user sessions each month, includes daily news, new products and feature articles. Fully searchable, it provides access to the contents of the award-winning *Photonics Spectra* and *The Photonics Directory*. Additional features are the Photonics Dictionary, an industry employment center and event calendar. Contact: Susanna Rogers, Regional Sales Manager, sue.rogers@laurin.com; Jeff Nichols, Regional Sales Manager, jeff.nichols@laurin.com.

### Product Spotlights

Open to all attendees and visitors, various exhibiting companies will be showcasing new and successful products in half-hour question-and-answer sessions. Spotlights will be held in the Exhibition Hall. See pages 18-19 for more information.

**Physical Optics Corp.**

#1316

20600 Grammercy Pl #103, Torrance, CA, 90501-1821  
310/320-3088; fax 310/320-5961  
caroljacobus@poc.com; www.poc.com

Physical Optics Corporation is a "small systems integrator" of advanced opto-electronic technology. On display will be FAERITO™ data centric video, audio, data flight recorder; real-time 3D video display; IHC object oriented video compression and OmniView 360° video monitoring system. POC will discuss new technology such as real-time hyperspectral imaging; WPIC personal information carrier system, X-ray imaging/optics for IEDS; and WEARNET modular enhanced systemic hardware connector. Contact: Rick Shie, Senior Vice President, rshie@poc.com; Carol Jacobus, Marketing Administrator.

**Physics Today**

#922

One Physics Ellipse, College Park, MD, 20740-3843  
301/209-3100; fax 301/209-0842  
www.physicstoday.org

**New Product: Free 1-year access to www.physicstoday.org.**

Also, make sure your company is listed in the *Physics Today Buyers Guide*, www.physicstoday.org/buyersguide. The Guide enables you to search online for more than 1,200 suppliers of 2,600 scientific products and services. The print version is sent each August to 120,000 scientists and engineers. More than half are researchers at university labs. Contact: Randolph Nanna, Publisher, Rnanna@aip.org; Jeff Bebee, Marketing Director, Magazines, jbebee@aip.org.

**Phytron Inc.**

#1628

**SPIE** Corporate Member

600 Blair Park Rd Ste 220, Williston, MA, 05495  
802/872-1600; fax 802/872-0311  
info@phytron.com; www.phytron.com

Established in 1947, we manufacture high-precision stepping motors and stepper controls. Complimenting our motor line, we offer precision linear, rotary and Goniometer positioning systems widely used in the optical and research industries. All our motors and stages can be vacuum rated. Contact: Wahid Lahmadi, Applications Engineer.

**PI (Physik Instrumente) LP**

#238

**SPIE** Corporate Member

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

Fastest & highest precision piezo actuators, nanopositioning & scanning-systems in world. Ultrafast XY Scanners & Steering-Mirrors for Image Stabilization, Dithering & Interlacing; PICMA® Ceramic Insulated PZT Ceramics (100% Vacuum compatible). Smart Actuators; Advanced Hexapod 6-DOF MicroAlignment & Handling Systems, Capacitive Position Sensors (0.01 nm Resolution). NanoPositioning Stages, Scanning Microscopy (NSNOM, Near field, AFM, SPM, SEM, Confocal); Advanced Digital Piezo Controllers. Contact: Jim Gareau, Director of Sales East Region, jimg@pi-usa.us; David Steinberg, Director of Sales West Region, davids@pi-usa.us.

**Picometrix, An API Company**

#920

2925 Boardwalk, Ann Arbor, MI, 48104  
734/864-5600; fax 734/998-3474  
sales@picometrix.com; www.picometrix.com

Picometrix (an API company) is a leader in terahertz imaging and spectroscopy systems, serving Scientific, Industrial, Defense and Homeland Security markets. The T-Ray™ 2000 and QA 1000 products permit safe, high resolution sub-surface imaging and spectroscopy for screening people, bags and products and detection of explosive materials and weapons. The company also offers high speed optical receivers based on InGaAs, GaAs, Si semiconductors for the telecom, defense, industrial/medical markets. Contact: Mark Nicklas, Vice President Sales and Marketing, mnicklas@advancedphotonix.com; Susan Hinton, Sales and Marketing Administrator, shinton@picometrix.com.

**Planar Systems, Inc.**

#1320

1400 NW Compton Dr, Beaverton, OR, 97006  
503/748-1100; fax 503/748-5987  
stereomirror@planar.com; www.planar.com

Planar is showcasing its stereoscopic/3D LCD monitors and electroluminescent displays at booth 1320.

StereoMirror™: Comfortable stereoscopic viewing with all the benefits of standard LCD monitors - excellent image quality, flicker-free and wide viewing angles. Perfect for geospatial and defense applications. Electroluminescent Displays: Ideal for conditions with shake, shock and extreme temperatures. Perfect for military, industrial and transportation applications. Contact: Hal Newton, Strategic Marketing Manager, hal\_newton@planar.com; Matt Adamson, StereoMirror Sales, matt\_adamson@planar.com.

**PolarOnyx, Inc.**

#318

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

**New Product: High energy femtosecond fiber laser.**

Leading fiber laser company in ultrashort pulsed fiber lasers and single frequency fiber lasers. Our fiber laser products feature high energy (> 100 mJ), ultrashort pulse width (< 100 fs), narrowlinewidth (<1kHz), fiber delivery, compactness. Contact: Jian Liu, President, jianliu@polaronyx.com.

**POLLUTION EQUIPMENT NEWS/****Rimbach Publishing Inc.**

#1341

8650 Babcock Blvd, Pittsburgh, PA, 15237  
412/364-5366; fax 412/369-9720  
karen@rimbach.com; www.rimbach.com

*POLLUTION EQUIPMENT NEWS* provides information on products and services offered in the industrial and municipal environmental abatement and control field. *INDUSTRIAL HYGIENE NEWS* provides information on products and services for measuring and controlling various health hazards in the work environment. Contact: Raquel Rimbach, info@rimbach.com.

**Polymer Optics, LLC**

#1105

**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: Shari Powell, Vice President Business Development, sharids@polyoptics.com.

## Precision Asphere, LLC

#725

48860 Milmont Dr #105-C, Fremont, CA, 94538  
510/668-1508; fax 510/668-1595  
sales@precisionasphere.com; www.precisionasphere.com  
Precision Asphere, LLC. is a USA based manufacturing company specializing in custom glass aspheres. With its proprietary technology and over 10 years of asphere manufacturing experience, PRECISION ASPHERE will meet your need of high precision aspheres with competitive price. Contact: John Kong, President, jkong@precisionasphere.com.

## Precision Optical

#131

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, rrandolph@precisionoptical.com; Al Lambert, Sales Engineer, alambertjr@precisionoptical.com.

## Precitech, Inc.

#1327

**SPIE** Corporate Member

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

**New Product: Nanoform® 250Ultra, the next generation in diamond machining systems for IR manufacturing.**

Complete line of ultra-precision systems for diamond turning, grinding, grooving and milling for rotationally symmetric and freeform applications. We also provide additional solutions such as servo machining with our Fast Tool and Slow Tool technology for machining torics, off-axis aspheres and various lens array formations. These systems are utilized within the visible and infrared, optical molding, mechanical component and optical telecommunications markets. Contact: Chris Stroshine, Sales Manager, North America, cstroshine@precitech.com; Kirk Rogers, Sales Manager, North America, krogers@precitech.com.

## Princeton Instruments/Acton

#441

3660 Quakerbridge Rd, Trenton, NJ, 08619-1208  
609/587-9797; fax 609/587-1970  
moreinfo@piacton.com; www.piacton.com

PI/Acton designs and manufactures high-performance, camera, spectrograph and optics based solutions for the imaging, x-ray, spectroscopy and security markets. We cater to both the scientific research community and Original Equipment Manufacturers. Our commitment to continuous innovation in R&D and manufacturing process, coupled with a proven "Voice of Customer" program ensures that our customers are always at the forefront of technology and reliability while pushing the boundaries of discovery.

## Princeton Lightwave, Inc.

#220

2555 Rte 130 S Ste 1, Cranbury, NJ, 08512  
609/495-2600; fax 609/395-9113  
info@princetonlightwave.com; www.princetonlightwave.com

**New Product: Single Photon Benchtop Receiver.**

Princeton Lightwave, Inc. (PLI) applies its unique expertise in indium phosphide-based optical semiconductor devices, such as high power lasers and avalanche photodetectors, to design and manufacture advanced optical modules and systems for emerging applications. PLI delivers solutions offering higher performance, reduced system costs and easier deployment to its customers in the fields of optical networking, industrial processing, aerospace and defense and bio-medical instrumentation. Contact: Brian Potenski, Sales/Marketing Coordinator, sales@princetonlightwave.com.

## PVP Advanced EO Systems, Inc.

#343

14312 Franklin Ave, Tustin, CA, 92780  
714/508-2740; fax 714/508-2533.  
info@pvpaeo.com; www.pvpaeo.com

**New Product: Mid sized pan and tilt gimbal providing high accuracy and payload in a small light weight package.**

PVPAEO provides state-of-the-art imaging systems and components for use in military, aerospace and commercial applications. We develop and integrate sensors and systems for space, airborne, ship and land based applications that incorporate the latest infrared and visible cameras, lasers, video trackers and precision gimbals. Our goal is to provide innovative and cost efficient solutions to support the most challenging electro optical imaging applications from prototype to production. Contact: Geoff Miller, Manager Engineering and Business Development, geoff.miller@pvpaeo.com; John LeBlanc, Director, john.leblanc@pvpaeo.com.

## Pyramid Imaging, LLC

#1239

615 Bannockburn Ave, Tampa, FL, 33617  
813/984-0215; fax 813/984-1231  
clee@pyramidimaging.com; http://www.pyramidimaging.com

## Qioptiq Polymer

#1533

1318 Palomares Ave, La Verne, CA, 91750  
909/593-9330; fax 909/596-1452  
www.qioptiq.com

## QmagiQ, LLC

#135

1 Tara Blvd Ste 102, Nashua, NH, 03062  
603/821-3092; fax 603/821-3094  
info@qmagiq.com; www.qmagiq.com

QmagiQ designs and manufactures QWIP detector arrays hybridized to a variety of read-out multiplexers. Its current product line ranges from single-color LW FPAs (320x256 and 640x512 formats) to advanced dual-band (MW-LW) spatially registered imaging arrays. Contact: Mani Sundaram, msundaram@qmagiq.com; Axel Reisinger, areisinger@qmagiq.com.

## Quality Thin Films, Inc.

#1625

141 Burbank Rd, Oldsmar, FL, 34677  
813/855-1900; fax 813/855-5580  
info@qtf.com; www.qtf.com

## Quebec Photonic Network

#240

111 rue Lapierre, Local 1.845.1 BP 128,  
LaSalle Montreal, QC, Canada, H8N 2J4  
514/368-1677; fax 514/368-2098  
jacques@photoniquequebec.ca; www.montrealphotonic.ca

The Quebec Photonic Network, a non-profit group with mandate to contribute to the advancement of Photonics in Quebec by serving as an information hub and providing its members with networking services. Its actions address four priorities: Business development, development of expertise, promotion of the industry, and governmental and institutional relations. Contact: Françoise Lee, Membership relations, francoiselee@quebecphotonic.ca; Jacques Labelle, Managing Director, jacques@quebecphotonic.ca.





ELECTRO-OPTICAL IMAGING, INC.

Engineering High Performance Tracking Solutions

4300 Fortune Place, Suite C

West Melbourne, FL 32904

321.435.8722

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

## VIDEO TRACKERS AND TRACKING SYSTEMS



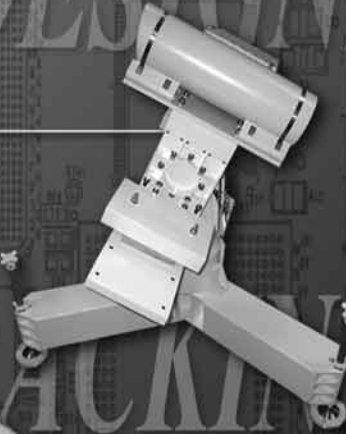
VME  
PCI  
cPCI  
Custom



Packaging  
Control Units



Series 3000  
Master/Slave  
MATS



Camera Link  
Hot Link  
LVDS Parallel



TRACKERS \* TRACKING SYSTEMS \* CUSTOM PRODUCTS & DESIGNS \* CUSTOM VIDEO INTERFACES

## QuickSet International Inc. #839

3650 Woodhead Dr, Northbrook, IL, 60062  
847/498-0700; fax 847/498-1258  
sales@quickset.com; www.quickset.com

### New Product: The QPT50.

QuickSet builds intelligence into the subsystem platform node to maximize the functionality and flexibility of your surveillance or communications system. QuickSet lets you smartly design for the long term because our integrated nodal subsystems improve system life cycle, reduce integration risks and let you plug'n play new components as technology changes. Now that your system is integrated, the rest is easy. Contact: Dan Stafiej, Sales Support, danstaf@quickset.com; Sherry Edecker, Sales & Marketing Support Manager, sherry@quickset.com.

## Quintessence Photonics Corp. #1520

**SPIE** Corporate Member

15632 Roxford St, Sylmar, CA, 91342  
818/986-0000  
www.qpclasers.com

## Rainbow Research Optics, Inc. #716

**SPIE** Corporate Member

4880 Ironton St Unit K, Denver, CO, 80239  
303/371-3000; fax 303/371-1333  
sales@rroptics.com; www.rainbowoptics.com

### New Product: Zero and Multiple Order Quartz Waveplates.

Rainbow Research Optics, Inc. is a leading manufacturer in the field of precision optics. Specialties include fast delivery, quality optics and competitive pricing. Complete in-house manufacturing including polishing and coating. Products include: Windows, lenses, beamsplitters, prisms, cubes, polarizers and waveplates. Quantities include prototypes to high production for custom or standard items. Contact: Sales Team, Technical Sales.

## Rapiscan Systems #727

3232 W El Segundo Blvd, Hawthorne, CA, 90250  
310/978-1457; fax 310/349-2491  
tschoemann@rapiscan.com; www.rapiscansystems.com

Rapiscan Systems is the preferred partner for security inspection solutions throughout the world. Dedicated to supporting global efforts against terrorist and criminal acts through cutting edge technology and deploying full range solutions for Baggage & Parcel Inspection, Cargo & Vehicle Inspection, Hold Baggage Screening and People Screening. The technology utilized ranges from X-ray and Gamma-ray imaging to advanced threat identification techniques such as neutron and diffraction analysis. Contact: Tom Schoemann, Program Manager; Louis Peters, President, lpeters@erson.com.

\*\*\*\*\*  
Tuesday Morning Coffee Break Sponsor

## Raytheon Vision Systems #1023

75 Coromar Dr, Goleta, CA, 93117  
805/968-3511; fax 805/562-4824  
rvsmarketing@raytheon.com; www.raytheon.com

### New Product: Enhanced Night Vision Goggles (ENVG) in support of the U.S. Military.

Raytheon Vision Systems develops and produces detection and imaging devices for applications in the x-ray, visible, infrared, terahertz and millimeter wave. Our product line offers imaging solutions for nearly any challenge. Recent advancements include 2K x 2K S/MWIR arrays, 1280 x 720 2-color arrays and custom staring and scanning arrays for military and civil space applications. Other products include integrated cooled FPAs and split-Stirling cryocoolers with capacities from 0.3 to 1.5W. Contact: Michael Gray, Business Development Manager, mgray@raytheon.com.

## Redlake #441

3440 E Britannia Rd, Tucson, AZ, 85706  
800/462-3407; fax 520/574-2773  
info@redlake.com; www.redlake.com

Redlake is leading the world in providing camera based solutions for slow motion and industrial inspection applications. Whether your imaging requirements involve vehicle impact testing, aerospace, range & ballistics, high speed motion analysis or machine vision, we have designed cameras to meet your needs. Our solutions are tailored to meet the highest demands of the industrial user and life/physical science research communities. Redlake's investment in technological innovation is our commitment to your success. Contact: Jennifer Singleton, jsingleton@redlake.com.

## RedShift Systems #125

1601 Trapelo Rd Ste 214, Waltham, MA, 02451  
781/672-2660; fax 781/672-2661  
www.redshiftsystems.com

### New Product: Low cost thermal camera engines for security and surveillance applications.

RedShift Systems Corp. is a pioneer in enabling low-cost, high-performance thermal imaging solutions for mass-market applications. The RedShift Thermal Light Valve™ technology translates thermal energy into visible images - allowing CMOS sensors to "see heat". This enables manufacturers to include high-quality thermal imaging capability in a wide variety of products for the video surveillance and security, fire fighting, law enforcement, automotive safety and industrial markets. Contact: Stuart Nixdorff, Vice President, Sales and Marketing, snixdorff@redshiftsystems.com.

## Research Center of Magnetic Tomography and Spectroscopy #1430

**SPIE** Corporate Member

M.V. Lomonosov Moscow State University, Vorobiovy Gory, Moscow, Russia, 119899  
7 495 939 4882; fax 7 495 932 8993  
yupi@phys.msu.ru

Infra-red radiometer for industrial temperature control. IR radiometer in 8-12µm is created on the base of pyro-electric detector and is applied for measurement of heated detail temperature during thermal high frequency and laser processing on conveyer. Instrumental sensitivity of detector 0.1 K provides accuracy of real time temperature measurements ±1-3%. The device functions successfully in hard conditions of industrial manufacturing - high humidity, thick smoke, water steam, vibrations, high temperature, etc.

## Research Electro-Optics, Inc. #417

**SPIE** Corporate Member

5505 Airport Blvd, Boulder, CO, 80301  
303/938-1960; fax 303/447-3279  
sales@reoinc.com; www.reoinc.com

Research Electro-Optics, Inc. (REO) is a leading supplier of precision optical components, assemblies and high-performance laser optics for the defense and aerospace industries, including Ring-Laser Gyroscope (RLG) substrates and coatings. REO is a financially stable small business that is ISO 9001:2000 certified and specializes in rapid prototyping for next-generation applications and medium to high volume integrated manufacturing services for production programs. Contact: Mark Damery, Vice President of Sales, markd@reoinc.com.

# OPTICS & PHOTONICS for SPACE-BASED and MEDICAL APPLICATIONS

College of Optics and Photonics

Industrial Affiliates' Day

April 21, 2006

Exhibits ✧ Poster Papers ✧ Lab Tours

## Speakers:

Dr. Philip Stahl,  
Sr. Optical Physicist, NASA  
Marshall Space Flight Center

Dr. Jim Garvin,  
Chief Scientist, NASA  
Goddard Space Flight Center

Dr. Watt Webb,  
Cornell University  
Dir. of Developmental Resources  
Biophysical Imaging Opto-electronics



\*a public event, all are welcome.

Registration:  
[www.optics.ucf.edu](http://www.optics.ucf.edu)

## Ricor - Cryogenic & Vacuum Systems

#930

Ein Harod Ihud, Ein Harod Ihud, Israel, IL-18960  
972 46 53 0800; fax 972 46 53 2424  
[info@ricor.com](mailto:info@ricor.com); [www.ricor.com](http://www.ricor.com)

RICOR develops, manufactures and markets a wide range of advanced products & solutions, ranging from Cryocoolers for Infra Red Detectors and Scientific Instrumentation, Advanced Acoustic Noise and Vibration Control for various applications, Vacuum Cryo Pumps and Wafer Storage Purge Systems for the Semiconductor Industry and the newly developed solutions for High Temperature Superconductivity Devices. Founded in 1967, RICOR has steadily advanced with a commitment to quality, innovation & customer focused solutions.

## Riegl USA, Inc.

#613

7035 Grand National Dr Ste 100, Orlando, FL, 32819  
407/248-9927; fax 407/248-2636  
[info@rieglusa.com](mailto:info@rieglusa.com); [www.riegusa.com](http://www.riegusa.com)

**New Product: The Riegl LMS-Z420i 3D laser scanning system for capturing and documenting existing conditions.**

Riegl USA is a 3D airborne and laser scanning business founded on the company's 28-year heritage in research, development and manufacture of time-of-flight-based optical radar systems. In addition to 3D scanners, RIEGL offers a wide range of single-point laser measurement devices. Today, RIEGL is leading the integration of other technologies and software into hybrid systems that provide synergistic benefits to the users. Contact: Jim van Rens, Vice-President.

## Rochester Precision Optics LLC

#642

850 John St, W. Henrietta, NY, 14586  
585/292-5450; fax 585/292-5459  
[whurley@rpoptics.com](mailto:whurley@rpoptics.com); [www.rpoptics.com](http://www.rpoptics.com)

**New Product: Precision Glass Molded Aspheres.**

RPO delivers complete optical manufacturing solutions of superior quality from custom design to added-value assembly. We have a new state-of-the-art facility in Rochester, NY with proven professionals and equipment from Kodak's Optical Imaging Systems (KOIS) group. Products include: Optical Engineering, Traditional Optics, Precision Glass Molded Aspheres, Diamond Turning, Custom Coatings, Precision Machine Shop, Assembly and Test and Catalog Lenses. Contact: William Hurley, President.

## Rockwell Collins

#1504

**SPIE** Corporate Member  
400 Collins Rd NE, Cedar Rapids, IA, 52498  
319/295-1000; fax 319/295-4333  
[www.rockwellcollins.com](http://www.rockwellcollins.com)



## Rockwell Scientific Co. #236

1049 Camino Dos Rios, Thousand Oaks, CA, 91360  
805/373-4558; fax 805/373-4775  
pross@rWSC.com; www.rockwellscientific.com

Rockwell Scientific Company LLC, based in Thousand Oaks, CA, is an independent, privately owned high-technology enterprise with unique technical strengths in imaging sensors, electronics, materials technologies and information science. Its range of activities includes performing research services for the U.S. Government and private sector companies, as well as the manufacturing and sale of high-value products and licensing the technologies related to its R&D efforts. Contact: Bill Weissbard, Product Sales, [wws@rWSC.com](mailto:wws@rWSC.com); Bill Goldfield, Communications Manager, [wgoldfield@rWSC.com](mailto:wgoldfield@rWSC.com).

## RPC Photonics, Inc. #1441

330 Clay Rd, Rochester, NY, 14623  
585/272-2840; fax 585/272-2845  
[info@rpcphotonics.com](mailto:info@rpcphotonics.com); [www.rpcphotonics.com](http://www.rpcphotonics.com)

## RPMC #320

**SPIE** Corporate Member

203 Joseph St, O'Fallon, MO, 63366  
636/272-7227; fax 636/272-3909  
[rPMC@rPMCclasers.com](mailto:rPMC@rPMCclasers.com); [www.rPMCclasers.com](http://www.rPMCclasers.com)

RPMC offers high power multimode and single mode laser diodes from 622nm through >2300nm. We also offer collimated modules, high brightness and high power fiber coupled modules. RPMC also offers 500kHz picosecond micromachining lasers, custom nanosecond lasers from 213nm - 10µm and 2 and 5 nanosecond air cooled industrial lasers. Contact: Dean Micke, Vice President, Laser Diodes, [dean@rPMCclasers.com](mailto:dean@rPMCclasers.com); Chuck Ratermann, President, Solid State, [chuck@rPMCclasers.com](mailto:chuck@rPMCclasers.com).

## RSI #1411

**SPIE** Corporate Member

See RSI at the ITT Industries Booth #1411.

RSI, a wholly owned subsidiary of ITT, will demonstrate IDL and ENVI. ENVI offers a full suite of image exploitation tools and the most advanced, yet user-friendly, spectral processing for your imagery analysis, spectral processing, identification and multi-source fusion needs. IDL provides scientists, engineers and researchers with the tools they need to analyze and visualize complex data.

## Rugate Technologies, Inc. #1541

353 Christian St, Oxford, CT, 06478  
203/267-3154; fax 203/267-3157  
[info@rugate.com](mailto:info@rugate.com); [www.rugate.com](http://www.rugate.com)

New Product: Narrow band interference filters for the infrared with broad field of view.

Rugate Technologies, Inc., founded in 1996, is an optical coating company specializing in research and development as well as the manufacture of high performance optical filters. Rugate Technologies offers a unique selection of products, such as narrow band notch filters for the infrared, spectral control filters for TPV and variable density filters. Contact: Jeanne Lazo-Wasem, President, [jlazo-wasem@rugate.com](mailto:jlazo-wasem@rugate.com); Thomas Rahmlow, Vice President.

## Saint-Gobain Crystals #516

33 Powers St, Milford, NH, 03055  
603/673-5831; fax 603/673-1256

**New Product: Saint-Gobain Crystals introduces their CLASS 225 and CLASS 300 Sapphire windows.**

Saint-Gobain Crystals provides high performance materials for demanding applications. Laser crystals for Laser Rangefinders/Target Designators and other applications available in rod/slab configurations. Optical materials including Fluorides. Introducing CLASS225 and CLASS300, largest area Sapphire in the world for VIS - MWIR windows. Available 225mm and 300mm wide up to 660mm long. Stay tuned for our CLASS400 available Fall 2006! Sapphire Windows, Laser Crystals, Optic Materials. Contact: Jeff Rioux, Product Manager, [jeffrey.b.rioux@saint-gobain.com](mailto:jeffrey.b.rioux@saint-gobain.com); Joyce Monbleau, Sales Manager, [joyce.s.monbleau@saint-gobain.com](mailto:joyce.s.monbleau@saint-gobain.com).

## Sandia National Laboratories #342

1515 Eubank SE, Albuquerque, NM, 87125-1081  
[microsystems@sandia.gov](mailto:microsystems@sandia.gov)

Sandia National Laboratories is a multi-program laboratory operated by the Lockheed Martin Corporation for the National Nuclear Security Agency and the US Department of Energy in support of the US nuclear weapons stockpile. The Microsystems Center of Sandia develops advanced technologies and microsystem design solutions for national security applications including, radiation hardened microelectronics, sensors, photonics and microelectromechanics, on a non-competitive basis with US industry. Contact: [microsystems@sandia.gov](mailto:microsystems@sandia.gov).

## Sandia National Laboratories #223

PO Box 5800-1330, Albuquerque, NM, 87185  
505/844-0378; fax 505/845-5491  
[kmmiles@sandia.gov](mailto:kmmiles@sandia.gov); [www.sandia.gov/radar](http://www.sandia.gov/radar)

Sandia National Laboratories is a multiprogram laboratory operated for the United States Department of Energy. Its mission areas include nuclear weapons, nonproliferation, homeland security, energy, military technologies and basic research. Sandia is a world leader in designing and developing high-performance imaging radar systems and related technologies.

## Santa Barbara Focalplane - Lockheed Martin #137

346 Bollay Dr, Goleta, CA, 93117  
805/571-2300; fax 805/562-8993  
[sbfp@sbfp.com](mailto:sbfp@sbfp.com); [www.sbfp.com](http://www.sbfp.com)

## Santa Barbara Infrared, Inc. #411

30 S Calle Cesar Chavez Ste D, Santa Barbara, CA, 93103  
805/965-3669; fax 805/963-3858  
[sales@sbir.com](mailto:sales@sbir.com); [www.sbir.com](http://www.sbir.com)

**New Product: Revolutionary High Performance Blackbody for Improved NUC and Camera Performance Characterization.**

SBIR designs and manufactures the most innovative IR and E-O test instrumentation available. Our products offer the highest level of performance and are designed for laboratory, production, depot and field testing environments. Products include blackbody sources visible sources, laser test sets, collimators, target projectors, spectral radiometer, test automation software, multi-spectral test sets, detector test sets and MIRAGE dynamic IR scene projectors. Contact: Steve White, Sales Manager, [swhite@sbir.com](mailto:swhite@sbir.com); Greg Willis, Sales/Marketing, [gwillis@sbir.com](mailto:gwillis@sbir.com).

**Sarnoff Corp.**

#1338

201 Washington Rd, PO Box 5300, Princeton, NJ, 08540  
609/734-2000; fax 609/734-2040  
bd@sarnoff.com; www.sarnoff.com

Sarnoff Corporation founded in 1942 as RCA Laboratories, continues its Global reputation for innovation in video, imagers and integrated circuits by marketing its wholly-owned subsidiary, Pyramid Vision's product line TerraSight. This system includes unique solutions for aerial video exploitation from multiple sources and provides commanders and analysts real-time battlefield situational awareness. Contact: Mark Sartor, Senior Business Development Director, Government, msartor@sarnoff.com.

**SBS Technologies**

#934

7401 Snaproll St NE, Albuquerque, NM, 87109  
505/875-0600; fax 505/875-0400  
info@sbs.com; www.sbs.com

SBS Technologies builds embedded computer solutions that many of the world's largest companies rely on every day, serving more than 1,000 customers with over 4,000 products. We provide components and systems that meet the computing needs of a wide range of industries like telecommunications, medical electronics, industrial automation and defense. Contact: SBS Technologies Sales.

**Sc. & Technological Center of Unique Instrumentation, RAS**

#1435

**SPIE** Corporate Member

15 Butlerov Str, Moscow, Russia, 117342  
7 495 333 6102; fax 7 495 334 7500  
vlad\_pst@yahoo.com

Generation of AOTF-based spectrometers comprises acousto-optical spectrometers for UV, IR ranges, Raman and fluorescence spectroscopy for the tasks of express-analysis and remote sensing and spectral imaging. Contact: Vladislav Pustovoit, Director.

**SCD-Semi Conductor Devices**

#525

**SPIE** Corporate Member

PO Box 2250, Haifa, Israel, IL-31021  
972 4 990 2535; fax 972 4 990 2627  
marketing@scd.co.il; www.scd.co.il

**New Product: Pelican, 640x512 InSb IDCA (15  $\mu$ m). The best solution for systems with power and weight constraints.**

Semi Conductor Devices (SCD) develops and manufactures a full spectrum of cooled and uncooled infrared detectors and laser diodes. SCD offers off-the-shelf and custom-designed detectors. SCD's products are typically applied in IR seekers, thermal imagers, smart munitions, night navigation systems, laser rangefinders and laser designators. Among SCD's products: InSb two dimensional arrays 320x256 and 640x512, MCT 240x1, TDI 288x4 and 480x6, VOx Microbolometers 320x256 and 384x288. Contact: Fabian Schapiro, Marketing Manager, fabian@scd.co.il; Yirmi Katz, Vice-President, Marketing, yirmi\_k@scd.co.il.

**Bring SPIE In-Company Training to Your Facility.**

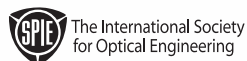
Optics • Photonics • Optoelectronics • Imaging

Meet company objectives and keep costs down by bringing customized courses directly to your facility. SPIE offers over 700 courses taught by industry experts that run from one-day to three-day sessions of concentrated instruction – held at your location.

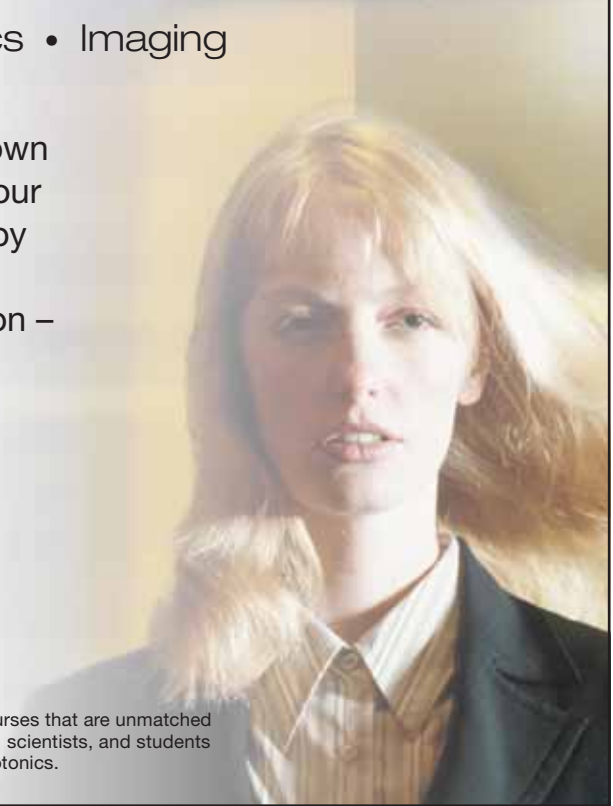
**Learn more:**

**[spie.org/incompany](http://spie.org/incompany)**

Contact SPIE to schedule your In-Company Training today.  
Gayle Lemieux, Education Services  
gayle@spie.org • Tel: +1 360 685 5537



SPIE continues to excel in delivering technical courses that are unmatched in quality and relevance to researchers, engineers, scientists, and students pursuing a continuing education in optics and photonics.



## Schneider Optics, Inc.

#1239

**SPIE** Corporate Member

285 Oser Ave, Hauppauge, NY, 11788  
631/761-5000; fax 631/761-5090  
oem@schneideroptics.com; www.schneideroptics.com

## SCHOTT North America, Inc. - Fiber Optics Division

#118

122 Charlton St, Southbridge, MA, 01550  
508/765-9744; fax 508/764-6273  
fiberoptics.southbridge@us.schott.com;  
www.us.schott.com/fiberoptics

SCHOTT Fiber Optics is the premier supplier of fiber optic components for image intensifier tubes used in night vision devices. Fiber optic manufacturing innovations have resulted in product improvements in optical distortion, MTF, resolution and image quality. They have also contributed to the continued superiority of products supplied to the US military. Contact: Rick Miller, Business Manager - Defense Division, rick.miller@us.schott.com; Kate Pepler, Marketing Manager, katie.pepler@us.schott.com.

## Scientific Solutions, Inc.

#1400

55 Middlesex St Unit 210, North Chelmsford, MA, 01863-1561  
978/251-4554; f fax 978/251-8822  
info@sci-sol.com; www.sci-sol.com

### New Product: Fabry-Perot Interferometers.

SSI specializes in the design and fabrication of both classic Air-Gap Fabry-Perot Interferometers and next-generation Liquid Crystal Fabry-Perot (LCFP) tunable optical filters. The award-winning LCFPs are available with stock or custom specifications and provide simple, rapid, solid-state wavelength selection with only 0-10V. SSI also provides a range of services including optical system and coating design, spectroscopic consulting and distribution of Avantes products to the Northeast. Contact: Michael Dorin, Applications Engineer/Sales and Marketing, dorin@sci-sol.com.

## SELEX Sensors and Airborne Systems

#1511

Christopher Martin Rd, Basildon Essex,  
United Kingdom, SS14 3EL  
44 1268 883203; fax 44 1268 883603

## SENSIAC

#1421

Georgia Technology Research Institute, 925 Dalney St,  
Atlanta, GA, 30332-0870  
404/385-7373; fax 404/385-0924  
russ.stanton@gtri.gatech.edu; www.sensiac.gatech.edu  
SENSIAC is a DoD Information Analysis Center operated by Georgia Tech under contract to the Defense Technical Information Center (DTIC) and provides information products and services to Government, Government contractors, educational institutions and other organizations that apply sensing technologies to the defense of the US. Our job is to make your sensing related job easier, faster, more efficient and less costly than it would otherwise be. SENSIAC is an enabler of the progress of others. Contact: David Shumaker, Director, SENSIAC, david.shumaker@gtri.gatech.edu; Russell Stanton, Deputy for Engineering.

## Sensor Technology Systems, Inc.

#1442

2794 Indian Ripple Rd, Beavercreek, OH, 45440  
937/426-2341; fax 937/426-4820  
marketing@sts-eo.com; www.sts-eo.com

### New Product: STS's new Enhanced Heads Up Display offers color fusion with it's Low Profile Night Vision Goggle.

Night Vision for the 21st Century - STS's AN/PVS-21 Low Profile Night Vision Goggle (LPNVG) is the first choice of elite units worldwide. The unique low profile configuration and advanced see-through optics enhance mission performance. The AN/PVS-21 is the only night vision goggle with an integrated Heads Up Display (HUD), providing forces with unmatched sensor fusion. STS's LPNVG is the night vision solution for discriminating operators requiring the best systems. Contact: Stan Babb, Manager, Marketing & Programs, sbabb@sts-eo.com.

## Sensors Unlimited, Goodrich Corporation

#310

Bldg 12, 3490 US Rte 1, Princeton, NJ, 08540-5914  
609/520-0610; fax 609/520-1663  
info@sensorsinc.com; www.sensorsinc.com

### New Product: High Frame Rate, Large Format InGaAs Camera. Miniature High Sensitivity InGaAs Camera.

Sensors Unlimited, Goodrich Corporation manufactures the most complete line of shortwave infrared (SWIR) imaging and detection products available for defense and commercial applications. Based on our proprietary indium gallium arsenide (InGaAs) platform, innovative product offerings include fast framing and high resolution cameras, linescan imagers, focal plane arrays and high speed APDs. Consult Sensors Unlimited for custom InGaAs design and devices in the rapidly emerging SWIR spectrum. Contact: Bob Struthers, Director, Sales & Marketing, robert.struthers@goodrich.com; Bob Jones, Account Manager, robert.jones@goodrich.com.

## Senspex, Inc.

#1106

**SPIE** Corporate Member

333 Rio Rancho Blvd NE Ste 105, Rio Rancho, NM, 87124  
505/891-0034; fax 775/252-8908  
info@senspex.com; www.senspex.com

### New Product: Ram-On, chemical ID; Falcon-X, portable camera system; Video Test Kit, video troubleshooting.

Senspex is engaged in the research, development and commercialization of optical systems including systems for chemical detection and customized thermal imaging systems for surveillance, security and industrial applications. Senspex provides integration, installation and maintenance services for surveillance camera systems. Senspex manufactures: Ram-On, a portable solution for on-site chemical ID; Falcon-X, a field deployable camera system; and VTK, a portable video troubleshooting kit. Contact: Janelle Anthone, Vice President, janthone@senspex.com.

## Servometer/PMG, LLC

#735

501 Little Falls Rd, Cedar Grove, NJ, 07009-1291  
973/785-4630; fax 973/785-0756  
info@servometer.com; www.servometer.com

### New Product: Solid Gold and Baffled Electroforms.

Servometer manufactures custom metal bellows and assemblies, bellows type flexible shaft couplings, gold plated bellows contacts and light weight Electroforms. Servometer bellows are flexible, leak tight and can be used as springs and flexible seals. Bellows type flexible shaft couplings can accommodate axial, angular and offset deflections with zero backlash and low windup. Gold plated contact bellows can be used in applications where good contact and continuity are important. Contact: Steve Oliphant, Technical Support Associate, steveo@servometer.com.



**Siskiyou Design Instruments #1300****SPIE** Corporate Member

110 SW Booth St, Grants Pass, OR, 97526  
 541/479-8697; fax 541/479-3314  
 sales@sd-instruments.com; www.siskiyou.com

**New Product: Monolithic Flexure Mirror Mount.**

Siskiyou Design Instruments 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 Design Instruments will also custom tailor devices to fit your needs. Contact: Technical Support, tech@siskiyou.com; Sales Support, sales@siskiyou.com.

**SOCC Optoelectronics (USA), Inc. #141**

Parker Plaza 16th Fl, 400 Kelby St, Fort Lee, NJ, 07024  
 201/242-0020; fax 201/242-0021  
 ikelly@soccopto.com; www.socnb.com

**SOFRADIR #1022**

43-47 rue Camille Pelletan, Chatenay-Malabry,  
 France, F-92290  
 33 1 41 13 45 30; fax 33 1 46 61 58 84  
 sofradir@sofradir.com; www.sofradir.com

**New Product: 1280x1024 MCT MW 15µm pitch, 640x512 MW with digital output, 320x256 dual color SW/MW.**

2005: 300 employees, turnover 90 M\$. 288\*4 LWIR: The reference: SADA II (US ARMY) and 320x256 MWIR: (STORM SHADOW IR seeker missile): Proven on the battlefield: 288x384 MCT and 640x512 QWIP LWIR: European leader for space (Military observation satellite detector successfully operating in space and 1000\*256 SWIR detector qualified and extended to visible. 2005 highlight: VENUS EXPRESS: Sofradir's MCT IR detector successfully operating in space: Scorpio's production ramping up successfully. Contact: Philippe Tribolet, Technical Director, philippe.tribolet@sofradir.com.

**Solid State Cooling Systems #1227**

20 Pleasant View Rd, New York, NY, 12569  
 845/635-5500; fax 845/635-8081  
 kanderson@sscooling.com; www.sscooling.com

Since 1994, SSCS has manufactured thermoelectric temperature control products which are compact, quiet, vibration-free, reliable and energy-saving. Our family of products (chillers, heat exchangers, power supplies and cold plates) provide precise temperature control for plasma etchers, acid baths, SEM's, small enclosures, plasma ashers, diode lasers and therapeutic heating/cooling. Contact: Kelly Anderson, Marketing Associate, kanderson@sscooling.com; Steve Huchro, Sales.

**Solid State Scientific Corp. #511**

27-2 Wright Rd, Hollis, NH, 03049  
 603/598-1194; fax 603/598-1196  
 linda@solidstatescientific.com; www.solidstatescientific.com

**New Product: MWIR Multispectral Sensor.**

Solid State Scientific Corporation designs and develops spectral-temporal sensors and high-throughput hyperspectral imagers from the visible through the LWIR infrared, including the real time MWIR 4 color multi-spectral imager on display at our booth number 511. As a leader in spectral sensing technologies, we combine knowledge, phenomenology, hardware and software engineering to create innovative and comprehensive spectral sensors from concept to prototype, and from source to daesta product. Contact: James E. Murguia, President & Chief Executive Officer, jim@solidstatescientific.com; Richard J. Nelson, Senior Research Engineer, rick@solidstatescientific.com.

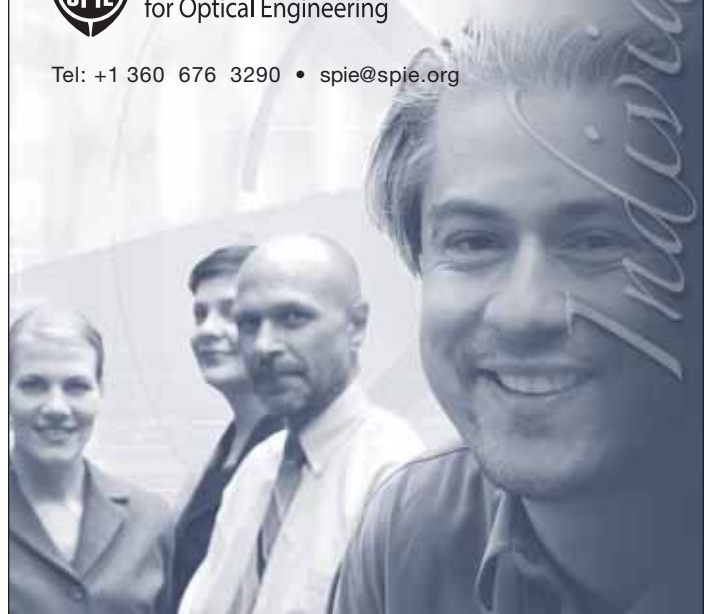
**SPIE Membership****Your Resource.  
Your Society.**

Information is increasingly a source of competitive advantage. Through face-to-face interaction, publications and online resources, you gain more from your membership in SPIE.

*Join today.***spie.org/membership**

The International Society  
for Optical Engineering

Tel: +1 360 676 3290 • spie@spie.org



## Sonoma Photonics, Inc.

#321

**SPIE** Corporate Member

1750 A Northpoint Pky, Santa Rosa, CA, 95407  
707/568-1202; fax 707/568-1201  
sales@spiworks.com; www.sonomaphotonics.com

### **New Product: Custom IR Notch Filters & Dark Mirror Coatings.**

Manufacturer of high performance Thin film coatings from the UV to the IR. Serving the Aerospace, Communications & Life Sciences markets with precision narrow and wide bandpass filters along with beamsplitters, polarizers, notch filter & dark mirror coatings. Support multiple programs from small batch R&D to volume requirements. Contact: Bryan Blasutta, Business Development Manager, bblasutta@spiworks.com; Jim Brosnan, Vice President, jbroshnan@spiworks.com.

## Southern Research Institute

#138

757 Tom Martin Dr, Birmingham, AL, 35211  
205/581-2508; fax 205/581-2010  
collier@sri.org

Southern Research Institute is a leading supplier of tracking, imaging and specialty sensors for aerospace and military applications. Design, fabrication and testing services and product lines include image analysis, scanning mirrors, stabilized platforms and electro-optical systems. Southern Research built its first two-axis stabilized seeker for the Air Force in 1965 and has been continuously involved with advanced seeker development. Contact: John Collier, Program Manager; Tim Taylor, Business Development Manager, taylor@sri.org.

## Space Optics Research Labs.

#1117

7 Stuart Rd, Chelmsford, MA, 01824-4107  
978/250-8640; fax 978/256-5605  
sorl@sorl.com; www.sorl.com

### **New Product: Off-axis Parabolic Mirrors.**

Space Optics Research Labs (SORL) produces reflective aspheres and other reflective optics that simplify your optical system design and can broaden its range of operation. We actively design and fabricate wide field-of-view and low jitter airborne, as well as lightweight ground based systems. If SORL can test it, SORL can build it! We assure that aspheric and other optical components up to 1-meter diameter leave our manufacturing facility only after rigid quality control. Contact: Barbara Green, Sales Specialist, barbara.green@sorl.com.

## Special Optics, Inc.

#121

**SPIE** Corporate Member

315 Richard Mine Rd, Wharton, NJ, 07885-1659  
973/366-7289; fax 973/366-7407  
sales@specialoptics.com; www.specialoptics.com

### **New Product: Large Output Beam Expander.**

Special Optics designs, develops, manufactures and tests custom OEM and catalog optics for UV, VIS and IR applications for aerospace, defense, industry, medicine, research & semiconductors. Our products include Motorized Zoom Beam Expanders, Telecentric Scanning Lenses, Diffraction-Limited Lenses, Zero Order Waveplates, Soleil-Babinet Compensators and Achromatic Focusing Objectives. We understand that your project is important and our policy is to provide 24 hour turnaround on all quotations. Contact: Sales Department.

## Specim Spectral Imaging Ltd.

#539

**SPIE** Corporate Member

Teknologiantie 60, Oulu, Finland, FIN-90570  
358 8 551 4495; fax 358 8 551 4496  
specim@specim.fi; www.specim.fi

SPECIM is a world class supplier of hyperspectral imaging technology. Our products are based on proprietary, innovative imaging spectrograph technology. We supply robust, high performance imaging spectrographs, ImSpectors and SpectralCameras for industrial, medical, chemical and defence applications. They provide hyperspectral solutions from UV to SWIR (200-2500 nm). Our AISA hyperspectral imagers provide compact, high performance, low cost solutions for remote sensing from aircrafts and UAVs. Contact: Timo Hyvarinen, Managing Director, timo.hyvarinen@specim.fi; Esko Herrala, Product Manager, esko.herrala@specim.fi.

## Spectral Systems

#227

35 Corporate Park Dr., Hopewell Junction, NY, 12533  
845/896-2200; fax 845/896-2203  
info@spectral-systems.com; www.spectral-systems.com

### **New Product: Bandpass Filter, Diamond turned optical components.**

Optical components manufacturer including coatings and sub-assembly. Contact: Carlos Guajardo, Sales Manager, cguajardo@spectral-systems.com.

## Spectrogon U.S. Inc.

#341

**SPIE** Corporate Member

24B Hill Rd, Parsippany, NJ, 07054  
973/331-1191; fax 973/331-1373  
sales@spectrogonus.com; www.spectrogon.com

SPECTROGON specializes in: The design and manufacture of optical filters and thin film coatings for the UV, VIS and IR spectral regions for analytical, medical and scientific instruments; Holographic Diffractions Gratings - Plano, concave and pulse compression/stretcher gratings for laser tuning and spectroscopic instrumentation; Spectrogon offers a large inventory of optical filters available on our website that can be delivered from stock. See our website, www.spectrogon.com. Contact: Sam Ponzio, Sales Manager, sales@spectrogon.parsippany.nj.us; Kelly Neeb, Sales Administrator, sales@spectrogon.parsippany.nj.us.

## Spectrum Scientific, Inc.

#1307

16692 Hale Ave, Irvine, CA, 92606  
949/260-9900; fax 949/260-9902  
info@ssioptics.com; www.ssiptics.com

### **New Product: SSI will be exhibiting a range of Holographic Gratings optimized for the UV.**

SSI manufactures a range of holographic diffraction gratings including sinusoidal and blazed gratings (plane or concave). Proprietary blazing techniques ensure high efficiency and low stray light. We also design and manufacture OEM spectrographs. Other products manufactured include high precision replicated optics - spherical, plane and aspheric mirrors (including on or off-axis paraboloids), retro-reflectors and complex optics. Substrates available include glass, metal and plastic. Contact: Daphnie Chakran, Sales Manager, daphnie@ssiptics.com.

## Spectrum Thin Films Corp.

#720

**SPIE** Corporate Member

100E Knickerbocker Ave, Bohemia, NY, 11716  
631/589-3502; fax 631/589-3514  
info@spectrumthinfilms.com; www.spectrumthinfilms.com

**SphereOptics LLC**

#140

881 Main St, Contoocook, NH, 03229  
603/746-2000; fax 603/746-3007  
sales@sphereoptics.com; www.sphereoptics.com

**New Product: Low Radiance Uniform Sources. Spheres from 4 to 75 inches monitor luminance output from 0 to 10fL.**

SphereOptics is a leading manufacturer of precision standard and custom radiometric and photometric products that meet the needs of the LED, lighting, aerospace, automotive, electronic imaging, laser diode and optics industries. The company offers a broad line of integrating spheres, uniform light source systems and instruments, as well as the highest quality diffuse reflectance materials and standards available on the market today. Contact: Chris Durell, Vice President Sales, cdurell@sphereoptics.com; Justin Jacobs, Sales Engineer, jjacobs@sphereoptics.com .

**Spica Technology Corp.**

#1317

3400 Kehala Ste 101, Kihei, HI, 96753  
808/879-0343; fax 808/874-7669  
spicatek@spicatek.com; www.spicatek.com

**SPIE Newsroom/SPIE Professional #1604**

PO Box 10, Bellingham, WA, 98227  
360/676-3290; fax 360/647-1445  
newsroom.spie.org; spie.org/spieprofessional

SPIE offers two exciting new SPIE publications. *SPIE Newsroom*, a dynamic news website covers the latest technical developments in optics and photonics, while *SPIE Professional*, a quarterly magazine published exclusively for Society members, will feature career trends and insights associated with the optics and photonics profession. Contact: Sue Nawoichik, Sales Director, suen@spie.org.

**SPIE Professional Development**

#1614

PO Box 10, Bellingham, WA, 98227  
360/676-3290; fax 360/647-1445  
education@spie.org; spie.org

Professional Development from SPIE Education Services provides continuing education and training for engineers, scientists and managers. We offer over 700 different courses taught by industry experts with topics ranging from basic optical principles to intermediate and advanced photonics and microelectronics. SPIE courses are available in the format the works for YOU— customized In-Company courses held at your facility, courses held at SPIE symposia, and courses on DVD, video and CD-ROM. Contact: Gayle Lemieux, SPIE Training Coordinator, gaylel@spie.org.

**SRICO, Inc.**

#818

**SPIE** Corporate Member  
2724 Sawbury Blvd, Columbus, OH, 43235  
614/799-0664; fax 614/799-2116  
sri@srico.com; www.srico.com

**New Product: Fiber-coupled PPLN Nonlinear Frequency Converter for Remote Sensing.**

Srico makes lithium niobate integrated optical components and optoelectronic subsystems. Products are external modulators; PPLN devices; electric field, voltage & current sensors; fiber optic links; ultrafast optical switches; and medical devices. Also offers custom design and fabrication services. Srico welcomes discussions for mutually beneficial collaborative business opportunities. Srico is celebrating 16 years in the business of photonic technologies for defense & aerospace applications. Contact: Sri Sriram, President & Chief Executive Officer.

**Steinmeyer, Inc.**

#1530

217 Middlesex Tpke, Burlington, MA, 01803  
781/273-6220; fax 781/273-6602  
jskaltsas@steinmeyer.com; www.steinmeyer.com

Steinmeyer manufactures precision ground and rolled ball screws, in diameters from 3mm up to 125mm, with pitches from 0.5mm to 80mm. Our ball screws are available with single nuts, with or without preload and double nuts. All screws are manufactured to ISO/DIN standards or custom design. Steinmeyer also offers an extensive line of precision linear and rotary stages with and without controls. Contact: John Skaltsas, Marketing & Sales; George Jaffe, Executive Vice President, gjaffe@steinmeyer.com.

**StellarNet, Inc.**

#319

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

**New Product: NEW broadband SPECTROMETER, 200-1100nm; special composite grating, no moving parts, low cost.**

StellarNet Inc Celebrates 10 years of Extreme Spectrometers. For 10 years, StellarNet has been manufacturing ruggedized miniature fiber optic spectrometers for a complete spectrum of Lab and Field measurements. Coupled with our fiber optic sampling accessories and free SpectraWiz<sup>®</sup> software, you will have accurate and reliable instrumentation for a variety of light measurement applications in the UV-VIS-NIR wavelength ranges. Contact: Dan Aven, Sales, daven@stellarnet.us.

**StockerYale, Inc.**

#1207

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

**New Product: Lasiris™ Magnum II Laser.**

StockerYale, Inc. is a leading developer of high-quality illumination and optical products. We manufacture Lasiris™ structured light lasers, LED (light emitting diode) based technologies and fiber optic and fluorescent lighting systems, as well as specialty optical fibers for industry leading OEMs. We are at the forefront of delivering innovative solutions to a wide range of high-tech markets including security, defense, machine vision, industrial inspection, sensors and telecommunications. Contact: Luc Many, Senior Vice President Sales/Marketing - Illumination, lasers@stockeryale.com; Paul Jortberg, Senior Vice President Sales/Marketing - Optical, opticalsales@stockeryale.com.

**Strategic Displays**

#1537

18 Commerce Rd, Newton, CT, 06470  
203/270-0677; fax 203/270-9619  
hdavies@intermedvideo.com; www.intermedvideo.com

Strategic Displays: Manufacturer of Flat Panel Display Monitors for Military, Government and Commercial Applications. Strategic Displays uses a newly designed patent pending high intensity backlight in our flat panel displays. A more recent design incorporates LED backlight technology for high performance and accurate color reproduction. The displays are sunlight readable and our flexible design concept allows user requirements to be quickly implemented into almost any application.



# Exhibitor Directory

## SuperImaging Inc.

#1505

44160 Old Warm Springs Blvd, Fremont, CA, 94538  
510/651-1329; fax 510/651-1321  
ted@superimaging.com; www.superimaging.com

## Surface Optics Corp.

#1605

11555 Rancho Bernardo Rd, San Diego, CA, 92127-1441  
858/675-7404; fax 858/675-2028  
soc@surfaceoptics.com; www.surfaceoptics.com

## Surmet Corp.

#842

26820-B Hobie Circle, Murrieta, CA, 92562  
951/304-1320; fax 951/304-3039  
peads@surmet.com; www.surmet.com

Surmet Corp. manufactures visible and infrared domes, windows, assemblies, components and advanced coatings for the defense/aerospace and commercial markets. Optical elements are produced from Surmet's Optical Ceramics ALON and Spinel, as well as traditional infrared materials such as sapphire, ZnS, ZnSe, Ge, Si, and various glasses. www.surmet.com. Contact: Phil Eads, Director, Business Development, peads@surmet.com; Richard Twedt, Director, Optical Products, rtwedt@surmet.com.

## Sydor Optics, Inc.

#632

One Blossom Rd, Rochester, NY, 14610  
585/271-7300; fax 585/271-7309  
sales@sydor.com; www.sydor.com

Manufacturer of precision, flat-surfaced, parallel and wedged optics specializing in double-sided grinding and polishing. Products include: Beam splitters, debris shields, filters, flats, grating substrates, light pipes, light-weighted substrates, mirrors, wafers, wedges and windows. Contact: James Sydor, President; Michael Naselaris, Operations Manager, mike@sydor.com.

## Syntec Technologies, Inc.

#630

**SPIE** Corporate Member

7100 Junction Rd, Pavilion, NY, 14534  
585/768-2513; fax 585/768-6099  
info@syntectechnologies.com;  
www.syntectechnologies.com

Manufacturer of polymer optics and turnkey systems including: mold tool manufacturing; optical insert manufacturing; molding; coating; design and assembly. Capabilities: Precision optical, opaque and insert molding, Diamond turning, planetary polishing, complete mold building. Full Design and thin film coating available. Optical metrology. Full optoelectronic and mechanical assembly department. Contact: Paul Tolley, Vice President/General Manager; Rick Arndt, Vice President, Tooling.

## tec5USA, Inc.

#737

**SPIE** Corporate Member

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

### New Product: High-end Portable NIR Spectrometer Unit.

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

## Technest, Inc.

#1319

1308 Devil's Beach Rd Ste 104, Woodbridge, VA, 22192  
703/490-5292; fax 703/490-5293  
www.technestholdings.com

Technest and its operating subsidiaries, EOIR Technologies & Genex Technologies endeavors to provide our customers with high quality integrated security solutions via a portfolio of products, services and innovative emerging technologies which are specifically designed to protect people, borders and infrastructure assets. (Thermal Imaging, 3D Imaging, Facial Recognition, Night Vision Sensors, Networked Sensors Systems.) Contact: Larry Fillian, Vice President TECHNEST Business Development, lfillian@eoir.com; Diane Schneider, Business Development Analyst, dschneider@eoir.com.

## TELOPS Inc.

#1107

100 - 2600 ave St-Jean-Baptiste, Québec, QC,  
Canada, G2E 6J5  
418/864-7808; fax 418/864-7843  
contact@telops.com; www.telops.com

### New Product: FIRST, a hyperspectral imaging FT-IR for field. Rugged, high performance and simple to use.

Telops specializes in the development of sophisticated opto-electronics solutions for its international client base in the defense and aerospace markets. We thrive on high expectations and great challenges. Our technical experts understand your business: Their diverse backgrounds represent a powerful source of innovation. Whether you are looking to us for equipment, expertise or outsourcing, we will turn your high expectations into success. Contact: Jeff Legault, Technical Business Development, jeff.legault@telops.com; Martin Chamberland, Vice President, martin.chamberland@telops.com.

## Teraxion Inc.

#1611

2716 Einstein, Sainte-Foy, QC, Canada, G1P 4S8  
418/658-9500; fax 418/658-9595  
info@teraxion.com; www.teraxion.com

## Thales Angenieux

#1519

**SPIE** Corporate Member

40 G Commerce Way, Totowa, NJ, 07511  
973/812-3858; fax 973/812-9049  
angenieux@tccus.com; www.angenieux.com

Thales Angenieux specializes in development and production of visible, near infrared and infrared optical systems for military applications. Some of the products include goggles, monoculars and uncooled infrared cameras. Contact: Chris Beauparlant, US Sales Manager.

## Thales Cryogenics

#1519

40G Commerce Way, Totowa, NJ, 07512  
973/812-9000; fax 973/812-9050  
vpastore@tccus.com; www.thalescomponents-us.com/  
companies/cryogenics

Thales Cryogenics offers a range of Stirling cryocoolers for IR systems and monoblock rotary coolers from 1/4 Watt to 3/4-Watt for portable and hand-held applications. Our long-life linear split and low vibration pulse tube coolers for scientific analytical instruments feature flex-bearing moving-magnet design. Available in the power range of 1/4-Watt to 6-Watts.

**ThermoAnalytics, Inc.**

#910

23440 Airpark Blvd, Calumet, MI, 49913  
906/482-9560; fax 906/482-9755  
www.thermoanalytics.com

**New Product: MuSES v8 - new release of our advanced 3D transient infrared signature and plume prediction program.**

ThermoAnalytics develops advanced thermal modeling and infrared signature analysis software. ThermoAnalytics also provides engineering and software consulting services to a worldwide customer base. We offer complete thermal model analysis, advanced IR signature management and assessment programs. MuSES is our advanced 3D transient infrared signature prediction program, featuring BRDF and plume modules. MuSES is used for the IR signature prediction of ground vehicles, aircraft and ships. Contact: Craig Makens, Manager, cam@thermoanalytics.com.

**Thermoteknix Systems Ltd.**

#831

Teknix House, 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: MIRICLE Ultra High Performance Miniature Ruggedized Thermal Imaging Cameras: New models announced.**

With over 20 years' experience as one of the industry's leading IR digital engineering provider, Thermoteknix offer solutions including microbolometer high resolution IR cores with integral micro-processor image processing, stand-alone cameras to full systems with extensive application software. Thermoteknix ultra high performance MIRICLE® miniature imaging cameras feature the highest resolution uncooled microbolometer cores in their class and include hermetically sealed space qualified models. Contact: Dick Ludwig, Sales Manager (USA), d.ludwig@thermoteknix.com; Alistair Brown, Product Manager (Imaging), a.brown@thermoteknix.com.

**ThruVision Ltd.**

#1534

Central 127 No 18, Milton Park Abingdon, Oxfordshire, United Kingdom, OX14 4SA  
44 1235 433130; fax 44 1235 433140  
info@thruvision.com; www.thruvision.com

**Tietronix Optics**

#1200

4 rue Ampere, Lannion, TX, France, 22300  
33 296 05 9800; fax 33 296 48 59 56  
contact@tietronix-optics.com; www.tietronix-optics.com

Tietronix Optics develops, sells and supports optical anti-blooming solutions for customers requiring optimized vision in all circumstances. Our patented optical shading technology enables vision systems to see through bright lights, in visible or infrared light. World-class players in the Defense, Surveillance and Transport markets, as well as in Industry, approve and endorse our products and solutions. Contact: Elodie Benech, Marketing Manager, ebenech@tietronix-optics.com; Jean-Laurent Lagadic, Technical Manager, jlagadic@tietronix-optics.com.

**TNO**

#1420

Oude Waalsdorperweg 63, The Hague, The Netherlands, NL-2597 AK  
31 70 3740000; fax 31 70 328 0961  
info@denv@tno.nl; www.tno.nl

TNO Defence, Security and Safety provides innovative solutions to enhance the general security of our society and is a strategic partner of the Ministry of Defence. We also use our accumulated knowledge for foreign governments and for defence-related industries. We focus on Defence in the broadest sense of the word. In the area of Security and Safety, the emphasis lies on combating crime, calamity and terrorism. TNO Defence, Security and Safety also works for the aerospace and maritime sectors. Contact: Marc van Zanten, Communication Manager, marc.vanzanten@tno.nl; Huib Pasman, Manager Strategic Marketing, huib.pasman@tno.nl.

**Toptica Photonics, Inc.**

#211

**SPIE** Corporate Member

94 N Elm St Ste 101, Westfield, MA, 01085  
413/562-5406; fax 413/562-5408  
sales@toptica-usa.com; www.toptica-usa.com

TPI is the exclusive US distributor for Toptica, PicoQuant and Time Bandwidth which are leading European manufacturers of lasers sources and instrumentation including cw, pico and femto laser sources to address the many applications such as THz, semiconductors, spectroscopy and microscopy, single photon, fluorescence lifetime, single molecule and imaging studies. New products: 2mW @ 200 - 532nm, cw and single mode lasers. Contact: Alain Bourdon, Sales Director, Alain.Bourdon@toptica-usa.com.

**Trinity Technologies**

#724

4110 Central Ave NE Ste 101, Minneapolis, MN, 55421  
763/788-8278; fax 763/788-8283  
info@lasersafety.com; www.lasersafety.com

**U.S. Army Natick Soldier Center**

#124

15 Kansas St, Natick, MA, 01760  
508/233-5865; fax 508/233-4726  
david.emond@us.army.mil; http://nsc.natick.army.mil

**U.S. Naval Research Lab.**

#1241

Code 1004.1, Washington, DC, 20375  
202/404-2307; fax 202/767-1319  
greenway@nrl.navy.mil; www.nrl.navy.mil

NRL demonstrates a prototype "Large Data" application in which petabytes (and higher) of multi-dimensional data is visualized across wide area networks. This is a precursor application to NRL's Large Data Joint Concept Technology Demonstration (JCTD) project. Other key network technologies of this JCTD were recently demonstrated live at OFC and Supercomputing, extending 10-Gbps InfiniBand (IB) across the country and accessing uncompressed HD video storage from remote locations. Contact: Linda Greenway, Exhibits Manager, exhibits@utopia.nrl.navy.mil.

**ULIS**

#830

PO Box 27, Zone Industrielle, Veurey Voroize, France, F-38113  
33 4 76 5374 70; fax 33 4 76 5374 80  
ulis@ulis-ir.com; www.ulis-ir.com

**New Product: New IR detector, 640x480/25µm, full TV resolution, for low cost equipment.**

ULIS is a subsidiary of SOFRADIR and CEA (French Atomic Energy Agency). The mission of ULIS is the development and the production of uncooled infrared detectors indented for use in the market for low cost infrared equipments. The technology of infrared detectors used by ULIS is based on a thermometer made from amorphous silicon. ULIS products allow new applications in the fields of safety, security, medical imaging, driver vision enhancement. Contact: Jean-Pierre Chatard, General Director, jp.chatard@ulis-ir.com; Jean-Luc Tissot, Business & Technical Director, jl.tissot@ulis-ir.com.



Hotel Room Key Sponsor

## Umicore

#311

2976 S 614 Rd, Quapaw, OK, 74363  
918/673-1650  
optics@umicore.com; www.optics.umicore.com

**New Product: GASIR<sup>®</sup>, germanium blanks, finished lenses, windows and wafers, mounted optics and coatings**

Description: Umicore offers materials, coatings and components for thermal imaging applications. Umicore produces germanium blanks and germanium finished optics. Umicore's latest innovation is GASIR<sup>®</sup>, a molded infrared optic for high-volume, low-cost applications. GASIR<sup>®</sup> is a chalcogenide glass, molded into a finished optic with complex geometry, including asphero-diffractive surfaces. Umicore also provides coatings and filters for infrared and visible systems. Contact: Marleen Van Den Bergh, Marketing & Sales Mgr IR Optics; Craig Snee, Sales Mgr Umicore Optical Materials, optics@umicore.com.

## Univ. of Central Florida

#618

PO Box 162700, Orlando, FL, 32816  
407/823-6800; fax 407/823-6880  
info@creol.ucf.edu; www.creol.ucf.edu

The College of Optics and Photonics: CREOL & FPCE is "Creating the Future" by offering MS and PhD degrees in Optics. At the University of Central Florida, where enrollment has surpassed 44,000 students, the College provides excellence in academics, research and partnerships. The College is an internationally recognized institute with 28 faculty members, 61 research scientists and 160 graduate students with research activities covering all aspects of optics, photonics and lasers. Contact: Courtney Lewis, Assistant Director, Academic Services & Marketing Communications, clewis@creol.ucf.edu; James Pearson, Director, Research and Administration, jpearson@creol.ucf.edu.

## Univ. of Massachusetts/Lowell

#1325

Submillimeter-Wave Tech Lab, 175 Cabot St, Lowell, MA, 01854  
978/934-1300; fax 978/452-3333  
robert\_giles@uml.edu

## Universal Photonics, Inc.

#1301

**SPIE** Corporate Member

495 W John St, Hicksville, NY, 11801-1014  
516/935-4000; fax 516/935-4144  
www.universalphotonics.com

Universal Photonics offers a comprehensive line of surfacing and polishing materials and machinery for processing all types of precision and electro-optics substrates. Universal manufactures Rhodes Unalon<sup>®</sup> polishing pads, a microcellular elastomer materials, as well as polishing and blocking pitches, waxes, Rhodol liquid polishing compounds, ultra-pure alumina powders, custom blended slurries and surfactants. Universal produces the Hastilite<sup>®</sup> series of unique ultrafine compounds, which yield sub-angstrom finishes on critical optics, as well as a comprehensive line of Rhodite<sup>®</sup> brand polishing compounds. Universal manufactures the Advantage line of precision machinery, coupled with the Swiss DAMA line to comprise a broad solution to cost effective, high quality machinery for optics production. Contact: Dave Keller, National Sales Manager; Gary Duncan, Technical Sales.

## Ural Optical and Mechanical Plant

#1433

**SPIE** Corporate Member

33 B Vostochnaya St, Ekaterinburg, Russia, 620100  
7 343 2 548 109; fax 7 343 2 548 109  
kancelgaria@uomz.com; http://www.uomz.ru

The day-and-night optronic surveillance and sight systems intended for detection and recognition of air, ground and above water targets, determination of angular coordinates of targets, laser range finding of targets and aimed use of unguided and high precision guided weapons. The day-and-night optronic systems intended to guard the area objects. Contact: Sergey Maksin, General Director.

## Vacuum Process Technology, Inc.

#841

70 Industrial Park Rd, Plymouth, MA, 02360  
508/732-7200; fax 508/732-0317  
sales@vpotec.com; www.vpotec.com

## Vavilov State Optical Institute & BAL Corp.

#1432

12 Birzhevaya Line, St. Petersburg, Russia, 199034  
7 812 496 0062; fax 7 812 324 6449  
goi2006@vision.spb.ru

The Vavilov State Optical Institute is known worldwide for its precise optical equipment as well as for its experience in automatic image processing. We present the modern optical technologies and the high-quality optical materials and components: The crystals and glasses for diversified optical ranges and special optical fibers. We also present the algorithms and software solutions for automatic analysis and interpretation of the aerospace images formed by the visible range, IR and SAR sensors. The proposed algorithms and approaches are also efficient for image retrieval from a database, manufacturing and quality control, health care, security systems and in many other fields. Contact: Vadim Lutsiv, Leading Research Fellow.

## Vectronix Inc.

#1100

803 Sycolin Rd SE Ste 100, Leesburg, VA, 20175  
703/777-3900; fax 703/777-3940  
info@vectronix.us; www.vectronix.ch

**New Product: Multi Function Systems & Long Range eye safe LRF's & Modules to navigate GPS denied environments.**

Vectronix manufactures eye safe LRF's, Digital Compass<sup>®</sup>, Dismounted Soldier Navigation Technology, high-end optics and Thermal Imagers for military and security. The Vector Binocular LRF is the standard for US DOD target acquisition and location. Our Multi Function Hand Held Thermal Imagers are Multi Spectral and fully ruggedized and tested to MIL standards. Vectronix is an expert in target locating and gun laying for artillery and smart munition platforms. Contact: Mike Nolan, Vice President, Business Development, mike.nolan@vectronix.com; Jos van Seeters, Vice President, Business Development, jos.van-seeters@vectronix.com.

## Vigo Systems SA

#325

3 Swietlikow Str, Warsaw, Poland, PL-01-389  
48 22 666 1406; fax 48 22 666 2155  
info@vigo.com.pl; www.vigo.com.pl

Manufacturer of stock and custom MCP IR detectors both TE cooled and uncooled with single and multiple elements. Fast detectors for laser diagnostics. Sensitive detectors for analytical instruments. Contact: Fred Perry, President, fsp@boselec.com.

## Vincent Associates

#638

803 Linden Ave, Rochester, NY, 14625  
585/385-5930; fax 585/385-6004  
vincentassociates@uniblitz.com; www.uniblitz.com

Vincent Associates is the manufacturer of UNIBLITZ electronically programmed shutters and shutter drive systems, with standard devices (including the new CS and the VS series of high reliability shutter systems) and custom configurations available. Standard aperture sizes ranging from 1mm - 90mm with many types of microscope and video mounting systems offered for specific shutter mounting applications. OEM systems are also available. Contact: Stephen Pasquarella, Senior Vice President, spsq@uniblitz.com; Adam Lamb, Vice President of Manufacturing, alamb@uniblitz.com.



**Vionics**

#823

519 W 2600 S #132, Bountiful, UT, 84010  
801/294-5230; fax 801/294-6025  
ntengan@vionics.com; www.vionics.com

**New Product: AIR32-C25: 320x240 uncooled microbolometer infrared camera. AIR16-C25: 160x120 infrared camera.**

Vionics is a Utah Corporation founded in 1999 to provide advanced, cost effective infrared and visible sensor systems. Contact: Curtis Tengan, President, cstengan@vionics.com; John Lin, Vice President, jlin@vionics.com.

**Vision Systems Design**

#1101

98 Spit Brook Rd, Nashua, NH, 03062-2810  
603/891-0123; fax 603/891-0587  
www.vision-systems.com

Vision Systems Design reaches a worldwide audience of engineers and engineering managers at system integrators and end-user organizations, who design, develop, manufacture and integrate components and subsystems for vision and imaging-based systems. As the leading global imaging and vision publication, VSD is dedicated to providing the latest in technology, application, new product and business information. Contact: Conard Holton, Editor in Chief, cgiktib@pennwell.com.

**Vitron GmbH**

#739

Am Nasstal 5, Jena, Germany, 07751  
49 3641 288130; fax 49 3641 288155  
www.vitron.de

Manufacturer of ZnS (clear & IR grades) & chalcogenide glasses; IR materials including CaF<sub>2</sub> & BaF<sub>2</sub> available in blank form. Contact: Buzz Nesti, buzz@nakedoptics.com.

**Voltage Multipliers Inc.**

#1326

8711 W Roosevelt, Visalia, CA, 93291  
559/651-1402; fax 559/651-0740  
mfulley@voltagemultipliers.com; www.voltagemultipliers.com

**New Product: SMF6533 miniature 5KV high voltage surface mount diode.**

Voltage Multipliers Inc. is the leading manufacturer of high voltage diodes and components. Our products include a comprehensive selection of rectifiers, hybrids, power supplies and opto-couplers. Custom applications and development projects are welcome. Our products are used in many military, aerospace and medical applications. VMI is ISO9001:2000 certified and DSCC laboratory suitable. Screening, qualification and conformance inspections are performed to MIL-PRF-19500. Contact: Margaret Fulleylove; Karen Spano, kspano@voltagemultipliers.com.

**WaveFront Sciences, Inc.**

#117

**SPIE** Corporate Member

14810 Central Ave SE, Albuquerque, NM, 87123-3932  
505/275-4747; fax 505/275-4749  
info@wavefrontsciences.com; www.wavefrontsciences.com

**New Product: Shack-Hartmann wavefront sensor with wavelength range 8.0 to 9.2 microns.**

WaveFront Sciences provides full-service design and manufacturing capabilities for micro-optics and wavefront sensor based instrumentation for lasers, optics, ophthalmology and semiconductor metrology. The CLAS-2D™ system provides a complete line of products for the analysis of visible, infrared, continuous and pulsed lasers. CLAS-2D™ also provides advantages to most optical test requirements traditionally addressed by interferometry. Wavefront, interferometer, shack-hartmann, sensor, phase. Contact: Harry Skolnik, Sales Representative, hskolnik@hotmail.com.

**Wideband Systems, Inc.**

#519

22682 Sandalwood, Mission Viejo, CA, 92692  
949/420-0424; fax 949/420-0476  
sales@wideband-sys.com; www.wideband-sys.com

Wideband Systems designs and manufactures sophisticated recording instruments for the aerospace, communications and intelligence marketplace. Our versatile disk and solid-state recording systems are designed with analog and digital instrumentation interfaces and flexible control features. Each recorder employs its own internal mux, eliminating the need for an external mux. Typical applications include telemetry, RADAR, video, voice and data communications, imagery, COMINT, SIGINT and ELINT. Contact: Mike Fitter, Vice President Sales & Marketing, mike@wideband-sys.com.

**Williams Advanced Materials**

#241

2978 Main St, Buffalo, NY, 14224  
716/837-1000; fax 716/833-2926  
lbruce@beminc.com; www.williams-adv.com

**New Product: Visi-lid™ is an optical assembly designed to pass light at specific wavelengths.**

WAM and its subsidiary Thin Film Technology will be exhibiting micro electronic packaging materials and precision optical coatings, photo lithography, thin film hybrid circuits and specialized thin film coatings and services. Contact: Mike Zasowski, Product Manager, michael\_zasowski@beminc.com; Tom Ives, Director of Operations, Thomas\_ives@beminc.com.

**Wordingham Technologies**

#740

**SPIE** Corporate Member

580 Fisher Station Dr, Victor, NY, 14564  
585/924-2294; fax 585/924-7660  
sales@wordingham.com; www.wordingham.com

Wordingham Technologies produces precision custom machined components exclusively for the optical, photonics, precision instrumentation markets. Our reputation of zero defects and absolute on time delivery is well known in the industry. We provide components for products such as optical devices/lenses, laser devices, machine vision/illumination, micro/nano positioning and medical instrumentation. See why we are considered "The Mechanical Partner to the Optical World". Contact: J. Michael Grady, Vice-President/General Manager.

**Y-12 National Security Complex**

#1322

PO Box 2009, Bear Creek Rd, Oak Ridge, TN, 37831  
865/241-0008; fax 865/574-5169  
disneysk@y12.doe.gov; www.y12.doe.gov

From vision to prototype to licensing, the National Security Technology Center (NSTC) leverages Y-12's know-how, machinery and expertise to turn just about any dream into reality. The NSTC engages all Y-12 resources and uses specialized talent from National Security Programs, Applied Technologies, Engineering, Manufacturing and Safeguards and Security to get new technologies out on the street. New innovations from the NSTC will make our nation more secure. Contact: Lee Bzorgi, bzorgifm@y12.doe.gov; Bob Ervin, Business Development, ervisrs@y12.doe.gov.

**Zygo Corp.**

#1321

**SPIE** Corporate Member

21 Laurel Brook Rd, PO Box 448, Middlefield, CT, 06455-0448  
860/347-8506; fax 860/347-3968  
inquire@zygo.com; www.zygo.com

# Product Index

## Astronomy

4D Technology Corp  
Aerotech, Inc.  
Analog Modules, Inc.  
Andor Technology  
Apollo Optical Systems  
Applied Technology Associates (ATA)  
Ariel Optics, Inc.  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Bodkin Design & Engineering, LLC  
Boston Electronics aCorp.  
Brysen Optical Corp.  
CEDIP Infrared Systems  
Conduant Corp.  
Firebird Technologies Inc.  
High Plains Optics  
High Tech Photonics  
Hitachi Kokusai  
IMT Masken und Teilungen AG  
IRphotonics  
ISP Optics Corp.  
Isuzu Glass Inc.  
Janos Technology, Inc.  
JT Ingram Sales & Marketing  
LASER COMPONENTS IG, Inc.  
Lumenera Corp.  
Mindrum Precision, Inc.  
ONTAR Corp.  
OZ Optics Ltd.  
Photonic Cleaning Technologies  
Princeton Instruments/Acton  
Princeton Lightwave, Inc.  
Raytheon Vision Systems  
Redlake  
Rockwell Scientific Co.  
Saint-Gobain Crystals  
Scientific Solutions, Inc.  
SENSIAC  
Servometer/PMG, LLC  
Sonoma Photonics, Inc.  
Space Optics Research Labs.  
Spectrogon U.S. Inc.  
StellarNet, Inc.  
Vincent Associates  
Wordingham Technologies

## Cameras and CCD Components

Active Silicon  
Adimec  
Advanced Imaging Magazine  
AGM Container Controls, Inc.  
Ametek HCC Industries

Ampex Data Systems Corp.  
Andor Technology  
Apollo Optical Systems  
B.E. Meyers & Co. Inc.  
BAE Systems  
Barr Associates Inc.  
Bodkin Design & Engineering, LLC  
Boulder Imaging Inc.  
Brysen Optical Corp  
Canesta, Inc.  
CBC (AMERICA) Corp.  
CEDIP Infrared Systems  
Cohu, Inc.  
The Cooke Corp.  
Correlated Solutions, Inc.  
Critical Imaging LLC  
Crytur USA  
DALSA, Inc.  
Digital Infrared Imaging, Inc.  
Directed Perception, Inc.  
Edmund Optics  
Electrophysics Corp.  
FastVision, LLC  
Flex Interconnect Technologies  
FLIR Systems, Inc.  
Hamamatsu Corp.  
Hellma International, Inc.  
Hitachi Kokusai  
Infotonics Technology Center Inc.  
INO  
Instro Precision Ltd.  
Intevac, Inc.  
ISG Thermal Systems USA Inc.  
Isuzu Glass Inc.  
ITT Industries  
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems  
LASER COMPONENTS IG, Inc.  
Lumenera Corp.  
Lumitron  
McQ  
MicroDISC, Inc.  
Mindrum Precision, Inc.  
Naked Optics Corp.  
National Reconnaissance Office  
New Scale Technologies, Inc.  
Nippon Avionics Co., Ltd.  
Nova Sensors  
Opgal Optronics Industries Ltd.  
Phoenix Diamond Turning  
Photonic Cleaning Technologies  
Physical Optics Corp.  
Polymer Optics, LLC  
Princeton Instruments/Acton  
Princeton Lightwave, Inc.  
PVP Advanced EO Systems, Inc.

Raytheon Vision Systems  
Redlake  
RedShift Systems  
Rockwell Scientific Co.  
SENSIAC  
Sensors Unlimited, Goodrich Corporation  
Senspex, Inc.  
Servometer/PMG, LLC  
SOFRADIR  
Solid State Cooling Systems  
Solid State Scientific Corp.  
Sonoma Photonics, Inc.  
Specim Spectral Imaging Ltd.  
Spectrogon U.S. Inc.  
tec5USA, Inc.  
Thales Angenieux  
Thermoteknix Systems Ltd.  
Tietronix Optics  
Vincent Associates  
Vionics  
Vitron GmbH  
Wordingham Technologies

## Chemical & Biological Sensing

Aculight Corp.  
Ametek HCC Industries  
Analog Modules, Inc.  
Andor Technology  
Applied Signal Technology, Inc.  
B&W Tek, Inc.  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Bodkin Design & Engineering, LLC  
Boston Electronics Corp.  
Brysen Optical Corp  
Crytur USA  
D&P Instruments  
FastVision, LLC  
Fiberguide Industries, Inc.  
Firebird Technologies Inc.  
FLIR Systems, Inc.  
Headwall Photonics  
Hellma International, Inc.  
HiEnergy Technologies, Inc.  
High Tech Photonics  
Infotonics Technology Center Inc.  
Intevac, Inc.  
IRphotonics  
Isuzu Glass Inc.  
JMAR Technologies, Inc.  
JT Ingram Sales & Marketing  
LASER COMPONENTS IG, Inc.

Mindrum Precision, Inc.  
Physical Optics Corp.  
Picometrix, An API Company  
PolarOnyx, Inc.  
POLLUTION EQUIPMENT NEWS/  
Rimbach Publishing Inc.  
Polymer Optics, LLC  
Redlake  
Scientific Solutions, Inc.  
SENSIAC  
Senspex, Inc.  
Solid State Scientific Corp.  
Specim Spectral Imaging Ltd.  
Spectrogon U.S. Inc.  
StellarNet, Inc.  
Technest, Inc.  
TELOPS Inc.  
Wordingham Technologies  
Y-12 National Security Complex

## Clinical, Chemical and Biological Instrumentation

Ametek HCC Industries  
Apollo Optical Systems  
B&W Tek, Inc.  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Bodkin Design & Engineering, LLC  
CEDIP Infrared Systems  
Correlated Solutions, Inc.  
Crytur USA  
D&P Instruments  
FastVision, LLC  
Fiberguide Industries, Inc.  
Flex Interconnect Technologies  
FLIR Systems, Inc.  
Hellma International, Inc.  
High Tech Photonics  
IMT Masken und Teilungen AG  
Infotonics Technology Center Inc.  
IRphotonics  
Isuzu Glass Inc.  
JMAR Technologies, Inc.  
JT Ingram Sales & Marketing  
LASER COMPONENTS IG, Inc.  
Mindrum Precision, Inc.  
New Scale Technologies, Inc.  
PolarOnyx, Inc.  
POLLUTION EQUIPMENT NEWS/  
Rimbach Publishing Inc.  
Polymer Optics, LLC  
Senspex, Inc.



Specim Spectral Imaging Ltd.  
Spectrogon U.S. Inc.  
StellarNet, Inc.  
tec5USA, Inc.  
Wordingham Technologies  
Y-12 National Security Complex

## Communications

AGM Container Controls, Inc.  
Ametek HCC Industries  
Ampex Data Systems Corp.  
Analog Modules, Inc.  
AOptix Technologies, Inc.  
Applied Signal Technology, Inc.  
Applied Technology Associates (ATA)  
Atlantic Positioning Systems  
B&W Tek, Inc.  
Barr Associates Inc.  
CMC Electronics Inc.  
Colibrays SA  
Digital Optics Corp.  
Directed Perception, Inc.  
Dynerics, Inc.  
Fiberguide Industries, Inc.  
Firebird Technologies Inc.  
Flex Interconnect Technologies  
Headwall Photonics  
Hitachi Kokusai formerly Hitachi Denshi America Corp  
Infotonics Technology Center Inc.  
Instro Precision Ltd.  
IRphotonics  
Isuzu Glass Inc.  
JDSU  
L-3 Communications Cincinnati Electronics  
LASER COMPONENTS IG, Inc.  
Lighttel Technologies, Inc.  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
National Reconnaissance Office  
NEC Corp.  
Newport Corp.  
Nova Engineering, Inc.  
Nova Sensors  
Nozomi Photonics  
Nuferr  
OZ Optics Ltd.  
PolarOnyx, Inc.  
Polymer Optics, LLC

QuickSet International Inc.  
SBS Technologies  
Sonoma Photonics, Inc.  
Spectrogon U.S. Inc.  
SRICO, Inc.  
U.S. Naval Research Lab.  
Univ. of Central Florida  
Voltage Multipliers Inc.  
Wordingham Technologies

## Displays

Advanced Imaging Magazine  
Apollo Optical Systems  
Army Research Lab  
B&W Tek, Inc.  
Boulder Nonlinear Systems, Inc.  
CBC (AMERICA) Corp.  
Dontech Inc.  
eMagin Corp.  
Fiberguide Industries, Inc.  
Flex Interconnect Technologies  
Hitachi Kokusai  
HOLOEYE Systems, Inc.  
Isuzu Glass Inc.  
JDSU  
Kopin Corp.  
L-3 Communications Cincinnati Electronics  
LASER COMPONENTS IG, Inc.  
MicroDISC, Inc.  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
Nuferr  
ONTAR Corp.  
Planar Systems, Inc.  
PolarOnyx, Inc.  
Polymer Optics, LLC  
SENSIAC  
U.S. Naval Research Lab.  
Univ. of Central Florida  
Voltage Multipliers Inc.  
Wordingham Technologies

## Distributor or Reseller

FastVision, LLC  
Hellma International, Inc.  
Melles Griot  
MicroDISC, Inc.

## Electron-Beam Lithography

Aerotech, Inc.  
APPLIED IMAGE Group  
Army Research Lab  
Barr Associates Inc.  
Fiberguide Industries, Inc.  
Isuzu Glass Inc.  
Missile Defense Agency SBIR  
National Reconnaissance Office  
Rockwell Scientific Co.  
Univ. of Central Florida

## Electronic Imaging Components, Equipment, Systems

Acreo AB  
Active Silicon  
Adimec  
Advanced Imaging Magazine  
Aerotech, Inc.  
AGM Container Controls, Inc.  
Ametek HCC Industries  
Andor Technology  
Applied Signal Technology, Inc.  
Applied Technology Associates (ATA)  
Atlantic Positioning Systems  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Bodkin Design & Engineering, LLC  
Boulder Imaging Inc.  
Bryson Optical Corp  
CBC (AMERICA) Corp.  
CEDIP Infrared Systems  
Clear Align, LLC  
Conduant Corp.  
Correlated Solutions, Inc.  
Critical Imaging LLC  
DALSA, Inc.  
Directed Perception, Inc.  
Dontech Inc.  
Edmund Optics  
FastVision, LLC  
Fiberguide Industries, Inc.  
Flex Interconnect Technologies  
FLIR Systems, Inc.  
Fresnel Technologies Inc.  
Great River Technology  
Hitachi Kokusai

HOLOEYE Systems, Inc.  
IMT Masken und Teilungen AG  
Infotonics Technology Center Inc.  
Infrared Systems Development Corp  
Intevac, Inc.  
Isuzu Glass Inc.  
ITT Industries  
JDSU  
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems  
LASER COMPONENTS IG, Inc.  
Laser Optics  
Lumenera Corp.  
Lumics  
Lumitron  
MicroDISC, Inc.  
Missile Defense Agency SBIR  
Moulded Optics GmbH  
Multitel  
Nanjing Saifei Electro-Optics Co., Ltd.  
National Reconnaissance Office  
New Scale Technologies, Inc.  
Newcon Optik  
Nova Sensors  
Octec Ltd.  
OPTICS 1, Inc.  
Physical Optics Corp.  
Picometrix  
Polymer Optics, LLC  
PVP Advanced EO Systems, Inc.  
QuickSet International Inc.  
Raytheon Vision Systems  
RedShift Systems  
Rockwell Scientific Co.  
Sarnoff Corp.  
Scientific Solutions, Inc.  
SENSIAC  
Sensor Technology Systems, Inc.  
Sensors Unlimited, Goodrich Corporation  
Sensplex, Inc.  
Solid State Cooling Systems  
Solid State Scientific Corp.  
Southern Research Institute  
Specim Spectral Imaging Ltd.  
Spectrogon U.S. Inc.  
Technest, Inc.  
Thermoteknix Systems Ltd.  
Tietronix Optics  
Univ. of Central Florida  
Vectronix Inc.  
Vincent Associates  
Voltage Multipliers Inc.  
Wordingham Technologies





# Product Index

## Electronics, Signal Analysis Equipment

AGM Container Controls, Inc.  
AIM Infrarot-Module GmbH  
Ametek HCC Industries  
Ampex Data Systems Corp.  
Applied Signal Technology, Inc.  
Barr Associates Inc.  
Boston Electronics Corp.  
Conduant Corp.  
Directed Perception, Inc.  
Dynerics, Inc.  
FastVision, LLC  
Flex Interconnect Technologies  
Heim Data Systems, Inc.  
Infrared Systems Development Corp  
LASER COMPONENTS IG, Inc.  
Missile Defense Agency SBIR  
MPA Crystal Corp.  
National Reconnaissance Office  
NEC Corp.  
Octec Ltd.  
Rockwell Scientific Co.  
Sensplex, Inc.  
Solid State Cooling Systems  
Spectrogon U.S. Inc.  
tec5USA, Inc.  
Univ. of Central Florida  
Wordingham Technologies

## EUV Lithography

Aerotech, Inc.  
APPLIED IMAGE Group  
Brysen Optical Corp  
CVI Laser LLC  
National Reconnaissance Office  
Newport Corp.  
Princeton Instruments/Acton  
Space Optics Research Labs.  
Univ. of Central Florida

## Fiber Optic Components, Equipment, Systems

Aerotech, Inc.  
AGM Container Controls, Inc.  
Ametek HCC Industries  
Ampex Data Systems Corp.  
Analytical Spectral Devices, Inc.  
Apollo Optical Systems  
Applied Signal Technology, Inc.  
Army Research Lab  
B&W Tek, Inc.  
Barr Associates Inc.  
CeramOptec Industries, Inc.  
Clear Align, LLC  
CMC Electronics Inc.  
EM4 Defense  
EOSPACE, Inc.  
FastVision, LLC  
Fiberguide Industries, Inc.  
Flex Interconnect Technologies  
Fotofab  
Great River Technology  
Hellma International, Inc.  
High Tech Photonics  
IRphotonics  
Isuzu Glass Inc.

JDSU  
JT Ingram Sales & Marketing  
Judson Technologies, LLC  
Lambda Research Optics, Inc.  
LASER COMPONENTS IG, Inc.  
Lightel Technologies, Inc.  
LightPath Technologies, Inc.  
Lumics  
Micro Laser Systems, Inc.  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
Moulded Optics GmbH  
MPA Crystal Corp.  
Multitel  
Nanjing Saifei Electro-Optics Co., Ltd.  
National Reconnaissance Office  
Newport Corp.  
Nufern  
OZ Optics Ltd.  
Photonic Cleaning Technologies  
Photonic Products Ltd.  
PolarOnyx, Inc.  
Princeton Lightwave, Inc.  
QuickSet International Inc.  
SCHOTT North America, Inc. - Fiber Optics Division  
Scientific Solutions, Inc.  
SENSIAC  
Sensors Unlimited, Goodrich Corporation  
Siskiyou Design Instruments  
Spectrogon U.S. Inc.  
SRICO, Inc.  
StellarNet, Inc.  
StockerYale, Inc.  
tec5USA, Inc.  
TELOPS Inc.  
Univ. of Central Florida  
Wordingham Technologies

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

Aerotech, Inc.  
Apollo Optical Systems  
Applied Technology Associates (ATA)  
Army Research Lab  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Brysen Optical Corp  
Cabot Microelectronics Corp./ Engineered Surface Finishes  
CBC (AMERICA) Corp.  
CMPC Surface Finishes  
Coherent Optics Europe Ltd.  
Crytur USA  
CVI Laser LLC  
Dontech Inc.  
Edmund Optics  
EM4 Defense  
Exotic Electro-Optics  
Ferson Technologies, Inc.  
FLIR Systems, Inc.  
Fosta-Tek Optics  
Fresnel Technologies Inc.  
Headwall Photonics  
Hellma International, Inc.

High Plains Optics  
High Tech Photonics  
II-VI Infrared  
IMT Masken und Teilungen AG  
IRphotonics  
ISP Optics Corp.  
Isuzu Glass Inc.  
JDSU  
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems  
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Optics  
JT Ingram Sales & Marketing  
LASER COMPONENTS IG, Inc.  
Laser Optics  
Laser Research Optics  
LightPath Technologies, Inc.  
Melles Griot  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
Moulded Optics GmbH  
MPA Crystal Corp.  
MRC  
Multitel  
Nanjing Saifei Electro-Optics Co., Ltd.  
National Reconnaissance Office  
Newcon Optik  
Newport Corp.  
Nufern  
Onyx Optics Inc.  
Optical Surface Technologies, LLC  
OPTICS 1, Inc.  
Optimax Systems, Inc.  
OptiPro Systems  
OptoSigma Corp.  
OSI Optoelectronics, Inc.  
OZ Optics Ltd.  
Phoenix Diamond Turning  
Photonic Cleaning Technologies  
Photonic Sense GmbH  
Physical Optics Corp.  
PolarOnyx, Inc.  
Polymer Optics, LLC  
Precitech, Inc.  
Princeton Instruments/Acton  
Rainbow Research Optics, Inc.  
Research Electro-Optics, Inc.  
Rockwell Scientific Co.  
Saint-Gobain Crystals  
Scientific Solutions, Inc.  
Sonoma Photonics, Inc.  
Space Optics Research Labs.  
Spectral Systems  
Spectrogon U.S. Inc.  
Spectrum Scientific, Inc.  
StockerYale, Inc.  
Surmet Corp.  
Sydor Optics, Inc.  
tec5USA, Inc.  
Umicore  
Williams Advanced Materials

## High Speed Imaging and Sensing

Active Silicon  
Aculight Corp.  
Adimec  
Advanced Imaging Magazine

Agilent Technologies  
AIM Infrarot-Module GmbH  
Ametek HCC Industries  
Ampex Data Systems Corp.  
Andor Technology  
Applied Signal Technology, Inc.  
Army Research Lab  
Atlantic Positioning Systems  
Axsys Technologies, Inc.  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Bodkin Design & Engineering, LLC  
Boston Electronics Corp.  
Boulder Imaging Inc.  
Boulder Nonlinear Systems, Inc.  
Brysen Optical Corp  
CEDIP Infrared Systems  
Conduant Corp.  
The Cooke Corp.  
Correlated Solutions, Inc.  
Critical Imaging LLC  
D&P Instruments  
DALSA, Inc.  
Dynerics, Inc.  
Edmund Optics  
EM4 Defense  
Exotic Electro-Optics  
FastVision, LLC  
Firebird Technologies Inc.  
Flex Interconnect Technologies  
FLIR Systems, Inc.  
Great River Technology  
Headwall Photonics  
Hellma International, Inc.  
HiEnergy Technologies, Inc.  
Hitachi Kokusai formerly Hitachi Denshi America Corp  
Infotonics Technology Center Inc.  
INO  
Intevac, Inc.  
Isuzu Glass Inc.  
ITT Industries  
LASER COMPONENTS IG, Inc.  
Lumenera Corp.  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
National Reconnaissance Office  
Neptec Design Group  
Nippon Avionics Co., Ltd.  
Nova Sensors  
Opgal Optronics Industries Ltd.  
OSI Optoelectronics, Inc.  
Photonic Cleaning Technologies  
PolarOnyx, Inc.  
Polymer Optics, LLC  
Princeton Instruments/Acton  
PVP Advanced EO Systems, Inc.  
Redlake  
Riegl USA, Inc.  
Rockwell Scientific Co.  
Sandia National Laboratories  
SBS Technologies  
SENSIAC  
Sensors Unlimited, Goodrich Corporation  
Solid State Scientific Corp.  
Specim Spectral Imaging Ltd.  
tec5USA, Inc.  
Technest, Inc.  
TELOPS Inc.  
Univ. of Central Florida  
Voltage Multipliers Inc.



# We MAKE IT EASY

Access the world's largest collection of optics and photonics content.

#### **You get information faster**

SPIE Journal articles are now published online as they are approved for publication. SPIE Proceedings manuscripts are available online just 2 to 4 weeks after the conference.

Make your research fast and easy—  
subscribe to the SPIE Digital Library today.

**[spiedl.org](http://spiedl.org)**

**SPIE** Digital  
Library

**Technology content like no other.**

# Product Index

Wordingham Technologies  
Y-12 National Security Complex

## Illumination Engineering

Advanced Imaging Magazine  
Apollo Optical Systems  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Clear Align, LLC  
Edmund Optics  
Fiberguide Industries, Inc.  
High Tech Photonics  
Isuzu Glass Inc.  
JT Ingram Sales & Marketing  
Lambda Research Corp.  
LASER COMPONENTS IG, Inc.  
Missile Defense Agency SBIR  
National Reconnaissance Office  
PolarOnyx, Inc.  
Princeton Lightwave, Inc.  
Solid State Cooling Systems  
StockerYale, Inc.  
tec5USA, Inc.

## Infrared Sources, Detectors, Systems

Acree AB  
Aculight Corp.  
Advanced Imaging Magazine  
AGM Container Controls, Inc.  
AIM Infrarot-Module GmbH  
Alpes Lasers  
Ametek HCC Industries  
Analog Modules, Inc.  
Analytical Spectral Devices, Inc.  
Army Research Lab  
Atlantic Positioning Systems  
Axsys Technologies, Inc.  
B&W Tek, Inc.  
B.E. Meyers & Co. Inc.  
BAE Systems  
Barr Associates Inc.  
Bodkin Design & Engineering, LLC  
Boston Electronics Corp.  
Boulder Imaging Inc.  
Brysen Optical Corp  
Cal Sensors, Inc.  
Carleton Life Support Systems  
Inc.  
Cascade Technologies Ltd.  
CBC (AMERICA) Corp.  
CEDIP Infrared Systems  
CI Systems, Inc.  
Clear Align, LLC  
CMC Electronics Inc.  
Critical Imaging LLC  
D&P Instruments  
Digital Infrared Imaging, Inc.  
DyNETics, Inc.  
Edmund Optics  
Electrophysics Corp.  
FastVision, LLC  
Fiberguide Industries, Inc.  
Firebird Technologies Inc.  
FLIR Systems, Inc.  
Fresnel Technologies Inc.  
Great River Technology  
Hamamatsu Corp.  
High Tech Photonics

II-VI Infrared  
Infrared Associates, Inc.  
Infrared Systems Development  
Corp  
INO  
ISG Thermal Systems USA Inc.  
ISP Optics Corp.  
Isuzu Glass Inc.  
JT Ingram Sales & Marketing  
Judson Technologies, LLC  
L-3 Communications Cincinnati  
Electronics  
LASER COMPONENTS IG, Inc.  
LightPath Technologies, Inc.  
Lumenera Corp.  
McQ  
MegaWatt Lasers, Inc.  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
MPA Crystal Corp.  
Nanjing Saifei Electro-Optics Co.,  
Ltd.  
National Reconnaissance Office  
NEC Corp.  
New England Photoconductor  
Corp.  
Newcon Optik  
Newport Corp.  
Nippon Avionics Co., Ltd.  
Nova Sensors  
Opgal Optronic Industries Ltd.  
OPTICS 1, Inc.  
OSI Optoelectronics, Inc.  
Photonic Cleaning Technologies  
Physical Optics Corp.  
PolarOnyx, Inc.  
Princeton Lightwave, Inc.  
PVP Advanced EO Systems, Inc.  
QmagiQ, LLC  
Raytheon Vision Systems  
RedShift Systems  
Ricor - Cryogenic & Vacuum  
Systems  
Rockwell Scientific Co.  
Santa Barbara Infrared, Inc.  
SCD-Semi Conductor Devices  
SENSIAC  
Sensors Unlimited, Goodrich  
Corporation  
Senspex, Inc.  
Servometer/PMG, LLC  
SOFRADIR  
Solid State Cooling Systems  
Solid State Scientific Corp.  
Space Optics Research Labs.  
StellarNet, Inc.  
tec5USA, Inc.  
Technest, Inc.  
TELOPS Inc.  
ThermoAnalytics, Inc.  
Thermoteknix Systems Ltd.  
Tietronix Optics  
ULIS  
Univ. of Central Florida  
Vectronix Inc.  
Vigo Systems SA  
Vionics  
Vitron GmbH  
Voltage Multipliers Inc.  
WaveFront Sciences, Inc.  
Wordingham Technologies  
Y-12 National Security Complex

## Ion-Beam Lithography

Aerotech, Inc.  
APPLIED IMAGE Group  
Army Research Lab  
IMT Masken und Teilungen AG  
National Reconnaissance Office

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

Aculight Corp.  
Aerotech, Inc.  
AGM Container Controls, Inc.  
Alpes Lasers  
Ametek HCC Industries  
Applied Technology Associates  
(ATA)  
Atlantic Positioning Systems  
Axsys Technologies, Inc.  
B&W Tek, Inc.  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Boston Electronics Corp.  
Cascade Technologies Ltd.  
CeramOptec Industries, Inc.  
Clear Align, LLC  
CrystaLaser  
Crytur USA  
Directed Perception, Inc.  
Dontech Inc.  
Fiberguide Industries, Inc.  
Firebird Technologies Inc.  
Flex Interconnect Technologies  
Hellma International, Inc.  
High Tech Photonics  
II-VI Infrared  
INO  
IRphotonics  
Isuzu Glass Inc.  
JDSU  
JENOPTIK Laser, Optik, Systeme  
GmbH - Business Unit Sensor  
Systems  
oJT Ingram Sales & Marketing  
Kigre, Inc.  
L-3 Communications Cincinnati  
Electronics  
LAS-CAD GmbH  
LASER COMPONENTS IG, Inc.  
Lumics  
MegaWatt Lasers, Inc.  
Micro Laser Systems, Inc.  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
Moulded Optics GmbH  
MPA Crystal Corp.  
Multitel  
Nanjing Saifei Electro-Optics Co.,  
Ltd.  
National Reconnaissance Office  
NEC Corp.  
Neptec Design Group  
Newcon Optik  
Newport Corp.  
nLight Corp.  
Nuferr  
Opnext, Inc.

OZ Optics Ltd.  
Photonic Products Ltd.  
Photonics Industries International,  
Inc.  
Physical Optics Corp.  
PolarOnyx, Inc.  
Princeton Instruments/Acton  
PVP Advanced EO Systems, Inc.  
Research Electro-Optics, Inc.  
Rockwell Scientific Co.  
RPMC  
Saint-Gobain Crystals  
Santa Barbara Infrared, Inc.  
SCD-Semi Conductor Devices  
SENSIAC  
Senspex, Inc.  
Servometer/PMG, LLC  
Siskiyou Design Instruments  
Solid State Cooling Systems  
Space Optics Research Labs.  
StockerYale, Inc.  
Toptica Photonics, Inc.  
Vectronix Inc.  
Vigo Systems SA  
Vincent Associates  
WaveFront Sciences, Inc.  
Wordingham Technologies

## Law Enforcement Technologies

Active Silicon  
Advanced Imaging Magazine  
B&W Tek, Inc.  
B.E. Meyers & Co. Inc.  
BAE Systems  
Barr Associates Inc.  
Bodkin Design & Engineering, LLC  
CEDIP Infrared Systems  
Directed Perception, Inc.  
FastVision, LLC  
Fiberguide Industries, Inc.  
HiEnergy Technologies, Inc.  
High Tech Photonics  
Infotonics Technology Center Inc.  
Intevac, Inc.  
JENOPTIK Laser, Optik, Systeme  
GmbH - Business Unit Sensor  
Systems  
JT Ingram Sales & Marketing  
L-3 Communications Cincinnati  
Electronics  
LASER COMPONENTS IG, Inc.  
Lumenera Corp.  
New Scale Technologies, Inc.  
Newcon Optik  
Newport Corp.  
OSI Optoelectronics, Inc.  
OZ Optics Ltd.  
Photonic Cleaning Technologies  
PVP Advanced EO Systems, Inc.  
RedShift Systems  
Sarnoff Corp.  
SENSIAC  
Sensor Technology Systems, Inc.  
Senspex, Inc.  
Technest, Inc.  
Thermoteknix Systems Ltd.  
Vectronix Inc.  
Y-12 National Security Complex



## Life Sciences

Advanced Imaging Magazine  
 Apollo Optical Systems  
 B&W Tek, Inc.  
 Bodkin Design & Engineering, LLC  
 DALSA, Inc.  
 EM4 Defense  
 FastVision, LLC  
 Fiberguide Industries, Inc.  
 Hellma International, Inc.  
 High Tech Photonics  
 INO  
 Intevac, Inc.  
 JDSU  
 JMAR Technologies, Inc.  
 New Scale Technologies, Inc.  
 OZ Optics Ltd.  
 Redlake  
 Siskiyou Design Instruments  
 Solid State Cooling Systems  
 Wordingham Technologies

## Metrology, Inspection and Process Control

4D Technology Corp  
 Aerotech, Inc.  
 B&W Tek, Inc.  
 Barr Associates Inc.  
 Bodkin Design & Engineering, LLC  
 Cabot Microelectronics Corp./  
 Engineered Surface Finishes  
 CEDIP Infrared Systems  
 Correlated Solutions, Inc.  
 DALSA, Inc.  
 Edmund Optics  
 FastVision, LLC  
 Fiberguide Industries, Inc.  
 Headwall Photonics  
 Hellma International, Inc.  
 Instro Precision Ltd.  
 JDSU  
 JENOPTIK Laser, Optik, Systeme  
 GmbH - Business Unit Sensor  
 Systems  
 JT Ingram Sales & Marketing  
 LASER COMPONENTS IG, Inc.  
 MicroDISC, Inc.  
 Mindrum Precision, Inc.  
 Multitel  
 Neptec Design Group  
 Newport Corp.  
 ONTAR Corp.  
 Optical Surface Technologies,  
 LLC  
 OZ Optics Ltd.  
 Photonic Cleaning Technologies  
 Polymer Optics, LLC  
 Redlake  
 SENSIAC  
 Space Optics Research Labs.  
 Specim Spectral Imaging Ltd.  
 tec5USA, Inc.  
 Tietronix Optics  
 WaveFront Sciences, Inc.  
 Wordingham Technologies

## Nanotechnology

Aerotech, Inc.  
 Apollo Optical Systems  
 Applied Signal Technology, Inc.  
 Army Research Lab  
 B&W Tek, Inc.  
 Boulder Nonlinear Systems, Inc.  
 Cabot Microelectronics Corp./  
 Engineered Surface Finishes  
 Dontech Inc.  
 EM4 Defense  
 eMagin Corp.  
 Infotonics Technology Center Inc.  
 Kopin Corp.  
 Mindrum Precision, Inc.  
 Missile Defense Agency SBIR  
 Multitel  
 National Reconnaissance Office  
 Newport Corp.  
 Photonic Cleaning Technologies  
 PI (Physik Instrumente) LP  
 PolarOnyx, Inc.  
 Rockwell Scientific Co.  
 SENSIAC  
 Senspex, Inc.  
 Univ. of Central Florida  
 WaveFront Sciences, Inc.  
 Wordingham Technologies

## Non-Optical Lithography

APPLIED IMAGE Group  
 Missile Defense Agency SBIR  
 National Reconnaissance Office

## Optical Components

Acree AB  
 Advanced Imaging Magazine  
 Ametek HCC Industries  
 Analytical Spectral Devices, Inc.  
 Apollo Optical Systems  
 APPLIED IMAGE Group  
 Applied Technology Associates  
 (ATA)  
 Ariel Optics, Inc.  
 Army Research Lab  
 Atlantic Positioning Systems  
 Axsys Technologies, Inc.  
 B&W Tek, Inc.  
 B.E. Meyers & Co. Inc.  
 Barr Associates Inc.  
 Bodkin Design & Engineering, LLC  
 Boulder Nonlinear Systems, Inc.  
 Brysen Optical Corp  
 Cabot Microelectronics Corp./  
 Engineered Surface Finishes  
 Canesta, Inc.  
 CMC Electronics Inc.  
 Coherent Optics Europe Ltd.  
 Colibrys SA  
 The Cooke Corp.  
 Critical Imaging LLC  
 Crytur USA  
 CVI Laser LLC  
 Digital Optics Corp.  
 Edmund Optics  
 eMagin Corp.  
 Exotic Electro-Optics  
 FastVision, LLC  
 Ferson Technologies, Inc.  
 Fiberguide Industries, Inc.  
 Firebird Technologies Inc.  
 FLIR Systems, Inc.  
 Fotofab  
 Fresnel Technologies Inc.  
 Hamamatsu Corp.  
 Headwall Photonics  
 Hellma International, Inc.  
 High Plains Optics  
 High Tech Photonics  
 II-VI Infrared  
 IMT Masken und Teilungen AG  
 IRphotonics  
 ISP Optics Corp.  
 Isuzu Glass Inc.  
 Janos Technology, Inc.  
 JDSU  
 JENOPTIK Laser, Optik, Systeme  
 GmbH - Business Unit Sensor  
 Systems  
 JENOPTIK Laser, Optik, Systeme  
 GmbH - Business Unit Optics  
 JT Ingram Sales & Marketing  
 Kigre, Inc.  
 LaCroix Optical Co.  
 Lambda Research Optics, Inc.  
 LASER COMPONENTS IG, Inc.  
 Laser Optics  
 Laser Research Optics  
 Liebmann Optical Co.  
 LightPath Technologies, Inc.  
 MegaWatt Lasers, Inc.  
 Meller Optics, Inc.  
 Melles Griot  
 MEMS Optical Inc.  
 Micro Laser Systems, Inc.  
 MicroDISC, Inc.  
 Mindrum Precision, Inc.  
 Missile Defense Agency SBIR  
 Moulded Optics GmbH  
 MPA Crystal Corp.  
 MRC  
 Multitel  
 Naked Optics Corp.  
 Nanjing Saifei Electro-Optics Co.,  
 Ltd.  
 National Reconnaissance Office  
 Newport Corp.  
 Nozomi Photonics  
 Nufern  
 Onyx Optics Inc.  
 Opnext, Inc.  
 Optical Surface Technologies,  
 LLC  
 Optimax Systems, Inc.  
 OptoSigma Corp.  
 OSI Optoelectronics, Inc.  
 OZ Optics Ltd.  
 Phoenix Diamond Turning  
 Photonic Products Ltd.  
 Photonic Sense GmbH  
 Polymer Optics, LLC  
 Precision Asphere, LLC  
 Precision Optical  
 Precitech, Inc.  
 Princeton Instruments/Acton  
 Princeton Lightwave, Inc.  
 Rainbow Research Optics, Inc.  
 RedShift Systems  
 Research Electro-Optics, Inc.

Rochester Precision Optics LLC  
 Rockwell Scientific Co.  
 Scientific Solutions, Inc.  
 SENSIAC  
 Senspex, Inc.  
 Servometer/PMG, LLC  
 Siskiyou Design Instruments  
 Solid State Cooling Systems  
 Sonoma Photonics, Inc.  
 Space Optics Research Labs.  
 Specim Spectral Imaging Ltd.  
 Spectral Systems  
 Spectrogon U.S. Inc.  
 Spectrum Scientific, Inc.  
 SRICO, Inc.  
 StockerYale, Inc.  
 Surmet Corp.  
 Sydor Optics, Inc.  
 tec5USA, Inc.  
 Vectronix Inc.  
 Vitron GmbH  
 WaveFront Sciences, Inc.  
 Williams Advanced Materials  
 Wordingham Technologies

## Optical Detectors

Acree AB  
 AIM Infrarot-Module GmbH  
 Analog Modules, Inc.  
 Analytical Spectral Devices, Inc.  
 Andor Technology  
 Army Research Lab  
 B&W Tek, Inc.  
 B.E. Meyers & Co. Inc.  
 Bodkin Design & Engineering, LLC  
 Boston Electronics Corp.  
 Brysen Optical Corp  
 Canesta, Inc.  
 CI Systems, Inc.  
 CMC Electronics Inc.  
 Critical Imaging LLC  
 Edmund Optics  
 EM4 Defense  
 FastVision, LLC  
 FLIR Systems, Inc.  
 GPD Optoelectronics Corp.  
 Hamamatsu Corp.  
 Hellma International, Inc.  
 High Tech Photonics  
 Intevac, Inc.  
 JDSU  
 JENOPTIK Laser, Optik, Systeme  
 GmbH - Business Unit Sensor  
 Systems  
 JMAR Technologies, Inc.  
 JT Ingram Sales & Marketing  
 Judson Technologies, LLC  
 LASER COMPONENTS IG, Inc.  
 Mindrum Precision, Inc.  
 Missile Defense Agency SBIR  
 MRC  
 Multitel  
 National Reconnaissance Office  
 New England Photoconductor  
 Corp.  
 Newcon Optik  
 Newport Corp.  
 OSI Optoelectronics, Inc.  
 Picometrix  
 Princeton Lightwave, Inc.  
 QmagIQ, LLC

# Product Index

Rockwell Scientific Co.  
SENSIAC  
Sensors Unlimited, Goodrich  
Corporation  
Specim Spectral Imaging Ltd.  
StellarNet, Inc.  
tec5USA, Inc.  
Tietronix Optics  
Univ. of Central Florida  
Vigo Systems SA  
Wordingham Technologies

## Optical Fibers

Analytical Spectral Devices, Inc.  
Army Research Lab  
B&W Tek, Inc.  
CeramOptec Industries, Inc.  
EM4 Defense  
FastVision, LLC  
Fiberguide Industries, Inc.  
Hellma International, Inc.  
High Tech Photonics  
INO  
IRphotonics  
Isuzu Glass Inc.  
JDSU  
JT Ingram Sales & Marketing  
Kigre, Inc.  
LASER COMPONENTS IG, Inc.  
LightPath Technologies, Inc.  
Micro Laser Systems, Inc.  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
Multitel  
National Reconnaissance Office  
Newport Corp.  
Nozomi Photonics  
Nuferr  
OZ Optics Ltd.  
PolarOnyx, Inc.  
SENSIAC  
StellarNet, Inc.  
StockerYale, Inc.  
tec5USA, Inc.  
Univ. of Central Florida

## Optical Materials and Substrates

Acreo AB  
Apollo Optical Systems  
Barr Associates Inc.  
Cabot Microelectronics Corp./  
Engineered Surface Finishes  
The Cooke Corp.  
Critical Imaging LLC  
Crytur USA  
Dontech Inc.  
Edmund Optics  
Exotic Electro-Optics  
Ferson Technologies, Inc.  
Firebird Technologies Inc.  
Fosta-Tek Optics  
Fresnel Technologies Inc.  
High Plains Optics  
High Tech Photonics  
II-VI Infrared  
IMT Masken und Teilungen AG  
IRphotonics  
ISP Optics Corp.  
Isuzu Glass Inc.

JDSU  
JENOPTIK Laser, Optik, Systeme  
GmbH - Business Unit Optics  
JT Ingram Sales & Marketing  
Lambda Research Optics, Inc.  
LASER COMPONENTS IG, Inc.  
Laser Research Optics  
Meller Optics, Inc.  
Mindrum Precision, Inc.  
Missile Defense Agency SBIR  
MPA Crystal Corp.  
Naked Optics Corp.  
Nanjing Saifei Electro-Optics Co.,  
Ltd.  
National Reconnaissance Office  
Phoenix Diamond Turning  
Photonic Sense GmbH  
Polymer Optics, LLC  
Rainbow Research Optics, Inc.  
Rockwell Scientific Co.  
Saint-Gobain Crystals  
SENSIAC  
Servometer/PMG, LLC  
Spectral Systems  
Spectrogon U.S. Inc.  
Surmet Corp.  
Umicore  
Univ. of Central Florida  
Vitron GmbH  
Williams Advanced Materials

## Optical Test and Measurement Equipment, Interferometer

4D Technology Corp  
Aerotech, Inc.  
AGM Container Controls, Inc.  
Analytical Spectral Devices, Inc.  
Andor Technology  
B&W Tek, Inc.  
Bodkin Design & Engineering, LLC  
Boulder Nonlinear Systems, Inc.  
Bryson Optical Corp  
CEDIP Infrared Systems  
CI Systems, Inc.  
Cincinnati Sub-Zero Products,  
Inc.  
CMPC Surface Finishes  
The Cooke Corp.  
Correlated Solutions, Inc.  
D&P Instruments  
Directed Perception, Inc.  
Edmund Optics  
Electro Optical Industries, Inc.  
FastVision, LLC  
FLIR Systems, Inc.  
Hellma International, Inc.  
IMT Masken und Teilungen AG  
IRphotonics  
JDSU  
LASER COMPONENTS IG, Inc.  
Multitel  
National Reconnaissance Office  
Newport Corp.  
Optikos Corp.  
OptiPro Systems

Optronic Laboratories, Inc.  
OSI Optoelectronics, Inc.  
OZ Optics Ltd.  
Photonic Cleaning Technologies  
PI (Physik Instrumente) LP  
Princeton Lightwave, Inc.  
Santa Barbara Infrared, Inc.  
Scientific Solutions, Inc.  
SENSIAC  
Sensplex, Inc.  
Solid State Cooling Systems  
Space Optics Research Labs.  
Spectrogon U.S. Inc.  
StellarNet, Inc.  
tec5USA, Inc.  
TELOPS Inc.  
WaveFront Sciences, Inc.  
Wordingham Technologies

## Optical/Laser Microlithography

Aerotech, Inc.  
APPLIED IMAGE Group  
Army Research Lab  
Digital Optics Corp.  
FastVision, LLC  
Fotofab  
Hellma International, Inc.  
IMT Masken und Teilungen AG  
INO  
JDSU  
National Reconnaissance Office  
Newport Corp.  
OZ Optics Ltd.  
PolarOnyx, Inc.  
Rockwell Scientific Co.  
Solid State Cooling Systems  
Univ. of Central Florida  
Wordingham Technologies

## Optics Manufacturing

4D Technology Corp  
Acreo AB  
Aerotech, Inc.  
AGM Container Controls, Inc.  
Apollo Optical Systems  
Ariel Optics, Inc.  
Axsys Technologies, Inc.  
B&W Tek, Inc.  
B.E. Meyers & Co. Inc.  
Barr Associates Inc.  
Boulder Nonlinear Systems, Inc.  
Bryson Optical Corp  
Cabot Microelectronics Corp./  
Engineered Surface Finishes  
CBC (AMERICA) Corp.  
CMPC Surface Finishes  
Coherent Optics Europe Ltd.  
The Cooke Corp.  
Critical Imaging LLC  
Crytur USA  
CVI Laser LLC  
Digital Optics Corp.  
Dontech Inc.  
Edmund Optics  
EM4 Defense  
Exotic Electro-Optics  
Ferson Technologies, Inc.

Firebird Technologies Inc.  
FLIR Systems, Inc.  
Fosta-Tek Optics  
Fresnel Technologies Inc.  
Headwall Photonics  
Hellma International, Inc.  
High Plains Optics  
II-VI Infrared  
ISP Optics Corp.  
Janos Technology, Inc.  
JDSU  
JENOPTIK Laser, Optik, Systeme  
GmbH - Business Unit Sensor  
Systems  
JENOPTIK Laser, Optik, Systeme  
GmbH - Business Unit Optics  
Lambda Research Optics, Inc.  
LASER COMPONENTS IG, Inc.  
Laser Optics  
Laser Research Optics  
Liebmann Optical Co.  
LightPath Technologies, Inc.  
Meller Optics, Inc.  
Melles Griot  
MEMS Optical Inc.  
Mindrum Precision, Inc.  
Moulded Optics GmbH  
MPA Crystal Corp.  
MRC  
Naked Optics Corp.  
Nanjing Saifei Electro-Optics Co.,  
Ltd.  
National Reconnaissance Office  
Newcon Optik  
Newport Corp.  
Onyx Optics Inc.  
Optical Surface Technologies,  
LLC  
Optimax Systems, Inc.  
OptoSigma Corp.  
OSI Optoelectronics, Inc.  
Phoenix Diamond Turning  
Photonic Products Ltd.  
Physical Optics Corp.  
PolarOnyx, Inc.  
Polymer Optics, LLC  
Precitech, Inc.  
Princeton Instruments/Acton  
Princeton Lightwave, Inc.  
Rainbow Research Optics, Inc.  
Research Electro-Optics, Inc.  
Rochester Precision Optics LLC  
Rockwell Scientific Co.  
Sonoma Photonics, Inc.  
Space Optics Research Labs.  
Special Optics, Inc.  
Spectral Systems  
Spectrogon U.S. Inc.  
StockerYale, Inc.  
Surmet Corp.  
Sydor Optics, Inc.  
Thales Angenieux  
Umicore  
Univ. of Central Florida  
Vectronix Inc.  
WaveFront Sciences, Inc.  
Wordingham Technologies

# Product Index

## Photonics Equipment Manufacturer

4D Technology Corp  
Aerotech, Inc.  
APPLIED IMAGE Group  
B&W Tek, Inc.  
B.E. Meyers & Co. Inc.  
D&P Instruments  
Edmund Optics  
Electrophysics Corp.  
EM4 Defense  
FastVision, LLC  
Fiberguide Industries, Inc.  
FLIR Systems, Inc.  
Headwall Photonics  
Hellma International, Inc.  
HOLOEYE Systems, Inc.  
II-VI Infrared  
Intevac, Inc.  
JDSU  
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems  
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Optics  
JMAR Technologies, Inc.  
LASER COMPONENTS IG, Inc.  
Lightel Technologies, Inc.  
Lumenera Corp.  
Melles Griot  
National Reconnaissance Office  
Newport Corp.  
Nuferr  
Photonic Products Ltd.  
Precitech, Inc.  
Princeton Lightwave, Inc.  
Rockwell Scientific Co.  
Senspex, Inc.  
Siskiyou Design Instruments  
Specim Spectral Imaging Ltd.  
SphereOptics LLC  
StellarNet, Inc.  
StockerYale, Inc.  
tec5USA, Inc.  
Thermoteknix Systems Ltd.  
Wordingham Technologies

## Resist Technology and Processing

B&W Tek, Inc.  
Flex Interconnect Technologies  
IMT Masken und Teilungen AG

## Sensor & Sensor Systems

Acreo AB  
Aculight Corp.  
Advanced Imaging Magazine  
Agilent Technologies  
AGM Container Controls, Inc.  
Ametek HCC Industries  
Ampex Data Systems Corp.  
Analog Modules, Inc.  
Analytical Spectral Devices, Inc.  
Applied Signal Technology, Inc.  
Applied Technology Associates (ATA)  
Army Research Lab

Atlantic Positioning Systems  
B&W Tek, Inc.  
B.E. Meyers & Co. Inc.  
BAE Systems  
Bodkin Design & Engineering, LLC  
Boston Electronics Corp.  
Brysen Optical Corp  
Cal Sensors, Inc.  
Canesta, Inc.  
Clear Align, LLC  
CMC Electronics Inc.  
Colibrys SA  
Correlated Solutions, Inc.  
Critical Imaging LLC  
D&P Instruments  
DALSA, Inc.  
Directed Perception, Inc.  
Dynetics, Inc.  
FastVision, LLC  
Fiberguide Industries, Inc.  
Firebird Technologies Inc.  
FLIR Systems, Inc.  
GPD Optoelectronics Corp.  
Hamamatsu Corp.  
Headwall Photonics  
Hellma International, Inc.  
HiEnergy Technologies, Inc.  
High Tech Photonics  
Hitachi Kokusai  
Infotonics Technology Center Inc.  
INO  
Intro Precision Ltd.  
Intevac, Inc.  
ISG Thermal Systems USA Inc.  
ITT Industries  
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems  
JMAR Technologies, Inc.  
JT Ingram Sales & Marketing  
LASER COMPONENTS IG, Inc.  
Lumenera Corp.  
McQ  
MegaWatt Lasers, Inc.  
MicroDISC, Inc.  
Missile Defense Agency SBIR  
Multitel  
National Reconnaissance Office  
NEC Corp.  
Neptec Design Group  
New England Photoconductor Corp.  
Newcon Optik  
Nova Engineering, Inc.  
Nova Sensors  
Octec Ltd.  
Opgal Optronics Industries Ltd.  
OPTICS 1, Inc.  
OZ Optics Ltd.  
Photonic Cleaning Technologies  
Physical Optics Corp.  
Picometrix, An API Company  
PolarOnyx, Inc.  
POLLUTION EQUIPMENT NEWS/Rimbach Publishing Inc.  
Princeton Lightwave, Inc.  
PVP Advanced EO Systems, Inc.  
QmagiQ, LLC  
RedShift Systems

Rockwell Scientific Co.  
Sandia National Laboratories  
SENSIAC  
Sensor Technology Systems, Inc.  
Sensors Unlimited, Goodrich Corporation  
Servometer/PMG, LLC  
Solid State Cooling Systems  
Solid State Scientific Corp.  
Southern Research Institute  
Specim Spectral Imaging Ltd.  
SRICO, Inc.  
StellarNet, Inc.  
tec5USA, Inc.  
Technest, Inc.  
TELOPS Inc.  
ThermoAnalytics, Inc.  
Tietronix Optics  
ULIS  
Vectronix Inc.  
WaveFront Sciences, Inc.  
Wordingham Technologies  
Y-12 National Security Complex

## Services and Publications (Including Professional Societies)

Advanced Imaging Magazine  
AFRL Technology Horizons  
Applied Technology Associates (ATA)  
Cabot Microelectronics Corp./Engineered Surface Finishes  
Dontech Inc.  
FastVision, LLC  
IOP Publishing  
Laser Focus World  
Military & Aerospace Electronics  
Photonics Spectra - Laurin Publishing  
Photonics.com/Photonics Directory  
Physics Today  
POLLUTION EQUIPMENT NEWS/Rimbach Publishing Inc.  
SENSIAC  
ThermoAnalytics, Inc.  
Vision Systems Design

## Software

4D Technology Corp  
Active Silicon  
Advanced Imaging Magazine  
Analytical Spectral Devices, Inc.  
Applied Signal Technology, Inc.  
B&W Tek, Inc.  
Boulder Imaging Inc.  
CEDIP Infrared Systems  
Correlated Solutions, Inc.  
Dynetics, Inc.  
FastVision, LLC  
FLIR Systems, Inc.  
Intro Precision Ltd.  
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems  
Lambda Research Corp.  
LAS-CAD GmbH  
The MathWorks Inc.

MicroDISC, Inc.  
Missile Defense Agency SBIR  
National Reconnaissance Office  
NEC Corp.  
Octec Ltd.  
ONTAR Corp.  
Redlake  
Santa Barbara Infrared, Inc.  
Senspex, Inc.  
tec5USA, Inc.  
Technest, Inc.  
ThermoAnalytics, Inc.  
Thermoteknix Systems Ltd.

## Vacuum, Cooling, Gas Handling Equipment

AGM Container Controls, Inc.  
AIM Infrarot-Module GmbH  
Andor Technology  
Carleton Life Support Systems Inc.  
Critical Imaging LLC  
Space Optics Research Labs.

## X-Ray Lithography

Aerotech, Inc.  
Army Research Lab  
DALSA, Inc.  
FastVision, LLC  
Physical Optics Corp.  
Princeton Instruments/Acton





**Visit booth 1225  
for information  
about our new  
Internet programs**

**Daily news, product specifications and company profiles are just a click away.**

Photronics.com gives you what no other Web site can: The total picture. It's the only site that has the photonics companies, products, news and information you need to stay informed about the industry and the competition. If it's important to the photonics industry, our editors report on it daily.

With our powerful search engine, you'll quickly find company catalogs and links to suppliers in the online Photonics Buyers' Guide. And you can browse the electronic editions of the award-winning *Photonics Spectra* magazine, as well as *Biophotonics* and *EuroPhotonics* magazines.

**New for 2006!**

- A fresh, new look with improved navigation
- Enhanced features with expanded content
- Faster, more powerful search engine
- The Photronics.com Community Forum

**Photronics.com is the industry's most complete and most consulted Web site. You owe it to yourself and your business to give it a try today!**



**Over 200,000 visitors  
each month and growing!**

# SPIE Corporate Membership

## Help steer innovation towards relevance

Companies, large and small, play a critical role in supporting the growth and vitality of optics and photonics. Through collaboration, they steer the latest innovations toward practical relevance in the global marketplace.

### **SPIE** Corporate Member

SPIE Corporate Membership enhances your organization by providing significant discounts on:

- **SPIE exhibitions\***
- **SPIE publications**
- **SPIE Digital Library subscriptions**
- **Advertising rates**
- **Mailing lists**
- **And recruitment services.**

*\* Corporate Members receive a 15% discount on exhibit space at events solely owned by SPIE.*

4AD Enterprises, Inc./EKSM, Ltd.  
4D Technology Corp.  
A&I Ltd.  
Access Laser Co.  
ADE Phase Shift  
Adimec  
Advanced Microoptic Systems GmbH  
Aerotech, Inc.  
AF Optical Inc.  
Affymetrix, Inc.  
Agiltron, Inc.  
ALIO Industries  
Alpha  
Alpine Research Optics Corp.  
Alson E. Hatheway, Inc.  
Ampex Data Systems Corp.  
Analytical Spectral Devices, Inc.  
Anda Optec Ltd.  
Andor Technology  
Andover Corp.  
Apollo Instruments, Inc.  
Apollo Optical Systems, LLC  
APPLIED IMAGE Group  
Applied Surface Technologies  
Aprio Technologies, Inc./Marketing & Sales  
Archer OpTx, Inc.  
Argyle International Inc.  
Ariel Optics, Inc.  
Asahi Spectra USA Inc.  
Aselsan MGEO Div.  
ASML  
Asociación Industrial de Óptica, Color & Imagen/Parc Technologic  
asphericon GmbH  
Avantes, Inc.  
Avo Photonics  
Axsys Technologies, Inc.  
Ayase America Inc.  
Azure Photonics Co.  
Barr Associates, Inc.  
Berliner Glas/U.S.  
Biotigen, Inc.  
Blue Hill Optical Technologies  
Boston Electronics Corp.  
Boston Micromachines Corp.  
Boulder Nonlinear Systems, Inc.  
Brandstrom Instruments, Inc.  
Brandywine Optics, Inc.  
Breault Research Organization, Inc.  
Brewer Science, Inc.  
Brighten Optics Ltd.  
Brion Technologies, Inc./Corporate Headquarters  
Bristol Instruments Inc  
Calmar Optcom Inc.  
Cambridge Research and Instrumentation Inc.  
Cambridge Technology Inc.  
Canon U.S.A, Inc./Semiconductor Equipment Div.  
CEDIP Infrared Systems  
Central Astronomical Observatory (PULKOVO)/Russian Academy of Sciences

Central Electronics Engineering Research Institute/CSIR Madras Complex  
Central Institute for Unique Instrumentation  
Central R&D Institute Robotics and Technical Cyber  
Central Research Institute Cyclone  
CeramOptec Industries, Inc.  
Chernyshevsky Saratov State Univ.  
Chroma Technology Corp.  
Corporate members as of  
Chung Shan Institute of Science and Technology  
CI Systems, Inc.  
Clear Shape Technologies, Inc.  
Cleveland Crystals Inc./A Gooch & Housego PLC  
CMPC Surface Finishes  
Coastal Optical Systems Inc.  
Cobolt AB  
Coherent Inc.  
Coherent Technologies, Inc.  
College of Optical Sciences/The Univ. of Arizona  
Communication Automation Mounting Ltd.  
Continuum  
CorActive High-Tech Inc.  
Corning Inc.  
Corning Tropol Corp.  
Creatv MicroTech, Inc.  
Cristal Laser SA  
Crystal Fibre A/S  
Crystaltechno LTD  
CRYSTECH Inc.  
Crytur-USA  
Ctr. of New Technologies  
OPTRON  
CVI Laser LLC  
Cyantek Corp.  
Daugavpils Univ.  
Davidson Optronics Inc.  
Del Mar Ventures  
Digital Optics Corp.  
Docter Optics Inc.  
Dongjin Semichem Co., Ltd./Electronic Materials Div  
DRS Technologies, Inc.  
e2v technologies ltd.  
Eastman Kodak Co.  
Edmund Optics Inc./Main Office  
ELCAN Optical Technologies  
Electro-Optical Systems Inc.  
Elliot Scientific Ltd.  
EM4, Inc.  
Energen, Inc.  
Enterprise Ireland  
Epner Technology Inc.  
Evaporated Metal Films Corp.  
Exalos AG  
Exitech Inc.  
F&K Delvotec, Inc.  
Far Eastern State Technical Univ.  
Federal Scientific and Production Ctr.  
Federal State Unitary Enterprise RPC ISTOK  
Femtochrome Research, Inc.  
FemtoLasers, Inc.  
Fiberguide Industries, Inc.  
Fibertech Optica, Inc.  
Firebird Technologies Inc.  
FISBA OPTIK LLC/Rochester NY  
FJW Optical Systems, Inc.  
FLIR Systems Inc./Boston Div.  
Foreal Spectrum, Inc.  
Frankfurt Laser Co.  
Fresnel Technologies Inc.  
Gamma Scientific  
General Physics Institute/Russian Academy of Sciences  
Glass Fab, Inc.  
Graphic Security Systems Corp.  
G-S PLASTIC OPTICS/A Germanow-Simon Co.  
GSI Group Inc./Corporate Office-Mfg. Ctr.  
Gulfstream Aerospace Corp.  
Halbo Optics  
Corporate members as of  
Hamamatsu Corp.  
HC Photonics Corp.  
Heidelberg Instruments Inc./Service USA  
Hellma International, Inc.  
Heraeus Quartz America, LLC.  
Hextek Corp.  
High Plains Optics  
High Q Laser (US) Inc.  
Hinds Instruments Inc.  
HOLOEYE Photonics AG  
Hong Kong Polytechnic Univ./Advanced Optics Manufacturing  
Hong Kong Productivity Council/Manufacturing Technology Div  
HORIBA Jobin Yvon Inc./OSD Div  
House of Optics Scientific Ctr.  
Hoya Corp.  
Incom Inc.  
Infrared Fiber Systems, Inc.  
Infrared Systems Development Corp.  
Ingeneric GmbH  
Institut für Mikrotechnik Mainz GmbH  
Institute for Applied Physics/Russian Academy of Sciences  
Institute for Automation and Control Processes  
Institute for Infocomm Research, Agency for Space, Technology and Research  
Institute for Laser Physics  
Institute for Roentgen Optics  
Institute of Atmospheric Optics/Siberian Branch of RAS  
Institute of Atmospheric Physics/Russian Academy of Sciences  
Institute of Fine Mechanics and Optics  
Institute of Laser and Information Technologies Pr/Russian Academy of Sciences  
Institute of Microstructure Physics/Russian Academy of Sciences  
Institute of Physics and Technology/Russian Academy of Sciences  
Institute of Radioengineering and Electronics/Russian Academy of Sciences

Get complete details at  
[spie.org/membership](http://spie.org/membership)



# SPIE Corporate Membership

Institute of Semiconductor Physics  
Institute of Spectroscopy/  
Russian Academy of Sciences  
Instituto de Astrofísica de Canarias/Library  
International Radiation Detectors, Inc.  
International Union of Instrument Engineers  
Intevac, Inc.  
IO Industries, Inc.  
Ioffe Physical Technical Institute  
Janos Technology Inc.  
JDS Uniphase/Commercial and Consumer Prod  
JEOL USA Inc.  
JMAR Technologies, Inc.  
Joint Stock Co. Lytkarino Optical Glass Factory  
JSR Micro, Inc.  
JT Ingram  
Jupiter  
Kazan Optic-Mechanic Plant Production Corp.  
Kazan Physical-Technical Institute/Russian Academy of Sciences  
KBTEM-OMO State Research & Production Association  
KEOS Optoelectronics, Inc.  
KLA-Tencor Corp.  
Kreischer Optics, Ltd.  
Kuban State Univ.  
Kursk State Technical Univ.  
L-3 Communications  
Cincinnati Electronics  
LaCroix Optical Co.  
Lafin Ltd.  
Lambda Research Corp.  
Lambda Research Optics, Inc./Lasers Optics & Coatings  
Land Engineering Agency  
Las Cumbres Observatory  
Laser Compact Co. Ltd.  
LASER COMPONENTS IG, Inc.  
Laser Focus World/PennWell Corp  
Laser Physics Scientific Research Institute  
Lasertec USA Inc.  
Lattice Electro Optics, Inc.  
Latvijas Univ./Institute of Solid State Physics  
Leica Instruments (Singapore) Pte Ltd.  
LEISTER Technologies LLC  
Leybold Optics USA, Inc.  
Lightspeed Technologies  
Lincoln Laser Co.  
LINOS Photonics, Inc.  
LOMO plc  
Louis Rudzinsky Associates, Inc./OPTemps Div.  
Lumera Corp.  
Luxel Corp.  
M.V. Lomonosov Moscow State Univ.  
M3 Measurement Solutions Inc  
Mad City Labs, Inc.  
Market Tech, Inc.  
Massachusetts Institute of Technology  
Matrix Technology Corporation  
Max Levy Autograph Inc.  
Melles Griot  
Mentor Graphics Corp./Design to Silicon  
Metavac  
MetroLux Analytics, Inc.  
MetroSol  
Micro Laser Systems, Inc.  
Micro Photonics, Inc.  
Microelectronic Technologies Joint stock Institute  
Micromotion GmbH  
Micronic Laser Systems AB  
Mildex Inc.  
MilSys Technologies LLC  
Mindrum Precision Inc.  
Minsk Physics Institute/  
Belarus Academy of Sciences  
Minus K Technology Inc.  
Model Optics  
Molecular Imprints, Inc./ Headquarters  
Moscow Engineering Physics Institute  
Moscow Institute of Physics and Technology  
Moscow Mining Institute  
Moscow Power Engineering Institute Technical Univ.  
Moscow Scientific Techn. Soc. of Instr. & Meas Eng  
Moscow State Inst. of Electronics and Mathematics  
Moscow State Univ. of Geodesy and Cartography  
MPA Crystal Corp  
MPB Communications Inc.  
N.E. Bauman Moscow State Technical Univ.  
Naked Optics Corp.  
NASA Marshall Space Flight Ctr./Space Optics Manufacturing Tech Ctr  
NeuriCam/Vision Chips  
New England Photoconductor Corp.  
New Mexico Optics Industry Association  
Corporate members as of  
New Scale Technologies Inc.  
New Source Technology, LLC  
Newport Corp.  
NexTech Solutions, Inc.  
Nikon Precision Inc.  
nLight Corp.  
North Crystals  
Northrop Grumman Corp./ Cutting Edge Optronics  
Nozomi Photonics Co., Ltd.  
NPO Geofizika-Cosmos Scientific & Production Enter  
Nufern  
Observatorio Astronomico Nacional  
Ocean Optics, Inc.  
Octec Ltd./The Western Ctr.  
OFS  
Ohara Corp.  
Omega Optical, Inc./Corporate Office  
ONTAR Corp.  
Ophir Optics, Inc.  
Optec S.p.A.  
Optical Research Associates  
Optical Support, Inc.  
Optics 1, Inc.  
Matrix Technology Corporation  
Max Levy Autograph Inc.  
Melles Griot  
Mentor Graphics Corp./Design to Silicon  
Metavac  
MetroLux Analytics, Inc.  
MetroSol  
Micro Laser Systems, Inc.  
Micro Photonics, Inc.  
Microelectronic Technologies Joint stock Institute  
Micromotion GmbH  
Micronic Laser Systems AB  
Mildex Inc.  
MilSys Technologies LLC  
Mindrum Precision Inc.  
Minsk Physics Institute/  
Belarus Academy of Sciences  
Minus K Technology Inc.  
Model Optics  
Molecular Imprints, Inc./ Headquarters  
Moscow Engineering Physics Institute  
Moscow Institute of Physics and Technology  
Moscow Mining Institute  
Moscow Power Engineering Institute Technical Univ.  
Moscow Scientific Techn. Soc. of Instr. & Meas Eng  
Moscow State Inst. of Electronics and Mathematics  
Moscow State Univ. of Geodesy and Cartography  
MPA Crystal Corp  
MPB Communications Inc.  
N.E. Bauman Moscow State Technical Univ.  
Naked Optics Corp.  
NASA Marshall Space Flight Ctr./Space Optics Manufacturing Tech Ctr  
NeuriCam/Vision Chips  
New England Photoconductor Corp.  
New Mexico Optics Industry Association  
Corporate members as of  
New Scale Technologies Inc.  
New Source Technology, LLC  
Newport Corp.  
NexTech Solutions, Inc.  
Nikon Precision Inc.  
nLight Corp.  
North Crystals  
Northrop Grumman Corp./ Cutting Edge Optronics  
Nozomi Photonics Co., Ltd.  
NPO Geofizika-Cosmos Scientific & Production Enter  
Nufern  
Observatorio Astronomico Nacional  
Ocean Optics, Inc.  
Octec Ltd./The Western Ctr.  
OFS  
Ohara Corp.  
Omega Optical, Inc./Corporate Office  
ONTAR Corp.  
Ophir Optics, Inc.  
Optec S.p.A.  
Optical Research Associates  
Optical Support, Inc.  
Optics 1, Inc./Commercial Systems Div.  
Optics For Hire  
Optikos Corp.  
Optikron GmbH  
Optilab LLC  
Optimax Systems, Inc.  
OptiSource, LLC  
Opto Diode Corp.  
OptoElectronic Components  
OptoSigma Corp.  
OPTWARE Corp.  
Orion Research and Production Association  
OZ Optics Ltd.  
P.N. Lebedev Physical Institute/Russian Academy of Sciences  
PDF Solutions, Inc.  
PerfectWave Technologies LLC  
Perm Scientific-Industrial Instrument-Making Co.  
Petrozavodsk State Univ./ Information Measurement Systems  
Phila Optics Inc.  
PhotoMed Technologies  
Photon Design  
Photon Engineering, LLC  
Photonic Cleaning Technologies  
Photonic Products Ltd.  
Photonics Industries International Inc.  
Photonis-DEP B.V.  
Photooptics Ltd.  
Photop Technologies, Inc.  
Photon USA, Inc.  
PI (Physik Instrumente) L.P.  
Picarro  
Poco Graphite, Inc.  
Point Source Ltd.  
PolarOnyx, Inc.  
Polymer Assembly Technology, Inc.  
Polymer Optics, LLC  
Polymicro Technologies, LLC  
Polytec, Inc.  
POLYUS Research & Development Institute  
Power Technology, Inc.  
Precision Asphere LLC  
Precision Optics Corp.  
Precitech, Inc.  
Princeton Instruments, Inc.  
Princeton Lightwave Corp.  
PULSAR Science Research Institute/RC Kremniy Div.  
PVP Advanced EO Systems, Inc.  
QED Technologies Inc./ Corporate Headquarters  
Quality Laser Optics Ltd.  
Quantronix Corp.  
Quintessence Photonics Corp.  
Rainbow Research Optics, Inc.  
Ramenskoye Design Co.  
Rave LLC  
Raydiance, Inc.  
Raytheon Co./Vision Systems  
REAGENT Scientific Technical Ctr. Ltd.  
RedShift Systems  
Research Electro-Optics, Inc.  
Research Institute of GOZNAK  
Research Institute of Pulse Techniques  
Resonance, Ltd.  
Riga Technical Univ./Institute of Technical Physics  
Rockwell Laser Industries Inc.  
Rolyn Optics Co.  
RoMack, Inc.  
RPMC  
RSI  
RSoft Design Group, Inc.  
Rubicon Technology Inc.  
Russian Chapter of Society for Info Display Div  
Russian Federal Nuclear Ctr.  
Russian Social Fund TOPEC Solid State Optoelectron  
Sacher Lasertechnik GmbH  
Samara Institute of Image Processing Systems/  
Russian Academy of Sciences  
Santa Clara Univ.  
Satisloh North America Inc./ Precision Optics  
SCANLAB America, Inc.  
SCD-Semi Conductor Devices  
Schneider Optics, Inc./OEM  
SCHOTT North America, Inc./ Optics for Devices  
Scientific Research Association/Astrophysics  
Scientific Research Inst. of Precise Instruments  
Scientific Research Institute of Aviation Equipmen  
Scientific Solutions, Inc.  
SciMeasure Analytical Systems, Inc.  
SensL Technologies Ltd.  
Sensors Unlimited, Inc.  
Senspex Inc  
Servometer - PMG LLC  
SGS Slicing Solutions Inc.  
Silicon Canvas Inc.  
Siskiyou Corp.  
Soluris Inc.  
Southern Vision Systems, Inc.  
Sparkle Optics Corp.  
Special Optics Manufacture & Design  
Spectrogon Corp.  
Spectrogon AB/Headquarters - Sweden  
Spectrum Scientific, Inc.  
Spectrum Thin Films Corp.  
SphereOptics, LLC  
Spica Technologies, Inc.  
Spiricon, Inc.  
SRC SMC Technological Ctr.  
MSIEE  
SRICO Inc.  
SRIPDE-Science Research Institute for Precision De  
St. Petersburg Institute of Fine Mechanics and Optics  
Standards Productivity & Innovation Board/National Metrology Ctr.  
Stanford Computer Optics Inc.  
Star Tech Instruments  
State Scientific-Manufacturing Assoc.  
State Univ. of Control Systems & Radioelectronics  
Steag Hamatech USA Inc.  
StellarNet, Inc.  
StockerYale Canada Inc.  
Super Optronics  
Swiss Jewel Co.  
Synopsis, Inc.  
Syntec Technologies Inc.  
TDSIE Siberian Branch/  
Russian Academy of Sciences  
Technomedica Research & Manufacturing Co.  
Telemark  
The Cooke Corp.  
Thermo Electron, CIDTEC/  
CIDTEC Cameras & Imagers  
Tinsley Labs.  
TopGaN Ltd.  
Toppam Photomasks, Inc.  
Toptica Photonics, Inc.  
Tower Optical Corp.  
Toyota Central Research and Development Labs., Inc.  
Trex Advanced Materials/  
Materials  
Tydex JS Co.  
U.S. Photonics Inc  
Umicore Thin Film Products  
UNIQUE ICs LLC  
Univ. of Arizona/Optical Sciences Ctr.  
Univ. of Colorado/ Boulder/  
Boulder  
Univ. of Iowa Libraries  
Univ. of North Carolina/  
Charlotte/Atkins Library  
Universal Photonics Inc.  
Ural Optical and Mechanical Plant  
V.I. Ulyanov (Lenin) State Electrical Engineering  
Varian, Inc.  
Vavilov State Optical Institute/  
All-Russian Research Ctr.  
Virtual Industries, Inc.  
Visotek Inc.  
Volga State Academy of Telecommunications and Info  
Volga Technology Ltd.  
Westchester Technologies, Inc.  
Wordingham Technologies  
YUCO Optics Corp.  
Zygo Corp.



# Notes

# Too Much Information?



*SPIE Newsroom provides  
relevant industry information  
via Technical Communities*



The International Society  
for Optical Engineering

[bookmark.me](http://bookmark.me)  
[newsroom.spie.org](http://newsroom.spie.org)

**Sign up for one or multiple SPIE Newsroom  
e-Alerts from the following communities:**

- Astronomy
- Biomedical Optics & Medical Imaging
- Communications & Networking
- Defense & Security
- Electronic Imaging & Signal Processing
- Illumination & Displays
- Industrial Sensing & Measurement
- Lasers & Sources
- Micro/Nano Lithography & Fabrication
- Nanotechnology
- Optical Design & Engineering
- Remote Sensing
- Solar & Alternative Energy



SemiConductor Devices

Your next wise move



www.studio3.co.il

See us at booth no. 525

P.O. Box 2250, Haifa 31021 Israel. Tel. (+972)-4-9902535, 9902500 Fax. (+972)-4-9902627  
E-mail: [marketing@scd.co.il](mailto:marketing@scd.co.il), Web: [www.scd.co.il](http://www.scd.co.il)