



2012 Defense Security+ Sensing

Exhibition Guide
Moving Technology to Market™

Exhibition

24–26 April 2012

Conferences + Courses

23–27 April 2012

Location

Baltimore Convention Center
Baltimore, Maryland, USA



spie.org/mobileapps



THE MICRO THERMAL CAMERA ROYALE

Starring FLIR QUARK

“The world’s smallest thermal camera.”

“17-micron action-packed pixels!”

“30/60 Hz switchable...This core is ready for applications not yet dreamed;
it’s the future of thermal imaging!”

INDUSTRY-LEADING VO_x SENSITIVITY | SOLAR IMMUNITY | SMALL UAVs | HELMETS | WEAPON SIGHTS | SECURITY CAMERAS | HANDHELD DEVICES

R

RATED 336/640:

LWIR RESOLUTION APPROVED FOR ALL APPLICATIONS.

Meet FLIR Quark in person in booth 2010, and check out a customized snowmobile loaded with lasers, thermal cameras and other state-of-the-art technology.



Quality - Innovation - Trust



FLIR.COM/SPIE

Defense Security+Sensing

Moving Technology to Market™

24-26 April 2012
Baltimore Convention Center
(Level 100)
Baltimore, Maryland, USA



Contents

General Information	2-8
Technology Demos and Displays	10
Sponsors	12-14
Special Events	18-21
Product Demonstrations	28-29
Floor Plan/Booth Map	32-33
Exhibitor Index	32-35
Company List/Descriptions	36-106
Companies by Product Category	108-121

Special Events

Imaging Gallery	10
SPIE Job Fair	16
Professional Development Courses	22-23
SPIE Courses	24-27
Advertisers	35



Get mobile with the
SPIE Conference App
for Android™ and iPhone®



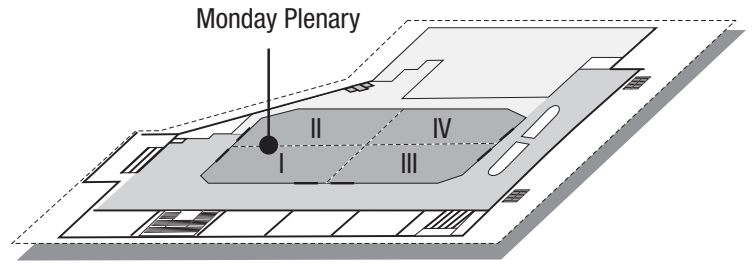
Create your schedule—search and browse the technical program and special events, participants, and exhibitors.



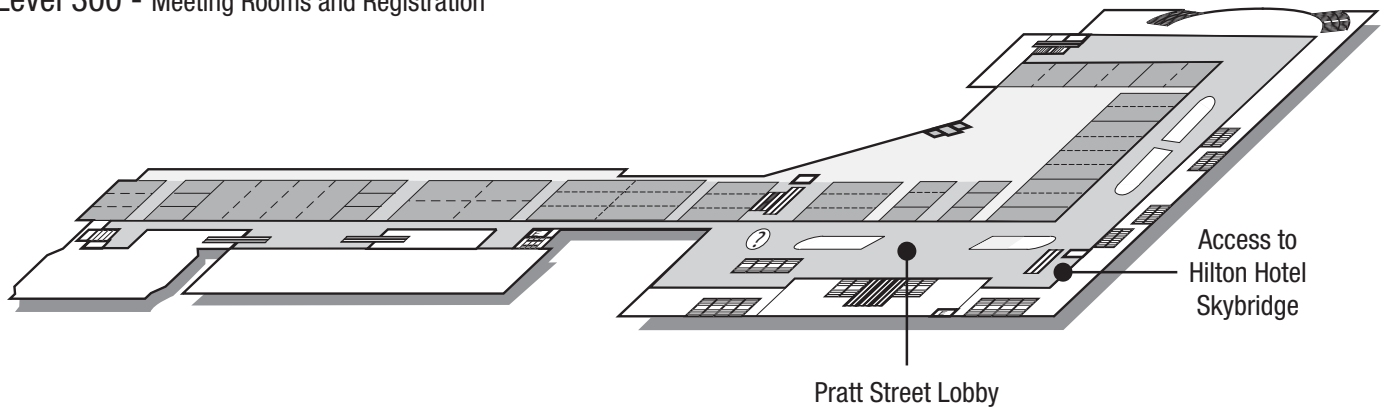
SPIE is the international society for optics and photonics, a not-for-profit organization founded in 1955 to advance light-based technologies. The Society serves nearly 225,000 constituents from approximately 150 countries, offering conferences, continuing education, books, journals, and a digital library in support of interdisciplinary information exchange, professional growth, and patent precedent. SPIE provided over \$2.5 million in support of education and outreach programs in 2011.

Baltimore Convention Center

Level 400 - Ballroom Level

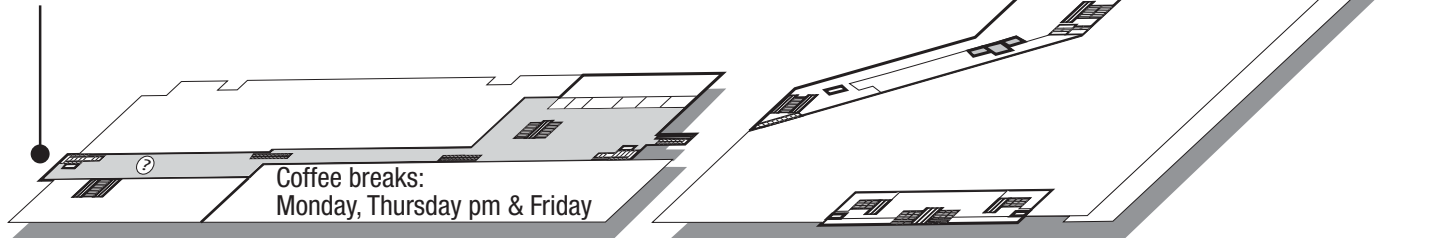


Level 300 - Meeting Rooms and Registration

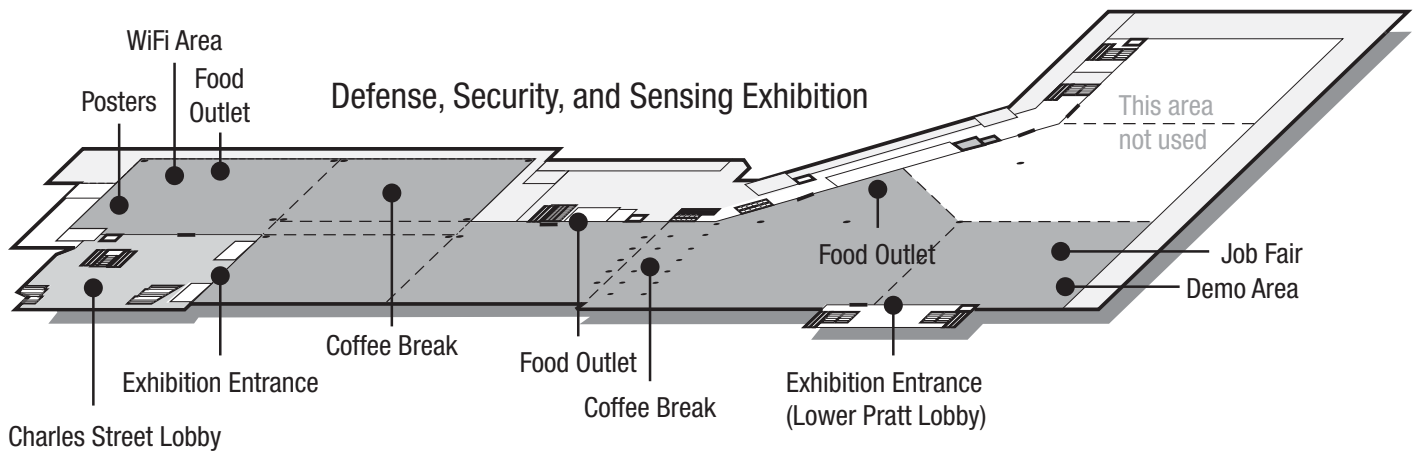


Level 200 - Mezzanine

Access to Skywalk, Inner Harbor and hotels



Level 100 - Exhibition Level



The Clear Choice



For more than 30 years, Dow Electronic Materials has been The Clear Choice for high-performance infrared optical materials. From our large-scale CVD furnaces we produce best-in-class, high-purity, high-density zinc materials that we precisely fabricate into a wide range of format options to your specifications.

We take pride in our ability to manufacture the largest format CVD substrates in the infrared market and to deliver high-quality materials for the most challenging IR applications.

We are the Clear Choice



Electronic Materials

www.dow.com

Visit us at booth #2326

© Trademarks of The Dow Chemical Company ("Dow") or an affiliated company of Dow

General Information



Headquarters Hotel

Hilton Baltimore

401 West Pratt Street

Phone: +1 443 573 8700 · www.hilton.com

Exhibition Hours

(Level 100)

Tuesday 24 April 10:00 am to 5:00 pm

Wednesday 25 April 10:00 am to 5:00 pm

Thursday 26 April 10:00 am to 2:00 pm

Onsite Registration and Information Hours

Pratt St. Lobby (Level 300)

Sunday 22 April 4:00 pm to 7:00 pm

Monday 23 April 7:00 am to 5:00 pm

Tuesday 24 April 7:30 am to 5:00 pm

Wednesday 25 April 7:30 am to 5:00 pm

Thursday 26 April 7:30 am to 5:00 pm

Friday 27 April 7:30 am to Noon

Food and Beverage Services

Coffee Breaks

Complimentary coffee will be served at approximately 10:00 am and 3:00 pm in the following locations:

Monday Mezzanine Level 200

Tuesday through Thursday am All Exhibition Halls

Thursday pm and Friday Mezzanine Level 200

Desserts

Tuesday and Wednesday
Served in the Exhibition Halls

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

Meals and Refreshments for Purchase

Main Terrace (Level 300)

Monday through Friday

Food outlets will serve hot and cold snacks, espresso, beverages, sandwiches, salads, hot entrees, and pastries.

Course Materials Desk

Located near the SPIE Registration Area, Pratt St. Lobby
Open during Registration Hours

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

SPIE Receipts, Badge Corrections, Cashier

Pratt St. Lobby (Level 300)

SPIE cashier can assist with registration payments, receipts and badge corrections.

- **Registration Payments**—If you are paying by cash or check as part of your onsite registration, wish to add a short course, workshop, or special event requiring payment, or have questions regarding your registration please go to the Cashier station in the registration area.
- **Receipts**—Preregistered attendees who did not receive a receipt prior to the meeting may obtain a new copy of their registration receipt onsite at the Badge Corrections and Receipts counter in the registration area.
- **Badge Correction**—Attendees who need a correction to their badge information onsite may do so at the Badge Corrections and Receipts counter in the registration area. Please have your badge removed from the badge holder, marked with your changes, and ready to hand to the attendant upon approaching the counter.

Food Outlets Open in the Exhibition Halls

Tuesday through Thursday 10:00 am to 2:00 pm

Free Popcorn

Exhibition Hall / 2 Locations

Sponsored by

GENERAL DYNAMICS
Global Imaging Technologies



Popcorn carts will be open Tuesday and Wednesday from 11:00 am to 3:00 pm; Thursday from 11:00 am to 2:00 pm.



Send **CAMERA Link** video 100+ kilometers.



Visit Booth 904 to see how we blast through the 10-meter barrier of standard Camera Link cables. Our fiber and coax extenders were the first solution on the market to be both fast and reliable, and they're still the best.

Use **ONE** extender with an **EDT fiberoptic framegrabber** (large image below) to bring fiber directly into your system, or use **TWO** as a "plug-and-play" extension cord with an EDT or third-party standard Camera Link framegrabber.

Use our **Camera Link simulators** to output recorded data or generated test patterns.

We support multiple platforms (**PCIe, PCI, PMC, cPCI**), modes (base through extended full), and operating systems (Windows, Linux, Mac OS).

We include, at no extra charge, all OS drivers, common API, full SDK, and generous engineer-to-engineer support. Contracts for consulting, support, and other services may be purchased.

Come see why our customers trust EDT to handle their valuable Camera Link data. We'll exceed your expectations.

Extender (coax)



Framegrabbers and simulators (cPCI, PCI, PMC, PCI Express)



Extenders (fiber)



Cliff Hayes
Field Application Engineer
503-690-1234 | 800-435-4320
info@edt.com



www.edt.com/vision



General Information

SPIE Onsite Services

SPIE Bookstore

Pratt St. Lobby (Level 300)
Open during Registration hours

Visit the Bookstore for:

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

SPIE Job Fair – *Special 2-Day Event!*

Exhibition Hall

Tuesday 24 April 10:00 am to 5:00 pm
Wednesday 25 April 10:00 am to 5:00 pm

Top employers are coming together to interview and hire. Whether you're looking for a better job, re-entering the workforce or just starting your career, plan to visit the Job Fair at SPIE Defense, Security, and Sensing – come prepared to discuss your skills and talents with 15 companies on site.

- Discuss career options with employers
- Build your network
- Gain visibility with hiring companies
- Post your resume today! Visit the Career Center on spie.org/careercenter

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

For more information see p. 13.

Press Room

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

Business Services

SPIE Copy Center

Pratt St. Lobby (Level 300)

Monday through Friday during registration hours San Diego Copy will provide a copy service during the week for conference attendees and exhibitors. The rates are 5 cents per copy.

Baltimore Convention Center Business Center

Pratt St. Lobby (Level 300)

The Business Center provides full service business needs for your convenience. They provide photocopying, faxing, computer workstations and printing services. Shipping is provided through FedEx. Office supplies are also available. Phone 410-649-7194. Monday through Friday.

Messages

SPIE has an urgent message line available during registration hours Sunday through Friday by calling: 410-649-6102.

Internet Pavilion

Pratt St. Lobby – near SPIE Bookstore

Monday – Thursday 7:30 am to 6:00 pm
Friday 7:30 am to 4:00 pm

Sponsored by



There will be multiple workstations allowing access to web or e-mail during the conference, and several Ethernet connections to use with your personal laptop. Please limit your session to 10 minutes.

Schedule Your Week with the SPIE Conference App

Kiosk Near Registration or via mobile apps at spie.org/mobileapps

Find your way around the conference...find people, topics, papers, courses, and locations. Build your own custom schedule, print and go.

WiFi

Complimentary WiFi access for attendees with 802.11b wireless enabled laptops and PDAs will be available Monday through Friday in Pratt St. Lobby and Main Terrace on Level 300. The back of Hall A will also have WiFi access during exhibition hours.

Child Care Services

Elizabeth Cooney Agency Inc.

Toll Free: 888-353-1700, Phone: 410-323-1700,
Website: www.ElizabethCooneyAgency.com

NOTE: SPIE does not imply an endorsement or recommendation of these services. They are provided on an “information-only” basis for your further analysis and decision.

Information Desk

Pratt St. Lobby (Level 300)

The Information Desk will be open 10:00 am to 4:00 pm Monday through Thursday for sightseeing, shopping, and restaurant information.

Luggage/Package Storage and Coat Check

Room 336 (Level 300)
Monday through Friday

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

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



Mission-critical projects demand mission-specific solutions.

When it comes to mission-critical defense projects, failure is not an option. That's why the world's most demanding defense contractors look to LightWorks Optics for complex optical assemblies that require precision and fully producible solutions. This includes systems for infrared search and track, missile launch detection, space-based laser communications, missile guidance, and RISTA missions. All developed with our highly coordinated design-for-manufacturing process. So whatever we design and develop, we can produce; and whatever we produce, works. If you have a challenge, LightWorks Optics has a solution—one you can count on the same way people count on you.



Problem. Solved.

w: lwoptics.com/defense
p: 714.247.7199

Policies

Audio/Video/Digital Recording Policy

In the Meeting Rooms and Poster Sessions: For copyright reasons, recordings of any kind are strictly prohibited without prior written consent of the presenter in any conference session, course or of posters presented. Each presenter being taped must file a signed written consent form. Individuals not complying with this policy will be asked to leave a given session and asked to delete images or videos. Consent forms are available at the Speakers Check-In Desk.

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

Underage Persons on Show Floor

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

Unauthorized Solicitation

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

Unsecured Items

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

SPIE

SPIE Apps for iPhone® and Android™



Conference Program
Android and iPhone®
Create your schedule—search and browse the Technical Program and special events, participants, and exhibitors.

Profiles
iPhone®
Make valuable personal connections— find and contact colleagues based on SPIE research publications, conference involvement, and courses taught.

Field Guides
Android and iPhone®
Take Field Guides to a new level— access and use equations, linked terms, bookmarks, and interactive figures, and take notes.
Try Geometrical Optics Field Guide Lite for Free!

Newsroom
iPhone®
The latest innovations, news, and multimedia coverage of Optics and Photonics.



Google play 

iPhone and iTunes are registered trademarks of Apple Inc.



Visible image
seen through smoke

SWIR image reveals
details through smoke

SWIR and thermal
image fusion

Fog obscures objects
in the visible

SWIR clarity
through fog

SWIR IMAGING. ENHANCING MILITARY VISION.

With military, surveillance, and anti-terrorist missions more critical than ever before, **Sensors Unlimited - Goodrich ISR Systems** brings a complete arsenal of mil-hardened shortwave infrared (SWIR) cameras to the field. These uncooled InGaAs cameras help image through smoke, dust, fog and haze, and aid in facial recognition – in daylight or starlight. Extremely compact and lightweight, they are ideal for manned and unmanned ground, air, and maritime intelligence and surveillance operations.

Our new 1280 x 1024, 1.3 Mpixel camera provides the highest sensitivity available in a SWIR camera. Its miniature form factor and light weight make it ideal for UAS, UGS, hand-held, and mobile surveillance systems.

Contact us for more information on our military and other SWIR products for machine vision, semiconductor inspection, biomedical/OCT imaging, photovoltaic processing, and commercial applications. Sensors Unlimited - Goodrich ISR Systems. Always the leader in SWIR vision.

- ▶ laser tracking & spotting
- ▶ covert & fixed site surveillance
- ▶ UGV & UAV payloads
- ▶ high speed imaging & tracking
- ▶ gimbal sensor assemblies
- ▶ target recognition
- ▶ driver/pilot vision enhancement
- ▶ border/homeland security
- ▶ fusion with thermal imagers
- ▶ facial recognition/biometrics

See us at DSS - Booth #1610

For the latest in SWIR imaging concepts of operation, visit www.swirconops.com



phone: 609-520-0610
email: sui_sales@goodrich.com
www.sensorsinc.com

right attitude/right approach/right alongside
www.goodrich.com

GOODRICH



Don't Miss the New Technology Demos and Displays on the Exhibition Floor



The Exhibition includes hands-on demos of some amazing new technologies, including:

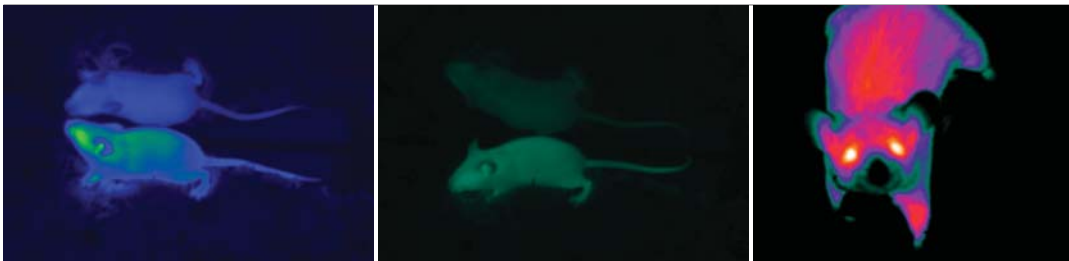
Princetel – Optically enabled robotic vehicle with 4 cameras

FLIR – Applications for small integrated thermal imaging camera

Mantaro – Telepresence robots, utilizes smartphone interface

Intelligent Optical Systems – Handheld LED defensive weapon

JDSU - MicroNIR, A Handheld Near Infrared Spectrometer



2nd Annual Imaging Gallery Showcase at SPIE Defense, Security, and Sensing 2012

Where: **Exhibition Floor**

When: **Tuesday (4/24) – Thursday (4/26)**

Building on the success of last year's gallery, SPIE and StingRay are once again teaming up to display the finest examples of today's imaging technology... with an artistic flair!

brought to you by



For more details on the 2012 Imaging Gallery, please contact

Mr. Sam Wyman, swyman@stingrayoptics.com, or Jennifer Myers, jmyers@stingrayoptics.com, or call (603) 358 5577 for immediate attention.

(Image courtesy of StingRay Optics, "Three Blind Mice", photographed by Ed Kingsbury, 2011)

here, it's survival of the fittest... optical coatings.

zero-shift coatings

space-qualified

tested for humidity, salt fog, and abrasion.

far IR coatings



When it comes to critical optical systems, there's nothing more reliable than our ultra-durable thin film coatings.

From hyperspectral sensing to biosensing, from multi-layer coatings to multi-spectral systems – DSI's Special Products Group provides the most reliable precision coatings available.

Our patented processes deliver rugged coatings designed for the harshest environments – in any application, anywhere.

From visible to UV and IR, call us at 866-433-7724 or visit www.depsci.com. DSI – for high precision coatings that serve and protect.

See us at
DSS Booth #2324

www.depsci.com

innovation
DSI[®]
Deposition Sciences
INCORPORATED

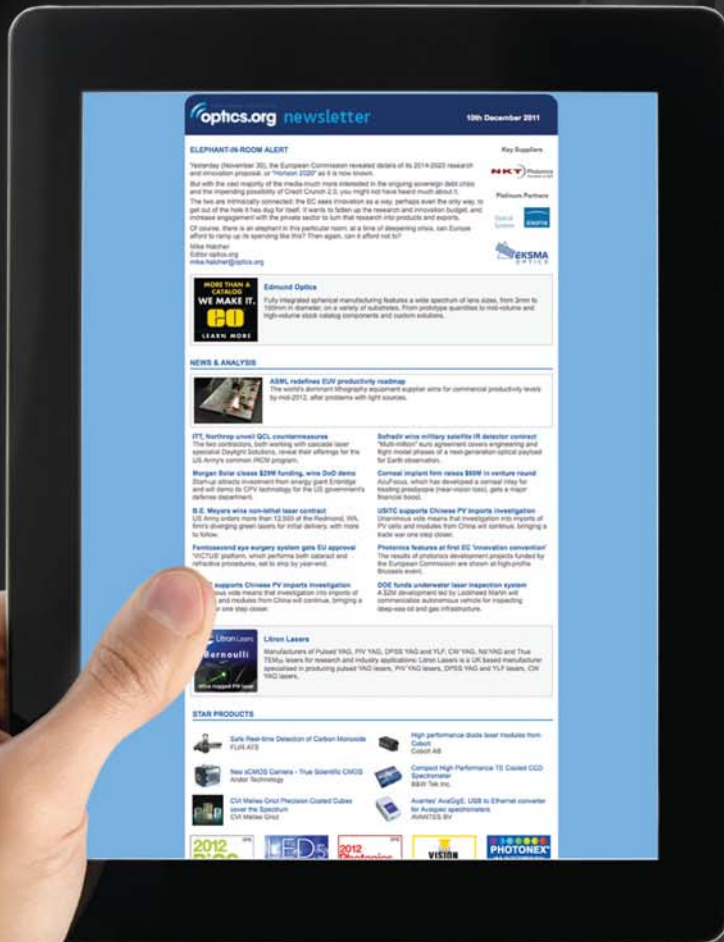
Bringing Technology to Light

Banners		Welcome Reception
 <p>Booth #813 www.materion.com</p>	 <p>Booth #2021 www.opticalmaterials.umicore.com</p>	<p>Contributing Sponsor</p>  <p>Booth #357, 2010 www.flir.com</p>
Column Wrap		Conference Bag
 <p>Booth #2027 www.imperx.com</p>	 <p>Booth #1625 www.ophiropticinc.com</p>	<p>Raytheon ELCAN Optical Technologies</p> <p>Booth #1921 www.elcan.com</p>
Conference Bag Inserts		
 <p>www.americanelements.com</p>	 <p>Booth # 635, 3074 www.defensenews.com</p>	 <p>Booth #1619 www.cvimellesgriot.com</p>
<p>Raytheon ELCAN Optical Technologies</p> <p>Booth #2921 www.elcan.com</p>		
Exhibition Map/Restaurant Guide		
 <p>Booth #2210 www.asdi.com</p>	 <p>Booth #402 www.calculex.com</p>	 <p>Booth #1519 www.us.schott.com/defense</p>
 <p>Booth #1711 www.sofradir.com</p>	 <p>Booth #803 www.temmek.com</p>	 <p>Booth #2426 www.trioptics.com</p>
 <p>Booth #2021 www.opticalmaterials.umicore.com</p>		

view it all in a different light

for the latest news, analysis, market intelligence and insight direct to your desktop or mobile device

sign up to our new-look html newsletter simply go to optics.org/register or visit us at booth #318



sign up today
 to receive our free weekly
 new-look html
 newsletter



Defense, Security, and Sensing Sponsors

Platinum Sponsor	Floor Graphics	
 www.raytheon.com	 Booth #357, 2010 www.flir.com	 Booth #2027 www.imperx.com
Internet Pavilion	Lanyard Sponsor	Conference App
 Booth #702 www.ndia.org	 Booth #1206 www.edmundoptics.com	 Booth #2021 www.opticalmaterials.unicore.com
Meter Boards		Stairstrip Sponsor
 Booth #2027 www.imperx.com	 Booth #913 www.qioptiq.com	 Booth #2420 www.lasertel.com
Popcorn Station		General Refreshment Sponsors
 Global Imaging Technologies Booth #1811 www.gd-imaging.com	 SEMI CONDUCTOR DEVICES USA Booth #1927 www.scdusa.com	Adimec Booth #1829 Heraeus Quartz America LLC Booth #2510 Opgal Ltd. Booth #1113
Defense, Security, and Sensing Promotional Partners		
C4ISR Journal Carl Hanser Verlag Defense News Defense Tech Briefs Earth Imaging Journal Electro Optics Magazine Geospatial Intelligence Forum Industrial Hygiene News Laser Focus World Military & Aerospace Electronics OpticalFiberSensors.org	The Optronics Co., Ltd Photonics Media Photonics Online Physics Today SCANNING, the Journal of Scanning Microscopies The Shephard Group Spectroscopy Magazine Tactical Defense Media Tactical ISR Technology Vision Systems Design	

ImageMaster[®] HR IR

The only vertical and camera based MTF test station covering the complete spectral range from VIS to IR

ImageMaster[®] HR IR, based on well proved ImageMaster[®] HR, has been developed to fulfill customer requirements for highest accuracy and flexibility. It is designed for the measurement of MTF and others optical parameters of today's high-end IR optics in R&D and production.

The fully computer-controlled instrument comes with a high-quality mirror collimator, broadband IR light source and IR focal plane array image sensor and can be configured for testing optical systems with:

- Object at infinity
- On-axis and off-axis (up to $\pm 90^\circ$)
- Clear aperture up to 80 mm
- VIS spectral range optional



TRIOPTICS

www.trioptics.com



JOB FAIR

SPIE Defense, Security, and Sensing

Sponsored by SPIE Career Center

Meet. Discuss. Impress.

Talk with representatives
from companies currently
looking to hire.

See us in the Exhibition Hall

Baltimore Convention Center, Baltimore, Maryland, USA

Tuesday 24 April, 10:00 am to 5:00 pm

Wednesday 25 April, 10:00 am to 5:00 pm

Win a Kindle Fire

SPIE Defense, Security, and Sensing

Game Challenge

hosted by



SPIE



Visit the SPIE Career Center, Booth #318, Wednesday, 25 April to participate in the Optikos Game Challenge.

By participating in the game challenge, your name will be entered into a drawing to win an Amazon Kindle!

Make sure to stop by and talk with representatives about job opportunities and hiring resources.

Meet with representatives
from these companies:



communications

Integrated Optical Systems

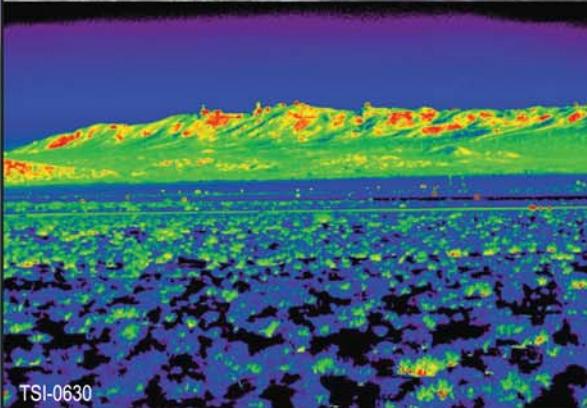
SSG - Tinsley - Brashear



spie.org/dssjobfair

CAMERAS BY TELEDYNE

Please visit us at booth 1719



Everywhereyoulook™

Cameras

The Teledyne family of companies are experts in the creation of rapid prototypes and production of visible and infrared cameras, from x-ray to VLWIR, optimized for SWaP and rugged environments for a broad range of commercial and military applications. Our camera electronics and fully integrated camera systems are some of the smallest and lowest power in the industry.

Read Out Integrated Circuit (ROIC) Design

We also have a world class read-out integrated circuit design team to meet your large format and digital ROIC design requirements.

Camera Products

- Cruz MWIR 1280 x 1024
- Cruz MWIR 640 x 512
- Anacapa SWIR 640 x 512
- Anacapa SWIR 1280 x 1024
- San Miguel Two Color 640 x 512
- Santa Barbara Hyperspectral 640 x 512

We do custom!

For more information please contact Tony Vengel at (805) 245-9979



NOVA SENSORS

A Teledyne Majority Owned Company



TELEDYNE IMAGING SENSORS

Everywhereyoulook™



TELEDYNE JUDSON

Everywhereyoulook™



TELEDYNE SCIENTIFIC COMPANY

Everywhereyoulook™



TELEDYNE OPTIMUM OPTICAL SYSTEMS

Everywhereyoulook™



TELEDYNE DALSA

Everywhereyoulook™



Special Events

Symposium-Wide Plenary Session

Monday • 5:00 to 6:00 pm • Conv. Ctr. (Level 400), Ballroom I-II

Open to All Attendees
exhibition visitors,
exhibitors, and technical
conference attendees



NRO Overview

Bruce Carlson

Director, National Reconnaissance Office

Bruce Carlson was appointed the 17th Director of the National Reconnaissance Office (DNRO) on June 12, 2009. Prior to his appointment, after retiring from the United States Air Force in January 2009, he served as a defense industry consultant and

as a member of the Board of Directors of EADS North America. The DNRO provides direction, guidance, and supervision over all matters pertaining to the NRO and executes other authorities specifically delegated by the Secretary of Defense and the Director of National Intelligence.

Director Carlson began his military career as a commissioned officer in 1971 after graduating with distinction from the Air Force ROTC program at the University of Minnesota, Duluth. He is a command pilot with more than 3,700 flying hours in 10 different aircraft, and saw combat as a forward air controller in the OV-10 Bronco. His various flying assignments included commanding the 49th Fighter Wing at Holloman AFB in New Mexico, the Air Force's first stealth fighter wing. His staff assignments included positions at Tactical Air Command, Headquarters U.S. Air Force, and the offices of the Secretary of the Air Force and Secretary of Defense. He also served as the Director of Force Structure, Resources and Assess-

ment on the Joint Staff; Commander, 8th Air Force, Barksdale AFB, Louisiana; and Joint Functional Component Commander for Space and Global Strike, U.S. Strategic Command, Offutt AFB, Nebraska. Prior to his retirement from the U.S. Air Force, General Carlson served as Commander Air Force Materiel Command, Wright-Patterson AFB, Ohio, which is responsible for development, testing, acquisition and sustainment of Air Force weapons systems. In that role, he had responsibility for 74,000 people and \$59 billion annually. He was promoted from Lieutenant General to General, pinning on his fourth star, on September 1, 2005.

Among Director Carlson's many awards and decorations are the Defense Distinguished Service Medal with oak leaf cluster, Distinguished Service Medal with oak leaf cluster, Legion of Merit, the Meritorious Service Medal with two oak leaf clusters, the Air Force Commendation Medal with two oak leaf clusters, and the Order of the Sword, Air Force Materiel Command.

Director Bruce Carlson holds a Bachelor of Arts Degree from the University of Minnesota, Duluth, and a Master of Arts Degree, Webster University, St. Louis, Missouri. He also is a graduate of the U.S. Air Force Fighter Weapons School, Nellis AFB, Nevada and a Distinguished Graduate, Naval War College, Newport, Rhode Island. Director Carlson was born in Hibbing, Minnesota. He and his wife, Vicki, have three children and 10 grandchildren.

All Symposium Welcome Reception · Maryland Science Center

Monday • 6:30 to 8:00 pm

Open to All Conference Attendees and Exhibitors



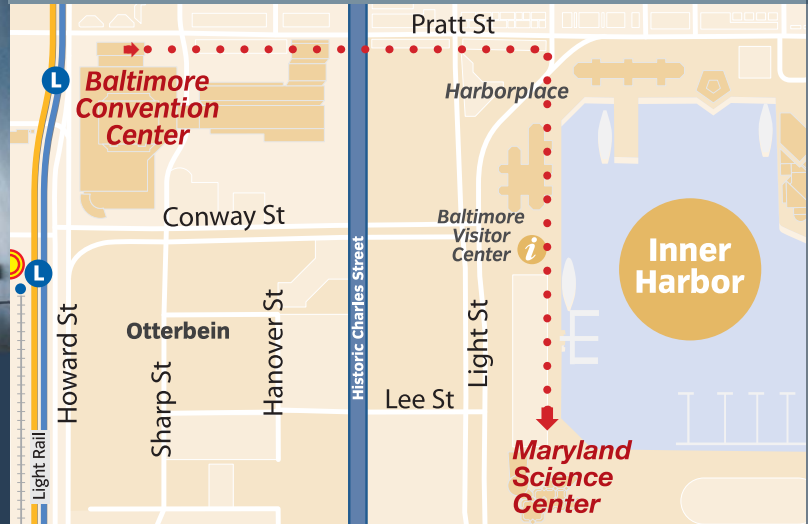
Contributing Sponsor:



Booth #357, 2010

All attendees are invited. Relax, socialize, and enjoy the refreshments and all that the museum has to offer.

Please remember to wear your registration badges. Dress is casual.



PROCESS EQUIPMENT™
DIVISION

MATERIALS™
DIVISION

VACUUM MART™
DIVISION

www.lesker.com

Kurt J. Lesker®
Company

All Things Vacuum

Since 1954, the Kurt J. Lesker Company has been an industry leader in the design, manufacturing and distribution of vacuum technology products and services.

- ITAR Compliant
- Complete vacuum systems
- Deposition materials
- Design & engineering services
- Most complete line of vacuum products in the world

MANUFACTURING™
DIVISION

Government Funding Session

Wednesday • 3:30 to 5:30 pm • Conv. Ctr. 309

Don't Miss These Free Industry Sessions

No special registration required, your badge will get you into these industry programs and government funding sessions



Moderator: Paul F. McManamon,
Exciting Technology, LLC (USA)

The purpose of this session is to assist industry in determining potentially profitable areas where they might invest to develop technology of interest to government funding agencies. Please attend this session to gain insights in future interests and directions of key agencies.

PRESENTERS INCLUDE:



Anthony S. Lombardo, Deputy Director, Intelligence, Surveillance and Reconnaissance Programs, Under Secretary of Defense for Intelligence, Portfolio, Programs & Resources, Office of the Under Secretary of Defense for Intelligence, Pentagon, Washington, DC (USA)

Colonel Tony Lombardo is Deputy Director for Intelligence, Surveillance and Reconnaissance Programs. He leads a division of professionals conducting acquisition oversight for the Department of Defense intelligence combat support agencies—the Defense Intelligence Agency, the National Geospatial-Intelligence Agency and the National Security Agency—and the National Reconnaissance Office. Colonel Lombardo previously served as the Military Assistant to Deputy Under Secretary of Defense for Intelligence, Portfolio, Programs & Resources, Office of the Under Secretary of Defense for Intelligence. In this capacity he assisted a Deputy Under Secretary in developing and implementing Department of Defense intelligence policy, planning and guidance and provided governance and oversight of Defense Intelligence resources. Prior to his current assignment, he commanded the 17th Training Group at Goodfellow Air Force Base Texas. He led the Air Force and DoD-directed intelligence and cryptologic training, basic and advanced fire protection training and special instruments training. Annually, he managed over 10,000 students for over 260 courses. He oversaw seven squadrons' facilities and budgets in excess of \$55 million as well as a \$40 million training system acquisition program.

Colonel Lombardo began his military career in 1985 when he was commissioned through the Air Force Officers Training School. His career includes assignments at a joint command, coalition air operations centers, an Air Force major command and field operating agency, and flying squadron and wing levels. He has been deployed or directly participated in ten named combat operations involving United States Air Force air power or joint and combined combat capabilities. In addition, he has served as an air intelligence officer for over 30 local combat exercises/inspections and over 35 NATO wartime exercises.



Donald Woodbury, Director, Strategic Technology Office, Defense Advanced Research Projects Agency (USA)

Mr. Donald Woodbury is the Director of the Strategic Technology Office (STO), in the Defense Advanced Research Projects Agency (DARPA). Mr. Woodbury manages programs that research and develop innovative technologies to support U.S. Combatant Commanders in current and emerging strategic areas including Finding Difficult Targets; Communications, Electronic Warfare, and Networks; Shaping the Environment; and Foundational Strategic Technologies.

Mr. Woodbury previously served as a program manager and senior scientist in DARPA's Tactical Technology Office, where he managed programs that were focused on the development and demonstration of breakthrough capabilities in manned and unmanned systems, directed energy weapons, space supremacy, and tactical multipliers.

Prior to DARPA, Mr. Woodbury was a technology program manager within the Army Research Laboratory, where he developed and transitioned advanced technologies for aircraft, ground vehicle, and munitions programs.

Mr. Woodbury received a BS in Chemistry and an MS in Physical Chemistry from Clarkson University, and an MS in Technical Management from The Johns Hopkins University. He is a graduate of the Defense System Management College's Program Manager Course.



A. Fenner Milton, Director, Night Vision and Electronic Sensors Directorate Communications-Electronics Research, Development & Engineering Center U.S. Army Research, Development & Engineering Command Fort Belvoir, Virginia (USA)

Milton was appointed to his present position as head of the Night Vision and Electronic Sensors Directorate in 1998. He is responsible for a laboratory that develops all aspects of electro-optical technology for the Army to include Image Intensifiers, Infrared Sensors and Tactical Lasers. He is also responsible for the development of Countermeasure and Humanitarian Demining technology.

Previously, Dr. Milton served in the Pentagon as the Deputy Assistant Secretary for Research and Technology, Chief Scientist of the Army in the Office of the Assistant Secretary of the Army, Research, Development and Acquisition. He was responsible for the Army's entire science and technology program spanning twenty-one (21) Laboratories and Research, Development and Engineering centers, with approximately 10,000 scientists/engineers and an annual budget of \$1.4 billion. He was also the principal scientific advisor to the Secretary of the Army and the Assistant Secretary of the Army Research, Development and Acquisition.

He came to the Pentagon as a member of the Senior Executive Service in 1990 as Director for Technology in the Office of the Assistant Secretary of the Army for Research, Development and Acquisition. Dr. Milton received his Ph.D. in Applied Physics from Harvard University. He serves as Chairman of the Military Sensing Symposia (MSS), is a Fellow of MSS, and has published extensively concerning integrated optics and focal plane arrays.



Richard S. Matlock, Program Executive for Advanced Technology, Missile Defense Agency (USA)

Mr. Richard Matlock, Program Executive for Advanced Technology, is leading the development of the next generation of cutting-edge missile defense technologies and proving their benefit to the warfighter through realistic experiments. Some of Mr. Matlock's other Senior Executive assignments included the Program Director for the Ballistic Missile Defense System Kill Vehicles program, Program Director for Modeling and Simulation and Technical Director for Kinetic Energy Interceptor.

Mr. Matlock's 35-year career in government service includes major acquisition and scientific positions with the U.S. Navy, the Ballistic Missile Defense Organization, the Strategic Defense Initiative Organization and the U. S. Air Force. At Naval Sea Systems Command, Mr. Matlock was the Program Manager for the Department of Defense's U.S./Japan Cooperative Ballistic Missile Defense Research Project. He led the development and implementation of this joint missile defense research program with the Japan Defense Agency. Prior to employment with the Navy, Mr. Matlock was Program Manager for Interceptor Technology Integration in the Ballistic Missile Defense Organization (BMDO).

Mr. Matlock has also held positions in the Department of the Air Force, both as an officer and civil servant, including Chief of Integration and Analysis at the Air Force Rocket Propulsion Laboratory and Technology Director, Space Based Interceptor System Program Office at Air Force Systems Command's Space Division.

WORKSHOP

Early Stage Technology Commercialization

Wednesday • 8:30 to 10:00 am • Conv. Ctr. 330

Panelists from U.S. government laboratories, the venture capital community, and industry discuss ways to speed the commercialization and deployment of early-stage Defense and Homeland Security applications focused on mid-infrared technologies. Listen and interact with the leaders in the IR community, and come to share your ideas.



Moderator:
Joseph X. Montemarano,
Executive Director, MIRTHE,
Princeton Univ. (USA)

Joseph X. Montemarano has been involved in state-of-the-art research and commercialization efforts related to health-care, defense and homeland security, advanced materials, computer science and photonic applications throughout his career. Mr. Montemarano has helped large and small companies, and government researchers access emerging technologies, faculty and other university resources resulting in a significant increase in sponsored research, the launch of several spin-off companies, and successful technology commercialization and fielded applications.

He joined Princeton University in July 1994, and currently serves as Executive Director for the NSF-Engineering Research Center on Mid-InfraRed Technologies for Health and Environment (MIRTHE) led by Princeton University, and Director for Industrial Enterprise for the Princeton Institute for Science and Technology of Materials (PRISM).

Panelists:

Randel Zeller, Department of Homeland Security (USA)

Ralph E. Taylor-Smith, General Partner, Battelle Ventures (USA)

Mark Phillips, Pacific Northwest National Lab. (USA)

Jerry Meyer, U.S. Naval Research Lab. (USA)

TECHNOLOGY SHOWCASE

Start-ups and small companies will showcase their latest technologies ready and available for commercialization

Presenters include:

Feather Sensors Inc.

Sentinel Photonics

MIRTHE Ctr., Princeton Univ.



TESTING
Testing of optics and electro-optical imaging systems

PRODUCTS
Precision optical metrology equipment

ENGINEERING
System engineering for optical and metrology products

MANUFACTURING
Prototyping and production of electro-optical systems

Visit us at
www.optikos.com

107 Audubon Road
Building 3
Wakefield, MA 01880
Phone: 617-354-7557
Fax: 617-354-5946
Email: sales@optikos.com

Lenscheck™ LWIR New Options!



Test your Infrared, Visible or SWIR lens with our new Motorized Rotary Lens Mount (including MTF, EFL, Distortion)

- ◆ High-speed motorized stage used to rotate the test lens about its axis
- ◆ Ultra low piston and wobble
- ◆ 360° continuous travel
- ◆ Motorized shutter assembly for illumination module with integrated relay optics
- ◆ Automates the background correction

TTG-Test Target Generator



Test your Infrared Systems with our Test Target Generator and new controller with remote feature

- ◆ High emissivity, slew rate, uniformity
- ◆ Positive and negative temperature difference
- ◆ Absolute or differential control
- ◆ Large range of targets
- ◆ Passive head cooling to minimize convective turbulence
- ◆ Tilting touchscreen interface with speed jog knob
- ◆ Bluetooth handheld controller (optional)



Professional Development

Spend some time focusing on your career development while you're at SPIE Defense, Security, and Sensing. These workshops and presentations will help you be more successful.

Safely Navigating the Deep Waters of International Trade: Legal Best Practices

WS1074 · Course level: Introductory
CEU .35 \$295 Member / \$345 Non-member USD
Wednesday 1:30 to 5:30 pm

If your company's sales activities, products or services come in contact with foreign jurisdictions, this is a must attend program. The stakes have never been higher. Anyone who wants to answer questions such as, "what are the legal pitfalls of doing business internationally?" or "what are best practices for engaging in global trade?" will benefit from taking this course. During this fast-paced course you will be provided with cutting edge information designed to assist you in safely and effectively navigating the legal shoals of doing business internationally. Real world situations and lessons learned will be provided, as well as practical tips on best practices.

Instructor: **Kerry Scarlott** is a Director at the law firm of Goulston & Storrs, and is an industry leader in International Trade, Export Controls and Compliance.

Complying with the ITAR: A Case Study

WS933 · Course level: Introductory
CEU .35 \$295 Member / \$345 Non-member USD
Thursday 8:30 am to 12:30 pm

In the world of international trade, it's what you don't know that can hurt you. With the U.S. government's focus on homeland security and its increasing reliance on photonics for the development and production of defense-related products and services, your activities may well be subject to the ITAR.

This workshop will begin with a brief contextual overview of U.S. export controls, including the Export Administration Regulations, the ITAR, and special sanction programs administered by the Treasury Department's Office of Foreign Assets Control. We will then transition into a case study focused on the ITAR. Real world situations and lessons learned will be shared. Various aspects of the case study will likely be familiar to you in the context of your own experiences, allowing you to learn effectively how to spot ITAR issues before they negatively impact your business. You will also learn about current enforcement trends and best practices for avoiding violations.

Instructor: **Kerry Scarlott** is a Director at the law firm of Goulston & Storrs, and is an industry leader in International Trade, Export Controls and Compliance.

Essential Skills for Engineering Project Leaders

WS846 · Course level: Introductory
CEU .35 \$295 Member / \$345 Non-member USD
Thursday 1:30 to 5:30 pm

This workshop teaches skills needed to lead technical projects, drive innovation, and influence others. Attendees learn the difference between leadership and management, and how to develop specific leadership skills that are important to technical professionals who lead projects or need assistance from others to get things done. Participants engage in exercises that assess their individual leadership abilities and provide guidance for further skill development.

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

Leading Successful Product Innovation

WS951 · Course level: Intermediate
CEU .35 \$295 Member / \$345 Non-member USD
Wednesday 8:30 am to 12:30 pm

The fundamental goal of this course is to answer the question: "How do I take an idea off the white-board and turn it into a windfall product?" We will explore and apply the principles of good leadership to create a culture of excellence within your organization—the most basic ingredient for success. A special emphasis will be placed on learning how to develop and construct an effective new project pitch using the instructor's "Disciplined Creativity" concept and framework. We will then describe the "Spiral Development Process" for rapid, effective, and successful prototype development, followed by an in-depth examination of the life-cycle approach to product development. This course will also enable you to conduct a "red teaming" exercise to identify competitive threats, identify weaknesses in your company, and most importantly, develop solution strategies. We will also place an emphasis on how to properly vet an idea and how to ask tough-minded questions designed to ferret out shortcomings.

Instructor: **John Carrano** is President of Carrano Consulting. Previously, he was the Vice President, Research & Development, Corporate Executive Officer, and Chairman of the Scientific Advisory Board for Luminex Corporation.

Basic Optics for Non-Optics Personnel

WS609 · Course level: Introductory
CEU .20 \$100 Member / \$150 Non-member USD
Tuesday 1:30 to 4:00 pm

Available in
ONLINE
format

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

Instructor: **Kevin Harding** has been active in the optics industry for over 30 years, and has taught machine vision and optical methods for over 25 years in over 70 workshops and tutorials.



To register for any course:

See SPIE Cashier,
 Pratt St. Lobby (Level 300).

PRISM20
AWARDS12
 Call for Entries
 PrismAwards.org



Participate in an international competition that recognizes cutting-edge products that break conventional ideas, solve problems, and improve life through photonics.

Apply online by 14 September 2012:
 PrismAwards.org



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

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

- Featuring 12 new courses and workshops, including all-new content on energy harvesting, high dynamic range imaging, and ITAR/international trade.
- 55 courses and workshops to choose from
- Learn from the best instructors in the industry
- SPIE Student Members get 50% off courses

New Courses for 2012:

NEW

- SC547 **Terahertz Wave Technology and Applications** (Zhang)
- SC967 **High Dynamic Range Imaging: Sensors and Architectures** (Darmont)
- SC1052 **Optical Systems Engineering** (Kasunic)
- SC1068 **Introduction to Night Vision** (Browne)
- SC1069 **GPU for Defense Applications** (Humphrey)
- SC1070 **Radar Waveforms and Signal Processing** (Welstead)
- SC1071 **Understanding Diffractive Optics** (Soskind)
- SC1072 **Statistics for Imaging and Sensor Data** (Bajorski)
- SC1073 **Radiometry and its Practical Applications** (Grant)
- SC1075 **Methods of Energy Harvesting for Low-Power Sensors** (Erturk)
- SC1076 **Analog-to-Digital Converters for Digital ROICs** (Veeder)
- WS1074 **Safely Navigating the Deep Waters of International Trade: Legal Best Practices** (Scarlott)

Defense, Homeland Security, and Law Enforcement

- SC719 **Chemical & Biological Detection: Overview of Point and Standoff Sensing Technologies** (Gardner, Popa) Mon. 8:30 am to 5:30 pm, \$565 / \$660
- SC952 **Applications of Detection Theory** (Carrano) Tues. 8:30 am to 5:30 pm, \$565 / \$660
- SC789 **Introduction to Optical and Infrared Sensor Systems** (Shaw) Wed. 8:30 am to 5:30 pm, \$565 / \$670
- SC993 **Soil Physics For Non-Soil Engineers: Moisture, Thermal, And Dielectric Soil Properties Affecting IED Detection** (Hendrickx) Wed. 8:30 am to 5:30 pm, \$565 / \$660
- SC1075 **Methods of Energy Harvesting for Low-Power Sensors** (Erturk) Wed. 1:30 to 5:30 pm, \$345 / \$395
- NEW**
- SC1068 **Introduction to Night Vision** (Browne) Thurs. 8:30 am to 12:30 pm, \$345 / \$395
- NEW**
- SC1035 **Military Laser Safety** (Marshall) Thurs. 8:30 am to 5:30 pm, \$565 / \$660
- SC995 **Target Detection Algorithms for Hyperspectral Imagery** (Nasrabadi) Thurs. 8:30 am to 5:30 pm, \$565 / \$660
- SC547 **Terahertz Wave Technology and Applications** (Zhang) Thurs. 8:30 am to 12:30 pm, \$345 / \$395

IACET Continuing Education Units



SPIE has been approved as an authorized provider of CEUs by IACET, The International Association for Continuing Education and Training (Provider #1002092). In obtaining this approval, SPIE has demonstrated that it complies with the

ANSI/IACET Standard which is widely recognized as the standard of good practice for continuing education.

Money-back Guarantee

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

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

Emerging Technologies

- SC1071 **Understanding Diffractive Optics** (Soskind) Tues. 1:30 to 5:30 pm, \$380 / \$430
- NEW**
- SC1076 **Analog-to-Digital Converters for Digital ROICs** (Veeder) Tues. 8:30 am to 12:30 pm, \$345 / \$395
- NEW**
- SC1075 **Methods of Energy Harvesting for Low-Power Sensors** (Erturk) Wed. 1:30 to 5:30 pm, \$345 / \$395
- NEW**
- SC547 **Terahertz Wave Technology and Applications** (Zhang) Thurs. 8:30 am to 12:30 pm, \$345 / \$395

Imaging and Sensing

- SC713 **Engineering Approach to Imaging System Design** (Holst)
Mon. 8:30 am to 5:30 pm, \$615 / \$710
- SC1073 **Radiometry and its Practical Applications** (Grant)
Mon. 8:30 am to 5:30 pm, \$640 / \$735
NEW
- SC952 **Applications of Detection Theory** (Carrano)
Tues. 8:30 am to 5:30 pm, \$565 / \$660
- SC720 **Cost-Conscious Tolerancing of Optical Systems**
(Youngworth) 8:30 am to 12:30 pm, \$345 / \$395
- SC950 **Infrared Imaging Radiometry** (Richards) 8:30 am to 5:30 pm,
Tues. \$565 / \$660
- SC157 **MTF in Optical and Electro-Optical Systems** (Ducharme)
Tues. 8:30 am to 5:30 pm, \$605 / \$700
- SC067 **Testing and Evaluation of E-O Imaging Systems** (Holst)
Tues. 8:30 am to 5:30 pm, \$655 / \$740
- SC194 **Multispectral and Hyperspectral Image Sensors** (Lomheim)
Tues. 1:30 to 5:30 pm, \$425 / \$475
- SC1071 **Understanding Diffractive Optics** (Soskind)
Tues. 1:30 to 5:30 pm, \$380 / \$430
NEW
- SC1076 **Analog-to-Digital Converters for Digital ROICs** (Veeder)
Tues. 8:30 am to 12:30 pm, \$345 / \$395
NEW
- SC1069 **GPU for Defense Applications** (Humphrey) 8:30 am to
Wed. 12:30 pm, \$345 / \$395
NEW
- SC789 **Introduction to Optical and Infrared Sensor Systems**
Wed. (Shaw) 8:30 am to 5:30 pm, \$565 / \$660
- SC206 **Polarized Light: A Practical Hands-on Introduction** (Fisher)
Wed. 8:30 am to 5:30 pm, \$565 / \$660
- SC1031 **Radar Micro-Doppler Signatures - Principles and
Applications** (Chen, Tahmoussi) 8:30 am to 12:30 pm,
Wed. \$345 / \$395
- SC967 **High Dynamic Range Imaging: Sensors and
Architectures** (Darmont) 1:30 to 5:30 pm,
Wed. \$345 / \$395
NEW
- SC1000 **Introduction to Infrared and Ultraviolet Imaging
Technology** (Richards) 1:30 to 5:30 pm, \$380 / \$430
- SC1070 **Radar Waveforms and Signal Processing** (Welstead)
Thurs. 8:30 am to 12:30 pm, \$345 / \$395
NEW
- SC901 **Sensor Array Signal Processing** (Rao) 8:30 am to 5:30 pm,
Thurs. \$565 / \$660
- SC946 **Super Resolution in Imaging Systems** (Bagheri, Javid) 8:30 am to 5:30 pm, \$565 / \$660
- SC995 **Target Detection Algorithms for Hyperspectral Imagery**
(Nasrabadi) 8:30 am to 5:30 pm, \$565 / \$660
- SC547 **Terahertz Wave Technology and Applications** (Zhang)
Thurs. 8:30 am to 12:30 pm, \$345 / \$395
- SC154 **Electro-Optical Imaging System Performance** (Holst)
Fri. 8:30 am to 5:30 pm, \$645 / \$740

Information Systems and Networks: Processing, Fusion, and Knowledge Generation

- SC1072 **Statistics for Imaging and Sensor Data** (Bajorski)
Mon. 8:30 am to 5:30 pm, \$665 / \$760
NEW
- SC952 **Applications of Detection Theory** (Carrano) 8:30 am to
Tues. 5:30 pm, \$565 / \$660
- SC994 **Multisensor Data Fusion for Object Detection,
Classification and Identification** (Klein) 8:30 am to 5:30 pm,
Tues. \$635 / \$730
- SC901 **Sensor Array Signal Processing** (Rao) 8:30 am to 5:30 pm,
Thurs. \$565 / \$660

Innovative Defense and Security Applications for Displays

- SC159 **Head-Mounted Displays: Design and Applications**
(Melzer, Browne) 8:30 am to 5:30 pm, \$600 / \$695
- SC1069 **GPU for Defense Applications** (Humphrey) 8:30 am to
Wed. 12:30 pm, \$345 / \$395
NEW
- SC967 **High Dynamic Range Imaging: Sensors and
Architectures** (Darmont) 1:30 to 5:30 pm,
Wed. \$345 / \$395
NEW
- SC1068 **Introduction to Night Vision** (Browne) 8:30 am to 12:30 pm,
Thurs. \$345 / \$395
NEW

IR Sensors and Systems

- SC152 **Infrared Focal Plane Arrays** (Dereniak, Hubbs) 1:30 to
Mon. 5:30 pm, \$345 / \$395
- SC278 **Infrared Detectors** (Dereniak) 8:30 am to 12:30 pm,
Mon. \$460 / \$510
- SC713 **Engineering Approach to Imaging System Design** (Holst)
Mon. 8:30 am to 5:30 pm, \$615 / \$710
- SC835 **Infrared Systems - Technology & Design** (Daniels)
Mon.-Tues. 8:30 am to 5:30 pm, \$1085 / \$1305
- SC900 **Uncooled Thermal Imaging Detectors and Systems**
(Hanson) 8:30 am to 5:30 pm, \$605 / \$700
- SC1073 **Radiometry and its Practical Applications** (Grant)
Mon. 8:30 am to 5:30 pm, \$640 / \$735
NEW
- SC1077 **Introduction to Optical Oceanography** (Hou)
Mon. 1:30 to 5:30 pm, \$345 / \$395
NEW
- SC720 **Cost-Conscious Tolerancing of Optical Systems**
(Youngworth) 8:30 am to 12:30 pm, \$345 / \$395
- SC950 **Infrared Imaging Radiometry** (Richards)
Tues. 8:30 am to 5:30 pm, \$565 / \$660
- SC067 **Testing and Evaluation of E-O Imaging Systems** (Holst)
Tues. 8:30 am to 5:30 pm, \$645 / \$740
- SC194 **Multispectral and Hyperspectral Image Sensors**
(Lomheim) 1:30 to 5:30 pm, \$425 / \$475
- SC1071 **Understanding Diffractive Optics** (Soskind)
Tues. 1:30 to 5:30 pm, \$380 / \$430
NEW
- SC1076 **Analog-to-Digital Converters for Digital ROICs** (Veeder)
Tues. 8:30 am to 12:30 pm, \$345 / \$395
NEW
- SC789 **Introduction to Optical and Infrared Sensor Systems**
(Shaw) 8:30 am to 5:30 pm, \$565 / \$660
- SC206 **Polarized Light: A Practical Hands-on Introduction**
(Fisher) 8:30 am to 5:30 pm, \$565 / \$660
- SC181 **Predicting Target Acquisition Performance of Electro-
Optical Imagers** (Vollmerhausen) 8:30 am to 5:30 pm,
Wed. \$620 / \$715
- SC993 **Soil Physics For Non-Soil Engineers: Moisture, Thermal,
and Dielectric Soil Properties Affecting IED Detection**
(Hendrickx) 8:30 am to 5:30 pm, \$565 / \$660
- SC1000 **Introduction to Infrared and Ultraviolet Imaging
Technology** (Richards) 1:30 to 5:30 pm, \$380 / \$430
- SC892 **Infrared Search and Track Systems** (Schwering)
Thurs. 8:30 am to 5:30 pm, \$565 / \$660
- SC1068 **Introduction to Night Vision** (Browne) 8:30 am to 12:30 pm,
Thurs. \$345 / \$395
NEW
- SC1035 **Military Laser Safety** (Marshall) 8:30 am to 5:30 pm,
Thurs. \$565 / \$660
- SC154 **Electro-Optical Imaging System Performance** (Holst)
Fri. 8:30 am to 5:30 pm, \$645 / \$740

Laser Sensors and Systems

- SC1032 **Direct Detection Laser Radar Systems for Imaging Applications** (*Richmond, Cain*) 8:30 am to 5:30 pm, \$610 / \$705
- SC167 **Introduction to Laser Radar** (*Kammerman*) 8:30 am to 12:30 pm, \$345 / \$395
- SC160 **Precision Stabilized Pointing and Tracking Systems** (*Hilkert*) 8:30 am to 5:30 pm, \$565 / \$660
- SC720 **Cost-Conscious Tolerancing of Optical Systems** (*Youngworth*) 8:30 am to 12:30 pm, \$345 / \$395
- SC1071 **Understanding Diffractive Optics** (*Soskind*)
Tues. 1:30 to 5:30 pm, \$380 / \$430
NEW
- SC789 **Introduction to Optical and Infrared Sensor Systems** (*Shaw*) 8:30 am to 5:30 pm, \$565 / \$660
- SC1031 **Radar Micro-Doppler Signatures - Principles and Applications** (*Chen, Tahmoush*) 8:30 am to 12:30 pm, \$345 / \$395
- SC997 **High Power Laser Beam Quality** (*Ross*) 8:30 am to 12:30 pm, \$345 / \$395
- SC1035 **Military Laser Safety** (*Marshall*) 8:30 am to 5:30 pm, \$565 / \$660

Optical and Optomechanical Engineering

- SC156 **Basic Optics for Engineers** (*Ducharme*) 8:30 am to 5:30 pm, \$605 / \$700
- SC010 **Introduction to Optical Alignment Techniques** (*Ruda*)
Mon.-Tues. 8:30 am to 5:30 pm, \$940 / \$1160
- SC1073 **Radiometry and its Practical Applications** (*Grant*)
Mon. 8:30 am to 5:30 pm, \$640 / \$735
NEW
- SC1072 **Statistics for Imaging and Sensor Data** (*Bajorski*)
Mon. 8:30 am to 5:30 pm, \$665 / \$760
NEW
- SC157 **MTF in Optical and Electro-Optical Systems** (*Ducharme*)
Tues. 8:30 am to 5:30 pm, \$605 / \$700
- SC720 **Cost-Conscious Tolerancing of Optical Systems** (*Youngworth*) 8:30 am to 12:30 pm, \$345 / \$395
- SC950 **Infrared Imaging Radiometry** (*Richards*) 8:30 am to 5:30 pm, \$565 / \$660
- WS609 **Basic Optics for Non-Optics Personnel** (*Harding*)
Tues. 1:30 to 4:00 pm, \$150 / \$200
- SC1071 **Understanding Diffractive Optics** (*Soskind*)
Tues. 1:30 to 5:30 pm, \$380 / \$430
NEW
- SC254 **Integrated Opto-Mechanical Analysis** (*Genberg, Doyle*)
Wed. 8:30 am to 5:30 pm, \$615 / \$710
- SC014 **Introduction to Optomechanical Design** (*Vukobratovich*)
Wed.-Thurs. 8:30 am to 5:30 pm, \$940 / \$1160
- SC206 **Polarized Light: A Practical Hands-on Introduction** (*Fisher*) 8:30 am to 5:30 pm, \$565 / \$660
- SC1000 **Introduction to Infrared and Ultraviolet Imaging Technology** (*Richards*) 1:30 to 5:30 pm, \$380 / \$430
- SC1052 **Optical Systems Engineering** (*Kasunic*)
Thurs. 8:30 am to 5:30 pm, \$565 / \$660
NEW
- SC220 **Optical Alignment Mechanisms** (*Guyer*) 1:30 to 5:30 pm, \$345 / \$395

Sensing for Industry, Environment, and Health

- SC719 **Chemical & Biological Detection: Overview of Point and Standoff Sensing Technologies** (*Gardner, Popa*)
Mon. 8:30 am to 5:30 pm, \$565 / \$660
- SC1077 **Introduction to Optical Oceanography** (*Hou*)
Mon. 1:30 to 5:30 pm, \$345 / \$395
NEW
- SC952 **Applications of Detection Theory** (*Carrano*) 8:30 am to 5:30 pm, \$565 / \$660
- SC789 **Introduction to Optical and Infrared Sensor Systems** (*Shaw*) 8:30 am to 5:30 pm, \$565 / \$660
- SC1075 **Methods of Energy Harvesting for Low-Power Sensors** (*Erturk*) 1:30 to 5:30 pm, \$345 / \$395
NEW
- SC901 **Sensor Array Signal Processing** (*Rao*) 8:30 am to 5:30 pm, \$565 / \$660
- SC995 **Target Detection Algorithms for Hyperspectral Imagery** (*Nasrabadi*) 8:30 am to 5:30 pm, \$565 / \$660
- SC547 **Terahertz Wave Technology and Applications** (*Zhang*)
Thurs. 8:30 am to 12:30 pm, \$345 / \$395

Sensor Data and Information Exploitation

- SC160 **Precision Stabilized Pointing and Tracking Systems** (*Hilkert*) 8:30 am to 5:30 pm, \$565 / \$660
- SC1072 **Statistics for Imaging and Sensor Data** (*Bajorski*)
Mon. 8:30 am to 5:30 pm, \$665 / \$760
NEW
- SC994 **Multisensor Data Fusion for Object Detection, Classification and Identification** (*Klein*) 8:30 am to 5:30 pm, \$635 / \$730
- SC194 **Multispectral and Hyperspectral Image Sensors** (*Lomheim*) 1:30 to 5:30 pm, \$425 / \$475
- SC1076 **Analog-to-Digital Converters for Digital ROICs** (*Veeder*)
Tues. 8:30 am to 12:30 pm, \$345 / \$395
NEW
- SC158 **Fundamentals of Automatic Target Recognition** (*Sadjadi*)
Wed. 8:30 am to 5:30 pm, \$565 / \$660
- SC181 **Predicting Target Acquisition Performance of Electro-Optical Imagers** (*Vollmerhausen*) 8:30 am to 5:30 pm, \$620 / \$715
- SC1031 **Radar Micro-Doppler Signatures - Principles and Applications** (*Chen, Tahmoush*) 8:30 am to 12:30 pm, \$345 / \$395
- SC1035 **Military Laser Safety** (*Marshall*) 8:30 am to 5:30 pm, \$565 / \$660
- SC1070 **Radar Waveforms and Signal Processing** (*Welstead*)
Thurs. 8:30 am to 12:30 pm, \$345 / \$395
NEW
- SC901 **Sensor Array Signal Processing** (*Rao*) 8:30 am to 5:30 pm, \$565 / \$660
- SC995 **Target Detection Algorithms for Hyperspectral Imagery** (*Nasrabadi*) 8:30 am to 5:30 pm, \$565 / \$660

Signal, Image, and Neural Net Processing

SC066 **Fundamentals of Electronic Image Processing** (*Weeks*)
 Mon. 8:30 am to 5:30 pm, \$635 / \$730

SC1072 **Statistics for Imaging and Sensor Data** (*Bajorski*)
 Mon. 8:30 am to 5:30 pm, \$665 / \$760

NEW

SC952 **Applications of Detection Theory** (*Carrano*) 8:30 am to 5:30 pm, \$565 / \$660

SC994 **Multisensor Data Fusion for Object Detection, Classification and Identification** (*Klein*) 8:30 am to 5:30 pm, \$635 / \$730

SC1076 **Analog-to-Digital Converters for Digital ROICs** (*Veeder*)
 Tues. 8:30 am to 12:30 pm, \$345 / \$395

NEW

SC1070 **Radar Waveforms and Signal Processing** (*Welstead*)
 Thurs. 8:30 am to 12:30 pm, \$345 / \$395

NEW

SC901 **Sensor Array Signal Processing** (*Rao*) 8:30 am to 5:30 pm, \$565 / \$660

SC946 **Super Resolution in Imaging Systems** (*Bagheri, Javid*)
 Thurs. 8:30 am to 5:30 pm, \$565 / \$660

SC995 **Target Detection Algorithms for Hyperspectral Imagery** (*Nasrabadi*) 8:30 am to 5:30 pm, \$565 / \$660

Unmanned, Robotic, and Layered Systems

SC1077 **Introduction to Optical Oceanography** (*Hou*)
 Mon. 1:30 to 5:30 pm, \$345 / \$395

NEW

SC952 **Applications of Detection Theory** (*Carrano*) 8:30 am to 5:30 pm, \$565 / \$660

SC996 **Introduction to GPS Receivers** (*Zhu*) 8:30 am to 12:30 pm, \$345 / \$395

SC993 **Soil Physics For Non-Soil Engineers: Moisture, Thermal, and Dielectric Soil Properties Affecting IED Detection** (*Hendrickx*) 8:30 am to 5:30 pm, \$565 / \$660

SC1075 **Methods of Energy Harvesting for Low-Power Sensors** (*Erturk*) 1:30 to 5:30 pm, \$345 / \$395

NEW

INDUSTRY WORKSHOPS

Business + Professional Development

WS609 **Basic Optics for Non-Optics Personnel** (*Harding*)
 Tues. 1:30 to 4:00 pm, \$150 / \$200

WS951 **Leading Successful Product Innovation** (*Carrano*)
 Wed. 8:30 am to 12:30 pm, \$345 / \$395

WS1074 **Safely Navigating the Deep Waters of International Trade: Legal Best Practices** (*Scarlott*) 1:30 to 5:30 pm, \$345 / \$395

NEW

WS933 **Complying with the ITAR: A Case Study** (*Scarlott*)
 Thurs. 8:30 am to 12:30 pm, \$345 / \$395

WS846 **Essential Skills for Engineering Project Leaders** (*Hinkle*)
 Thurs. 1:30 to 5:30 pm, \$345 / \$395

SPIE Online Courses

A great way to fulfill your training needs

At Your Pace · On Your Schedule · At Your Desk

spie.org/onlinecourses

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



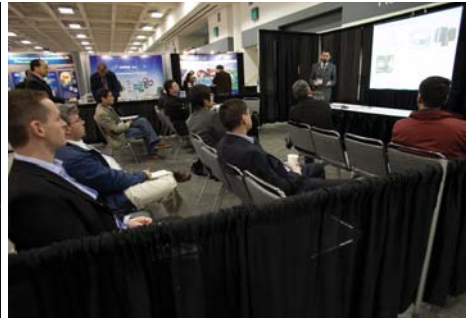
To register for any course:

See SPIE Cashier,
 Pratt St. Lobby (Level 300).

Product Demos

Product Demonstrations are open to all attendees. Exhibiting companies will showcase products in half-hour demonstrations.

Don't miss these **FREE Demonstrations**



TIME	Tuesday 24 April	Wednesday 25 April	Thursday 26 April
10:00 am		<p>SPECIAL ITAR FORUM Export Controls Highlights and Best Practices – An Open Forum Kerry T. Scarlott, Esq., Goulston & Storrs, P.C.</p> <p>Is your business at risk? Join us for a forum on critical ITAR/export control issues for the optics industry. This will be an open discussion with the opportunity for audience input and questions.</p>	
10:30 am	<p>Rugged cameras for situational awareness, gimbals and designators Joost van Kuijk, Ph.D., Adimec</p> <p>Adimec's camera technology increases the safety around us. We'll present a new series of ruggedized cameras designed for US Defense & Security industry combining full HD color video with NIR sensitivity.</p>		<p>Chalcogenide Materials and Aspheric Infrared Optics from SCHOTT produced in the United States Dr. Nathan Carlie, SCHOTT</p> <p>SCHOTT now produces the IG family of chalcogenide glasses in the United States with validated optical and physical properties for imaging in the NIR through LWIR.</p>
11:30 am	<p>High resolution surveillance using Vieworks digital cameras Kris Balch, Vision Systems Technology, LLC</p> <p>Vieworks cameras have been successfully deployed in Aerial, ISR, and Security surveillance applications. Discussed will be which cameras are being used, how they are being used, and their benefits.</p>	<p>Data from the Field: Rifle Scope Image Quality and MTF Ben Wells, Wells Research</p> <p>Riflescopes, telescopes, binoculars and night vision systems view a virtual image through an eyepiece. What is a "good" image? We compare commercial riflescopes using 3-bar tests, MTF, and SQF.</p>	
12:30 pm		<p>Imaging Infrared Polarimeter w/ Integrated Realtime Image Processing Dr. Larry Pezzaniti, Polaris Sensor Technologies, Inc.</p> <p>Demonstration of Polaris Sensor Technologies imaging infrared polarimeter with integrated real time data acquisition, processing and display software.</p>	<p>Broadband AR Coatings from SCHOTT Jayson Nelson, SCHOTT</p> <p>SCHOTT has added US capability for anti-reflective coating. Multiwavelength, Single wavelength, and Broadband Antireflection coatings for the UV, VIS, NIR are available.</p>
1:30 pm		<p>MantaroBlocks, a new, modular, power-intelligent wireless sensor node architecture David Riley, Mantaro</p> <p>New modular, wireless sensor node architecture based on intelligent, stackable, autonomous peripheral modules and modern micropower switching power converters.</p>	

TIME	Tuesday 24 April	Wednesday 25 April	Thursday 26 April
2:30 pm	<p>Preventing condensation and corrosion in Optical and Electro Optical instruments Martin Partridge, AGM/Brownell</p> <p>Moisture adversely impacts the performance of sensitive electronics & electro-optical devices, resulting in short circuits & system failure. Desiccators & dry gas purging provide long-term protection.</p>	<p>High resolution SWIR modules for passive night vision and image fusion applications Hervé Copin, Xenics</p> <p>Xenics' novel high resolution SWIR modules revolutionize for night vision applications in size, weight and power (SWAP). The modules are also very well suited for image fusion applications.</p>	<p>EXHIBITION CLOSED</p>
3:30 pm	<p>Optical Design and Assembly Capabilities by SCHOTT Kevin Tabor, SCHOTT</p> <p>SCHOTT Defense now offers advanced optical design and assembly capabilities, including conventional optics as well as incorporating SCHOTT's imaging fiber optics into optical and electro/optic design.</p>	<p>Efficient Generation of Green and Mid-IR Laser Wavelengths for Defence Applications Mark Middleton, Covesion Ltd</p> <p>With a non-linear coefficient 4x greater than KTP, PPLN is fast becoming the preferred non-linear material for efficient wavelength conversion of laser light.</p>	
4:30 pm	<p>New LG940 Laser Glass from SCHOTT Matthew Roth, SCHOTT Defense</p> <p>SCHOTT continues to bring innovative laser glasses to the OEMs, enabling more efficient, higher rep-rate operations in "eye-safe" medical and range-finding applications at 1.54µm.</p>	<p>Introducing New Multi-Application 931 Touchscreen Critical Point Dryer (CPD) Yianni Tousimis, Tousimis Research Corporation</p> <p>The new tousimis 931 CPD Demo will show its ability to process Multi-Application Sample Types ranging from the traditional to the most complex in an easy manner.</p>	

Tune in to the optics and photonics community

View more than 200 videos from SPIE including relevant technical interviews, features, presentations, and SPIE conference coverage.



SPIE.TV
spie.org/spietv

2013 Defense Security+Sensing

Sensing and imaging technologies for defense, security, industrial applications, and the environment

Mark your calendar
6–10 May 2013

Conferences and Courses

6–10 May 2013

Exhibition

7–9 May 2013

Location

Baltimore Convention Center
Baltimore, Maryland, USA

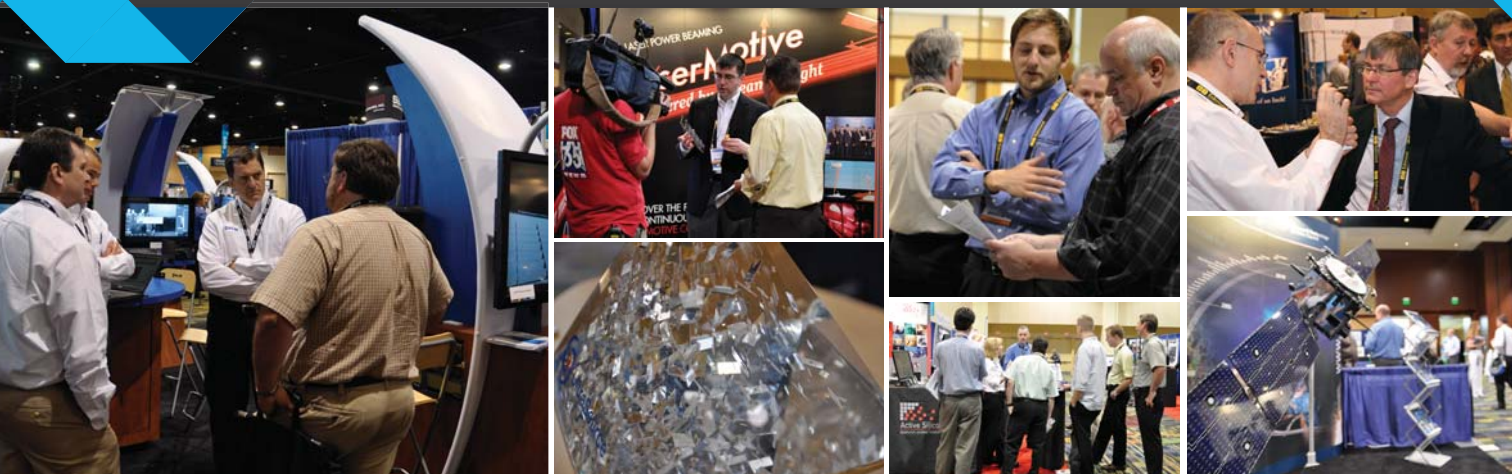
spie.org/dss2013

Technologies

- Military and Industrial Imaging and Sensing Systems
- Visible to IR to Terahertz Devices and Systems
- Sensors: Networks, Data Analytics and Displays
- Signal and Image Processing
- Unmanned and Robotic Technologies
- Global and Homeland Health and Security



SPIE[®]



Exhibiting companies plus featured product launches

Walk the floor at the East Coast's largest exhibition

for precision optics, lasers, sensors, optical materials, thermal imaging, optoelectronics, instrumentation, data analysis, and more.

With 500+ companies, you can learn new possibilities and find new products.

How to use this directory

SPIE Defense, Security, and Sensing exhibitors are indexed by booth number on pages 32–35, then listed in alphabetical order with details about products or services each is exhibiting. Booth numbers may be cross-referenced with the maps on pp. 32–33.

Companies are additionally cross-indexed by technology areas in the Product Category Index on pages 108–121. to allow you to quickly shop for products for your engineering and business needs, making this Exhibition Guide an excellent reference tool.

Exhibition Hours

Tuesday 24 April 10:00 am to 5:00 pm
 Wednesday 25 April 10:00 am to 5:00 pm
 Thursday 26 April 10:00 am to 2:00 pm



Search for Exhibitors Online

Baltimore Convention Center (Level 100)



Exhibitor Booth Index

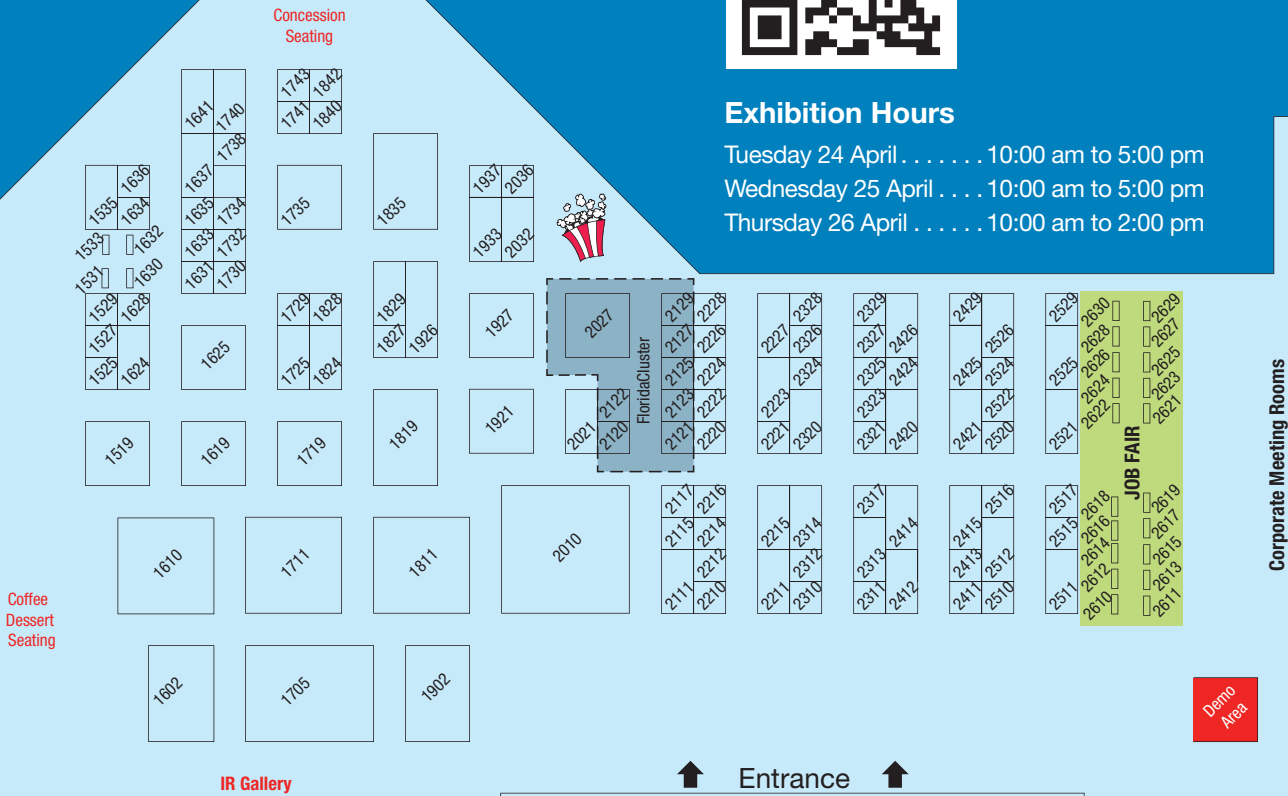
- | | | | |
|--|---|--|---|
| 102 Eclipse Energy Systems, Inc. | 145 Instro Precision Ltd. | 220 NSCA & TRA-CAL, LLC | 250 Centice Corp. |
| 103 Hitachi High Technologies America, Inc. | 146 4Wave Inc. | 221 Esterline CMC Electronics | 251 Beijing Lansitaike Science & Technology Co., Ltd |
| 105 Stellar Microelectronics | 147 Agilent Technologies, Inc. | 222 MPA Crystal Corp. | 252 Kelc Electronics System Co., Ltd |
| 107 Ultralife Corporation | 148 Kyocera America, Inc. | 223 Bruker Corp. | 256 IPG Photonics Corp. |
| 108 NiCoForm, Inc. | 149 Germanium and Applications Ltd. | 224 Bridger Photonics, Inc. | 257 Mantaro Product Development Services®, Inc. |
| 109 Infrared Associates, Inc. | 150 Rigaku Raman Technologies | 226 NuWaves Engineering | 302 Vision Systems Technology, LLC |
| 113 Vision4ce LLC | 151 Traycer Diagnostic Systems, Inc. | 227 Fiberoptics Technology, Inc. | 303 Coherent, Inc. |
| 115 ENMET Corporation | 153 Deployable Systems | 230 Contact! Corp. | 304 Catalina Scientific Instruments, LLC |
| 117 JAI Inc., USA | 202 Satisloh North America Inc. | 231 General Projections Systems, Inc | 305 Sandvik Osprey Ltd. |
| 118 Systematic Vision Corp. | 203 Amplification Technologies, Inc. | 232 Nextreme Thermal Solutions, Inc. | 306 KVH Industries, Inc. |
| 119 RICOR USA, Inc. | 204 Access Laser Co. | 233 Angstrom Scientific Inc. | 307 Diverse Optics Inc. |
| 120 Veeco Instruments Inc. | 205 PHOTONIS USA | 235 Infrared Labs., Inc. | 308 PD-LD, Inc. |
| 125 Proto Labs, Inc | 206 Adsys Controls, Inc. | 236 Raicol Crystals Ltd. | 309 Tower Solutions |
| 130 Swiss Jewel Co. | 208 CalSensors Inc. | 237 Surface Optics Corp. | 312 Brimrose Technology Corp. |
| 131 eMagin Corp. | 209 Velodyne Lidar, Inc. | 238 Bertin Technologies | 313 Panavision Federal Systems, LLC |
| 132 Gentec Electro-Optics Inc. | 212 e2v Aerospace and Defense, Inc | 239 Neoptix, Inc. | 314 DYCONEX AG |
| 133 INO | 213 Iridian Spectral Technologies Ltd. | 244 Sony Electronics Inc. | 315 Wavelength Technology Singapore Pte. Ltd. |
| 134 Genia Photonics Inc. | 214 Lattice Materials LLC | 245 Amuneal Manufacturing Corp. | 318 optics.org |
| 135 Zephyr Photonics, Inc. | 215 Vergason Technology Inc | 247 OmniPulse Technology | 318 SPIE Career Center |
| 136 O/E Land Inc. | 216 LITEYE SYSTEMS, INC | 248 Mantaro Product Development Services®, Inc. | |
| 137 Advanced Research Corp. | 219 China Germanium Co., Ltd. | 249 Welch Mechanical Designs, LLC | |
| 138 MicroDISC, Inc. | | | |
| 139 Yole Développement | | | |
| 144 GlobalSensing Technologies France | | | |



Search for Exhibitors Online

Exhibition Hours

Tuesday 24 April 10:00 am to 5:00 pm
Wednesday 25 April 10:00 am to 5:00 pm
Thursday 26 April 10:00 am to 2:00 pm



- | | | | |
|--|--|---|---|
| 319 Oneida Research Services, Inc. | 332 Redfern Integrated Optics Inc. | 353 Instrument Development Corp. | 422 Maxion Technologies, Inc. |
| 321 Lake Shore Cryotronics, Inc. | 332 TeraComm, LLC | 357 FLIR Systems, Inc. | 424 5N Plus Trial |
| 322 MOXTEK, Inc. | 332 u2t Photonics AG | 402 CALCULEX, Inc. | 425 Stemmerich, Inc. |
| 323 Gatan, Inc. | 332 Yokogawa Corp. of America | 403 Carl Zeiss Microscopy, LLC | 426 AdTech Optics, Inc. |
| 324 Sumitomo Electric U.S.A., Inc. | 333 Canon U.S.A., Inc. | 404 DynaVac | 427 Vermont Photonics Technologies Corp. |
| 325 Electro-Optics Technology, Inc. | 335 JML Optical Industries, LLC | 405 ARTEMIS, Inc. | 430 EGIDE USA Inc. |
| 326 Topins Co, Ltd | 336 Covesion Ltd. | 406 GPD Optoelectronics Corp. | 431 Spectral Evolution, Inc. |
| 327 Criterion Instrument | 337 Exotic Electro-Optics, Inc. | 407 Gooch & Housego Plc | 432 Pulse Inteco Systems Ltd. |
| 330 Inspired Energy, LLC | 337 Max Levy Autograph, Inc. | 408 Sinclair Manufacturing Co. | 433 Optometrics Corp. |
| 331 System Control Technologies (SCT) | 337 VLOC | 412 TDK-Lambda Americas Inc. | 434 Wafer Technology Ltd. |
| 332 Arroyo Instruments, LLC | 338 National Aperture, Inc. | 413 Nallatech | 435 Galaxy Compound Semiconductors, Inc. |
| 332 Bristol Instruments, Inc. | 344 SELEX Galileo | 414 AGM Container Controls, Inc. | 437 Orbel Corp |
| 332 eagleyard Photonics GmbH | 348 NP Photonics, Inc. | 415 Princetel, Inc. | 439 II-VI Infrared |
| 332 Finisar Corp. | 349 HGH Infrared Systems | 418 Thales Cryogenics B.V. | 448 Naked Optics Corp. |
| 332 Luna Technologies | 350 Shanghai Optics Inc. | 419 Ocean Thin Films, Inc. | 448 Phoenix Optical Technologies Ltd. |
| 332 Polatis Inc. | 351 EMCORE Corporation | 421 Onyx Optics Inc. | |
| | 352 Moore Nanotechnology Systems, LLC | | |

SPIE Defense, Security, and Sensing Directory

448	Precision Optics Gera	604	Infinite Graphics Incorporated	718	Simphotek Inc.	1020	Pleora Technologies Inc.
449	Great River Technology, Inc.	605	Exelis Visual Information Solutions	719	Princeton Scientific Corp.	1021	Kigre, Inc.
451	FJW Optical Systems, Inc.	606	CMPC Surface Finishes	720	OptoSigma Corp.	1021	Spica Technologies, Inc.
452	E.R. Precision Optical Corp.	608	Hardin Optical Co.	721	Boulder Nonlinear Systems	1021	TwinStar Optics & Coatings, Inc.
453	Newcon Optik	609	IRD Glass	723	NorPix Inc.	1102	Schneider Optics, Inc.
456	Princetel, Inc.	612	Reynard Corporation	724	Electro Optics Magazine	1103	Hamamatsu Corp.
502	Nanomotion Inc.	613	4D Technology Corp.	725	StellarNet, Inc.	1104	ExoTec Precision
503	Kurt J. Lesker Co.	614	New Imaging Technologies SAS	726	Photon Gear, Inc.	1106	Kopin Corp.
504	Spire Semiconductor, LLC	615	EPTAM Plastics, Inc.	727	Block Engineering, LLC	1107	Advanced Cooling Technologies, Inc.
505	Mirage Systems	616	Physimetrics, Inc.	802	Critical Link, LLC	1109	Laser Components USA, Inc.
506	Pranalytica, Inc.	617	Denton Vacuum Inc.	803	Temmek Optics Ltd.	1113	Opgal Optronics Industries Ltd.
507	Westboro Photonics	619	Photonics Online	804	IRflex Corp.	1118	Active Silicon, Inc.
509	Fosta-Tek Optics, Inc.	620	FluxData, Inc.	805	Siskiyou Corporation	1119	Northrop Grumman Cutting Edge Optronics
512	Multi IR Optoelectronics Co., Ltd	622	Solid Sealing Technology	806	Rochester Precision Optics, LLC	1120	Z & Z Optoelectronics Tech. Co., Ltd.
513	Kentek Corp.	623	Electron Microscopy Sciences	807	Daylight Solutions Inc.	1122	Multisorb Technologies, Inc.
514	ICA Corporation	624	Research Electro-Optics, Inc.	812	LaCroix Optical Co.	1123	Avo Photonics, Inc.
517	BEI Precision Systems & Space Co., Inc.	625	Carl Hanser Verlag GmbH & Co. KG	813	Materion Corporation	1124	Insaco Inc.
518	CeramTec North America Corp.	627	Fibercore Ltd.	814	DigitalOptics Corporation	1126	AdTech Ceramics
519	Opto Knowledge Systems, Inc.	630	Polaris Sensor Technologies, Inc.	816	Infinite Optics Inc.	1127	Nufern
520	Precision Asphere, Inc.	634	Midac Corp	818	Xactra Technologies	1202	Alpes Lasers SA
521	Advance Reproductions Corp.	635	C4ISR Journal & Defense News	819	EM Photonics, Inc.	1202	Boston Electronics Corp.
522	Vacuum Process Technology LLC	637	Nu-Cast, Inc.	820	Evaporated Metal Films Corp.	1202	HawkEye Technologies
523	Arjae Spectral Enterprises, Inc.	639	Greenpak Development, Inc. (GDI)	821	Laser Technology, Inc.	1202	Heimann Sensor GmbH
524	Renishaw Inc.	639	IBM	822	Fairview Machine Co., Inc.	1202	ID Quantique SA
525	Rocky Mountain Instrument Co.	643	Opto-Alignment Technology, Inc.	823	PLX Inc.	1202	VIGO Systems
530	Princeton Lightwave, Inc.	644	Vision Components GmbH	826	Excelitas Technologies	1206	Edmund Optics Inc.
531	Novotech, Inc.	646	Sensics, Inc.	902	Coherent Logix, Inc.	1218	IRZoom.com - A division of Computer Optics, Inc.
532	Photon Systems, Inc.	647	ASE Optics	903	Tower Optical Corp.	1222	PolarOnyx, Inc.
533	Jazz Semiconductor	648	Naval Surface Warfare Ctr. Indian Head Div.	904	EDT (Engineering Design Team), Inc.	1224	RPMC Lasers, Inc.
534	Kappa optronics Inc.	650	New England Photoconductor Corp.	905	PENTAX RICOH Imaging Americas Corporation	1226	RPC Photonics, Inc.
535	InfraTec GmbH	651	Precision Armaments Laboratory (PAL), US Army	906	Bodkin Design & Engineering, LLC	1303	Defence Vision Systems Inc.
538	Gould Fiber Optics	702	National Defense Industrial Association	907	Flex Interconnect Technologies	1305	Wiley-Blackwell
539	Jenoptik Defense, Inc.	703	New England Optical Systems	908	Applied Image, Inc.	1307	Industrial Hygiene News / Rimbach Publishing Inc.
539	JENOPTIK Optical Systems GmbH	704	Advanced Laser Diode Systems A.L.S. GmbH	909	Andover Corp.	1309	HMS Technology Sales
539	JENOPTIK Optical Systems, Inc.	704	Onefive GmbH	913	Qioptiq, Inc.	1311	Photon Engineering LLC
545	Rubicon Technology Inc.	705	IMT North America, Inc.	918	Gurley Precision Instruments, Inc.	1313	PFG Precision Optics, Inc.
547	IO Industries, Inc.	706	Omnetics Connector Corp.	919	Anoplate Corp.	1315	AdlOptica Optical Systems GmbH
548	Plasma-Therm LLC	707	Hoppe Tool Inc.	920	Vincent Associates	1317	MegaWatt Lasers, Inc.
550	Teletronics Technology Corp.	708	Spectrogon US, Inc.	921	Syntec Optics	1321	Meadowlark Optics, Inc.
551	U.S. Army Research, Development and Engineering Command	709	AMETEK HCC Electronic Packaging	921	Wordingham Technologies	1323	EOS Photonics
552	MET Labs., Inc.	712	Precision Optical Technologies	922	AccuCoat Inc.	1325	MISTRAS Group, Inc.
553	Cohu Electronics	713	Photonic Cleaning Technologies	923	Photek Ltd.	1327	OJSC Germanium
555	DataRay Inc.	715	Allied Vision Technologies Inc.	923	Sydor Instruments LLC	1329	Coastal Connections
556	Intelligent Optical Systems, Inc.	716	Shellcast Foundries Inc.	1002	Discovery Semiconductors, Inc.	1331	Krell Technologies, Inc.
557	DST Control AB			1003	Sandia National Labs.	1402	Physics Today
602	KiloLambda Technologies, Ltd.			1004	Military & Aerospace Electronics Magazine	1404	Norsk Elektro Optikk AS
603	Timbercon, Inc.			1005	Element Six Technologies U.S. Corporation	1406	The Shephard Group
				1007	Moog QuickSet	1408	Sierra Precision Optics
				1008	CorActive High-Tech Inc.	1412	Epner Technology Inc.
				1013	Xenics NV	1414	PHASICS
				1018	Special Optics, Inc.	1416	Micromechatronics, Inc.
				1019	Universal Photonics Inc.		

1420 EPIX, Inc.	1741 Rainbow Research Optics, Inc.	2226 nPoint, Inc.	3032 Tactical Defense Media
1422 Spectroscopy Magazine	1743 Spectrolab, Inc.	2227 Eltek USA Inc.	3034 Earth Imaging Journal
1424 TechnicalLaser	1811 General Dynamics-Global Imaging Technologies	2228 Lambda Research Corp.	3038 Photodigm, Inc.
1426 Flexible Optical B.V.	1819 Lockheed Martin Santa Barbara Focalplane	2310 Precitech, Inc.	3040 Vistec Electron Beam Lithography Group
1428 Glass Fab, Inc.	1824 OPTICS 1, Inc.	2311 SRI International Sarnoff	3042 Snake Creek Lasers, LLC
1519 SCHOTT Defense	1827 Electro Optical Industries, Inc.	2312 Cantronic Systems (Canada) Inc.	3044 AdValue Photonics, Inc.
1525 Ocean Optics, Inc.	1828 Lambda Research Optics, Inc.	2313 QmagiQ, LLC	3046 G5 Infrared
1527 Photonic Sense GmbH	1829 Adimec Electronic Imaging, Inc.	2314 ISP Optics Corp.	3048 Intelligent Optical Systems, Inc.
1529 Telops	1835 Elbit Systems of America	2317 OZ Optics Ltd.	3050 Applied Diamond, Inc.
1531 Hellma Materials GmbH	1840 Georgia Tech Research Institute and SENSIAC	2320 PI (Physik Instrumente) L.P.	3054 Thermo Fisher Scientific Inc.
1533 Bid-Service LLC	1842 Kowa Optimed Inc.	2321 Defense Tech Briefs	3056 Gavish, Inc.
1535 CalRamic Technologies, LLC	1902 IRCAMERAS LLC	2323 Micro Laser Systems, Inc.	3058 Arrow Thin Films, Inc.
1535 Voltage Multipliers, Inc.	1902 Santa Barbara Infrared, Inc.	2324 Deposition Sciences, Inc.	3060 Fairfield Crystal Technology, LLC
1602 L-3 Communications	1921 Raytheon ELCAN Optical Technologies	2325 National Reconnaissance Office	3064 Tactical ISR Technology
1602 L-3 Communications - Tinsley	1926 Photonics Media	2326 Dow Electronic Materials	3066 The Optronics Co., Ltd.
1602 L-3 Communications Advanced Laser Systems Technology (ALST)	1927 SCD.USA, LLC	2327 Delta Digital Video	3068 Avantes, Inc.
1602 L-3 Communications Cincinnati Electronics	1933 GE Intelligent Platforms	2328 DILAS Diode Laser, Inc.	3070 NuPhoton Technologies, Inc.
1610 Sensors Unlimited, Inc., part of Goodrich Corp.	1937 Solid State Cooling Systems	2329 Leybold Optics USA, Inc.	3072 L.A. Gauge Co.
1619 CVI Melles Griot	2010 FLIR Systems, Inc.	2410 Ampex Data Systems Corp.	3074 C4ISR Journal & Defense News
1624 Zygo Corporation	2021 Umicore Optical Materials USA, Inc.	2411 Ontar Corp.	
1625 Newport Corp.	2027 Imperx Inc.	2412 D&P Instruments	
1625 Ophir Optics, LLC	2032 ABB Analytical Measurement	2413 Fotofab	
1628 Mindrum Precision, Inc.	2036 Raptor Photonics Ltd.	2414 DeltaNu	
1630 Optical Support, Inc.	2111 Janos Technology, LLC	2414 Intevac Photonics, Inc.	
1631 Aerotech, Inc.	2115 Univ. of Massachusetts Lowell	2415 PVP Advanced EO Systems, Inc.	
1632 Threat Spectrum Inc.	2117 Optikos Corp.	2420 Lasertel, Inc.	
1633 IRnova AB	2120 Analog Modules, Inc.	2421 Inrad Optics, Inc	
1634 StingRay Optics, LLC	2121 LightPath Technologies, Inc.	2424 ClearanceJobs	
1635 Ural Optical and Mechanical Plant	2122 Quality Thin Films, Inc.	2425 Optiforms	
1636 Pulse Instruments Co.	2123 CREOL, The College of Optics and Photonics, Univ. of Central Florida	2426 Davidson Optronics Inc.	
1637 LightWorks Optics, Inc.	2123 Florida Photonics Cluster	2426 TRIOPTICS GmbH	
1641 Brandywine Photonics LLC	2125 Tecport Optics, Inc.	2429 New Infrared Technologies, Ltd.	
1705 DRS Technologies, Inc.	2127 WIBE Telescopic Mast Systems	2510 Heraeus Quartz America LLC	
1711 SOFRADIR	2129 Electro-Optical Imaging, Inc.	2511 Thermoteknix Systems Ltd.	
1711 Sofradir EC, Inc.	2210 ASD, Inc.	2512 Thorlabs Inc.	
1711 ULIS	2211 CI Systems, Inc.	2515 Labsphere, Inc.	
1719 Nova Sensors	2212 Optimax Systems, Inc.	2516 Ideal Aerosmith, Inc.	
1719 Teledyne DALSA	2214 McQ, Inc.	2517 Micro Photon Devices S.r.l.	
1719 Teledyne Digital Imaging	2215 JEOL USA Inc.	2517 OptoElectronic Components	
1719 Teledyne Imaging Sensors	2216 A.J. Tuck Company	2517 PicoQuant GmbH	
1719 Teledyne Judson Technologies	2220 Headwall Photonics Inc.	2520 JDSU	
1719 Teledyne Optimum Optical Systems	2221 Solid State Scientific Corp.	2521 Opnext, Inc.	
1725 AIM INFRAROT-MODULE GmbH	2222 OptiPro Systems	2521 Power Technology, Inc.	
1729 Riegl USA Inc.	2223 Cobham Mission Systems	2522 LEONI Fiber Optics, Inc.	
1730 Infrared Systems Development Corp.	2224 Photron, Inc.	2524 Souriau PA&E	
1732 Laser Research Optics		2525 Ningbo Sunny Infrared Technologies Co., Ltd.	
1732 Meller Optics, Inc.		2526 SAES Getters USA, Inc.	
1734 Applied Technology Associates		2526 Spectra-Mat, Inc.	
1735 Clear Align		2529 tousimis research corp.	
1738 IRCAM GmbH		3018 Angstrom Precision Optics Inc.	
1740 Entegris, Inc.		3030 CPS Technologies Corp.	

Advertisers

Clearance Jobs	83
CREOL.	87
Defense Tech Briefs.	91
Deposition Sciences	11
Dow Electronic Materials.	3
EDT	5
Electro-Optical Imaging, Inc.	41
FLIR Systems	Cover 2
General Dynamics/Axsys	45
IO Industries, Inc.	79
IPG Photonics	101
Kurt J. Lesker	20
Laser Focus World.	107
LightWorks Optics.	7
Nova Sensors	17
Opticalfibersensors.org	95
optics.org	13
Optikos Corporation	21
Photonics Media	103
Photonics Online	49
Qioptiq Inc.	53
Raytheon Co.	65
Renishaw Inc.	57
Santa Barbara Focal Plane/ Lockheed Martin	61
SemiConductor Devices (SCD).	Cover 4
Schott North America	Cover 3
Sensors Unlimited	9
The Optronics Co., Ltd	111
TRIOPTICS GmbH.	15
Voltage Multipliers	69
Yung Lun Industrial Co., Ltd.	75

4D Technology Corp. #613

SPIE Corporate Member

3280 E Hemisphere Loop Ste 146, Tucson, AZ, 85706-5024 USA
+1 520 294 5600; fax +1 520 294 5601
info@4dtechnology.com;
www.4dtechnology.com

Featured Product: AccuFiz compact laser interferometer, with highest available resolution at mid-spatial frequencies.

4D Technology designs and manufactures dynamic laser interferometers and optical profilometers for non-contact metrology of surface shape, wavefront quality and surface roughness, even in the presence of vibration and turbulence. 4D systems provide high resolution acquisition of phase data in as little as 1 microsec. for optical testing at wavelengths from DUV through NIR. Applications include astronomy, aerospace, general optics, directed energy and more. Contact: Don Roberts, Eastern Region Sales Manager, don.roberts@4dtechnology.com; Stephen J. Martinek, Director of Sales, steve.martinek@4dtechnology.com

4Wave Inc. #146

22660 Executive Dr Ste 101, Sterling, VA, 20166-9535 USA
+1 703 787 9283; fax +1 703 787 9033
sale@4waveinc.com; www.4waveinc.com

5N Plus Trial #424

SPIE Corporate Member

9200 Industrial Rd, Trail, BC, V1R 4X7 Canada
+1 250 367 3800; fax +1 250 367 5673
info@firebird.bc.ca; www.firebird.bc.ca

A.J. Tuck Company #2216

32 Tucks Rd, Brookfield, CT, 06804-1814 USA
+1 203 775 1234; fax +1 203 775 4705
bboudreau@ajtuckco.com;
www.ajtuckco.com

Plan to Attend FREE Exhibitor Product Demonstrations

Refer to pages 28-29 for complete times, schedules, and locations.

ABB Analytical Measurement #2032

SPIE Corporate Member

585 blvd Charest Est Ste 300, Québec, QC, G1K 9H4 Canada
+1 418 877 2944; fax +1 418 877 2834
ftir@ca.abb.com; www.abb.com/analytical

Featured Product: New MR-I a FT-IR hyperspectral imaging spectroradiometer offering radiometric accuracy for infrared.

ABB Analytical Measurements set the standards for FT-IR Spectroradiometry used in atmospheric sounding, military targets IR signature characterization and gas detection. ABB also develops solutions with reliable airborne and spaceborne optical instruments, infrared calibration systems, hyperspectral imagers, and software for ground segments and simulation. ABB counts several projects in Defense & Security and Space success stories, positioning her at the forefront of the Remote Sensing Industry. Contact: Christian Vallieres, Business Development Manager - Defence & Security, christian.a.vallieres@ca.abb.com

Access Laser Co. #204

SPIE Corporate Member

917 134th St SW Unit A-1, Everett, WA, 98204-9377 USA
+1 425 582 8674; fax +1 425 582 8679
sales@accesslaser.com;
www.accesslaser.com

Featured Product: Showcasing our new MiniTEA laser

Access Laser Company builds small to medium power CO₂ and CO lasers. Specializing in custom built lasers, we strive to meet our clients unique needs. Offering such features as super pulse function; dual drive lasers; wavelength and temperature stabilized lasers; and isotopic gas fills. With power ranging from 200mw to 50W, and peak power of up to 120W with some models, our lasers fit well into a market that is experiencing growth and demand for new and innovative products. Contact: Cynthia Mackle, Technical Sales, cmackle@accesslaser.com; Yong Zhang, Owner, yzhang@accesslaser.com

AccuCoat Inc. #922

111 Humboldt St Ste 8, Rochester, NY, 14609 USA
+1 585 288 2330; fax +1 585 288 2331
office@accucoatinc.com;
www.accucoatinc.com

AccuCoat inc. is a supplier of thin film coatings on plastic, metal, glass and a variety of other components. Producing a wide range of anti-reflective, beam splitter, hot & cold mirror, ITO, filter, hydrophobic and metal coatings as well as custom coatings to meet your dynamic applications. Experienced in handling prototype thru OEM volumes. Coatings available from the UV to the NIR. Over 60 years combined engineering experience can provide custom designed solutions. Contact: Alan Parsons, Sales Manager, alan@accucoatinc.com

Active Silicon, Inc. #1118

479 Jumpers Hole Rd, Ste 301, Severna Park, MD, 21146-1600 USA
+1 410 696 7642; fax +1 410 696 7643
info@activesilicon.com;
www.activesilicon.com

Featured Product: FireBird CoaXPress frame grabber with four 6 Gbps (CXP-6) links.

Active Silicon specializes in the design, manufacture and supply of digital imaging products and custom vision systems. Frame grabbers include the Phoenix, LFG and Snapper boards in PCI Express, COM Express, PCI, PMC, cPCI and PCI/104-Express form factors with support for Windows, DOS, Mac, OS X, Linux, QNX and VxWorks platforms. These provide acquisition solutions for a wide range of applications supporting analog, CoaXPress, LVDS, HD-SDI and Camera Link[®] (including PoCL) cameras.

GENERAL REFRESHMENT SPONSOR

Adimec Electronic Imaging, Inc. #1829

SPIE Corporate Member

245 North St, Stoneham, MA, 02180 USA
+1 781 279 0770; fax +1 781 279 0571
salesus@adimec.com; www.adimec.com

Featured Product: Adimec's rugged COTS TMX6-DHD camera series - Full HD E/O sensor module for outdoor imaging

Adimec is the leading supplier of high-end cameras for machine vision, medical and outdoor imaging applications. Its patented Adimec True Accurate Imaging[®] technology forms the foundation for its broad range of camera products, and brings new levels of precision and accuracy to vision systems. Adimec supports its products with customized and expert service to systems developers around the world. Contact: Christian Trindade, OEM Account Representative, salesus@adimec.com; David Northup, Business Director, dnorthup@adimec.com

Adloptica Optical Systems GmbH #1315

SPIE Corporate Member

Rudower Chaussee 29, Berlin, 12489 Germany
+49 030 565908880; fax +49 030 56590881
info@adloptica.com; www.adloptica.com

Adsys Controls, Inc. #206

18 Technology Dr Ste 139, Irvine, CA, 92618-2311 USA
949 682 5430
admin11@adsyscontrols.com; www.adsyscontrols.com

AdTech Ceramics

#1126

SPIE Corporate Member

511 Manufacturers Rd, Chattanooga, TN, 37405 USA
+1 423 755 5400; fax +1 423 755 5438
sales.department@adtechceramics.com;
www.adtechceramics.com

Featured Product: Custom Multilayer Ceramic and Metal Packages

AdTech Ceramics produces custom multilayer co-fire microelectronic ceramic and metal packages utilizing HTCC and AlN. HD alumina is also available with 0.12µm surfaces for thin film applications. Applications include Medical, Aerospace, Optoelectronics and high frequency performance to 30GHz. Ceramic injection molded and etched metal products also available. Contact: Bill Minehan, General Manager, bil.minehan@adtechceramics.com; Matt McKee, Sales Engineer, matt.mckee@adtechceramics.com

AdTech Optics, Inc.

#426

SPIE Corporate Member

18007 Cortney Ct, Rowland Heights, CA, 91748-1203 USA
+1 626 956 1000; fax +1 626 956 1000
sales@atoptics.com; www.atoptics.com

AdValue Photonics, Inc.

#3044

SPIE Corporate Member

3708 E Columbia St Ste 100, Tucson, AZ, 85714 USA
+1 520 790 5468; fax +1 520 790 1158
sales@advaluephotonics.com; www.advaluephotonics.com

Featured Product: 2 Micron High Power Q-Switched Fiber Laser and 2 Micron High Power Mode-Locked Fiber Laser.

Located in Tucson, Arizona, AdValue Photonics is focused on being the worldwide leading developer and manufacturer of high quality, innovative, cost-effective fiber lasers, fiber amplifiers, fiber based broadband light sources, and optical fiber passive components. Our current products in the 2 micron wavelength region have provided new capabilities and opportunities to our customers for LIDAR, sensing, spectroscopy, mid-IR generation, material processing, and medical applications. Contact: Craig Henry, Sales Manager, sales@advaluephotonics.com; Katherine Liu, Director of Business Development, sales@advaluephotonics.com

Advance Reproductions Corp.

#521

100 Flagship Dr, North Andover, MA, 01845-6117 USA
+1978 685 2911; fax +1 978 685 1771
sales@advancerepro.com;
www.advancerepro.com

Featured Product: Photomasks and Photolithography Services

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

Advanced Cooling Technologies, Inc.

#1107

1046 New Holland Ave, Lancaster, PA, 17601-5606 USA
+1 717 295 6061; fax +1 717 295 6064
info@1-act.com; www.1-act.com

Advanced Laser Diode Systems

A.L.S. GmbH

#704

Schwarzschildstr 6, Photonic Center, Berlin, D-12489 Germany
+49 30 6392 6522; fax +49 30 6392 6521
info@alsgmbh.de; www.alsgmbh.com

Featured Product: PiLas: Versatile 20 ps to few nanosecond laser diode with excellent pulse and jitter properties.

Advanced Laser Diode Systems (ALS GmbH), a subsidiary of Onefive GmbH, is a leading manufacturer of compact turn-key picosecond laser diode systems. The externally triggerable low time jitter picosecond laser diodes systems offer wider choice of parameters: pulse durations from 20 picosecond to few nanoseconds, wavelengths between 375 and 2010 nm and variable repetition rates from single shot/pulse on demand to 120 MHz, and are available in free space or fiber output version up to watt level. Contact: Boris Khoury, boris.khoury@alsgmbh.de; Lalit Bhushan Sharma, Head of Sales & Marketing, lalit.sharma@onefive.com

Advanced Research Corp. #137

SPIE Corporate Member

4459 White Bear Pkwy, Saint Paul, MN, 55110 USA
+1 651 789 9000; fax +1 651 789 9199
info@arcnano.com; www.arcnano.com

Featured Product Launches

4D Technology Corp.

Booth 613

Product: AccuFiz Compact Fizeau Interferometer



Accurately measure shape and wavefront quality of small & large optics.

Active Silicon, Inc.

Booth 1118

Product: FireBird CoaXPress frame grabber



FireBird CoaXPress frame grabber with four 6 Gbps (CXP-6) links.

Adimec Electronic Imaging, Inc.

Booth 1829

Product: TMX6-DHD camera series



Adimec's rugged COTS TMX6-DHD camera-series Full HD E/O sensor module for outdoor imaging.

AdTech Ceramics

Booth 1126

Product: Hermetic FeedThroughs



Hermetic Multilayer Ceramic and Metal packaging technology for optoelectronics.

Aerotech, Inc.

#1631

SPIE Corporate Member

101 Zeta Dr, Pittsburgh, PA, 15238-2897 USA
+1 412 963 7470; fax +1 412 963 7459
sales@aerotech.com; www.aerotech.com

Aerotech manufactures motion simulators, multi-axis gimbals, single-/multi-axis positioning systems, and advanced controls. These include those for angular testing and calibration of satellite sensors, missile seeker gimbals, inertial navigation guidance units, optical pointing/target tracking, and more. High vacuum and cleanroom systems are available. Components include linear/rotary/lift stages; gimbals; gantries; nanopositioners; goniometers; motion controllers; drives; linear/rotary motors. Contact: Thomas Markel, Product Manager, Precision Positioning Group, tmarkel@aerotech.com; Byron Fruit, Application Engineer, Precision Positioning Group, bfruit@aerotech.com

Agilent Technologies, Inc. #147

SPIE Corporate Member

2850 Centerville Rd, Wilmington, DE, 19808-1610 USA
contact_us@agilent.com;
www.agilent.com

AGM Container Controls, Inc.

#414

3526 E Fort Lowell Rd, Tucson, AZ, 85716 USA
+1 520 881 2130; fax +1 520 881 4983
sales@agmcontainer.com; www.agmcontainer.com

Featured Product: NEPS Advantage provides dry gas purge equipment w/automatic operation & dewpoint temperature display

The NEPS (Nitrogen Enhanced Purge System) provides easy purging with automatic operation & efficient use of nitrogen. It creates a dry environment within equipment or system by measuring the dryness of the purge gas as it leaves the system being dried, minimizing the amount of nitrogen needed per purge. Suitable for use with night vision goggles, cameras, imaging systems, sealed electro-optical equipment & to leak test equipment. Standard models use customer-supplied dry gas source.



Free Popcorn

Exhibition Hall / 2 Locations

Popcorn carts will be open Tuesday and Wednesday from 11:00 am to 3:00 pm; Thursday from 11:00 am to 2:00 pm.

AIM INFRAROT-MODULE GmbH

#1725

Theresienstr 2, Heilbronn, 74072 Germany
+49 7131 6212 0; fax +49 7131 6212 939
info@aim-ir.com; www.aim-ir.com

Featured Product: SL 384x288x2 MW/ MW, MCT 640x512 MWIR for HOT applications, MBE-grown MCT 640x512 MW or LW modules

AIM is a leading supplier of advanced IR-detectors and Stirling cryocoolers. Modules with outstanding E/O performance, stable NUC coefficients and minimum size, weight and power meet the requirements of most challenging military and space applications. AIM provides cooled detectors from VIS-NIR to VLWIR based on MCT- and T2SL-technology. MBE-technology is introduced for 3rd Gen or cost reduction by alternative substrates. Highly efficient coolers are available for HOT and 3rd Gen applications. Contact: Dr. Rolf Muentner, Head of Business Development, rolf.muentner@aim-ir.com; Dr. Ralf Scheibner, Sales Manager North America, ralf.scheibner@aim-ir.com

Allied Vision Technologies Inc.

#715

38 Washington St Ste 2, Newburyport, MA, 01950 USA
+1 978 225 2030; fax +1 978 225 2029
sales.americas@alliedvisiontec.com;
www.alliedvisiontec.com

Alpes Lasers SA

#1202

Passage Max-Meuron 1-3, Neuchâtel, 2001 Switzerland
+41 32 729 95 10; fax +41 32 721 36 19
info@alpeslasers.ch; www.alpeslasers.ch

Featured Product: Quantum Cascade Lasers.

Alpes Lasers was founded in 1998 by J. Faist (co-inventor of the Quantum Cascade Laser), M. Beck and A. Müller. Alpes Lasers is the first company to offer Quantum Cascade Laser technology for spectroscopy applications. Alpes Lasers has a unique know how of more than thirty years of cumulated Unipolar Laser manufacturing. Contact: Antoine Müller, CEO, info@alpeslasers.ch; Olivier Landry, Customer Relations, info@alpeslasers.ch

AMETEK HCC Electronic Packaging

#709

50 Welby Rd, New Bedford, MA, 02745 USA
+1 508 998 3141; fax +1 508 995 7315
mike.brown@ametek.com;
www.hccindustries.com

Leader in the design/manufacture of high reliability hermetic micro-electronic packages, headers & lids. Sealing/Insulation technology can be either Glass to Metal or Ceramic to Metal. Packages support many applications: Infrared, Hybrid Microprocessor & Optical Networking Components. Lids & Lids with Windows (metallized & A/R coated) are also offered. Capabilities: Custom design engineering, prototyping & high volume production. Businesses: HCC Aegis, Glasseal Products & General Ceramics. Contact: Keith Barclay, VP of Sales & Marketing, keith.barclay@ametek.com; Mike Brown, North American Sales Manager, mike.brown@ametek.com

Ampex Data Systems Corp.

#2410

SPIE Corporate Member

500 Broadway, Redwood City, CA, 94063-3436 USA
+1 800 227 8333; fax +1 650 367 4669
www.ampex.com

Featured Product: TuffServ 100v Airborne Video File Server - TuffServ 40 miniture Ethernet Recorder

Ampex Data Systems manufactures airborne and ground based high-performance data acquisition systems used in flight test, instrumentation and sensor collection applications. Our product line features a variety of harsh environment solid state recorders that incorporate multi-channel high-definition video and data format interfaces, as well as the family of TuffServ ruggedized Network File Servers. Ampex products are designed and manufactured in the U.S.A. Find further info. at www.ampex.com. Contact: John Hardy, Business Development Mgr., john_hardy@ampexdata.com; Don Downing, Business Development Mgr., don_downing@ampexdata.com

Amplification Technologies, Inc.

#203

SPIE Corporate Member

50 Eisenhower Drive, Paramus, NJ, 07652 USA
+1 201 880 8111; fax +1 201 880 8110
info@ampti.net; www.ampti.net

Featured Product: NIRDAPD (second generation). High detection efficiency, self-quenched geiger mode APD.

Amplification Technologies seeks to transform the field of low-level signal detection. The company's patented semiconductor technology has the potential to offer unparalleled benefits to industries such as medical diagnostics, remote sensing, aerospace, scientific instrumentation and homeland security. The technology has been successfully used to develop extremely sensitive detectors of low levels of light. Contact: Wayne Seemungal, VP Sales, wayne@ampti.net

Amuneal Manufacturing Corp. #245

4737 Darrah St, Philadelphia, PA, 19124 USA
+1 215 535 3000; fax +1 215 743 1715
info@amuneal.com; www.amuneal.com

Featured Product: Magnetic Shielding.

Since 1965, Amuneal has been serving highly technical markets, working with leaders in aerospace, electronics, cryogenics, healthcare, and research to develop cost-effective magnetic shielding strategies and products that outperform the most demanding requirements. We offer a number of standard component shields to our clients, however, our culture and capabilities allow us to manufacture and install unique custom shields ranging from prototypes and models to full-scale assemblies. Contact: Michael Adolf, Technical Sales Specialist, mikea@amuneal.com

Analog Modules, Inc. #2120

126 Baywood Ave, Longwood, FL, 32750-3426 USA
+1 407 339 4355; fax +1 407 834 3806
ami@analogmodules.com;
www.analogmodules.com

Analog Modules, Inc. (certified to ISO 9001:2008) designs and manufactures a wide range of analog electronic products for the laser and electro-optics industries. Products include capacitor charging power supplies, simmer supplies, Pockels cell drivers, CW arc lamp drivers, pulsed flashlamp drivers, laser diode drivers, hybrid laser rangefinder receivers, laser spot trackers, linear and logarithmic amplifiers, pulse stretchers, fiber optic links and photodetector-amplifier modules. Contact: Kelly Pacy, V.P. Sales, kpacy@analogmodules.com; Tim Cable, Product Manager, tcable@analogmodules.com

Andover Corp. #909



4 Commercial Dr, Salem, NH, 03079-2800 USA
+1 603 893 6888; fax +1 603 893 6508
info@andovercorp.com;
www.andovercorp.com

Andover manufactures high-quality custom optical coatings in the UV to Mid IR range. Substrate materials include Germanium, Silicon, Zinc Selenide, Zinc Sulfide, Sapphire, Fused Silica and Calcium Fluoride. We are ITAR and AS9100 registered. Contact: Rob Pursel, Sr. Optical Coating Engineer, rpursel@andovercorp.com; Phil Clark, Technical Sales, pclark@andovercorp.com

Angstrom Precision Optics Inc. #3018



190 Bennington Dr, Rochester, NY, 14616-4754 USA
+1 585 663 7230; fax +1 585 663 7236
info@apoptics.com; www.apoptics.com

Featured Product: Optical Grade Germanium and Silicon windows.

Supplier of plano polished components. Windows, wedges, filters, mirrors and CNC dicing of coated optics. CNC shaping services also. APO stocks a complete inventory of UV, VIS and IR materials. Capabilities: CP, DSP and OD polishing to <math><0.5 \text{ arc sec}</math> wedge, <math><10^{-5}</math> SD and 1/20 wave flatness, Materials include optical glass, fused quartz/silica, filter glass, silicon, germanium, Borofloat and float glass. APO provides quality optics with our expedited 2-3 day delivery upon request. Contact: Ron Schulmerich, President, Ron@apoptics.com; Johnny O'Herron, VP Sales / Manufacturing, Johnny@apoptics.com

Angstrom Scientific Inc. #233

120 N. Central Ave, Ste 3, Ramsey, NJ, 07446 USA
+1 201 760 2524; fax +1 201 760 2525
info@angstrom.us; www.angstrom.us

Anoplate Corp. #919

459 Pulaski St, Syracuse, NY, 13204 USA
+1 315 471 6143; fax +1 315 471 7132
sales@anoplate.com; www.anoplate.com

Featured Product: AnoBlack™ NiTE represents a breakthrough in applying a robust, deep black coating.

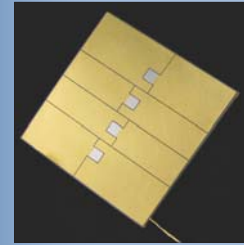
Providing metal finishing services to industry since 1960. As a partner in your design process, we understand the important aspect of surface engineering as it relates to: corrosion resistance, wear resistance, friction reduction, light reflection, joinability, aesthetics and surface preparation. Whether you have routine plating or complex finishing requirements, our staff of over 200 can help devise a customized coating suited to your particular application and delivery when you need it. Contact: Tim Stone, VP of Business Development, tstone@anoplate.com; Dave Edmonds, Sales Engineer, dedmonds@anoplate.com

Applied Diamond, Inc. #3050

3825 Lancaster Pke, Wilmington, DE, 19805 USA
+1 302 999 1132; fax +1 302 999 8320
services@usapplieddiamond.com;
www.usapplieddiamond.com

Featured Product Launches

Advanced Cooling Technologies, Inc. Booth 1107



Low CTE Vapor Chamber for Direct Die Attachment.

Aerotech, Inc. Booth 1631
Product: APR Direct-Drive Rotary Stage



APR direct-drive rotary stages for precision testing and metrology.

Aerotech, Inc. Booth 1631
Product: MPS Miniature Linear Stages



MPS miniature linear stages for confined laboratory or production environments.

AGM Container Controls, Inc. Booth 414
Product: Nitrogen Enhanced Purge System (NEPS)



NEPs dry gas purging with automatic operation, dewpoint temperature display.

Applied Image, Inc.

#908

SPIE Corporate Member

1653 E Main St, Rochester, NY, 14609-7090 USA
+1 585 482 0300; fax +1 585 288 5989
info@appliedimage.com; www.appliedimage.com

Applied Technology Associates

#1734

SPIE Corporate Member

1300 Britt St SE, Albuquerque, NM, 87123-3353 USA
+1 505 767 1200; fax +1 505 768 1560
contactata@aptec.com; www.aptec.com

Featured Product: Nanoradian-class Angular Vibration Sensors, 1-1000Hz, rugged, space qualified and Delta-V Accels.

ATA is a precision measurement, sensing and controls company that offers engineering services and custom solutions to government, aerospace and commercial customers. ATA develops angular rate sensors, actuators, and inertial subsystems used in aerospace controls, inertial navigation, platform stabilization, vibration and motion measurement, and line-of-sight imaging systems. Our services and products span space, air and ground applications. ATA also provides integration and test capabilities. Contact: Jim McNally, Director of Strategic Development, jim.mcnally@aptec.com

Arjae Spectral Enterprises, Inc.

#523

SPIE Corporate Member

2359 N Tripphammer Rd, Ithaca, NY, 14850 USA
+1 607 266 0100
sales@arjae-spectral.com; www.arjae-spectral.com

Featured Product: A new class of spectrometers that eliminate the classic tradeoff between resolution and throughput.

A new class of consumer and OEM optical spectrometers from Arjae Spectral Enterprises eliminate the classic tradeoff between resolution and throughput using an innovative, proprietary optical design to achieve unprecedented high resolution and high throughput simultaneously. This disruptive technology delivers dramatic performance improvements at a reasonable cost making it suitable for all your demanding and routine spectroscopy applications. Contact: Aaron Weinroth, VP, Business Development, sales@arjae-spectral.com; Edward Albey, VP, Sales & Marketing, sales@arjae-spectral.com

Arrow Thin Films, Inc.

#3058

SPIE Corporate Member

465 W Main St Ste 2, Wyckoff, NJ, 07481 USA
+1 201 977 1073
www.arrow-otf.com

Featured Product: Thin Films Coatings, Precision optics and assemblies.

Providing solutions, hitting your targets...Arrow can provide solutions for demanding industry applications from the UV to the LWIR. Including, coatings for custom optics, laser crystals and non-linear optical materials. Contact: Jon Herringer, President, jon.herringer@arrow-otf.com

Arroyo Instruments, LLC

#332

SPIE Corporate Member

624 Clarion Ct, San Luis Obispo, CA, 93401 USA
+1 805 543 1302; fax +1 805 543 1303
sales@arroyoinstruments.com; www.arroyoinstruments.com

Featured Product: The new 286 TECMount, a 100W capable mount designed for high power laser and LED applications.

Arroyo Instruments is a supplier of precision current sources, temperature controllers, and device fixtures for laser and LED applications. Our diode drivers feature high stability and low noise, and range from 100mA to 20A, while our temperature controllers feature 0.004°C stability and output powers starting at 28W. We also offer a broad range of fixtures for a variety of laser and LED packages. Stop by our booth or visit our web site to learn more.

ARTEMIS, Inc.

#405

SPIE Corporate Member

36 Central Ave, Hauppauge, NY, 11788 USA
+1 631 232 2424; fax +1 419 858 5319
yuly@artemisinc.net; www.artemisinc.net

Featured Product: SlimSAR - Multiband Synthetic Aperture Radar. UHF/L/X SlimSAR <25 lbs.

ARTEMIS is the maker of the versatile SlimSAR suite:

- UHF/L SlimSAR is < 20 lbs weatherized
- UHF/L/X SlimSAR <25 lbs

Versions for TIER 2 UAVs and higher altitude platforms available. Home of the microASAR. C band, 5 lb SAR used on NASA CASIE-09 (Characterization of Arctic Sea Ice Experiment 2009). ARTEMIS provides SAR hardware to ASARs, Global Hawk, ASTOR and JPL's UAVSAR and GLISTIN. Contact: Yuly Margulis, President, yuly@artemisinc.net; Evan Zaugg, Chief Radar Systems Engineer, evan@artemisinc.net

EXHIBITION MAP/RESTAURANT GUIDE SPONSOR
ASD, Inc. #2210

SPIE Corporate Member

2555 55th St Ste 100, Boulder, CO, 80301-5729 USA
+1 303 444 6522; fax +1 303 444 6825
info@asdi.com; www.asdi.com

Featured Product: FieldSpec 4 Spectroradiometer.

ASD Inc. is the global leader in remote sensing and hyperspectral measurement solutions, providing unparalleled ground truthing results. Our new rugged, portable FieldSpec® 4 line of analytical instruments provides the freedom to rapidly collect high-quality spectra in the field. Trusted by top research experts at thousands of universities and research institutions, ASD's full-range spectrometers are used in more than 70 countries across the world. Visit www.asdi.com for more information. Contact: David Hatchell, Remote Sensing Manager, david.hatchell@asdi.com; Brian Curtiss, Chief Technology Officer, brian.curtiss@asdi.com

ASE Optics

#647

850 John St, West Henrietta, NY, 14586 USA
+1 585 303 1574; fax +1 585 292 5459
sales@aseoptics.com; www.aseoptics.com

Avantes, Inc.

#3068

SPIE Corporate Member

9769 W 119th Dr Ste 4, Broomfield, CO, 80021 USA
+1 303 410 8668; fax +1 303 410 8669
info@avantes.com; www.avantes.com

Avo Photonics, Inc.

#1123

SPIE Corporate Member

700 Business Center Dr Ste 125, Horsham, PA, 19044-3433 USA
+1 215 441 0107; fax +1 215 441 9219
sales@avophotonics.com; www.avophotonics.com

Avo Photonics provides custom design and contract manufacturing services to customers in the military, aerospace, medical, communications, and commercial markets. Its unique pure service model assures Avo is focused on customer's products. From fundamental optical physics analysis, through mechanical, electrical, thermal, and materials design for packaging/manufacturing, into crafted prototypes, and finally high volume production, Avo Photonics is a one-stop shop for photonic packaging services. Contact: Megan Arnone, Executive Sales Assistant, marnone@avophotonics.com; Sales, sales@avophotonics.com



Engineering High Performance Tracking Solutions



VISIT US AT BOOTH 2129

4300 FORTUNE PLACE, SUITE C • WEST MELBOURNE, FL 32904 • 321.435.8722 • EOIMAGING.COM

BEI Precision Systems & Space Co., Inc. #517

1100 Murphy Dr, Maumelle, AR, 72113 USA
+1 501 851 4000; fax +1 501 851 5476
sales@beiprecision.com; www.beiprecision.com

Featured Product: NanoSeries (Aerospace-ready) modular optical encoders in "kit" (unhoused) or housed configurations.

BEIPSSC has been a designer & producer of highly accurate (26+ bits) optical encoders for aerospace, military & commercial applications for over 50 years. We provide standard & custom components & value-added engineering designs including completely unique servo control systems. Gimbal systems & actuators where ultra-high accuracy, resolution, reliability & extreme environments are required. Over 90% of all optical encoders currently in space were produced by BEI. Contact us for the hard ones! Contact: Mark Madsen, Business Development Manager, mmadsen@beiprecision.com; Marvin Kansky, Director of Business Development, mkansky@beiprecision.com

Beijing Lansitaike Science & Technology Co., Ltd #251

No. 160 East Bajianfang, Jiangtai Rd
ChaoYang, Sales Department, Beijing,
100016 China
+86 10 52038810; fax +86 10 52053991
sale@lenstec.net; www.lenstec.net

Bertin Technologies #238

10 bis ave Ampère, Parc d'activités du
Pas du Lac,
Montigny-le-Bretonneux, 78180 France
+33 1 39 30 60 00
secondsight@bertin.fr; www.bertin.fr/en

Bid-Service LLC #1533

225 Willowbrook Rd, Freehold,
NJ, 07728-5921 USA
+1 732 863 9500; fax +1 732 863 1255
sales@bidservice.com;
www.bidservice.com

Featured Product: Refurbished Equipment

Bid Service buys and sells high quality refurbished equipment used in the scientific industry. We also offer added value through system upgrades and custom applications. All equipment is fully serviced by our in-house technical staff. We offer full demonstrations prior to shipment. All equipment sold includes a 30 day unconditional right to return, as well as a 90 day parts warranty. Contact: Robert Murphy, Sales Manager, bobm@bidservice.com; Roger Shupe, General Manager, roger@bidservice.com

Block Engineering, LLC #727

SPIE Corporate Member

377 Simarano Dr, Marlborough,
MA, 01752 USA
+1 508 251 3100
info@blockeng.com; www.blockeng.com

Featured Product: LaserScan™ Handheld stand-off surface/vapor detector Porthos™ Handheld chemical detector - 5km range

For over 50 years, Block Engineering has pioneered instruments for chemical detection of gasses, liquids, and solids. Porthos™ and MCAD™ are handheld and installed rugged highly sensitive remote chemical agent detectors with a 5km range. LaserScan™ and LaserChem™ are handheld stand-off-surface and point-vapor detectors based on revolutionary Quantum Cascade Lasers. Contact: Marcia Peisach, Marketing Manager, marcia.peisach@blockeng.com; Erik Deutsch, Vice President of Engineering, erik.deutsch@blockeng.com

Bodkin Design & Engineering, LLC #906

SPIE Corporate Member

PO Box 81368, Wellesley Hills,
MA, 02481-0004 USA
+1 617 795 1968; fax +1 617 795 1969
info@bodkindesign.com;
www.bodkindesign.com

Featured Product: VNIR-90/VNIR-20B/MWIR-60 family of video rate hyperspectral imagers. www.hyperspectralimager.com

Since 1992, Bodkin Design & Engineering has provided product development and engineering services to the industrial, military, biotech and research communities. BD&E offers a broad range of products that incorporate cutting-edge technologies and has secured numerous industry patents for its clients. Our solutions draw on our expertise in optics, electro-optics, mechanical engineering, physics, hyperspectral imagery, and polarimetry. Contact: Andrew Bodkin, Principal, wab@bodkindesign.com Contact: Andrew Bodkin, Principal, wab@bodkindesign.com; Jim Daly, Senior Scientist, jdaly@bodkindesign.com

Boston Electronics Corp. #1202

SPIE Corporate Member

91 Boylston St, Brookline,
MA, 02445-7602 USA
+1 800 347 5445; fax +1 617 731 0935
boselec@boselec.com; www.boselec.com

Featured Product: QUANTUM CASCADE LASERS for 3.3 to 17+ microns; Low Cost IRFPA.

Photodetectors and related light sources and signal processing electronics are our specialty. Quantum Cascade Lasers - tunable spectroscopic quality devices - for 3.3 to 17+ microns. IR detectors including room temp and cooled MCT for 2.5 to 13+ microns; thermopiles and pyroelectrics. Photon Counting detectors with picosecond time resolution for TCSPC in the UV, Visible and NIR. Thermal IR sources. UV photodiodes for lamp and process monitoring. Contact: Fred Perry, fsp@boselec.com

Boulder Nonlinear Systems #721

SPIE Corporate Member

450 Courtney Way Ste 107, Lafayette,
CO, 80026-8878 USA
+1303 604 0077; fax +1 303 604 0066
info@bnonlinear.com;
www.bnonlinear.com

Brandywine Photonics LLC #1641

SPIE Corporate Member

748 Springdale Dr, Ste 125, Exton,
"PA, 19341 USA
484-872-8740; fax 484-879-6568
jfisher@brandywinephotonics.com;
www.brandywinephotonics.com

Featured Product: Compact Hyperspectral Advanced Imagers (CHAI™) and FBX-2 CMOS imager for imaging spectroscopy.

Brandywine Photonics designs and builds high-performance optical systems and components for Earth Sciences, Homeland Defense and Intelligence, Surveillance and Reconnaissance (ISR). Services include: optical design, opto-mechanical design, system engineering, detector fabrication and algorithms development. Applications include hyperspectral imaging, spectroscopy, UV Resonant Raman imaging and low-light imaging. Contact: John Fisher, President, jfisher@brandywinephotonics.com

JOB FAIR

SPIE Defense, Security, and Sensing

Sponsored by SPIE Career Center

Exhibition Hall

Tuesday 24 April, 10:00 am to 5:00 pm

Wednesday 25 April, 10:00 am to 5:00 pm

Bridger Photonics, Inc. #224

2310 University Way Bldg 4-4, Bozeman, MT, 59718 USA
+1 406 585 2774; fax +1 406 587 0808
info@bridgerphotonics.com;
www.bridgerphotonics.com

Featured Product: The SLM-L Precision Absolute Distance Measurement System

Bridger Photonics, Inc. specializes in lasers and laser-based ranging and imaging systems. Our proprietary technologies lead to metrology products with unsurpassed resolution, gas detection, and 3D imaging capabilities. The company has developed the highest resolution distance measurement systems in the world, and the only affordable, compact, mid-infrared, high-energy pulsed laser for gas detection. Our technologies allow for remote measurement, detection and recognition of myriad targets. Contact: Pete Roos, CEO, roos@bridgerphotonics.com; Randy Reibel, COO, reibel@bridgerphotonics.com

Brimrose Technology Corp. #312

19 Loveton Cir, Hunt Valley Loveton Ctr, Sparks Glencoe, MD, 21152-9201 USA
+1 410 472 2600; fax +1 410 472 7960
office@brimrosetechnology.com;
www.brimrosetechnology.com

Featured Product: Passive IR UGS: SPOT (Silhouette Profiling Optical Tripwire) and AOTF SWIR Hyperspectral Imager

Brimrose Technology a Baltimore based Electro-Optics Company specializes in ruggedized, small, low power, military imaging equipment. Two major products will be demonstrated on site: (a) Low Cost, Low Power, Text Picture Message Capable, Passive IR UGS: SPOT (Silhouette Profiling Optical Tripwire) and (b) Hand Held, Light Weight, Low Power, AOTF SWIR Hyperspectral Imager. Contact: Dr. Jolanta Rosemeier, CTO, jsoos@brimrosetechnology.com; Carla Green, Sales Mgr., cgreen@brimrose.com

Bristol Instruments, Inc. #332

SPIE Corporate Member

7647 Main Street Fishers, Victor, NY, 14564 USA
+1 585 924 2620; fax +1 585 924 2623
info@bristol-inst.com;
www.bristol-inst.com

Featured Product: Model 821B-IR Laser Wavelength Meter for Pulsed and CW Lasers that operate from 1.5 to 5.0 μm.

Bristol Instruments offers a variety of wavelength meters and spectrum analyzers for characterization of CW and pulsed lasers that operate over the range of 375 nm to 12.0 μm. Absolute laser wavelength is measured to an accuracy as high as ±0.2 parts per million and a laser's spectrum is determined to a resolution as high as 2 GHz. Bristol Instruments also provides accessories, repair services, and FREE technical support for old Burleigh products such as the RC Fabry-Perot interferometer. Contact: Walter Hersom, North American Sales Manager, whersom@bristol-inst.com; Sam Algera, International Sales Manager, salgera@bristol-inst.com

Bruker Corp. #223

40 Manning Rd, Billerica, MA, 01821 USA
+1 978 663 3660; fax +1 978 667 4706
www.bruker.com

CONFERENCE BAG INSERT SPONSOR

C4ISR Journal & Defense News #635, 3074

6883 Commercial Dr, Springfield, VA, 22159 USA
+1 703 642 7330
jmccoy@gannettgov.com; www.defensenews.com

C4ISR Journal and Defense News are leading sources for C4ISR, cyberspace and defense information worldwide. C4ISR Journal is the authoritative voice for the intelligence, surveillance, reconnaissance and cyberspace industries that shape modern warfare. Defense News is a weekly news publication covering the most important issues facing the worldwide defense industry. C4ISR Journal and Defense News are publication(s) of Gannett Government Media Corporation, a subsidiary of Gannett Co, Inc. Contact: Judy M, AVP, Advertising, jmccoy@gannettgov.com

EXHIBITION MAP/RESTAURANT GUIDE SPONSOR

CALCULEX, Inc. #402

132 W Las Cruces Ave, Las Cruces, NM, 88001 USA
+1 505 525 0131; fax +1 505 524 4744
info@calculex.com; www.calculex.com

Featured Product: MONSSTR® Solid State Recorders

CALCULEX designs and manufactures the MONSSTR family of solid state recorders that feature a wide range of built-in multiplexer options and are compliant with IRIG 106 Chapter 10 standards. Interfaces include Standard Resolution video, High Definition video, Fibre Channel, GigE, PCM, and MIL-STD-1553. Customers for MONSSTR include the 46th Test Wing at Eglin AFB, FL; Lockheed Martin, Orlando, FL; Boeing, St. Louis, MO, Edwards AFB, CA; US Navy, Patuxent River, MD, and many others. Contact: Bill Taylor, National Sales Manager, billt@calculex.com

CalRamic Technologies, LLC #1535

5462 Louie Ln, Reno, NV, 89511 USA
+1 775 851 3580; fax +1 775 851 3582
jday@calramic.com; www.calramic.com

We are a manufacturer of HIGH VOLTAGE CERAMIC CAPACITORS FOR MILITARY, SPACE AND COMMERCIAL. Contact: Jeff Day, President, jday@calramic.com

Featured Product Launches

Analog Modules, Inc.

Booth 2120
Product: 7558 Series Laser Rangefinder Receiver



High Performance Laser Rangefinder Receiver with Range Processor.

Anoplate Corp.

Booth 919



Anoplate provides surface finishing solutions for all of your optical applications

Arjae Spectral Enterprises, Inc.

Booth 523
Product: SHEER 532 / SHEER 785



Arjae Spectral's SHEER products improve spectral resolution without sacrificing throughput.

ASD, Inc.

Booth 2210
Product: FieldSpec 4 Standard-Res



New FieldSpec 4 Line – ASD's fastest, most precise field spectroradiometers.

CalSensors Inc. #208

5460 Skylane Blvd, Santa Rosa, CA,
95403 USA
+1 707 545 4181; fax +1 707 545 5113
info@calsensors.com;
www.calsensors.com

Cal Sensors, an ITW company, is a leading manufacturer of standard and customized photoconductive infrared detectors, arrays, and broadband emitters. For over 20 years, these detectors have provided superior sensitivity over 1-5.5 microns. Cal Sensors emitters support steady-state or high-pulse rates, offering high emissivity, reliability and long life. Applications include spectroscopy, imaging, medical, gas detection, moisture analysis, non-contact temperature measurement and flame detection. Contact: info@calsensors.com

Canon U.S.A., Inc. #333

1 Canon Plz, Lake Success,
NY, 11042-1198 USA
+1 516 328 5000; fax +1 516 328 4601
www.usa.canon.com

Featured Product: GM Series Digital Optical Scanners and Scan Heads

Canon USA is a provider of High Resolution Digital Optical Scanners and Scan Head Devices, Rotary and Linear Encoders, Non Contact Doppler Sensors, and other Encoder Products. The GM Series and Scan Head Devices are used for Laser Marketing, Welding, Cutting, Medical and Rapid Prototyping. Contact: Ron Travis, Sales Manager, rtravis@cusa.canon.com

Cantronic Systems (Canada) Inc. #2312

67A Clipper St, Coquitlam, BC, V3K 6X2
Canada
+1 604 516 6667; fax +1 604 516 6618
info@cantronics.com;
www.cantronics.com

Featured Product: TR3620S-C225 Uncooled Thermal Imager

Cantronic Systems (Canada) Inc. is a global technology leader in infrared thermal imaging and night vision systems. Cantronic manufactures and distributes active and passive CCTV infrared imaging and night vision cameras. These complex camera systems are used for monitoring, protecting and managing facilities and people. Cantronic has supplied systems for use in demanding military, homeland security, and industrial applications. Contact: Frank Fei, Regional Sales Manager, ffei@cantronics.com

Carl Hanser Verlag GmbH & Co. KG #625

Kolbergerstr 22, Muenchen, 81679
Germany
+49 89 99830 0; fax +49 89 98480 9
info@hanser.de; www.hanser.de

Carl Zeiss Microscopy, LLC#403

One Zeiss Dr, Thornwood,
NY, 10594-1939 USA
+1 800 233 2343
micro@zeiss.com;
www.zeiss.com/microscopy

Featured Product: Microscopes and image analysis software

Carl Zeiss is a leading provider of light, electron and ion beam microscopes and imaging solutions for biomedical, life science, materials research and industry. Its light microscope product line includes routine microscopes, stereomicroscopes, research microscopes, digital cameras, confocal systems, superresolution and software solutions. The ZEISS charged particle systems span from SEMs, FESEMs, energy filtering TEMs and FIB workstations along with the newly invented helium ion microscopes. Contact: Karin Salerno, Marketing Communications Mgr., ksalerno@zeiss.com

Catalina Scientific Instruments, LLC #304

SPIE Corporate Member
1870 W Prince Rd Ste 21, Tucson,
AZ, 85705 USA
+1 520 571 8000; fax +1 520 571 0120
info@catalinasci.com;
www.catalinasci.com

Featured Product: EMU-65 Echelle spectrograph for use with EMCCD, CMOS and intensified cameras

Our products include an innovative cross-dispersing echelle spectrograph and KestrelSpec™ imaging spectroscopy software. Our portable Echelle Multiplex Unit (EMU) has high resolution with high throughput, and covers the entire UV-VIS-NIR spectral region in one image, without scanning. The echelle systems are ideal for Laser Induced Breakdown Spectroscopy (LIBS), OES, bioluminescence, photoluminescence, fluorescence, and Raman applications using multiple laser wavelengths. Contact: Burt Beardsley, info@catalinasci.com

Centice Corp. #250

215 Southport Dr Ste 1000, Morrisville,
NC, 27560 USA
+1 919 653 00424; fax +1 919 653 0428
info@centice.com; www.centice.com

CeramTec North America Corp. #518

One Technology Place, Laurens,
SC, 29360 USA
+1 864 682 3215; fax +1 864 682 1140
sales@ceramatec.com;
www2.ceramtec.com

China Germanium Co., Ltd.#219

SPIE Corporate Member
No 718 Jiangjun Ave Jiangning District,
Nanjing City,
211165 China
+86 25 5275 9450
chinagermanium@nange.com;
www.nange.com

Featured Product: Germanium optical blanks, Silicon optical blanks, Germanium solar wafer.

China Germanium Co., Ltd. is the world leading manufacturer of germanium and silicon infrared optical blanks, including germanium blanks, germanium windows & lenses, silicon blanks, silicon windows & lenses, and germanium solar wafer. We are also supply high purity germanium, indium and gallium, recycling service are available for germanium, indium and rare earth metals. Contact: Jiening Sun, sun@nange.com; Mingzhong Zhou, chinagermanium@yahoo.com.cn

CI Systems, Inc. #2211

SPIE Corporate Member
759 Cochran St Ste A, Simi Valley,
CA, 93065-1978 USA
+1 805 520 2233 x107; fax +1 805 520 2234
info@cisystemsinc.com;
www.ci-systems.com

CI Systems' turnkey test stations leverage our expertise in infrared and visible sources, collimators, range simulators, laser measurement, motion control, software, and unit-under-test fixturing to deliver reliable, highly accurate systems that are backed by knowledgeable and responsive service professionals. Contact: Garrick Matheson, Director, gmatheson@cisystemsinc.com; Kim Browne, Administrator, kbrowne@cisystemsinc.com


Clear Align #1735

SPIE Corporate Member
2550 Blvd of the Generals Ste 280,
Eagleville, PA, 19403 USA
484 956 0510; fax 484 956 0511
info@clearalign.com; www.clearalign.com

Clear Align designs, prototypes and manufactures imaging and laser systems for UAV, rotary craft, aircraft, tank, and man-portable applications. We deliver lightweight imagers, illuminators, laser pointers and other integrated electro-optic sensors in UV, Visible, NIR, SWIR, MWIR and LWIR portions of the spectrum. Clear Align's clients include the US Army, US Navy, Raytheon, Northrop Grumman, Lockheed Martin and L3 Communications. Clear Align is a Certified SB, 8(a) SDB & WOSB. Contact: David Huff, Vice President Business Development, david.huff@clearalign.com; Angeliqve Irvin, President & CEO



Standard Infrared



Infrared Powered by
General Dynamics

Seeing is Believing

REFLECTIVE & REFRACTIVE OPTICAL COMPONENTS

PRECISION MACHINING & FABRICATION

MOTION CONTROL PRODUCTS

PAN-TILT SYSTEMS

THERMAL IMAGING CAMERAS

EO/IR MULTI-SENSOR SYSTEMS

Axsys Technologies is now General Dynamics Global Imaging Technologies. Focused on the design and manufacture of high-performance cameras and optical systems, we provide our customers with the clarity, accuracy and reliability to successfully complete their mission.

GENERAL DYNAMICS
Global Imaging Technologies

www.gd-imaging.com

Visit us at booth 1811

ClearanceJobs #2424

12150 Meredith Drive, Urbandale, IA, 50323 USA
+1 877 386 3323; fax +1 515 280 1452
info@clearancejobs.com;
www.clearancejobs.com

ClearanceJobs.com is the leading Internet-based career network dedicated to matching security-cleared professionals with the best hiring companies searching for new employees. www.clearancejobs.com Contact: Gretchen Uhlenhake, ClearanceJobs Sales, GretchenU@dice.com; Deb Bissell, ClearanceJobs Customer Support, DebraB@dice.com

CMPC Surface Finishes #606

870 N. Commons Road, Aurora, IL, 60504 USA
+1 630 543-6682; fax 630 978 3033
sales@surfacefinishes.com; www.surfacefinishes.com

Coastal Connections #1329

SPIE Corporate Member

2368 Eastman Ave Unit 11, Ventura, CA, 93003-5771 USA
+1 805 644 5051; fax +1 805 644 5355
sales@coastalcon.com; www.coastalcon.com

Coastal Connections is the leading provider of engineered fiber optic cables and terminations in the USA. Specializing in short (350-980nm) wavelengths and high power cables for all environments. Offering fiber End-Caps to extend the life of single-mode, polarization maintaining, and multimode cables. We can quickly design and build custom cables to your specification from our \$100,000+ inventory of fiber and connectors. Please contact our experienced staff to discuss your requirements. Contact: Andy Devine, President, andy@coastalcon.com; Aland Whitebook, Technical Sales Manager, sales@coastalcon.com

Cobham Mission Systems#2223

2734 Hickory Grove Rd, Davenport, IA, 52804-1203 USA
+1 563 383 6000; fax +1 563 383 6430
cms.iainfo@cobham.com;
www.cobham.com

Featured Product: Cryogenic Coolers and Controllers

Carleton Life Support Systems Inc., part of the Cobham Mission Systems Division, is a world leader in the application of air separation technology for aviation applications; the design and manufacture of miniature stirling cycle cryogenic coolers; and the design and manufacture of military underwater rebreathers. Contact: Asif Ahmed, Business Development Manager, asif.ahmed@cobham.com; Lane Dicken, Engineering Manager, lane.dicken@cobham.com

Coherent Logix, Inc. #902

1120 S Capital of Texas Hwy Ste 310, Bldg 3, Austin, TX, 78746-6464 USA
+1 512 382 8940; fax +1 512 382 8941
clxinfo@coherentlogix.com; www.coherentlogix.com

Featured Product: HyperX 100-core processor for real-time hyperspectral image processing, stabilization, sensor fusion.

Coherent Logix, Inc. is the leader in ultra-low power, many-core processors for ISR and communications applications. Offering C-language programmability and re-configurability, the HyperX family of many-core processors achieves the lowest SWaP-C for sensors and communications links, enabling the implementation of computationally intensive algorithms at the sensor. The HyperX implements real-time hyperspectral, target detection, sensor fusion, H.264 encoding/decoding, and user defined algorithms. Contact: John Irza, Solutions Architect, irza@coherentlogix.com; Martin Hunt, Program Manager, hunt@coherentlogix.com

Coherent, Inc. #303

SPIE Corporate Member

5100 Patrick Henry Dr, Santa Clara, CA, 95054-1112 USA
+1 408 764 4000
tech.sales@coherent.com;
www.coherent.com

Founded in 1966, Coherent, Inc. is one of the world's leading providers of lasers and laser-based solutions for scientific, commercial and industrial customers competing in the most demanding markets.

Cohu Electronics #553

12367 Crosthwaite Cir, Poway, CA, 92064 USA
+1 858 277 6700; fax +1 858 277 0221
www.cohu-cameras.com

Cohu has proudly manufactured its entire product line in the USA for the last 45+ years. Integrating the latest video compression and High Definition IP technology into its innovative, rugged video cameras systems. Cohu's mix of high quality HD cameras, transmission equipment and management software can be found on the international space station, monitoring the busiest freeways and ports, military bases, nuclear reactors, and other critical installations protecting our safety around the globe.

Contact! Corp. #230

1818 Roberts St, Winchester, VA, 22601 USA
+1 540 722 8716; fax +1 540 722 8717
info@contactcorp.net;
www.contactcorp.net

Featured Product: Telescopic, composite, antenna masts for communications or surveillance.

Antenna Masts and Towers by Tim Price, Inc. doing business as Contact Corporation are tactical, telescopic, fiberglass and carbon-fiber mast systems currently in use by the military, emergency and first responder services. Contact is a systems integrator and the North American distributor of telescopic antenna masts manufactured by Cobham Mast Systems Of Finland. Contact designs, fabricates, and integrates complete systems of transportable antenna mast towers and trailer systems. Contact: Nathan Massie, Marketing Manager, nmassie@contactcorp.net; Gary Groah, Director of Business Development, ggroah@contactcorp.net

CorActive High-Tech Inc. #1008

SPIE Corporate Member

2700 Jean-Perrin Ste 121, Quebec, QC, G2C 1S9 Canada
+1 418 845 2466; fax +1 418 845 2609
sales@coractive.com; www.coractive.com
CorActive is a well financed independent developer and manufacturer of advanced Specialty Optical Fiber (SOF) products for OEM customers serving the industrial laser, telecommunications, sensor, defense, and aerospace industries. CorActive uniquely offers a full line of standard SOF products, including Double Clad, Erbium doped, Mid- to Far-IR transmission, UV sensitive and attenuating optical fibers, plus custom fiber development services for specific applications. Contact: Jean Dube, VP Sales, jean.dube@coractive.com

Covesion Ltd. #336

A7, Premier Centre, Premier Way, Romsey Hampshire, SO51 9DQ United Kingdom
+44 1794 521638; fax +44 8709 289714
sales@covesion.com; www.covesion.com

Featured Product: PPLN crystals for ultra-efficient wavelength conversion across many visible and mid-IR applications.

A rapidly growing UK manufacturer of MgO:PPLN, supporting a wide range of applications such as: Laser Countermeasures (DIRCM), Green Laser Sighting / Dazzling, Terahertz Generation, Mid-IR Generation for Spectroscopy and Explosives Detection, and many others. Our patented production process results in a uniquely uniform poled domain structure (x,y and z axes), enhancing: Conversion Efficiency, Damage Thresholds, Stability and Ease-of-Use. Contact: Mark Middleton, Managing Director, mark.middleton@covesion.com; Christian Rahlf, Chief Operating Officer, christian.rahlf@covesion.com

CPS Technologies Corp. #3030

111 S Worcester St, Norton,
MA, 02766 USA
+1 508 222 0614; fax +1 508 222 0220
info@alsic.com; www.alsic.com

CREOL, The College of Optics and Photonics, Univ. of Central Florida #2123

SPIE Corporate Member

4000 Central Florida Blvd, Bldg 53 Univ of Central Florida, Orlando, FL, 32816-2700 USA
+1 407 823 6800; fax +1 407 823 6880
creol@creol.ucf.edu; www.creol.ucf.edu

Featured Product: Photonics graduate programs. Florida economic development incentives.

CREOL, The College of Optics & Photonics at the University of Central Florida is an internationally recognized academic and research institution, offering MS and PhD degrees in Optics, and serves as a scientific and technical resource to industry. The College has research programs covering all aspects of optics, lasers, and photonics and their many applications. The College works in partnership with the Florida High Tech Corridor Council and several Florida economic development organizations. Contact: Bahaa Saleh, Dean & Director, besaleh@creol.ucf.edu; Denise Whiteside, Asst. to the Dean, denise@creol.ucf.edu

Criterion Instrument #327

5349 W 161st St, Brook Park, OH, 44142 USA
+1 216 267 1733; fax +1 216 267 4542
office@criteriontool.com; www.criteriontool.com

Featured Product: Precision Machined Parts/Contract Manufacturing

Criterion Instrument, a Female Owned, ISO 9001:2008 certified manufacturer, has been providing custom precision machined parts for over 50 years to the medical, aerospace, defense and commercial industries. From prototype to production we can support your projects. Capabilities include CNC milling, turning and CNC Swiss turning. Criterion wants to be part of the solution, let us quote your next project. Contact: Tanya DiSalvo, President, tdisalvo@criteriontool.com. Dennis Ondercin, Sales Engineer, dondercin@criteriontool.com

Critical Link, LLC #802

6712 Brooklawn Pkwy, Syracuse, NY, 13211-2158 USA
+1 315 425 4045; fax +1 315 425 4048
info@criticallink.com; www.criticallink.com

CL continues to innovate by helping our customers embed their application in their scientific and vision cameras. We will be demonstrating our Vision Development Kit (VDK) which is designed to accelerate your vision project and is based on TI's OMAP processor (ARM + DSP) and Xilinx FPGA.

CONFERENCE BAG INSERT SPONSOR

CVI Melles Griot #1619

SPIE Corporate Member

200 Dorado Pl SE, Albuquerque, NM, 87123-3605 USA
+1 505 296 9541; fax +1 505 298 9908
optics@cvimellesgriot.com; www.cvimellesgriot.com

Featured Product: IR optics, shutters, thermal imaging, domes, windows, prisms

CVI Melles Griot is excited to be your photonic technology partner! Learn about our new exciting filter and shutter products that will save you money, time and improve your system performance. Talk to us about your challenging requirements and see how our greatly expanded capabilities in diamond turning, CNC optical fabrication, and Build-Your-Own component manufacturing competencies will help you get to market quicker.

D&P Instruments #2412

1280 Hopmeadow St Unit E, Simsbury, CT, 06070 USA
+1 860 658 0458; fax +1 860 651 0698
microfts@aol.com; www.dpinstruments.com

DataRay Inc. #555

SPIE Corporate Member

14505 Seaman Gulch Rd, Bella Vista, CA, 96008-9801 USA
+1 203 210 5065; fax +1 203 762 0551
sales@dataray.com; www.dataray.com

Featured Product: WinCamD-FIR2-16 IR camera for 2-16 microns for beam analysis

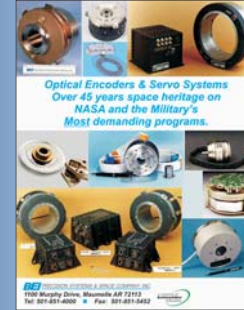
Manufacturer of Laser Profilers for lasers, laser assemblies, fiber optic, telcom and imaging to ISO 11146 standards. Sub-micron, UV- 16 microns, cameras, slit scanners knife edge beam profiling. Focused beam-waist, alignment, Beam position, stability, M2, MTF, Wave-Front, Collimation and many other test parameters. Custom and stock systems and PC - based software. Contact: John Wilson, VP Sales and Marketing, jwilson@dataray.com

Featured Product Launches

BEI Precision Systems & Space Co., Inc.

Booth 517

Product: Space Qualified Optical Encoders



Bertin Technologies

Booth 238

Product: Second sight



Stand-off automatic gas detection for protecting lives and critical areas.

CALCULEX, Inc.

Booth 402

Product: MONSSTR® 2300[V2]



Compact Ruggedized IRIG 106 Chapter, 10 Flexible Digital Video/data Recorder.

CalRamic Technologies, LLC

Booth 1535



High Voltage Ceramic Capacitors, CalRamic Technologies LLC

Davidson Optronics Inc. #2426

SPIE Corporate Member

2223 W San Bernardino Rd, West Covina, CA, 91790-1008 USA
626 962 5181; fax 626 962 5188
sales@davidsonoptronics.com;
www.davidsonoptronics.com

Daylight Solutions Inc. #807

SPIE Corporate Member

15378 Ave of Science Ste 200, San Diego, CA, 92128-3407 USA
+1 858 432 7500; fax +1 858 432 5737
info@daylightsolutions.com;
www.daylightsolutions.com

Defence Vision Systems Inc. #1303

Millham Mountfield, Robertsbridge East Sussex, TN32 5LA United Kingdom
+44 1580881199; fax +44 1580880910
info@dvsml.com; www.dvsml.com

Featured Product: Ruggedized Intensified, EMCCD, sCMOS, SWIR

Defence Vision Systems (DVS) formed in the early 90's, manufactures ruggedized night vision camera systems with daylight capability for the Defence Market. Our dedicated team of experts has a long experience in designing customized, ruggedized cameras for a broad range of defence surveillance applications. DVS provides compact, light weight cameras which are designed for gimbals from 20 inch down to 10 inch with sensors including Intensified, EMCCD, sCMOS, SWIR. Contact: John Staples, Sales Director, johns@dvsml.com; Diane Brau, Marketing Manager, diane@photonic-science.com

Delta Digital Video #2327

300 Welsh Rd, Bldg 3, Horsham, PA, 19044 USA
+1 215 657 5270; fax +1 215 657 5273
ddv@delta-info.com;
www.deltadigitalvideo.com

Delta Digital Video, key supplier of practical, cost-effective digital video solutions for the Military/Aerospace market, emphasizing Unmanned Vehicle applications. We design and manufacture video compression products for real time transmission of high quality video, audio and synchronized metadata. We will demonstrate the latest additions to our 6000 Series product line. Our new MISB-compliant HD/SD products were designed specifically for integration with advanced payloads and legacy datalinks. Contact: George Nelson, Vice President, gnelson@delta-info.com; Ronda Diggs, Marketing Assistant, rdiggs@delta-info.com

DeltaNu #2414

5452 Aerospace Dr, Laramie, WY, 82070 USA
+1 307 745 9148; fax +1 307 475 9152
sales@deltanu.com; www.deltanu.com

Denton Vacuum Inc. #617

1259 N Church St, Bldg 3, Moorestown, NJ, 08057-1169 USA
+1 856 439 9100; fax +1 856 439 1111
info@dentonvacuum.com; www.dentonvacuum.com

Deployable Systems #153

PO Box 421, Oakton, VA, 22124 USA
+1 703 327 3620; fax +1 703 327 8791
www.dscases.com/DS

Deposition Sciences, Inc. #2324

SPIE Corporate Member

3300 Coffey Ln, Santa Rosa, CA, 95403-1917 USA
+1 707 573 6700; fax +1 707 573 6748
solutions@depisci.com; www.depisci.com

Featured Product: Deposition Science's MicroDyn® Sputtered Coatings Include Longwave Infrared (LWIR) Optical Filters

Since 1985, Deposition Sciences, Inc. has produced the most durable optical thin film filter coatings for industry, military, aerospace, and defense. DSI's coating capability ranges from the ultraviolet (UV), through the visible, to near-infrared (NIR), midwave-infrared (MWIR), and out to the longwave infrared (LWIR) region. DSI's technology is based on its proprietary MicroDyn® reactive sputtering deposition process that enables superior, multilayer thin film coatings for precision optics. Contact: Tatiana Atkinson, Inside Sales Supervisor, atkinsontn@depisci.com

DigitalOptics Corporation #814

SPIE Corporate Member

9815 David Taylor Drive, Charlotte, NC, 28262 USA
+1 704 887 3100
micro-optics@doc.com; www.doc.com

Featured Product: precision diffractive and refractive optics, integrated micro optics subassembly, MEMs autofocus

DigitalOptics Corporation (DOC), a wholly owned subsidiary of Tessera Technologies, delivers innovation in imaging & optics. DOC's advanced Micro Optics technology enables the fabrication of precision diffractive & refractive optics – perfect complement for Heads-Up Displays, thermal imagers and today's most advanced optical systems. DOC also offers miniaturized camera module solutions with advanced features such as MEMS-based autofocus, extended depth of field and image enhancement. Contact: micro-optics@doc.com; sales@doc.com

DILAS Diode Laser, Inc. #2328

SPIE Corporate Member

9070 S Rita Rd Ste 1500, Tucson, AZ, 85747 USA
+1 520 232 3480; fax +1 520 232 3499
sales@dilas-inc.com; www.dilas.com

Featured Product: DPAL diode lasers at 766nm, 780nm and 852nm on micro-channel heat sinks at 40W, 60W, and 100W.

Our high volume, ISO certified and ITAR compliant facility designs, develops, and manufactures high-power, high-brightness diode laser components, modules and systems, including fiber coupled products for the military and aerospace industries. Contact: Steve Patterson, GM/Director of Technology, at s.pterson@dilas-inc.com

Discovery Semiconductors, Inc. #1002

119 Silvia St, Ewing, NJ, 08628-3200 USA
+1 609 434 1311
www.chipsat.com

Diverse Optics Inc. #307

SPIE Corporate Member

10310 Regis Ct., Rancho Cucamonga, CA, 91730 USA
+1 909 593 9330; fax +1 909 596 1452
info@diverseoptics.com; www.diverseoptics.com

Contact: Erik Fleming, President/CEO, erik.fleming@diverseoptics.com; Letty De La Cruz, Sales Engineer, letty.delacruz@diverseoptics.com

Dow Electronic Materials #2326

455 Forest St, Marlborough, MA, 01752 USA
+1 508 481 7950; fax +1 508 485 9113
www.dow.com

Featured Product: Infrared optics for military IR system: CLEARTRAN™, CVD ZINC SULFIDE™, CVD ZINC SELENIDE™.

Dow Electronic Materials supplies high-quality infrared optical materials for military IR systems and commercial applications. We have pioneered the development and manufacture of CVD Zn-based optical materials such as CLEARTRAN™ multispectral ZnS, CVD ZINC SULFIDE™ and CVD ZINC SELENIDE™. Dow offers best-in-class material solutions, as well as fabrication capabilities to suit most design and format needs. Electro-optical windows, domes, subassemblies, imaging lenses, other components and more. Contact: Rosanna Gizzi, Business Manager Infrared Optics, rgizzi@dow.com



Photonics Online

Where the future of photonics is found



Photonics Online is the leading Web site for the optics and photonics industry, serving the needs of industry professionals since 1997. We are your information source for everything related to optics and photonics technology, whether you are searching for product overviews, technical articles, or industry news ... or looking to market your products and services in this space. Visit us at www.photonicsonline.com.

Find Solutions

Locate the ideal product or services for your current project in our extensive database.

Current Headlines

We help you keep abreast of the latest news, technology updates, product introductions, and everything else.

Top Ten

What articles, case studies, and white papers are your colleagues reading? Find out here.

Community

Stay engaged with your peers in the industry through our active online community.

Free Newsletter

Get technical articles, product overviews, case studies, white papers, and news delivered directly to your inbox.



Visit DSS Booth 619 for a chance to win the new iPad.



DRS Technologies, Inc. #1705

SPIE Corporate Member

100 N. Babcock St, Melbourne, FL, 32935 USA
321 622 1126; fax 321 622 1820
www.drs.com

DST Control AB #557

SPIE Corporate Member

Åkerbogatan 10, Linköping, 582 54 Sweden
+46 13 211080; fax +46 13 211081
info@dst.se; www.dst.se

DYCONEX AG #314

Grindelstrasse 40, Bassersdorf, 8303 Switzerland
+41 43 266 1100; fax +41 43 266 1101
mail.dyconex@mst.com;
www.mst.com/dyconex

Based in Switzerland, DYCONEX has been in the PCB business for over 40 years and delivers leading-edge interconnect solution in flex, rigid-flex and rigid technology. DYCONEX core competence lies in the production of highly complex HDI, high-frequency and high-reliability circuit boards for medical, defense and semiconductor applications. DYCONEX is a MST company. Contact: Brian Sinclair, Application Engineering Manager, brian.sinclair@mst.com

Dynavac #404

110 Industrial Park Rd, Hingham, MA, 02043-4369 USA
+1 781 740 8600; fax +1 781 740 9996
sales@dynavac.com; www.dynavac.com

Dynavac delivers complete high vacuum systems for thin film deposition, space simulation, and custom-engineered applications. Systems range from compact, batch-type chambers to large-scale, continuous production tools. Dynavac is committed to providing its customers with quality workmanship, cost-effective solutions, and excellent customer service. Contact: Steve Chiavaroli, Thin Film Product Specialist, schiavaroli@dynavac.com; Liz Claflin, Sales & Marketing Manager, sales@dynavac.com

Plan to Attend FREE Exhibitor Product Demonstrations

Refer to pages 28-29 for complete times, schedules, and locations.

E.R. Precision Optical Corp. #452

SPIE Corporate Member

805 W Central Blvd, Orlando, FL, 32805 USA
+1 407 292 5395; fax +1 407 292 7984
sales@eroptics.com; www.eroptics.com

Featured Product: Precision optics manufacturing with in-house germanium & silicon crystal growing capability.

A HUBZone facility in Orlando, FL, specializing in the manufacture of precision optical components made of all advanced materials. The only US crystal grower of both germanium & silicon custom ingots. We support the US DoD, military and aerospace programs, commercial electronics, solar and semiconductor markets producing advanced windows, lenses, prisms & filters. Additionally we have full facilities to reclaim germanium; licensed to demil and to remove/dispose of hazardous materials. Contact: Kevin Ward, Sr. Dir. of Business Development, kward@eroptics.com; Jason Hess, VP of Operations, jhess@eroptics.com

e2v Aerospace and Defense, Inc #212

2945 Oakmead Villiage Ct, Santa Clara, CA, 95051 USA
+1 408 737 0992

e2v has over 30 years of experience in the design and manufacture of CMOS, CCD, EMCCD and line scan high performance image sensors for a variety of markets. Capabilities include back-illumination, low noise, high quantum efficiency and sensitivity to photon wavelengths from X-ray through near-IR. e2v routinely provides image sensors for the most demanding applications in space, astronomy and scientific imaging as well as medical, industrial machine vision and security.

eagleyard Photonics GmbH#332

Rudower Chaussee 29, Berlin, 12489 Germany
+49 30 6392 4520; fax +49 30 6392 4529
info@eagleyard.com; www.eagleyard.com

Featured Product: Pulsed DFB Laser.

Eagleyard Photonics is a leading provider of high-power laser diodes with wavelengths ranging from 650 nm to 1,120 nm. With our competence and know-how we close the gap between research and industry and link both worlds together. In turning technology into mature and reliable products we enable new applications for such laser diodes and help our customers to develop new markets. Contact: Michael Kneier, VP Sales & Marketing, michael.kneier@eagleyard.com

Earth Imaging Journal #3034

1208 Main St Unit A, Windsor, CO, 80550 USA
+1 970 223 6295; fax +1 970 339 5517
www.eijournal.com

Eclipse Energy Systems, Inc. #102

2345 Anvil St N, St Petersburg, FL, 33710-3905 USA
+1 727 344 7300; fax +1 727 346 0600
www.eclipsethinfilms.com

For 20 years Eclipse Energy Systems, Inc., has provided customized solutions for defense customers that require technical expertise beyond integration. Eclipse offers; an ITO alternative with less micro-cracking and better conductivity than ITO, active filters for modulation in the UV, VIS and IR wavelengths, high reflectance cold mirrors, interference filters, dual/triple band pass filters, complex thin film designs for large area optics and improved surveillance techniques.



LANYARDS SPONSOR

Edmund Optics Inc. #1206

SPIE Corporate Member

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

Featured Product: EO offers COTS Imaging lenses optimized for SWIR wavelengths with 25 and 50mm Focal lengths.

Edmund Optics (EO) is a leading producer of optics, imaging, and photonics technology supporting the R&D, electronics, semiconductor, biotech, and defense markets around the globe. As one of the leading providers of optics and optical assemblies to defense contractors, EO has created a "World Class" compliance program and is ITAR compliant with US State Department guidelines. EO's stock and custom night vision optics are 84% manufactured in the United States. Contact: Kirsten Bjork-Jones, Director of Global Marketing Communications, sales@edmundoptics.com; Anthony Artigliere, Dir. of Sales - North America, sales@edmundoptics.com

EDT (Engineering Design Team), Inc. #904

1400 NW Compton Dr., Ste. 315,
Beaverton, OR, 97006 USA
+1 503 690 1234; fax +1 503 690 1243
info@edt.com; www.edt.com

Featured Product: PCIe framegrabbers, simulators, extenders, recorders - send Camera Link up to 10 km over fiber.

EDT, Inc. (Beaverton, OR) designs and manufactures high-performance Camera Link frame grabbers, simulators, extenders (fiber or coax), and recorders for multiple modes (base through extended full), form factors (PCIe, PCI, PMC, cPCI), operating systems (Windows, Linux, Mac), and environments (desktops, workstations, embedded systems). Common API, full SDK, and generous engineer-to-engineer support are included free. Special design work and custom service contracts also are available. Contact: Cliff Hayes, Field Application Engineer, info@edt.com; John Dillon, VP of Business Development, info@edt.com

EGIDE USA Inc. #430

4 Washington St, Cambridge, MD,
21613-2802 USA
+1 410 901 6100; fax +1 410 901 6250
sales@egideusa.com; www.egide.fr

Featured Product: Hermetically Sealed Packaging Solutions

EGIDE was founded in 1986, with manufacturing plants in France and USA. The company designs, manufactures and sells hermetic Glass-to-Metal Seal (GTMS), Ceramic-to-Metal Seal (CTMS) and full ceramic packages for Telecommunications, Military, Security, Aeronautic, Space, Industrial and Medical applications. Contact: Kirk Williamson, Sales Manager, kirk.williamson@egideusa.com

Elbit Systems of America #1835

220 Daniel Webster Hwy, Merrimack,
NH, 03054-4898 USA
+1 603 889 2500
www.elbitsystems-us.com

Electro Optical Industries, LLC #1827

SPIE Corporate Member

859 Ward Dr, Santa Barbara,
CA, 93111-2920 USA
+1 805 964 6701; fax +1 805 967 8590
eoi@electro-optical.com;
www.electro-optical.com

Featured Product: FTS200 Series – Fused Extended Area Infrared and Visible radiation source for multi-spectral testing.

Electro Optical Industries has been the world leader in advanced infrared and visible light spectrum test and calibration equipment since 1964. EOI solves customers' optical test challenges by providing best value solutions with proven equipment. EOI provides the world's best performance in Primary Triple Point Radiance Stds with the industry's longest freeze times, highest temp/emissivity & smallest & largest diameter blackbody cavities; as well as the highest temp/emissivity source plates. Contact: Brent Lindstrom, Director of Sales, lindstrom@electro-optical.com; Stephen Scopatz, President, SScopatz@electro-optical.com

Electro Optics Magazine #724

Purbeck Rd, The Spectrum Bldg The
Michael Young Ctr, Cambridge, CB2 8PD
United Kingdom
+44 1223 211170; fax +44 1223 211107
sales@europascience.com;
www.electrooptics.com

Featured Product: *Electro Optics* is now audited by the ABC.

Electro Optics is Europe's leading title for the photonics industry, covering business, applications and technology. Its feature-led content gives photonics entrepreneurs the information they need to stay at the cutting edge of the industry, enabling them to monitor trends, make the best of the latest technology, and learn where to invest next. Supported by a website and two email newsletters, *Electro Optics* is available free to qualifying individuals at www.electrooptics.com/subscribe. Contact: Warren Clark, Publishing Director, warren.clark@europascience.com; Jon Hunt, Advertising Sales Manager, jon.hunt@europascience.com

Featured Product Launches

Cantronic Systems (Canada) Inc.

Booth 2312

Product: TR3620S-C225 Uncooled thermal Imager



9x continuous optical zoom with LWIR
640x480 Vox detector, 17µm.

CVI Melles Griot

Booth 1619

Product: Stepper Motor Shutter



Stepper Motor Shutter for miniaturized
Night Vision cameras & sights.

Daylight Solutions Inc.

Booth 807

Product: Über Tuner™



Broad-tuning pulsed lasers in the mid-IR
(3-12 µm)

Delta Digital Video

Booth 2327

Product: Models 6021/6840R Airborne Encoders



Mission-qualified video compression for
real-time transmission.

Electron Microscopy Sciences

#623

1560 Industry Road, Hatfield, PA, 19440 USA
+1 215 412 8400; fax +1 215 412 8450
sgkcck@aol.com; www.emsdiasum.com/microscopy/company

Featured Product: MEX: Turn Any SEM into a 3-D Measurement Device.

MeX is a stand alone software package that turns any scanning electron microscope (SEM) with digital imaging into a true surface metrology device. Using stereoscopic images the software automatically retrieves 3D information and presents a highly accurate, robust and dense 3D dataset which is then used to perform traceable metrology examination. The results are obtained irrespective of the SEM magnification providing metrology at macro and micro levels... Contact: Stacie Kirsch, sgkcck@aol.com

Electro-Optical Imaging, Inc.

#2129

SPIE Corporate Member

4300 Fortune PI Ste C, W Melbourne, FL, 32904-1527 USA
+1 321 435 8722; fax +1 321 435 8723
info@eoimaging.com; www.eoimaging.com

Electro-Optical Imaging, Inc. is a recognized leader in the design, development and manufacture of a diverse line of high performance Automatic Video Trackers and Tracking Systems adaptable to the most complex and demanding test range, tactical and surveillance applications. Trackers are available for VMEbus, PCI and PCI Express platforms, as well as custom form factors interfacing with various standard and nonstandard video formats, including Camera Link and High Definition. Contact: George Downey, President, gdowney@eoimaging.com; Nathan Harris, Vice President, nharris@eoimaging.com

Electro-Optics Technology, Inc.

#325

SPIE Corporate Member

5835 Shugart Ln, Traverse City, MI, 49684-6946 USA
+1 231 935 4044; fax +1 231 935 4046
sales@eotech.com; www.eotech.com

Element Six Technologies U.S. Corporation

#1005

3901 Burton Drive, Santa Clara, CA, 95054 USA
408 986 2411; fax 408 327 1300
brian.rossi@e6.com; www.e6.com

Featured Product: Precison polished industrial diamonds.

Element Six manufactures a wide range of diamond materials for advanced technology applications. Products are made from engineered synthetic diamond. Technologies incorporating diamond include: high power laser optics, output couplers, beam splitters, YAG cooling structures and infrared imaging. Other areas utilizing diamond include thermal management, novel electronics, sensing devices and scientific research. Standard and custom engineered solutions are available to meet your requirements. Contact: Peter Santini, VP Sales and Marketing, peter.santini@e6.com; Thomas Obeloer, Sales Thermal Management, thomas.obeloer@e6.com

Eltek USA Inc.

#2227

25 Orchard View Dr Ste 207, Londonderry, NH, 03053 USA
+1 603 421 0020; fax +1 603 421 0023
jbarry@eltek.us; www.eltekglobal.com

Featured Product: High Reliability, High Density, ITAR Compliant, Printed Circuit Board Technologies.

Eltek is a leading manufacturer of technologically advanced circuitry solutions for use in sophisticated and compact electronic products. Eltek's products are used as the core technology in some of the worlds most advanced electronics found in Aerospace, Defense and Medical applications. Registered and fully licensed through the Dept of State; Eltek meets all of the required guidelines as an exporter of defense articles and services. Let us extend the limits of your technology. Contact: Jim Barry, President, jbarry@eltek.us; Joel Robbins, Regional Sales Manager, jrobbins@eltek.us

EM Photonics, Inc.

#819

51 E Main St, Newark, DE, 19711-4685 USA
+1 302 456 9003; fax +1 302 456 9004
info@emphotonics.com; www.emphotonics.com

eMagin Corp.

#131

3006 Northup Way Ste 103, Bellevue, WA, 98004-8632 USA
+1 425 284 5200; fax +1 425 284 5201
info@emagin.com; www.emagin.com

EMCORE Corporation

#351

2015 Chestnut Street, EMCORE Photonic Systems, Alhambra, CA, 91803 USA
626-293-3400; fax 626-293-3428
specialty-sales@emcore.com; www.emcorephotonicsystems.com

Featured Product: PB7200 Portable Frequency Domain Terahertz (THz) Spectrometer.

EMCORE Corporation is a leading provider of optical technology for the defense and homeland security markets. Our solutions include Portable Terahertz Spectrometers for material analysis and threat detection, and compact, low-power Fiber Optic Gyroscopes and IMUs for UAVs, robotics, navigation and aeronautics. In addition EMCORE provides Fiber Optic links for Satellite Communications, Microwave and Video Transport to 40 GHz, plus Fiber Optic RF Delay-Lines for RADAR testing and calibration.

ENMET Corporation

#115

PO Box 979, 680 Fairfield Ct, Ann Arbor, MI, 48106 USA
+1 734 761 1270; fax +1 734 761 1229
info@enmet.com; www.enmet.com

Featured Product: Aircraft Jet Fuel Leak Monitors qualified for JP-5, JP-8 & Jet A on manned/unmanned military aircraft.

This veteran-owned small business manufactures hazardous gas detection products for health, safety & medical applications, including compressed air line monitors, medical gas verifiers, MRI oxygen monitors, portable detectors and continuous multi-channel fixed systems. Analyzers for measuring CO₂, CO, O₂, dew point, ppm & LEL hydrocarbons, & many toxic gases. Aircraft Jet fuel leak monitors are qualified for JP-5, JP-8 & Jet A use on manned & unmanned military aircraft. Contact: Ray Kelley, Sales Manager, rkelley@enmet.com; Mark Kopka, Project Manager, mkopka@enmet.com

Entegris, Inc.

#1740

SPIE Corporate Member

300 Old Greenwood Rd, Decatur, TX, 76234-3068 USA
+1 940 627 2121; fax +1 940 393 8435
webrequest@entegris.com; www.entegris.com

Featured Product: Silicon carbide mirrors and optical components for laser, sensor, surveillance & astronomy.

SUPERSiC® silicon carbide mirrors and optical components for laser, sensor, surveillance & astronomy applications. The flexibility of SUPERSiC allows for the efficient manufacture of lightweight, complex geometries and structures. Components can then be finished with a polishable CVD SiC coating or clad with silicon for diamond turning. Silicon Carbide is the material of choice for advanced optical applications; including Beryllium replacement & high heat flux scenarios. Contact: Hugo Vargas, Optics Specialist, hugo_vargas@entegris.com; Wayne Hambek, Director, wayne_hambek@entegris.com

EOS Photonics

#1323

30 Spinelli Place, Cambridge,
MA, 02138 USA
+1 617 945 9137; fax +1 617 945 9143
info@eosphotonics.com;
eosphotonics.com

Featured Product: DFB QCL Array with Controller

Eos designs and manufactures Quantum Cascade Lasers and QCL Arrays. We deliver devices on submounts to system integrators and researchers and are also developing our QCL Array based spectroscopy products to serve the security, industrial monitoring, material identification, and Earth science sectors. We also provide high power MWIR and LWIR lasers for defense applications. Contact: Mark Witinski, President, witinski@eosphotonics.com

EPIX, Inc.

#1420

SPIE Corporate Member

381 Lexington Dr, Buffalo Grove, IL,
60089-6934 USA
+1 847 465 1818; fax +1 847 465 1919
epix@epixinc.com; www.epixinc.com

Epner Technology Inc.

#1412

SPIE Corporate Member

78 Kingsland Ave, Brooklyn,
NY, 11222-5603 USA
+1 718 782 5948; fax +1 718 963 2930
info@epner.com; www.epner.com

A comprehensive array of electroplating, coating and optical fabrication technologies - NIST infrared standard, proprietary Laser Gold® and "light swallowing" Laser Black® processes; electroformed cold shields, custom-designed light waveguides, laser pump cavity reflectors and thermal barrier foil - serving laser, optics and photonics, semi-conductor, automobile, medical, aerospace and military markets. Contact: David Epner, President, David@epner.com; Paul Brancato, VP. & General Manager, info@epner.com

EPTAM Plastics, Inc.

#615

2 Riverside Business Park, Northfield,
NH, 03276 USA
+1 603 520 1627; fax +1 603 286 3977
www.eptam.com

Free Popcorn

Exhibition Hall / 2 Locations

Popcorn carts will be open
Tuesday and Wednesday from
11:00 am to 3:00 pm; Thursday
from 11:00 am to 2:00 pm.



QIOPTIQ
Photonics for Innovation

Your Key to Photonic Innovation for Defense and Aerospace

Leading the world in photonic expertise and capabilities, Qioptiq is a recognized, supplier to many of the defense and aerospace sector's leading companies. We deliver enabling photonic technologies for a wide range of defense and aerospace requirements.

- Night Vision
- Thermal Imaging
- Warning Systems
- Surveillance Modules
- Vehicle Awareness
- Missile Guidance
- Weapon Sights
- Telescopes/Periscopes
- Laser Protection, EOPM & IRCM
- HUD/HMD Systems

We add value to your systems through leading-edge optical innovation, precision manufacturing and responsive global resourcing. Engage Qioptiq for more than 100 years of photonic expertise.

Discover the Q!

SPIE
Defense,
Security+Sensing

BOOTH 913



www.qioptiq.com



EM: photonics@qioptiq.com

PH: +1 (585) 421-4567 • FX: +1 (585) 425-7266

Esterline CMC Electronics #221

600 Dr Frederik Philips Blvd, Custom Electronics, Saint-Laurent, QC, H4M 2S9 Canada
+1 514 748 3000; fax +1 514 748 3100
andy.krlick@cmcelectronics.ca; www.cmcelectronics.ca

Featured Product: Hybrids.

Esterline CMC Electronics' Custom Electronics business designs and manufactures electronic components for the military and commercial aerospace markets as well as the military ground vehicle and manpack communications market. Its main product lines include custom displays, edgelit panels, integrated keyboards, junction boxes, and hybrid microelectronics, including laser warning systems, electro-optics and fiber-optic transceivers. Contact: Andrew Krilick, Director, andrew.krlick@cmcelectronics.ca; Bruno Dion, Engineer, bruno.dion@cmcelectronics.ca

Evaporated Metal Films Corp. #820

SPIE Corporate Member

239 Cherry St, Ithaca, NY, 14850-5024 USA
+1 607 272 3320; fax +1 800 456 3227
info@emf-corp.com; www.emf-corp.com

Featured Product: Durable Silver (Ag99), Broadband AR, & Durable Gold coatings on metal, glass, and plastic substrates

Providing more than 75 years of continuous technological advances in the area of thin film coatings. We provide up to 50 layer coatings for a wide range of optical, conductive, and decorative applications. Our capabilities include coating design, specification development, and prototype-to-production project management. We coat metal, glass, ceramic, and plastic substrates from 1 millimeter up to 2.6 meters. Contact: Joseph Howe, Sales Manager, joe@emf-corp.com; Info EMF, Info, info@emf-corp.com

Excelitas Technologies #826

35 Congress St Ste 2021, Salem, MA, 01970-5529 USA
+1 800 775 6786
generalinquiries@excelitas.com; www.excelitas.com

Excelitas Technologies is a global technology leader focused on delivering innovative, customized solutions to meet the illumination, detection and other high-performance technology needs of OEM customers. From aerospace and defense to analytical instrumentation, industrial, and safety and security applications, Excelitas Technologies is committed to enabling our customers' success. Excelitas Technologies has approximately 3,000 employees worldwide. Visit www.excelitas.com for more information.

Exelis Visual Information Solutions #605

4990 Pearl East Cir, Boulder, CO, 80301-2530 USA
+1 303 786 9900; fax +1 303 786 9909
info@exelisvis.com; www.exelisvis.com

Featured Product: ENVI 5 makes your image analysis workflow more efficient and helps you more easily solve problems.

Exelis Visual Information Solutions provides desktop, mobile and enterprise software solutions that help professionals across industries transform geospatial imagery and complex data into actionable information. Our customers use our products – ENVI, E3De, IDL and IAS – to quickly and easily visualize, analyze and deliver all types of data and imagery. Combined with best-in-class customer support, training and consulting, we provide leading edge technology that spans the imagery workflow. Contact: Kevin Wells, Sales Team Lead Defense & Intelligence, kevin.wells@exelisvis.com; Greg Terrie, Sr. Business Development Manager, greg.terrie@exelisvis.com

ExoTec Precision #1104

Lisieux Way, ExoTec Precision, Taunton Somerset, TA1 2JZ United Kingdom
+44 1823 340482; fax +44 1823 340489
pnation@gsg.com; www.exotecprecision.com

ExoTec Precision, based in the UK, produces precision Beryllium mirrors and structures. Founded in 1937 as Avimo Ltd, the company now forms part of the GSI Group. We process Beryllium and AlBeMet composites. We also process optics from other materials. Our state of the art production facility is ISO9001:2008 certified. ExoTec has been granted a Technical Assistance Agreement by the State department, to allow bidding of US defense contracts. Contact: Peter Nation, Sales Manager, pnation@gsg.com

Exotic Electro-Optics, Inc. #337

36570 Briggs Rd, Murrieta, CA, 92563-2347 USA
+1 951 926 2994; fax +1 951 926 1984
sales@exotic-eo.com; www.exotic-eo.com

Featured Product: IR windows, lenses, domes and opto-mechanical assemblies

Founded in 1961, Exotic Electro-Optics (EEO) is an established supplier of visible through infrared optical components and subassemblies to the military, aerospace, and medical industries for electro-optical imaging systems, intelligence, surveillance and reconnaissance (ISR), missile, military fire control, navigation, targeting, and thermal applications. Product offerings include infrared and multi-spectral windows, domes, lenses and opto-mechanical assemblies. Contact: Katherine Short-St. John, Sr. Business Dev Manager, kstjohn@exotic-eo.com; Janice Roewer, Inside Sales Administrator, jroewer@exotic-eo.com

Fairfield Crystal Technology, LLC #3060

SPIE Corporate Member

8 South End Plz, New Milford, CT, 06776-4200 USA
+1 860 354 2111; fax +1 860 354 3093
info@fairfieldcrystal.com; www.fairfieldcrystal.com

Featured Product: CaF₂, MgF₂, BaF₂, LiF, Si, ZnS, Ge, Precision Polishing.

Fairfield Crystal specializes in crystal growth and manufacture of crystal optical components. Our expertise in crystal growth gives us the ability to manufacture precision crystal optics. We grow a number of production crystals and are also developing to crystal technology through our R&D team. So please contract us for any of your crystal needs. Contact: Andy Timmerman, VP of Sales, atimmerman@fairfieldcrystal.com

Fairview Machine Co., Inc. #822

427 Boston St, Topsfield, MA, 01983-1218 USA
+1 978 887 2141; fax +1 978 887 3689
edp@fairviewmachine.us; www.fairviewmachine.us

Featured Product: Precision Machining - Medium to High Complexity

Fairview Machine is 50 year strong ISO 9001 & ISO 13485 registered precision manufacturer of complex Optical components and assemblies for worldwide Defense and Aerospace contractors. Within a lean manufacturing environment with an extensive range of CNC capabilities, such as 5-axis high speed machining, 8-axis combination turning and milling, and 5-axis wire EDM, Fairview is able to hold the tightest of tolerances on components with the most challenging part geometries. Contact: Ed Pinho, VP Sales, edp@fairviewmachine.us

Fibercore Ltd. #627

Southampton Science Park, Fibercore House University Pkwy, Chilworth Southampton Hampshire, SO16 7QQ United Kingdom
+44 23 8076 9893; fax +44 23 8076 9895
info@fibercore.com; www.fibercore.com

A World leader in the field of fiber optics, Fibercore supplies more PM, Er-doped and bend-insensitive Singlemode fiber to more customers than any other fiber supplier in the World. With monthly shipments of over 1 million meters, our HB-G reduced clad fibers can be found in around 90% of the FOGs currently in use. Celebrating 30 years dedicated to the development of specialty optical fibers, we also offer rare-earth doped, photosensitive and cladding pump fibers. Contact: Wendy Stewart, Sales & Marketing Administrator, sales@fibercore.com

Fiberoptics Technology, Inc. #227

1 Quassett Rd, Pomfret, CT, 06258 USA
+1 860 928 0443; fax +1 860 928 7664
www.fiberoptix.com

Featured Product: LO-100, 100W LED light source, Custom fiberoptic lighting solutions, industrial borescopes.

Fiberoptics Technology Inc. is a leading manufacturer of standard and custom fiberoptic lighting products. These products include spot to lines, fiberoptic ringlights, backlights, and light guides. FTI also manufactures LED light sources including the LO-100, a 100W LED light source capable of illuminating the above mentioned products. Contact: Tim Beeman, Sales Manager, tbeeman@fiberoptix.com; Zach Morin, Sales Engineer, zmorin@fiberoptix.com

Finisar Corp. #332

1389 Moffett Park Dr, Sunnyvale, CA, 94089-1134 USA
+1 408 548 1000; fax +1 408 541 6138
sales@finisar.com; www.finisar.com

Featured Product: WaveShaper Programmable Optical Filtering and Wavelength Switching.

Finisar Corporation is a global technology leader of fiber optic subsystems, components and instrumentation that enable high-speed communications for networking, storage, wireless, and cable TV applications. Finisar provides critical optics technologies for government and military applications as well as system manufacturers for increased demands of network bandwidth and storage. Visit us at booth 332 to see Finisar's next generation of WaveShaper Programmable Optical Processors. Contact: www.finisar.com/waveshaper, waveshaper@finisar.com

FJW Optical Systems, Inc. #451

SPIE Corporate Member
322 N Woodwork Ln, Palatine, IL, 60053 USA
+1 847 358 2500; fax +1 847 358 2533
irsales@findrscope.com; www.findrscope.com

Featured Product: Laser Application Kit w/ IR Viewer, Visible Blocking Filter, & Variable Iris. New iPhone Adaptor.

FJW Optical Systems, world-leading manufacturer of self-contained, high-res. Find-R-Scope® Infrared Viewers, Ultraviolet Viewers, IR Cameras & Radiometric Thermal Imagers. IR Viewers sensitive from 350-1550nm, UV Viewer from 180-1550nm. Vidicon NIR/SWIR/ Camera from 400-2200nm. Thermal Camera 8-14 m. Use to inspect IR diodes, align/profile laser systems, biotech, forensics & document analysis. View sources which cannot be seen with the naked eye. Accessories available to extend capability. Contact: Barry Durr, Director of Sales & Marketing, bdurr@findrscope.com; Mary Scarlata, Inside Sales/Customer Support, irsales@findrscope.com

Flex Interconnect Technologies #907

1603 Watson Ct, Milpitas, CA, 95035-6806 USA
+1 408 635 3544; fax +1 408 956 8278
sales@fit4flex.com; www.fit4flex.com

Flexible Optical B.V. #1426

SPIE Corporate Member
Polakweg 10-11, Rijswijk ZH, 2288 GG Netherlands
+31 70 262 9420; fax +31 70 710 1400
oko@xs4all.nl; www.okotech.com

Featured Product: Deformable mirror, adaptive optics, imaging through turbulence, wavefront sensor.

Flexible Optical B.V. (aka OKO Technologies) develops, manufactures and delivers integral solutions based on smart and adaptive optics for adaptive wavefront correction and generation in scientific, industrial, laser, astronomical, medical and other applications. Contact: Gleb Vdovin, gleb@okotech.com

FLOOR GRAPHICS AND WELCOME RECEPTION CONTRIBUTING SPONSOR

FLIR Systems, Inc. #357, 2010

SPIE Corporate Member
27700 SW Parkway Ave, Wilsonville, OR, 97070-8238 USA
+1877 773 3547; fax +1 503 498 3153
sales@flir.com; www.flir.com

FLIR Systems offers a full line of uncooled and cooled infrared sensors and component products, including Quark—the world's smallest thermal camera. FLIR's volume detector fabrication capability, ROIC development, OEM packaging and program management gives you with the highest quality sensors at the lowest cost. Contact: Jay James, Vice President of OEM and ODM Sales, sales@flir.com

Florida Photonics Cluster #2123

12424 Research Parkway, Suite 100, Orlando, FL, 32826 USA
+1 407 882 2104; fax +1 407 386 3426
jpearson@mail.ucf.edu; www.floridaphotonicscluster.com

Featured Product: Networking, information, and services for Florida photonics companies.

The Florida Photonics Cluster (FPC) supports the growth and profitability of the Florida photonics industry through the strength of a unified voice, by enhancing the overall photonics industry through mutually beneficial collaborations, and by making Florida the place to go for photonics solutions. FPC membership is available to all organizations that provide optics and photonics products or services, and also to non-photonics companies who provide services and products to photonics companies. Contact: James Pearson, Executive Director, jpearson@mail.ucf.edu; Alexandre Fong, President, afong@gooch&housego.com

Featured Product Launches

DeltaNu Booth 2414
Product: DeltaNu ReporteR



DeltaNu's ReporteR is a handheld Raman Spectrometer used for material identification.

Denton Vacuum Inc. Booth 617
Product: Voyager DLC System



Voyager enables diamond-like carbon coatings over large, 3D components.

DigitalOptics Corporation Booth 814



Optical Solutions for Advanced Applications Including Night Vision and HUDs

FluxData, Inc. #620

SPIE Corporate Member

125 Tech Park Dr, Rochester, NY, 14623 USA
+1 800 425 0176; fax +1 800 425 0176
info@fluxdata.com; www.fluxdata.com

Fosta-Tek Optics, Inc. #509

320 Hamilton St, Leominster, MA, 01453 USA
+1 978 534 6511; fax +1 978 537 2168
info@fosta-tek.com; www.fosta-tek.com
Fosta-Tek Optics is your one-stop resource for polymer based optical components. The company offers high performance and thin film coatings, precision molded optics, and optical filters for electronics. Products include laser protective eyewear lenses, night-vision optics, ADC scanner windows, lenses for sighting systems, and mirrored reflectors. All manufacturing is done in the U.S.A. Contact: Thomas Long, National Account Sales Representative, tlong@fosta-tek.com; David Moriarty, National Account Sales Representative, dmoriarty@fosta-tek.com

Fotofab #2413

SPIE Corporate Member

3758 W Belmont Ave, Chicago, IL, 60618-5292 USA
+1 773 463 6211
sales@fotofab.com; www.fotofab.com

Featured Product: Fotofab offers Rapid Delivery of your custom metal parts. Ask about same-day turnaround.

Fotofab manufactures Precision Metal Parts to meet the most critical design requirements in a wide range of applications. Applications such as optical apertures, encoders, RF/EMI shields, step lids, 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 one week, with same-day delivery options available. Just tell us what you need! Contact: Dan Sima, Marketing Manager, dsima@fotofab.com; James Tankersley, Technical Sales, sales@fotofab.com

G5 Infrared #3046

8 Security Dr, Hudson, NH, 03051 USA
+1 603 204 5722
sales@g5ir.com

Galaxy Compound Semiconductors, Inc. #435

9922 E Montgomery Dr Ste 7, Spokane, WA, 99206-4158 USA
+1 509 892 1114; fax +1 509 892 1116
info@galaxywafer.com; www.galaxywafer.com

Gatan, Inc. #323

5794 W Las Positas Blvd, Pleasanton, CA, 94588-4083 USA
+1 925 463 0220; fax +1 925 463 0204
info@gatan.com; www.gatan.com

Featured Product: Iliion+: Planar surface preparation of difficult samples for SEM cross section viewing.

Gatan designs and manufactures instruments and products for electron microscopes that enable and advance EM applications. Gatan is the recognized leader in the industry and our products set the industry standards. Gatan is committed to being a quality provider of high performance instrumentation for imaging and analysis in TEM and SEM applications. Our designers and engineers understand the application criteria of our customers and provide them with the best solutions. Contact: John Hyun, Marketing Communications Manager, jhyun@gatan.com; Rich Fiore, Sales Manager, rfiore@gatan.com

Gavish, Inc. #3056

360 Rte 101 Ste 1, Bedford, NH, 03110-5033 USA
+1 603 472 5900; fax +1 603 472 8333
info@gavish.com; www.gavish.com

Featured Product: Sapphire Windows & Optics.

ISO 9001 approved and ITAR registered Gavish supplies sapphire optics that include windows, viewports, imaging arrays, optical lightpipes and lenses. Optics are produced to end user specifications for finish and flatness with full service support including AR filter and other specialty coatings and metallization. Gavish is also a vertically integrated sapphire producer with facilities for crystal growth, fabrication, polishing and metrology. Contact: Jeremiah Fitzgibbon, National Sales and Marketing Manager, jfitzgibbon@gavishitar.com; Cathy Schult, Account Manager, cschult@gavishitar.com

GE Intelligent Platforms #1933

SPIE Corporate Member

Larges Ln, Edenfield, Bracknell Berks, RG12 9AT United Kingdom
+44 1344 381281; fax +44 1344 381282
www.ge-ip.com

Featured Product: IPS5100 360 Situational Awareness Solution

GE Intelligent Platforms, a unit of General Electric, offers an extensive line of military and paramilitary real-time image processing systems for UAVs, ground vehicles, remote control gun platforms and many other opto-electrical applications. For over two decades, GE has used its domain expertise to become one of the leading suppliers of COTS real-time video tracking, image processing, and situational awareness solutions to the global defense, aerospace and security markets. Contact: Larry Schaffer, Business Development, larry.schaffer@ge.com; Chris Jobling, Product Manager, chris.jobling@ge.com

POPCORN STATION SPONSOR

General Dynamics-Global Imaging Technologies #1811

SPIE Corporate Member

44 Simon St, Nashua, NH, 03060-3025 USA
+1 603 864 6300; fax +1 603 864 6400
IRSALES@gd-ais.com; www.gd-imaging.com

Featured Product: Reflective & Refractive Optical Components. Machining & Fabrication. Pan & Tilt. Thermal Cameras.

General Dynamics-Global Imaging Technologies is a global leader in the design and manufacture of high-performance imaging systems, optics, and related motion control technologies. The proven reliability and performance of General Dynamic's products is evidenced by the company's expanding role as a strategic supplier for defense and homeland security markets and related high performance commercial markets such as law enforcement, utilities, and broadcast and film production. Contact: Susan Benz, Business Development Manager, susan.benz@gd-ais.com; Fred Sheldon, Business Development Director, fred.sheldon@gd-ais.com

General Projections Systems, Inc #231

707 Platinum Pt, Ste 2001, Lake Mary, FL, 32746 USA
+1 407 936 7300; fax +1 407 833 4990
www.genproj.com

Genia Photonics Inc. #134

500 Cartier Blvd. W Office 131, Laval, QC H7V 5B7, Canada
+1 450 680 3401
info@geniaphotonics.com; www.geniaphotonics.com

Featured Product: The Synchronized Programmable Picosecond Laser

Genia Photonics Inc. is an innovative high technology company specializing in multi-functional measurement systems based on its patented fiber-based lasers. Genia's easy-to-use, portable and computer controlled systems will change the methodology of various applications in the medical, industrial and defense and security communities. Contact: Vinh N. Dang, Marketing Coordinator, vinh.dang@geniaphotonics.com; Joseph Salhany VP R&D Product Management, joseph.salhany@geniaphotonics.com

RENISHAW
apply innovation™

positioned ahead... moving beyond

RoLin™—embedded component-level position sensor

Non-contact magnetic radial, axial and linear encoders designed for miniature motion control applications.

- Absolute within 2 or 5 mm
- Incremental output position
- Resolutions to 0.244 μm or 13 bits
- High speed operation
- Bi-directional reference mark
- Axial or radial rings

Advanced motion sensors for the smallest applications...and smaller.

See us at
Defense, Security & Sensing
BOOTH #524

Renishaw Inc. Hoffman Estates, IL
www.renishaw.com/encoders

RLS® Designed and manufactured by Renishaw's associate company RLS d.o.o.

Gentec Electro-Optics Inc. #132

SPIE Corporate Member

445 Saint-Jean-Baptiste Ste 160,
Quebec, QC, G2E 5N7 Canada
+1 418 651 8003; fax +1 418 651 1174
info@gentec-eo.com;
www.gentec-eo.com

**Featured Product: New M-LINK,
Universal Laser Power & Energy Meter
compatible with every type of head
available.**

Gentec Electro-Optics is a leader in the laser measurement field with 40 years of experience. In 2000, Gentec Electro-Optics, Inc.' focus is entirely on laser measurement. The company manufactures a complete range of laser power and energy meters, beam diagnostics and diffractive optics. Since the acquisition of Spectrum Detector in June 2010, they have added many products to the range, including high speed 130 kHz joulemeters and a unique industry leading line of THz sensors and instruments. Contact: Nathalie Becotte, Sales Manager, Major Accounts, nbecotte@gentec-eo.com; Burt Mooney, Sales Development Manager, bmooney@gentec-eo.com

Georgia Tech Research Institute and SENSIAC #1840

SPIE Corporate Member

925 Dalney Street, Suite 102, Atlanta,
GA, 30332-0870 USA
+1 404 407 7367; fax +1 404 407 9372
sensiacle@gtri.gatech.edu;
www.sensiacle.org

**Featured Product: Adv Materials, Sensor
Technology, Prof Dev Courses, SENSIAC
Library, UAVs, IRCM, EW, Sensor Fusion.**

GTRI is a highly-regarded applied research & development organization and an integral part of Georgia Tech, and as such, provides access to one of America's leading research universities and the world's leading problem solvers. SENSIAC is a DoD Information Analysis Center at Georgia Tech whose objective is to facilitate the use of scientific/technical information related to military sensing technologies, ie, EO/IR, LIDAR, Radar, Antennas, CBRNE, Syst Eng, MEMS, and Data Fusion, among others. Contact: John Devitt, SENSIAC Director, john.devitt@gtri.gatech.edu; Ben Medlin, TAT Manager, ben.medlin@gtri.gatech.edu

Germanium and Applications Ltd. #149

2/4 Luzhnetskaya quay, Bldg 64,
Moscow, 119270 Russian Federation
+7 495 926 5174; fax +7 495 639 9352
ge@geapplic.ru; www.geapplic.ru

**Plan to Attend
WORKSHOP
Early Stage Technology
Commercialization**

Wednesday • 8:30 to 10:00 am

Open to All Attendees
Exhibition visitors, exhibitors, and technical conference attendees

Panelists from U.S. government laboratories, the venture capital community, and industry discuss ways to speed the commercialization and deployment of early-stage Defense and Homeland Security applications focused on mid-infrared technologies. Listen and interact with the leaders in the IR community, and come to share your ideas.

See p. 21 for details.

Glass Fab, Inc.

#1428

SPIE Corporate Member

257 Ormond St, Rochester, NY, 14605-3024 USA
+1 585 262 4000 x107; fax +1 585 454 4305
info@glassfab.com; www.glassfab.com

Manufacturer of custom blanks. Products include fused quartz, fused silica, optical glasses, filter glasses, and low/ultralow expansion glasses. Capabilities included annealing, slumping, sawing, grinding, edging, drilling, water jet cutting, CNC shaping and CNC generating. Contact: Daniel Saltzman, President, d_saltzman@glassfab.com; Wayne Leon, General Manager, w_leon@glassfab.com

GlobalSensing Technologies

France

#144

23 rue Paul Bert, Boulogne Billancourt, 92100 France
+33146 032 660
www.globalsensing.com

Gooch & Housego Plc

#407

SPIE Corporate Member

Dowlish Ford, Ilminster Somerset, TA19 0PF United Kingdom
+1 44 1460 256440; fax +1 44 4160 256441
sales@goochandhousego.com; www.goochandhousego.com

Featured Product: The EM650 integrates a high-power fiber-coupled DFB laser.

Manufacturer of high reliability, hermetically packaged, fiber pigtailed and free space optoelectronic components and subsystems for harsh environments: terrestrial, marine and aerospace. Featuring: 100 mW DFB lasers (C and L band, 5 GHz direct mod); 10W multimode pumps (780nm-980nm); 800mW SM pumps (915nm-1064nm); < 10 ns rise fall time AOM's (530nm, 1060nm & 1550nm); 20 GHz detectors; HP fiber coupled isolators. Contact: Ed McCartin, Director of Sales and Marketing, emccartin@goochandhousego.com; Jim Dooley, VP of Sales, Aerospace and Defense, jdooley@goochandhousego.com

Gould Fiber Optics

#538

1121 Benfield Blvd, Millersville, MD, 21108-2540 USA
+1 410 987 5600; fax +1 410 987 1201
info@gouldfo.com; www.gouldfo.com

Featured Product: 1st in the Industry-NEW product line of Damp Heat and Harsh Environment Resistant PM Couplers.

Since 1986 Gould Fiber Optics remains as a leading worldwide manufacturer and supplier of premium passive fiber optic components and specializes in the design, build & fully tested integrated solutions. Serving many industries: military/defense, security, aerospace, medical, telecom, and sensors. Our components are manufactured in the U.S. and are built in accordance with ISO 9001-2008, ITAR & RoHS compliance. Products: singlemode & multimode couplers/splitters, PM, Planar, CWDM, WDM, & more. Contact: Lisa Royal, Sales Specialist, lroyal@gouldfo.com; Peter Smiley, Sales Specialists, psmiley@gouldfo.com

GPD Optoelectronics Corp. #406

7 Manor Pkwy, Salem, NH, 03079-2842 USA
+1 603 894 6865; fax +1 603 894 6866
sales@gpd-ir.com; www.gpd-ir.com

Great River Technology, Inc.

#449

6121 Indian School Rd NE Ste 141, Albuquerque, NM, 87110 USA
+1 505 881 6262; fax +1 505 883 1375
info@greatrivertech.com; www.greatrivertech.com

Greenpak Development, Inc. (GDI)

#639

SPIE Corporate Member

1624 Staunton Ave, Parkersburg, WV, 26101 USA
+1 304 420 1027

Gurley Precision Instruments, Inc.

#918

514 Fulton St, Troy, NY, 12180 USA
+1 518 266 7719; fax +1 518 274 0336
info@gurley.com; www.gurley.com
GPI manufactures high-end optical encoders, components and assemblies to the optics, medical, aerospace and defense industries. From design phase to volume runs, we manufacture custom and catalogued components that are designed to meet your specific requirements. Our product line includes; linear and rotary encoders, incremental and virtual absolute encoders, lenses, windows, mirrors, and chrome on glass reticles, as well as a full range of Laser coated optics. Contact: Brian Sebastian, Director of Optic Sales, b.sebastian@gurley.com; Christopher Guiry, Director of Encoder Sales, c.guiry@gurley.com

Hamamatsu Corp.

#1103

SPIE Corporate Member

360 Foothill Rd, Bridgewater, NJ, 08807-2932 USA
+1 908 231 0960; fax +1 908 231 1539
usa@hamamatsu.com; www.sales.hamamatsu.com

Hamamatsu Corporation is the North American subsidiary of Hamamatsu Photonics K.K. (Japan), a leading manufacturer of devices for the generation and measurement of infrared, visible, and ultraviolet light. These devices include photomultiplier tubes, photodiodes, CCDs, cameras, and light sources. Hamamatsu also manufactures optical components. Hamamatsu products are used throughout the world in scientific, industrial, and commercial applications.

Hardin Optical Co.

#608

SPIE Corporate Member

PO Box 219, Bandon, OR, 97411 USA
+1 541 347 9467; fax +1 541 347 8176
optics@hardinoptical.com; www.hardinoptical.com

Hardin Optical manufactures precision optical components for commercial and defense applications. We fabricate custom optical elements used in UV, Visible, and IR applications. Our manufacturing facility includes conventional grinding and polishing, diamond turning, and thin film coating capabilities. We take pride in our record of on-time delivery of quality products. Hardin Optical Company was founded in 1976 and employs over 90 people. www.hardinoptical.com
Contact: Bob Bush, optics@hardinoptical.com; Bob Schalck, optics@hardinoptical.com

HawkEye Technologies #1202

181 Research Drive Unit #8, Milford, CT, 06460 USA
+1 203 878 6892; fax +1 203 878 7462
info@hawkeyetechnologies.com; www.hawkeyetechnologies.com

Headwall Photonics Inc. #2220

SPIE Corporate Member

601 River St, Fitchburg, MA, 01420-2968 USA
+1 978 353 4100; fax +1 978 348 1864
marketing@headwallphotonics.com; www.headwallphotonics.com

Featured Product: Hyperspec RECON handheld sensor provides discrete, hyperspectral target identification.

Manufacturer of hyperspectral sensors for military and defense. Sensors available for airborne, pan and tilt, and point & stare applications. Spectral ranges of products - UV, Vis, VNIR, NIR, SWIR and MWIR. Core sensor technology: Very small, high performance spectral instruments with high signal-to-noise and high dynamic range for UAV and UGS platforms. Products: Hyperspectral sensors, Raman spectrometers, handheld biosensors, spectral instruments for end-users and integrators. Contact: Christopher Van Veen, Marketing, cvanveen@headwallphotonics.com; David Bannon, CEO, dbannon@headwallphotonics.com

JOB FAIR

SPIE Defense, Security, and Sensing

Sponsored by SPIE Career Center

Exhibition Hall

Tuesday 24 April, 10:00 am to 5:00 pm
Wednesday 25 April, 10:00 am to 5:00 pm

Heimann Sensor GmbH #1202

Grenzstr. 22, Dresden, 01109 Germany
+49 6123 605030; fax +49 6123 605039
sales@heimansensor.com;
www.heimansensor.com

Featured Product: Infrared Thermopile Array Sensors.

Heimann Sensor manufactures infrared sensors and modules for remote temperature measurement and NDIR gas detection. We are also manufacturing uncooled infrared array sensors with element numbers ranging from 8x8 to 64x62 elements. These thermopile arrays are available as sensors or calibrated modules or as an application set with additional software and ready to use with your personal computer. Other products are vacuum sensors. Additionally we provide silicon micromachining services. Contact: Marion Simon, Project Manager, simon@heimansensor.com; Bodo Forg, Project Manager, forg@heimansensor.com

Hellma Materials GmbH #1531

Moritz-von-Rohr-Str 1, Jena, 07745 Germany
+49 3641 2877 234; fax +49 3641 2877 203
info.materials@hellma.com; www.hellma-materials.com

Featured Product: Calcium Fluoride crystals (max. 440 mm diameter), Barium Fluoride, Scintillation Crystals

Hellma Materials produces high quality materials for various optical applications from deep UV to IR. Continuing the Calcium Fluoride business of Schott Lithotec, we supply to diverse markets including Microlithography, Excimer Laser Optics, Analytical Instrumentation, Astronomy, Defense and more. Contact: Daniel Hahn, Area Sales Manager, daniel.hahn@hellma.com; Dawn Jennings, US Sales representative, dawn@siliconsense.com

HGH Infrared Systems #349

One Broadway, 14th Fl, Cambridge, MA, 02142 USA
+1 617 401 2196
www.hgh.fr

Featured Product: IR360 - IR Revolution 360 camera provides real-time panoramic detection and tracking.

HGH Infrared Systems is the manufacturer of the award-winning IR REVOLUTION 360, the world only real-time panoramic infrared camera with unlimited intrusions detection capability. Headquartered in France with subsidiaries in United States, India and China, HGH has 30 years of expertise and technical excellence in infrared technology. Contact: Vanessa Couturier, General Manager, vanessa.couturier@hgh-infrared.com; Briana Shea, sales and marketing assistant, briana.shea@hgh-infrared.com

Hitachi High Technologies America, Inc. #103

SPIE Corporate Member

5100 Franklin Dr, Pleasanton, CA, 94588-3355 USA
+1 800 548 9001; fax +1 925 218 2900
Sales-LS@hitachi-hita.com; www.hitachi-hita.com

HMS Technology Sales #1309

5 Echo Pl, Larkspur, CA, 94939-1902 USA
+1 415 924 6300; fax +1 415 924 6399
harry@hmstechnologysales.com; www.hmstechnologysales.com

Hoppe Tool Inc. #707

107 First Ave, Chicopee, MA, 01020 USA
+1 413 592 9213; fax +1 413 592 4688
www.hoppetool.com

IBM #639

310 State Rte 956, Rocket Center, WV, 26726-9222 USA
+1 304 726 4457

ICA Corporation #514

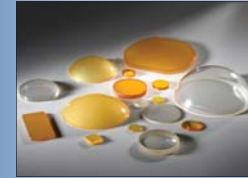
12130 Brockton Ln, Minneapolis, MN, 55369 USA
+1 800 345 2801; fax +1 763 428 4230
sgoran@icacorp.com; www.icacorp.com
ISO 9001:2008 and ITAR registered custom manufacturer providing build-to-print metal component parts and assemblies to the optics, analytical instrumentation, medical, aerospace, and electronics industries. Capabilities include close tolerance CNC machining, opto-mechanical component machining, custom enclosures, design engineering support, and sheet metal fabrication. Learn why industry-leading OEMs cite our service and support to be as important as our quality and performance. Contact: Susan Goran, National Sales Manager, sgoran@icacorp.com

Featured Product Launches

Dow Electronic Materials

Booth 2326

Product: CVD Zinc-based IR Optics

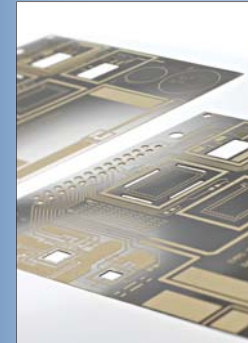


CVD zinc-based infrared optics for military and commercial applications.

Dyconex AG

Booth 314

Product: LCP PCB

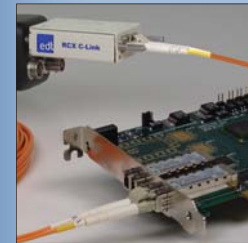


LCP based high-frequency PCB solutions for aerospace & defense industry.

EDT (Engineering Design Team), Inc.

Booth 904

Product: Camera Link extender - RCX C-Link



EDT extenders send Camera Link 100+ km over fiber!

GENERAL REFRESHMENT SPONSOR

Heraeus Quartz America LLC #2510

SPIE Corporate Member

100 Heraeus Blvd, Buford, GA, 30518-3456 USA
+1 678 714 4350; fax +1 678 714 4355
sales.hqa.optics.us@heraeus.com; www.heraeus-quarzgla.com

Featured Product: Spectrosil synthetic fused silica for deep UV applications and high power NIR lasers.

Heraeus is a leader in the manufacturing of high purity quartz materials and components, and produces various types of high purity fused silica for use in semiconductor manufacturing, telecommunications, optical, chemical, lamps and a variety of other advanced applications. Contact: David Gritz, Director of Sales, david.gritz@heraeus.com; Robert Sawyer, Account Manager, robert.sawyer@heraeus.com

ID Quantique SA #1202

3 chemin de la Marbrerie, Carouge, 1227 Switzerland
+41 22 301 83 71; fax +41 22 301 83 79
info@idquantique.com;
www.idquantique.com

Featured Product: id220: Free-running photon counter with very low dark count rate at telecom wavelength.

IDQ offers photon-counters based on avalanche photodiodes in Geiger mode for the visible and infrared regions. It also includes Telecom short-pulse laser sources (id300). The id100 is a photon counter based on silicon APD for VIS wavelength. id210 and id220 are based on InGaAs/InP APD optimized for telecom wavelength. The id210 has a 100MHz max. trigger rate and can also operate in free running. The id220 offers the lowest dark count rate in mask-running mode. The id400 is optimized for 1064nm. Contact: Michael Desert, Sales Engineer, michael.desert@idquantique.com

Ideal Aerosmith, Inc. #2516

3001 S Washington St, Grand Forks, ND, 58201-6716 USA
+1 701 757 3400; fax +1 701 757 3459
padams@idealaero.com;
www.ideal-aerosmith.com

Featured Product: Ideal Aerosmith introduced its fourth generation of motion control expertise with the AERO 4000.

Ideal Aerosmith, Inc. innovatively engineers, manufactures & sustains world-class motion and electronic test solutions & services. Its cutting-edge products and services comprise precision inertial guidance test systems, rotational tables, centrifuges, high dynamic Hardware-in-the-Loop flight motion simulators, test services including ATE system engineering and quality contract manufacturing. Ideal Aerosmith, Inc. ; Providing solutions for mil-aero applications worldwide for more than 70 years. Contact: Greg Owens, Executive VP & Chief Operating Officer, gowens@idealaero.com; Pacy Adams, Sales Assistant, padams@idealaero.com

II-VI Infrared #439

375 Saxonburg Blvd, Saxonburg, PA, 16056-9449 USA
+1 724 352 1504; fax +1 724 352 4980
info@iiviiinfrared.com; www.iiviiinfrared.com

COLUMN WRAP, FLOOR GRAPHICS, AND METER BOARD SPONSOR

Imperx Inc. #2027

SPIE Corporate Member

6421 Congress Ave Ste 204, Boca Raton, FL, 33487-2859 USA
+1 561 989 0006; fax +1 561 989 0045
sales@imperx.com; www.imperx.com

IMT North America, Inc. #705

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

Featured Product: Diffractive Grating Reticles for high-end rifle scopes.

IMT manufactures reticles for rifle scopes, range finders, binoculars and periscopes. By using highly automated processes we are able to supply the same high quality on every delivery. We are ITAR registered and compliant. Supplier of reticles for optical and medical devices, calibration plates for machine vision, linear and rotary encoder disks, microchannels for bio chips and flow cells and electro-optical components. Come see what IMT can do for you. We are "Precision on Glass". Contact: Robert Trottini, Sales Manager, rtrottini@imtmask.com

Industrial Hygiene News / Rimbach Publishing Inc. #1307

8650 Babcock Blvd, Pittsburgh, PA, 15237-5009 USA
+1 412 364 5366; fax +1 412 369 9720
info@rimbach.com; www.rimbach.com

Infinite Graphics Incorporated #604

4611 E Lake St, Minneapolis, MN, 55406-2305 USA
+1 612 721 6283; fax +1 612 721 3802
sales@igi.com; www.igi.com

Infinite Optics Inc. #816

SPIE Corporate Member

1712 Newport Cir Ste F, Santa Ana, CA, 92705-5118 USA
+1 714 557 2299; fax +1 714 557 2170
info@infiniteoptics.com; www.infiniteoptics.com

Infinite Optics specializes in optical thin-film coatings ranging from 193nm's to 20 microns. We support astronomical, industrial, medical and military markets by fabricating and coating optics required for telescopes, lasers and optoelectronic devices. Our services include special applications, development, production runs and quality control. We are DDTIC registered and ITAR compliant. Contact: Geza Keller, sales, geza@infiniteoptics.com; Stan King, sales, stan@infiniteoptics.com

Infrared Associates, Inc. #109

2851 SE Monroe St, Stuart, FL, 34997 USA
+1 772 223 6670; fax +1 772 223 6671
irassoc@gate.net; www.irassociates.com

Infrared Labs., Inc. #235

1808 E 17th St, Tucson, AZ, 85719-6505 USA
+1 520 622 7074; fax +1 520 623 0765
infrared@irlabs.com;
www.infraredlaboratories.com

Infrared Systems Development Corp. #1730

SPIE Corporate Member

7319 Sandscove Ct Ste 4, Winter Park, FL, 32792-6979 USA
+1 407 679 5101; fax +1 407 679 5520
sales@infraredsystems.com;
www.infraredsystems.com

Featured Product: Turnkey 50Khz IR Array Integrator System.

Designs and manufactures heated and cooled blackbody sources of all sizes. Detector array processors, high speed integrators and custom electro-optical systems for all aspects of infrared analysis. Femto-Second Laser Pulse Spectroscopy Systems, multi-spectral target simulators, low noise detector preamplifiers, Infrared Detector and FPA test stations. Spectral and Multi-Channel Discrete Radiometer systems for R&D, production and field testing of IR Targets and countermeasures. Contact: Kimberly Griffin, Sales, kimberly@infraredsystems.com; Andrew Duran, President, sales@infraredsystems.com

InfraTec GmbH #535

Gostritzer Str 61-63, Dresden, 01217 Germany
+49 351 871 8620; fax +49 351 871 8727
thermo@infrotec.de; www.infrotec.de

INO #133

SPIE Corporate Member

2740 rue Einstein, Quebec Metro High Tech Park, Quebec City, QC, G1P 4S4 Canada
+1 418 657 7006
info@ino.ca; www.ino.ca/en-ca

Featured Product: IRXCAM-1024, INO is proud to introduce our 1024*768 pixel thermal camera module.

INO is a world class center of expertise in optics dedicated to serving industry. We provide services such as feasibility studies, design, development, prototyping, and small scale production. INO is one of a small number of companies worldwide with infrared uncooled detector technology. We have complete in-house capabilities for detector design, simulation, fabrication, testing, and packaging. We offer standard focal plane arrays, custom detector development and detector foundry services. Contact: Pierre Talbot, Business Development Manager, pierre.talbot@ino.ca



IMAGING TECHNOLOGY THAT'S BEYOND IMAGINING

Lockheed Martin Santa Barbara Focalplane is infrared imaging, delivering the most complete family of mid-wave infrared focal plane arrays. With maximum sensitivity, high frame rates, extreme megapixel resolution, and miniature packages. We're helping bring mission-critical information into focus.

www.lockheedmartin.com/sbf

100 YEARS OF
ACCELERATING
TOMORROW

LOCKHEED MARTIN 

Inrad Optics, Inc

#2421

SPIE Corporate Member

181 Legrand Ave, Northvale, NJ, 07647 USA
+1 201 767 1910; fax +1 201 767 9644
sales@inradoptics.com;
www.inradoptics.com

Inrad Optics manufactures exceptional crystalline materials, precision glass and metal optical components and photonic devices. Vertically integrated from growth through systems, products include BBO, KD*P, LiNbO3 Pockels Cells and Q-Switch elements, ZnGeP2 and UV crystal components, large precision transmission flats and mirrors, complex optical assemblies, X-ray monochromators, metal parabolas, and Be and AlBeMet mirrors. Contact: George Murray, West Coast Sales Manager, gmurray@inradoptics.com; Jeff Brunner, Sales Manager, Eastern US, jbrunner@inradoptics.com

Insaco Inc.

#1124

1365 Canary Rd, Quakertown, PA, 18950 USA
+1 215 536 3500; fax +1 215 536 7750
sales@insaco.com; www.insaco.com

Inspired Energy, LLC

#330

25440 NW 8th Pl, Newberry, FL, 32669 USA
+1 352 472 4855; fax +1 352 472 4859
webquery1010@inspired-energy.com;
www.inspiredenergy.com

Instro Precision Ltd.

#145

Hornet Close Pysons Rd Industrial Est, Marketing, Broadstairs Kent, CT10 2YD United Kingdom
+44 1843 604455; fax +44 1843 8614143
marketing@instro.com; www.instro.com
Instro Precision Ltd. based in the UK is a recognised leader for the provision of target acquisition, surveillance and precise distance measurement technologies. Offering both standard and custom solutions to meet particular customer requirements, Instro sensors and sensor support systems combine industry leading technology with field proven reliability, making them the 'system of choice' in a number of global markets.

Instrument Development Corp.

#353

820 Swan Dr, Mukwonago, WI, 53149 USA
+1 262 363 7307; fax +1 262 363 2100
idc@idcwi.com; www.idcwi.com
Contact: Glenn Dickmann, CEO, glenn@idcwi.com; Kevin Sinnett, Sales Director, kevins@idcwi.com

Intelligent Optical Systems, Inc.

#556, 3048

2520 W 237th St, Torrance, CA, 90505-5217 USA
+1 424 263 6300; fax +1 424 263 6364
ksegura@intopsys.com;
www.intopsys.com

Intevac Photonics, Inc.

#2414

SPIE Corporate Member

3560 Bassett St, Santa Clara, CA, 95054-2704 USA
+1 408 986 9888; fax +1 408 654 9869
intevacphotonics@intevac.com; www.intevac.com

IO Industries, Inc.

#547

SPIE Corporate Member

1510 Woodcock St Unit 12, London, ON, N6H 5S1 Canada
+1 519 663 9570; fax +1 519 663 9571
sales@ioindustries.com; www.ioindustries.com

Featured Product: DVR Express Core CoaXPress uncompressed video recorder and Flare CoaXPress CMOS high speed cameras.

IO Industries Inc. (London, ON, Canada) designs digital video recorders and digital video cameras for use in military/aerospace, surveillance, scientific and medical research applications. Our rugged DVR Express Core records uncompressed SSD-direct video from Camera Link, CoaXPress, 3G/HD-SDI, GigE Vision, or NTSC/PAL cameras, with precision IRIG-B or GPS timing. Our Flare CMOS video cameras offer high-speed 2MP & 4MP mono/color/NIR images with Camera Link, CoaXPress or 3G/HD-SDI outputs.

IPG Photonics Corp.

#244

SPIE Corporate Member

50 Old Webster Rd, Oxford, MA, 01540-2706 USA
+1 508 373 1100; fax +1 508 373 1103
sales.us@ipgphotonics.com; www.ipgphotonics.com

IPG Photonics is the world leader in fiber lasers, fiber amplifiers, hybrid fiber/solid-state lasers and diode lasers. IPG manufactures fiber lasers operating at 0.5 – 5 microns. IPG's 1um and 1.5 um fiber lasers and amplifiers are particularly popular in single-frequency and linearly-polarized variants; providing products having the best available combination of performance, reliability and price. IPG's newly developed mid-IR lasers, operating at 2-5 microns, offer reliable and cost-effective solutions for sensing, spectroscopy, material processing and medical applications.

IRCAM GmbH

#1738

SPIE Corporate Member

Nürnbergger Str 71, Erlangen, D-91052 Germany
+49 9131 970 0980; fax +49 9131 970 09899
info@ircam.de; www.ircam.de

Featured Product: "IRCAM Geminis 110k MM pro" - first commercially available dual-color infrared camera (MW & MW).

IRCAM is a German manufacturer of advanced IR cameras and systems for IR imaging and thermography. IRCAM offers the dual-band and dual-color IR camera series IRCAM GEMINIS for synchronous, pixel-registered acquisition in two bands (MW&LW) or two small spectral ranges (MW&MW). Other camera series are the high-speed IRCAM VELOX, the scientific IRCAM EQUUS, the IRCAM TAURUS, the uncooled IRCAM CALEO and the security IRCAM Aquila. Filter wheel, Motor focus, CameraLink and GigE are available. Contact: Dr. Monica Lopez Saenz, Managing director, info@ircam.de; Dr. Oliver Schreer, Managing director, info@ircam.de

IRCAMERAS LLC

#1902

30 S. Calle Cesar Chavez, Ste D, Santa Barbara, CA, 93103 USA
+1 805 965 9650; fax +1 805 965 3858
sales@ircameras.com;
www.ircameras.com

IRcameras manufactures high performance infrared cameras for Science, R & D and Surveillance applications. We offer both cooled and uncooled sensors in the SWIR, MWIR, and LWIR spectral bands. We specialize in custom cold shield and IDCA designs. Contact: Elliott Rittenberg, Director Sales & Marketing, elliot@ircameras.com; Arn Adams, Director of Camera Development, arn.adams@ircameras.com

IRD Glass

#609

SPIE Corporate Member

810 E St Paul St, Litchfield, MN, 55355 USA
+1 320 693 7217; fax +1 320 693 7216
ird@irdglass.com; www.irdglass.com

IRflex Corp.

#804

SPIE Corporate Member

300 Ringgold Industrial Pkwy, Danville, VA, 24540-5548 USA
+1 434 483 4304; fax +1 434 793 9200
irflex@irflex.com; www.irflex.com

Featured Product: nonlinear mid-IR fiber to generate and guide mid-IR source, transmission cable, switch, attenuator.

IRflex produces leading-edge fiber-optic devices that perform key functions in the mid-infrared (2-10 micron): transmission cable, fiber switch, attenuator and source. Our innovative nonlinear mid-infrared fiber is specifically designed and manufactured to generate and guide mid-infrared sources over long distances with minimum loss and very high power damage threshold for aircraft missile defense, chemical sensing, biomedical and environmental applications. Contact: Helen Gu, Sales Manager, helen.gu@irflex.com

Iridian Spectral Technologies Ltd. #256

SPIE Corporate Member
 1200 Montreal Rd, Bldg M-50, Ottawa, ON, K1A 0R6 Canada
 +1 613 741 4513; fax +1 613 741 9986
 inquiries@iridian.ca; http://www.iridian.ca

Featured Product: Now offering SWIR/MWIR/LWIR filters; coatings for NVIS applications; coatings on plastic

Iridian is the leader in optical filter solutions, providing more signal with less background. Covering wavelengths from the UV to LWIR, with sizes from <1mm to 300mm our reliable and durable dielectric filters, coatings (on glass or plastic), and beamsplitter cubes provide leading optical performance for: Sensing of environmental gases; Spectroscopic identification of biological components; Night vision; Hot/cold mirrors; Secure free space optical communications; Displays, lighting. Contact: Catherine Aldous, Sales Engineer, catherine.aldous@iridian.ca

IRnova AB #1633

Electrum 236, Kista, 164 40 Sweden
 +46 8 793 66 00
 info@ir-nova.se; www.ir-nova.se

IRnova develops and supplies high quality, high performance infrared detectors and related components to infrared module, camera and system manufacturers all over the world. IRnova can offer you various types of DDCAs (Detector Dewar Cooler Assembly); compact integral solutions for small size/weight applications, as well as long life split cooler DDCAs. IRnova has a long track record with thousands of supplied detectors and well established manufacturing with high yield and capability. Contact: Lars Karlsson, VP Sales & Marketing, lars.karlsson@ir-nova.se

IRZoom.com - A division of Computer Optics, Inc. #1218

120 Derry Rd, PO Box 240, Hudson, NH, 03051 USA
 +1 603 889 2116; fax +1 603 889 2393
 sales@IRZoom.com; www.IRZoom.com

IRZoom is a US-based designer and manufacture of stock and custom SWIR, MWIR, LWIR, broadband and visible lenses. We are a division of Computer Optics, Inc. As a vertically-integrated company, our lenses are designed, manufactured and fully supported by an elite team, under one roof. We take each project from optical and optomechanical design through polishing, coating, machining and full integration with the camera. Please visit us to discuss your next project. Contact: Jonathan Kane, PhD, President, jon@computeroptics.com; Mark Chernosky, Optical Engineer / Technical Sales, mark@computeroptics.com

ISP Optics Corp. #2314

SPIE Corporate Member
 50 S Buckhout St, Irvington, NY, 10533 USA
 +1 914 591 3070; fax +1 914 591 3715
 sales@isptoptics.com; www.isptoptics.com

Featured Product: IR Zoom Lens Assemblies and Custom Precision Optics. SPDT and Conventional manufacturing and coating.

ISP Optics is a leading manufacturer of the off-the-shelf and custom MWIR & LWIR, Continuous and Fixed Focal Length Zoom Lens Assemblies for cooled and un-cooled cameras. Our capabilities include a complete range of in-house design and manufacturing. Diamond-turned and conventional optics manufacturing, optical coatings, opto-mechanical and electro-optical assemblies, all in-house. From prototype to volume production, offering high performance, versatile and durable solutions. Contact: Virginia Baker, Office Manager, vbaker@isptoptics.com; Devaunshi Sampat, VP Marketing & Sales, dsampat@isptoptics.com

JAI Inc., USA #117

625 River Oaks Pkwy, San Jose, CA, 95134-1907 USA
 +1 408 383 0300
 camerasales.americas@jai.com; www.jai.com

JAI's exhibit features innovative digital camera technology for use in demanding homeland security and defense applications. JAI and PULNiX-brand cameras are built and tested to perform in harsh field environments. Products include standard COTS TV format analog cameras, multi-megapixel digital cameras with Camera Link or GigE Vision interfaces, innovative 180-degree cameras, and advanced Gen III Ultra intensified systems capable of low-light imaging under cloudy starlight conditions. Contact: Vicki Stuart, Program Manager, vls@jai.com; Wesley Okeke, Senior Director of Sales, wo@jai.com

Janos Technology, LLC #2111

SPIE Corporate Member
 55 Black Brook Rd, Keene, NH, 03431-5044 USA
 +1 603 757 0070 x163; fax +1 603 757 0069
 sales@janostech.com; www.janostech.com

Janos Technology is a leader in the design and manufacture of high volume infrared imaging systems and components that meet the stringent performance and environmental requirements of defense and commercial applications. With a highly skilled engineering team, state of the art in-house coating capability and advanced lean manufacturing technology, Janos provides complete solutions from design through high volume production. Contact: Cheryl Aaron, Marketing/Sales, caaron@janostech.com

Featured Product Launches

Electro Optical Industries, Inc.

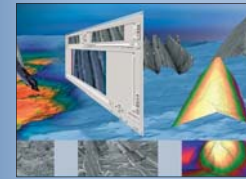
Booth 1827
 Product: RSA2010, Infrared Spectral Radiometer



A Portable, Broadband, Cryo-Cooled, Infrared Radiometer to elevate your Test capabilities

Electron Microscopy Sciences

Booth 623
 Product: MeX – Turn Any SEM into a 3-d Measurement device.



MeX is a stand alone. Software package that turns any SEM with digital imaging into a true surface metrology device.

Enmet Corp.

Booth 115
 Product: Jet Fuel Leak Detector



Jet Fuel leak and cabin air quality detection systems.

EPIX, Inc.

Booth 1420
 Product: SILICON VIDEO 2KS



SILICON VIDEO 2KS camera for stereo 10bit / 340 fps image capture.

Jazz Semiconductor #533

4321 Jamboree Rd, Newport Beach,
CA, 92660 USA
+1 949 435 8181
www.jazzsemi.com

JDSU #356, #2520

SPIE Corporate Member

430 N McCarthy Blvd, Milpitas,
CA, 95035-5116 USA
+1 408 546 5000; fax +1 408 546 4300
info@jdsu.com; www.jdsu.com

Featured Product: Custom Optics products will be featured.

JDSU is a global provider of optical thin film solutions serving aerospace and defense industries with precision coatings in the ultraviolet to long wave infrared wavelengths (220nm to 20microns). Our products include custom beamsplitters, bandpass and laser protection filters, transparent conductive oxides, order sorting filters, and wafer level processing of patterned coatings. We support prototype through production with coating design, deposition, optics fabrication, and metrology services. Contact: Nada O'Brien, Product Line Manager, nada.obrien@jdsu.com; Markus Bilger, Product Line Manager, markus.bilger@jdsu.com

JENOPTIK Defense, Inc. #539

16490 Innovation Dr, Jupiter, FL, 33478 USA
+1 561 881 7400; fax +1 561 881 1947
www.jenoptik.com/us-defense

JENOPTIK Optical Systems GmbH #539

SPIE Corporate Member

Goeschewitzer Strasse 25, Jena, 07745
Germany
+49 3641 65-3148; fax +49 3641 65-3677
optics.os@jenoptik.com;
www.jenoptik.com/os

Utilizing light as a tool in the infrared region, Jenoptik gained many years of practical experience by doing business to the benefit of its customers. We are your reliable and innovative OEM partner for optical components, lenses and optical subsystems for the IR range. Serving the civil and military markets, our IR optics are applied in sensor technology, thermography, gas analysis, spectroscopy as well as in defense and security e.g. image recognition and target acquisition. Contact: Dr. Marcus Serwazi, Manager Product Management Business Unit Optics, marcus.serwazi@jenoptik.com; Joel Murphy, Business Development Manager - IR Components, joel.murphy@jenoptik-inc.com

JENOPTIK Optical Systems, Inc. #539

SPIE Corporate Member

16490 Innovation Dr, Jupiter,
FL, 33478-6428 USA
+1 561 881 7400; fax +1 561 881 1947
sales@jenoptik-inc.com;
http://jenoptik-inc.com

JENOPTIK Optical Systems delivers a unique range of custom optical solutions ranging from precision assemblies to waferscale microoptics and in materials ranging from glasses, to crystals and polymers. Competencies include optical test, optical polishing, diamond turning and lithographic etching of materials for applications covering DUV to LWIR. We combine design and engineering with high volume manufacture at US and Global manufacturing sites in Germany and Israel.

JEOL USA Inc. #2215

SPIE Corporate Member

11 Dearborn Rd, Peabody,
MA, 01960-3823 USA
+1 978 535 5900; fax +1 978 536 2264
salesinfo@jeol.com; www.jeolusa.com

JML Optical Industries, LLC #335

820 Linden Ave, Rochester,
NY, 14625-2710 USA
+1 585 248 8900; fax +1 585 248 8924
jml@jmlloptical.com; www.jmlloptical.com

Featured Product: Custom Optics - Prototype to Production - Assemblies, Systems and Components.

JML Optical is a leading designer and manufacturer of custom precision optical assemblies, systems and components. JML serves OEM manufacturers in the defense, medical diagnostic, life sciences, semiconductor, graphic arts, metrology and biometrics industries. The Company develops and manufactures optical solutions that meet customer product development needs from prototype through production.

Kappa Optronics Inc. #534

SPIE Corporate Member

825 S Primrose Ave Unit 1, Monrovia,
CA, 91016 USA
+1 626 256 4343; fax +1 626 256 6484
info@kappa-optronics.com;
www.kappa-optronics.com

Featured Product: HD Camera with 1080p/30 resolution and HD-SDI interface as perfect basis for customized solutions.

Kappa designs and manufactures CCD and CMOS cameras and image processing solutions for the visible and near IR range. The extremely rugged cameras resist mechanical, climatic and electromagnetic stresses as well as surrounding matter and environmental impacts. They excel with their adaptability, durability and outstanding signal quality. We work closely together with our clients to develop the most fitting camera solution, and to produce it reliably, efficiently, and with quality assured. Contact: Christian Koziol, Director of Sales, c.koziol@kappa-optronics.com

Kelc Electronics System Co., Ltd #252

37-7 Misasagi Ohtsubata-cho,
Yamashina-ku, Kyoto-city, Kyoto,
607-8411 Japan
+ 81-75-593-2103; fax + 81-75-593-2868
sizu@kelc-e.jp; www.kelc-e.com

Featured Product: Flashlight Type Portable Digital Video Recorder "LDR-200PC LightCam".

Lightweight Approx.16oz.(440g) All-In-One. LEDFlashlight+Camera+Digital Video Recorder". 2 Mega Pixel CMOS Sensor Video Camara Integrated Into A High-intensity LED Flashlight. User-friendly Software Brings Easy Audio/Video Recording. Applications:Security, Patrol, Crime Investigation, Traffic. Contact: Shigetsugu Izu, Overseas Manager, sizu@kelc-e.jp

Kentek Corp. #513

SPIE Corporate Member

1 Elm St, Laser Safety Div, Pittsfield,
NH, 03263-3349 USA
+1 603 223 4900; fax +1 603 435 7441
info@kenteklaserstore.com;
www.kenteklaserstore.com



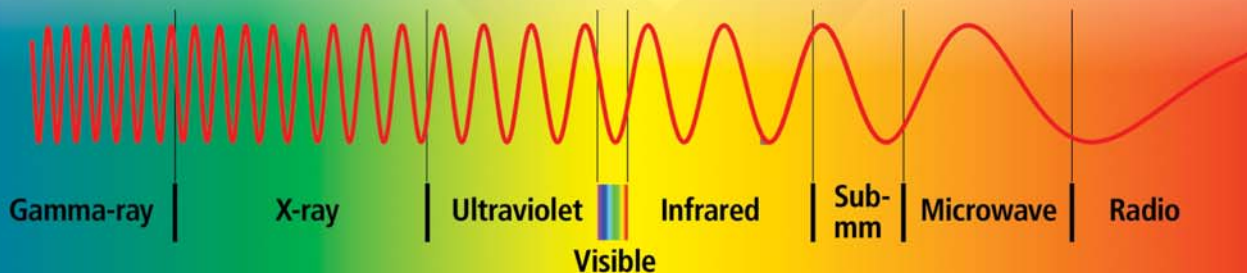
Free Popcorn

Exhibition Hall / 2 Locations

Popcorn carts will be open
Tuesday and Wednesday from
11:00 am to 3:00 pm; Thursday
from 11:00 am to 2:00 pm.

PROVIDING VISION SOLUTIONS ACROSS THE SPECTRUM

THIS IS OUR
PLAYING
FIELD



INNOVATION IN ALL DOMAINS

www.raytheon.com

Follow us on:     

Raytheon

Customer Success Is Our Mission

Kigre, Inc.

#1021

SPIE Corporate Member

100 Marshland Rd, Hilton Head Island, SC, 29926-2368 USA
+1 843 681 5800; fax +1 843 681 4559
kigreinc@cs.com; www.kigre.com

Featured Product: HESP-E-AO compact eye-safe 10-15mj, 10-15Hz 1535nm laser suitable for range-finding, imaging & LIBS.

For almost four decades Kigre has been a leader in solid state laser technology. Kigre has now developed the next generation megawatt class erbium glass micro-lasers for use in enhanced laser surveillance and detection systems. The lasers utilize a unique pumping architecture that provides a foundation for rugged, compact and reliable high power/high gain laser devices an order of magnitude lighter, smaller, more efficient and less expensive than the existing state-of-the-art. Contact: Michael Myers, President, kigreinc@cs.com; Jeffrey Myers, VP, COO, jeffmyers@hargray.com

KiloLambda Technologies, Ltd.

#602

SPIE Corporate Member

22a Raoul Wallenberg St, Ramat-Hachayal Industrial Park, Tel-Aviv, 69719 Israel
+1 972 3 649 7662
karin@kilolambda.com; www.kilolambda.com

Kopin Corp.

#1106

225 Technology Cir, Scotts Valley, CA, 95066-3525 USA
+1 831 430 0688; fax +1 831 430 0689
www.kopin.com

Featured Product: Kopin will be demonstrating our new plug and play Ruby SVGA display module.

Kopin is the leading U.S. manufacturer of ruggedized micro-displays for military applications with over 250,000 display systems fielded. Kopin's demonstrated expertise in electro-optical design and development combined with our high volume production capabilities are battlefield proven. All higher level assemblies are manufactured in a class 10 clean room environment providing image quality you can trust. Please visit us at: Kopin.com. Contact: Jason Dingle, Dir. of Business Development, jdingle@kopin.com; Michael Presz, V.P. of Government Programs, mpresz@kopin.com

Kowa Optimed Inc.

#1842

20001 S Vermont Ave, Torrance, CA, 90502 USA
+1 310 327 1913; fax +1 310 327 4177
kowa-usa-info@kowa.com; www.kowa-usa.com

Featured Product: LMZ20750AMPDC-XF: New 2MP 20-750mm zoom lens with high transmission coatings & bearing focus system.

Kowa is a manufacturer of high quality CCTV and Machine Vision lenses for applications that require the highest standards. With over 50 years of technical experience, Kowa continues in its tradition of providing innovative products that leave the competition behind. New products include a 10 megapixel lens series, a megapixel varifocal IR-corrected lens series, and a megapixel long range zoom lens series. Contact: Andrew Kam, Sales Consultant, andrew@kowa.com

Krell Technologies, Inc.

#1331

1126 Campus Dr W, Morganville, NJ, 07751-1261 USA
+1 732 617 7091; fax +1 732 617 7092
sales@krelltech.com; www.krelltech.com

Featured Product: Rev2 Micro-Polisher with integrated and automated air-polish feature for connector processing.

Manufactures automated connector polishing/inspection systems, portable polishers for FTTX/LAN/CATV installation and repair, retro-polishers for damaged connectors, Mil-Spec termini holding fixtures, waveguide polishers, in-line video inspection equipment, precision cleaving systems, and custom component jigs. Offers bare fiber polishers for lensing assemblies and beam control. Additionally, Krell supplies fiber optic cleaning products. Contact: Al Cheswick, Vice President Sales/Marketing, acheswick@krelltech.com

Kurt J. Lesker Co.

#503

1925 Route 51, Clairton, PA, 15025-3681 USA
+1 412 387 9200; fax +1 412 384 2745
salesus@lesker.com; www.lesker.com

Automated deposition systems for PVD & ALD, chambers, components, film deposition sources, & a wide range of deposition materials for optical applications including IR, AR, TCO & reflective. R&D & batch production tools for the defense, optical, & photonics industries. Also offering: e-beam sources; thermal evaporation sources, incl. low temp sources for organic films; R&D & production-sized sputter sources; a variety of feedthroughs; pumps; valves; & gauging. ITAR / ISO 9001:2008 certified. Contact: Bill Zinn, Marketing Specialist, salesus@lesker.com; Bart Merritt, Product Specialist, salesus@lesker.com

KVH Industries, Inc.

#306

50 Enterprise Ctr, Middletown, RI, 02842-5268 USA
+1 401 847 3327; fax +1 401 849 0045
info@kvh.com; www.kvh.com

Kyocera America, Inc.

#148

8611 Balboa Ave, San Diego, CA, 92123-1580 USA
+1 858 695 5144
kaicorp@kyocera.com; www.kyocera.com/packaging

L.A. Gauge Co.

#3072

7440 San Fernando Rd, Sun Valley, CA, 91352 United States
+1 818 767 7193; fax +1 818 767 4946
sales@lagauge.com; www.lagauge.com

Featured Product: Ultra-precision machining of Aerospace materials including Beryllium and polishing metal optics.

L. A. Gauge has set the standard for ultra precision machining of exotic materials including Beryllium. L. A. Gauge is the #1 worldwide manufacturer of Aluminum Beryllium components and a Mfg. leader of Beryllium components for the aerospace, defense and optics industries. Capabilities are: precision machining of substrates, nickel plating, and polishing metal optics to 1/10 wave, 10 angstroms surface roughness. Contact: Brian Walters, Sales Manager, sales@lagauge.com; Dale Hostetter, Contracts Administrator, dhostetter@lagauge.com

L-3 Communications

#1602

600 Third Ave, New York, NY, 10016-1901 USA
+1 513 573 6744; fax +1 513 573 6290
www.l-3com.com

L-3 Communications - Tinsley

#1602

SPIE Corporate Member

4040 Lakeside Dr, Richmond, CA, 94806 USA
+1 510 222 8110; fax +1 510 223 4534
sales@asphere.com; www.asphere.com

Manufacturer of custom precision optical components, assemblies and sub-systems. Fabricates complex aspheric surfaces for reflective and refractive systems from 50mm to 1.5 meters in size and a wide variety of materials, including glass, Be, Al and SiC. Founded in 1926 and also known in the industry as the "Asphere Company", Tinsley has many years of experience fabricating precision optics in such areas as Space and Astronomy, Laser Fusion, Surveillance and Tactical applications. Contact: Clay Sylvester, Director of Contracts, clay.sylvester@L-3com.com; Chris Duston, Business Development Manager: Defense and Security, christopher.duston@L-3com.com

**L-3 Communications
Advanced Laser Systems
Technology (ALST) #1602**

2500 N Orange Blossom Trail, Orlando, FL, 32804 USA
+1 407 295 5878; fax +1 407 770 2984
marketing.alst@l-3com.com;
www2.l-3com.com/alst

**L-3 Communications
Cincinnati Electronics #1602**

SPIE Corporate Member
7500 Innovation Way, Mason, OH, 45040-9699 USA
+1 513 573 6744; fax +1 513 573 6290
glenna.debo@l-3com.com;
www.l-3com.com/ce

Supplies mission critical infrared imaging technologies for defense & homeland security. CE's advanced sensor technology provides the ability to detect targets thru obscuration, in adverse weather & under zero illumination. The inherent performance of our staring InSb MWIR sensors provides the strategic advantage to rapidly classify & engage emerging asymmetric threats offering smaller pixels on a tighter pitch for unmatched high def reconnaissance, persistent surveillance & target acquisition. Contact: Glenna Debo, Manager, Marketing Administration, Glenna.Debo@L-3Com.com; Phil Hansel, Manager, Marketing Administration, Phil.Hansel@L-3Com.com

Labsphere, Inc. #2515

SPIE Corporate Member
231 Shaker St, North Sutton, NH, 03260 USA
+1 603 927 4266; fax +1 603 927 4694
labsphere@labsphere.com;
www.labsphere.com

Labsphere has provided innovative light measurement technology since 1979. Products include light measurement systems for LEDs, lasers, and traditional light sources; uniform light sources to calibrate imaging devices and camera systems in the visible and IR; and reflectance standards for calibrating spectroscopic measurement systems. Labsphere also provides systems and components to OEMs in industries including spectroscopy, laser diode test and measurement, semiconductor, and medical. Contact: Brian Lai, Western Regional Sales Manager, blai@labsphere.com; Jonathan Barletta, Eastern Regional Sales Manager, jbarletta@labsphere.com

LaCroix Optical Co. #812

SPIE Corporate Member
PO Box 2556, Batesville, AR, 72503 USA
1 870 698 1881; fax 1 870 698 1880
lacroix@lacroixoptical.com;
www.lacroixoptical.com

Contact: David Cossey, Manufacturing Engineer, david@lacroixoptical.com; Travis Hoggard, Quality Engineer, travis@lacroixoptical.com

Lake Shore Cryotronics, Inc. #321

SPIE Corporate Member
575 McCorkle Blvd, Westerville, OH, 43082 USA
+1 614 891 2243; fax +1 614 818 1600
sales@lakeshore.com;
www.lakeshore.com

Featured Product: Lake Shore will introduce its expanded line of Terahertz and IR bandpass filters.

Established 1968, Lake Shore Cryotronics specializes in precision measurement in extreme environments. The company's scientific sensors, instruments, and metrology systems are the choice of professionals requiring dependable, accurate measurement and control. Lake Shore is the world leader in cryogenic temperature sensors and expert in high precision metrology and materials characterization applications involving extreme temperature, magnetic field, radiation, vibration and pressure environments.

Lambda Research Corp. #2228

SPIE Corporate Member
25 Porter Rd, Littleton, MA, 01460-1434 USA
+1 978 486 0766; fax +1 978 486 0755
sales@lambdares.com;
www.lambdares.com

Featured Product: Lambda's TracePro 7.2 software and the Scattermaster ScatterScope3D will be demonstrated.

Lambda Research Corporation sets itself apart as a cost effective, single source solution for optical analysis and design. Lambda sells TracePro®, opto-mechanical software differentiated by its ease-of-use, CAD interface and accuracy in defense and security applications, OSLO®, renowned for its power and flexibility in lens design and the TracePro Bridge™, an integrated add-in for Solidworks. Lambda also distributes the ScatterScope3D™ scatterometer for fast and accurate surface measurement. Contact: Michael Gauvin, VP Sales & Marketing, sales@lambdares.com

Lambda Research Optics, Inc. #1828

SPIE Corporate Member
1695 W MacArthur Blvd, Costa Mesa, CA, 92626-1440 USA
+1 714 327 0600; fax +1 714 327 0610
lambda@lambda.cc; www.lambda.cc

Featured Product: BaF₂ and CaF₂ spherical lenses with up to 7.0" diameter, FLIR coating @ 3-5µm and 8-12µm regions

Lambda is a leading manufacturer of optics for the aerospace and defense industries. Lambda offers custom prisms, coatings for thermal imaging optics, custom lenses and high power optics for 1064nm and 10.6µm. Lambda is committed to delivering high quality optics on time. Contact: James Choi, Sales Manager, jchoi@lambda.cc

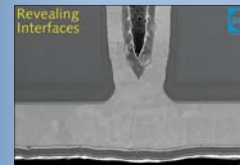
Featured Product Launches

FLIR Systems, Inc.
Booth 2010
Product: Tau 2



FLIR Tau 2 640x512 and 336x256 formats, 17µm pixels, 30Hz/60Hz many new features!

Gatan Inc.
Booth 323



Gatan Iliion+™: Planar Surface Preparation for SEM Cross Section Viewing.

GE Intelligent Platforms
Booth 1933
Product: ADEPT5000



3U VPX video tracker for high performance applications.

Gould Fiber Optics
Booth 538
Product: Integrated Solutions



Gould manufactures fiber optic components and assembles them into Integrated Solutions

Laser Components USA, Inc.

#1109

SPIE Corporate
Member

9 River Rd, Hudson, NH, 03051-5217 USA
603-821-7040; fax 603- 21-7041
king@laser-components.com;
www.laser-components.com

Featured Product: Photon Counting - record breaking dark count rates and highest quantum efficiency.

Provides high power laser optics from 193nm to 10.6µm. IR lead salt diode lasers (3-25µm) & SPECTILAS diode lasers in the range of 750-2050nm, including VCSELs & DFBs. Quantum Cascade Lasers and Flexpoint miniature laser modules available. Glass polarizing filters, fiberoptic assemblies and color sensors. Spectroscopic instrumentation-NIR SPECTROMETERS, Echelle spectrum analyzers, Avalanche Photo Diodes and Pulsed Laser Diodes. Contact: Paul Buettner, Sales Engineer, buettner@laser-components.com; Bob Gulino, Sales Engineer, gulino@laser-components.com

Laser Research Optics #1732

120 Corliss St, Providence, RI, 02904-2602 USA
+1 401 331 3838; fax +1 401 331 4004
sales@laserresearch.net; www.laserresearch.net

Laser Research Optics supplies CO₂ laser optics for 25 to 200 watt lasers, factory direct and optimized for 10.6 micron. Featured are ZnSe positive focusing lenses in plano-convex, plano-concave, and meniscus configurations in 1/2" to 2" dia., focal length 1" to 20". CO₂ laser turning mirrors offered are made from molybdenum for harsh environments; other mirrors include copper, dual band, silicon and phase retardation. These OEM quality replacement optics ship from stock within 12 hours. Contact: Craig Schweriner, Sales Mgr, craig@melleroptics.com

Laser Technology, Inc. #821

7070 S Tucson Way, Englewood, CO, 80112 USA
+1 303 649 1000; fax +1 303 649 9710
info@lasertech.com; www.lasertech.com

Featured Product: TruSense T-Series

Whether it's liquid and solid leveling, inline positioning, scanning, counting or profiling, LTI laser measurement sensors can quickly deliver accurate distance, level and proximity measurements for the industrial arena. Our rugged lasers are made to perform time after time, even under the challenging conditions typically seen in industrial plants. Contact: Tom Girmann, Industrial Product Manager, tgirmann@lasertech.com

STAIRWAY STRIPS SPONSOR

Lasertel, Inc.

#2420

SPIE Corporate
Member

7775 N Casa Grande Hwy, Tucson, AZ, 85743-9317 USA
+1 520 744 5700; fax +1 520 744 5766
sales@lasertel.com; www.lasertel.com

Lasertel is a vertically-integrated high power semiconductor laser manufacturer. In-house epitaxy, wafer processing and packaging enables consistent delivery of a wide range of standard and customer-specific product solutions. Lasertel provides both edge emitting and vertical cavity surface emitting laser (VCSEL) diodes in single and array formats in multiple product configurations with peak wavelengths from 770nm to 1000nm, and peak powers from 200mW to several kW.

Lattice Materials LLC #214

516 E Tamarack St, Bozeman, MT, 59715-3050 USA
+1 406 586 2122; fax +1 406 557 9055
marketing@latticematerials.com;
www.laticematerials.com

Lattice Materials is an American company that produces infrared optics out of silicon and germanium. The company also produces laser mirrors and thin film sputtering targets. We have the ability to create special parts for the solar and semiconductor industries and perform crystal growth with custom resistivity to your specifications. Request a quote today or call one of our experienced technical sales people to discuss your requirements. Contact: Peter Brown, Sales & Marketing Manager, peterb@latticematerials.com

LEONI Fiber Optics, Inc. #2522

SPIE Corporate
Member

PO Box 615, Lightfoot, VA, 23090 USA
+1 757 258 4805; fax +1 757 258 4694
contact@leonifo.com;
www.leonifiberoptics.com

Integrated global manufacturer of fiber optics, cables, assemblies, components, devices, class II medical probes, switches (MM and SM), planar light channels (PLC), and Fiber Bragg Grating sensors. Concept to product, prototype to OEM, for laser, sensor, spectroscopic, test, validation, datacom, systems, or device level interconnects, from Factory Automation, Petrochem, Pharmaceutical to Wind and Solar, with manufacturing sites in the USA, Germany and China, LEONI is simply your source. Contact: Lisa Young, Sales Manager Industrial, contact@leonifo.com

Leybold Optics USA, Inc. #2329

SPIE Corporate
Member

539 James Jackson Ave, Cary, NC, 27540 USA
+1 919 657 7100; fax +1 919 657 7101
phil.hatchett@leyboldoptics.com;
www.leyboldoptics.com

Featured Product: Direct optical monitoring on a SYRUSpro box coater with double rotation planet.

Leybold Optics is a standard-setting, technologically innovative company in the business of vacuum coating systems used for coatings from the deep ultraviolet to the far infrared. The SYRUSpro is a high productivity electron beam gun coating tool with plasma ion assisted deposition for production of dense and shift free optical coatings. Contact: Phil Hatchett, Regional Sales Manager, phil.hatchett@leyboldoptics.com

LightPath Technologies, Inc. #2121

SPIE Corporate
Member

2603 Challenger Tech Ct Ste 100, Orlando, FL, 32826-2716 USA
+1 407 382 4003; fax +1 407 382 4007
sales@lightpath.com; www.lightpath.com

Featured Product: Geltech Molded Glass Aspheric Lenses, Molded Infrared Aspheric lenses.

LightPath Technologies is a world leading OEM manufacturer of optical components for the collection and manipulation of laser light. We specialize in the design and volume production of high performance optics and assemblies including advanced molded Geltech aspheric optics and infrared lenses to fused fiber optic collimators, optical isolators, and GRADIUM[®] (gradient index glass) lenses. LightPath Technologies' aspheric optics and assemblies cover the spectral range from UV to LWIR. Contact: Rob Myers, Director of Sales, rmyers@lightpath.com; Ray Pini, Director of Marketing, rpini@lightpath.com

LightWorks Optics, Inc. #1637

SPIE Corporate
Member

14242 Chambers Rd, Tustin, CA, 92780-6910 USA
+1 714 247 7100; fax +1 714 247 7101
lbelodoff@lwoptics.com;
www.lwoptics.com

LightWorks Optics has long been the Defense industry's top choice for the development of precision optics in mission-critical systems such as infrared search and track, missile launch detection, space-based laser communications, missile guidance, and RISTA. Our responsive design and production engineers deploy advanced design-for-manufacturing solutions to ensure that every assembly, system and component, meets quality standards, with "right-first-time" delivery - every time.

LITEYE SYSTEMS, INC #216

7060 S Tucson Way, Centennial, CO, 80112 USA

+1 720 974 1766; fax 720-596-5219
rsondag@liteye.com; www.liteye.com

Featured Product: LE-600, LE-750A, LE-720 Head and Helmet Mount Displays. Aquila PTZ and Rugged Thermal Cameras.

Liteye Systems is an ISO Certified Designer and Manufacture of Rugged, High-Resolution Helmet Mounted Displays (HMD) and Thermal Imaging Products for Security and Defense Industries. With the advantages of speed and flexibility, Liteye can help you with your unique requirements and thermal needs. Headquartered in the USA, with offices in the UK and representatives around the world, Liteye promises to provide you with innovative products, first class quality and on time delivery. Contact: Rick Sondag, VP, rsondag@liteye.com; Brad Garinger, Sales Engineer, bgaringer@liteye.com

Lockheed Martin Santa Barbara Focalplane #1819

346 Bollay Dr, Goleta, CA, 93117-5550 USA
+1 805 571 2300

sbfp@sbfp.com; www.sbfp.com

Luna Technologies #332

1 Riverside Circle, Suite 400, Roanoke, VA, 24016 USA

+1 540 769 8400; fax +1 540 769 8401
solutions@lunainnovations.com; www.lunatechnologies.com

Luna Technologies specializes in advanced fiber-optic test and measurement. Luna's award-winning product line includes optical analyzers, reflectometers and tunable lasers. Luna's instruments are flexible and easy to use tools for loss, dispersion, PMD, polarization, high-resolution OTDRs, and distributed temperature and strain analysis for optical fiber components, modules and networks.

Mantaro Product Development Services®, Inc. #248, 257

20410 Century Blvd Ste 120, Germantown, MD, 20874 USA
+1 301 528 2244; fax +1 301 528 1933
info@mantaro.com; www.mantaro.com

Featured Product: MantaroBlocks: a new family of modular, low-power wireless sensor nodes and peripherals.

A products and product development services firm founded in 2001, Mantaro develops and sells products for a wide range of markets. Mantaro also provides a full range of engineering design services to its clients. The technical staff comprises highly talented full-time professional engineers with a history of successful new product development and innovating design experience. Mantaro serves consumer, government, industrial, telecommunications, test & measurement, and transportation industries. Contact: Kamal Kapadia, Business Development Manager, kkapadia@mantaro.com; Jeremy Parsons, CEO, jparsons@mantaro.com

VMI Partners in design
VOLTAGE MULTIPLIERS INC.

• Diodes • Power Supplies • Multipliers
• Opto-couplers and more

For more info on VMI products or custom designs call or visit
01.559.651.1402
www.VoltageMultipliers.com

DSS Booth 1535

CALRAMIC TECHNOLOGIES LLC **Ceramic Capacitors**

500V to 20kV
775.851.3580
www.CalRamic.com

BANNER SPONSOR Materion Corporation #813

14710 W Portage River S Rd, Elmore, OH, 43416-9502 USA
+1 419 862 4173; fax +1 419 862 4174
www.materion.com

Materion Barr Precision Optics & Thin Film - Highly diverse and technologically advanced thin film coating company. We are a custom manufacturer and supplier of precision optical filters and coating services from the UV through the Far IR for commercial, medical, defense, space, and scientific applications. Materion Brush Beryllium & Composites is the premier integrated global producer of beryllium-based metals and metal matrix composites including Beryllium & BeO powder and chemicals. Contact: Kevin Downing, Product Manager - Barr Optics, Kevin.Downing@materion.com; Robert Michel, Product Manager - Beryllium, Robert.Michel@materion.com

Max Levy Autograph, Inc. #337

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

Featured Product: Fine line randomized patterns applied to large format surfaces for EMI/FSS applications

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

Maxion Technologies, Inc. #422

5000 College Ave Ste 3121, College Park, MD, 20740-3817 USA
+1 301 405 6447; fax +1 301 405 1155
information@maxion.com;
www.maxion.com

Featured Product: Model 900 Laser System.

Maxion Technologies manufactures and sells interband cascade (IC) and quantum cascade (QC) lasers emitting in the wavelength range between 3 and 12 microns. Our products include single mode or multimode IC or QC lasers at various levels of integration from chip-on-submount all the way to a turn key laser system with integrated current and temperature control. Contact: John Bruno, Research Physicist, bruno@maxion.com; John Bradshaw, Research Physicist, jbradshaw@maxion.com

McQ, Inc. #2214

1551 Forbes St, Fredericksburg, VA, 22405-1603 USA
+1 540 373 2374; fax +1 540 371 1358
info@mcqinc.com; www.mcqinc.com

Meadowlark Optics, Inc. #1321

SPIE Corporate Member

5964 Iris Pkwy / PO Box 1000, Frederick, CO, 80530 USA
+1 303 833 4333; fax +1 303 833 4335
sales@meadowlark.com;
www.meadowlark.com

Featured Product: RAPtor Retarder... Microns thin waveplate material which can be applied to customer substrates.

Polarization and Liquid Crystal Solutions for over 30 years! Meadowlark Optics is the source for Liquid Crystal devices, Polarizers, Retarders & systems. We provide cost-effective solutions by customizing our standard products and developing unique custom solutions. We are continually improving our products and capabilities, so please ask us what we can do for you. We believe we are unequalled when it comes to polarization. Contact Chris or Dan: sales@meadowlark.com or (303) 833-4333. ITAR Reg. Contact: Chris Toomey, Sales Engineer / Compliance Officer, chris@meadowlark.com; Dan Rodda, Sales Engineer, drodda@meadowlark.com

Plan to Attend FREE Exhibitor Product Demonstrations

Refer to pages 28-29 for complete times, schedules, and locations.

MegaWatt Lasers, Inc. #1317

SPIE Corporate Member

PO Box 24190, Hilton Head Island, SC, 29925-4190 USA
+1 843 342 7221
sales@mwlasers.com;
www.megawattlasers.com

Featured Product: ER100 Miniature Eyesafe Solid-State Laser: Diode pumped, passively Q-switched Er:Glass Laser.

MegaWatt Lasers provides solid-state laser consulting, R&D, and manufacturing capabilities for military, medical, and industrial applications. MegaWatt Lasers' solid-state laser engineering consulting services have been provided to NVESD, ARL, ARDEC, PM Apache, DoD contractors, and other clients. MegaWatt Lasers has developed Laser Ordnance Ignition and Laser Isotope Breakdown Spectroscopy technology under numerous ARL supported R&D efforts. At MegaWatt Lasers, we specialize in eye-safe lasers. Contact: Bob McAllister, Director of Sales and Marketing, bob.mcallister@megawattlasers.com; Scott Hamlin, President, scott.hamlin@megawattlasers.com

Meller Optics, Inc. #1732

120 Corliss St, Providence, RI, 02904-2602 USA
+1401 331 3717; fax +1 401 331 0519
sales@melleroptics.com;
www.melleroptics.com

Meller Optics has been providing high quality optics to defense, medical, laser and industrial markets for over 50 years. Specializing in grinding and polishing of hard, durable materials. Meller has developed high-speed, low-cost finishing processes for Sapphire, Ruby, Laser Glasses, Fused Silica, Zinc Selenide, Germanium, Silicon, Fluorides and Ceramics. Configurations include windows, substrates, lenses, domes and prisms. Meller Optics is an ISO9001:2008 certified company. Contact: Craig Schweriner, Sales Mgr, craig@melleroptics.com; Steve Lydon, Sales, steve@melleroptics.com

MET Labs., Inc. #552

914 W Patapsco Ave, Baltimore, MD, 21230-3415 USA
+1 410 354 3300; fax +1 410 354 3313
info@metlabs.com; www.metlabs.com

Micro Laser Systems, Inc.#2323

SPIE Corporate Member

12841 Western Ave Ste H, Garden Grove, CA, 92841-4025 USA
+1 714 898 6001; fax +1 714 897 0979
sales@microlaser.com;
www.microlaser.com

Featured Product: Large Beam Fiber Collimators and Fiber Coupled Lasers

Micro Laser Systems will be presenting higher power fiber coupled lasers from 375nm to 1653nm and up to few Watts. Fibers used are singlemode, PM or multimode with options for Fiber Collimators, splitters or wavelength combiners. All are matched for best performance. Free space lasers for OEM users provide very high stability, narrow linewidths and low noise. Custom Laser-Optical systems are designed for your application. Applications are in Aerospace, biomedical and general research. Contact: Norma Adachi, Marketing, norma@microlaser.com

Micro Photon Devices S.r.l. #2517

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

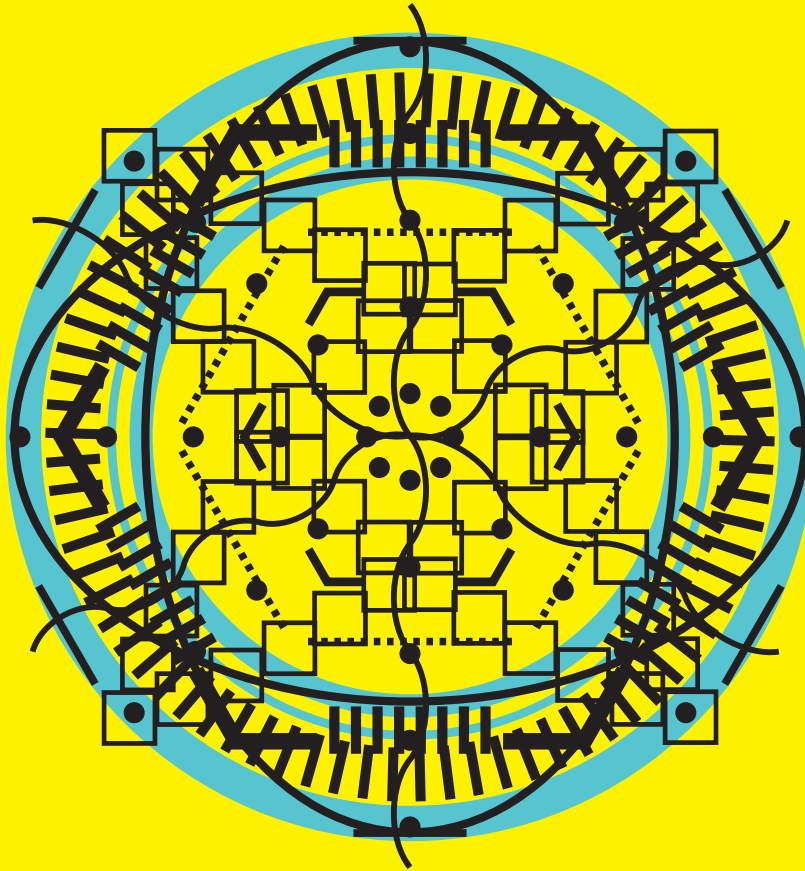
MPDs single-photon detection modules have ultra-fast timing resolution, high photon detection efficiency, low power consumption, small size and are extremely robust and reliable. The company benefits of the efforts and the expertise of a research group at Politecnico di Milano, led by Professor Sergio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

MicroDISC, Inc. #138

301 Oxford Valley Rd, Suite 1100, Yardley, PA, 19067 USA
+1 215 321 9100; fax +1 215 321 9190
sales@microdisc.com;
www.microdisc.com

Featured Product: 1U, 2U, 3U, & 4U high performance servers & multi-display RM monitors for MIL-810F environments.

MicroDISC is a certified small business specializing in Micro-Based Systems designing and integrating computers, servers, RAID arrays and associated peripherals that operate with high reliability and mean time between failures in extreme operating environments. MicroDISC specializes in ruggedized, hardened, industrial and MIL-810F rated systems to meet Government, Aerospace and Industrial customer requirements. Contact: Emmanuel Petritis, Operations Manager, eman@microdisc.com; William Petritis, Sales Manager, basil@microdisc.com



Helping engineers and scientists stay current and competitive



Astronomy



Biomedical Optics



Communications



Defense & Security



Imaging



Energy



Nanophotonics



Sensors

**SPIE
Digital
Library**

Find the answer
SPIDigitalLibrary.org

Micromechatronics, Inc. #1416

200 Innovation Blvd Ste 155, State College, PA, 16803 USA
+1 814 861 5688; fax +1 814 861 1418
contact@mmech.com; www.mmech.com

Featured Product: Piezoelectric Actuators, Piezoelectric Transformers and Ultrasonic Motors.

Micromechatronics (MMech) offers a full range of piezoelectric devices and piezoelectric designing tools, such as ATILA FEA software. MMech product portfolio includes piezoelectric stack actuators, piezoelectric bending actuators, amplified piezoelectric actuators, metal case embedded actuators, ultrasonic motors, piezo-transformers, ultrasonic transducers, positioning stages, and a large variety of other piezoelectric devices. MMech is an active participant of the SBIR program. Contact: Alfredo Vazquez Carazo, President & CEO, avc@mmech.com

Midac Corp #634

6 Coleman, Westfield, MA, 01085 USA
+1 413 642 5595; fax +1 413 579 5393
info@midac.com; www.midac.com

Featured Product: MIDAC's M45XX series of active and passive remote sensors.

MIDAC is a sensing systems company with years of experience in designing, building, and using FTIR based remote passive sensing systems. Recent MIDAC advances include two types of Stirling coolers (split linear and integral rotary), and an ethernet interface. Previous MIDAC advancements include hermetically sealed cast housings for extreme environments, MIDAC's patented dual ADC for the ultimate in sensitivity, and MIDAC's high power mirror drive board for all attitude operation. Contact: Lori Joaquim, Sales Order Administrator, ljoaquim@midac.com; Carole Auth, Vice President, cauth@midac.com

Military & Aerospace Electronics Magazine #1004

98 Spit Brook Rd, Nashua, NH, 03062-5737 USA
+1 603 891 0123; fax +1 603 579 9030

Featured Product: Business to business media.

Military & Aerospace Electronics is the leading media resource serving program and project managers, engineering managers, and engineers involved in electronic and electro-optic design for military, space, and aviation applications. It delivers news, analysis, and trends in the use of mil-spec, rugged, and commercial components, subsystems, and systems. Contact: Ernesto Burden, Publisher, ernestob@pennwell.com

Mindrum Precision, Inc. #1628

SPIE Corporate Member

10000 4th St, Rancho Cucamonga, CA, 91730-5723 USA
+1 909 989 1728; fax +1 909 987 3709
sales@mindrum.com; www.mindrum.com

Custom manufacturer of precision components. We specialize in low-volume, high-precision, complex parts on short timelines. 5-axis CNC machining and polishing in engineered materials including but not limited to glass, fused silica, quartz, sapphire and ceramics as well as conventional materials including but not limited to aluminum, stainless steel, titanium, Inconel and copper. Contact: Todd Van Son, Technical Sales, todd@mindrum.com; Linda Kondris, Technical Sales, linda@mindrum.com

Mirage Systems #505

921 Thompson Pl, Sunnyvale, CA, 94085-4518 USA
+1 408 524 7900; fax +1 408 524 7903
info@miragesystems.com;
www.miragegpr.com

MISTRAS Group, Inc. #1325

195 Clarksville Rd, Products & Systems Division, Princeton Junction, NJ, 08550-5392 USA
+1 609 716 4000; fax +1 609 716 0706
sales.systems@mistragroup.com;
www.mistrasgroup.com/company

Featured Product: Line Scanning Thermography LST™. Mistras Group, Inc.-Providing Asset Protection Solutions. Thermography Technology.

MISTRAS Products & Systems Division develops leading edge technologies and manufactures products for nondestructive testing and predictive maintenance. One of our leading technologies is our Line Scanning Thermography (LST™), a dynamic thermography technique that has been successfully used for detecting regional alterations composite defects by looking at in the thermal properties of the material inspected. Contact: Manny Butera, Ultrasonic & Thermography Product Manager, manny.butera@mistrasgroup.com; Dr. Obdulia Ley, PhD, Thermography Technologist, obdulia.ley@mistrasgroup.com

Moog QuickSet #1007

3650 Woodhead Dr, Northbrook, IL, 60062-1895 USA
+1 847 498 0700; fax +1 847 498 1258
sales@quickset.com; www.quickset.com

Moore Nanotechnology Systems LLC #352

230 Old Homestead Hwy, Swanzey, NH, 03446 USA
+1 603 352 3030; fax +1 603 352 3363
sales@nanotechsys.com;
www.nanotechsys.com

Nanotech® Ultra-Precision Machining Systems are available in various models with 2 to 5 axes of CNC motion control for single point diamond turning, deterministic microgrinding, or glass press molding. All Nanotech machines utilize a programming resolution of 1.0 nanometer, and a system feedback resolution of 0.034 nanometer. All systems are capable of sub micron form accuracies and < 1.0 nm surface finishes. For more information please contact: Sam Bukovcan; Bob Cassin, Sales Manager, cassin@nanotechsys.com; Jeff Perra, Sales Engineer, perra@nanotechsys.com

MOXTEK, Inc. #322

452 W 1260 N, Orem, UT, 84057-2941 USA
+1 801 225 0930; fax +1 801 717 4214
info@moxtek.com; www.moxtek.com

Featured Product: ProFlux Nanowire Pixelated Polarizers and ProFlux Nanowire UV Polarizers.

Moxtek is a leading supplier of optical and x-ray components for analytical instrumentation and display electronics. Moxtek is well known for advanced technology, innovative solutions, and excellent customer service. Moxtek works closely with customers to provide the best OEM solutions to the marketplace. Products include; ProFlux® wire-grid polarizer's and beam splitters for UV, Visible, and IR spectroscopy. Contact: Roger Ketcheson, rketch@moxtek.com; Will Abraham, wabraham@moxtek.com

MPA Crystal Corp. #222

SPIE Corporate Member

1702-L Meridian Ave #234, San Jose, CA, 95125 USA
+1 408 300 0301; fax +1 408 300 0282
pmpa@mpa-crystal.com; www.mpa-crystal.com

Featured Product: Crystal optics of SAPPHIRE, Fused Silica, Optical Glass, Silicon. Windows, Lenses, Rods, Substrates.

We are the U.S. Branch of the manufacturer-Nanjing Sapphire Electro-Optics Co., Ltd. located in China. We specialized in producing Crystal optics made of SAPPHERE, Fused Silica, Silicon, optical glass, YAG and coatings. Products include Windows, Spherical Lenses, Cylindric lenses, Substrates, waveguides, Rods, Tips and much more. Custom made optics and requirements from your designs are also available. Contact: pmpa@mpa-crystal.com; Ph.: +1 408 300 0301 Contact: Pauline Liang, CEO, pmpa@mpa-crystal.com

Multi IR Optoelectronics Co., Ltd #512

SPIE Corporate Member

6 Xiyuanqi Rd., Xihu T & E Zone, Hangzhou, Zhejiang, 310030 China +86 571 899 05370; fax +86 571 899 05376 service@mirhz.com; www.mirhz.com

Featured Product: CH₄,CO₂,CO,SO₂,SF₆ gas filter,thermal imaging,body temperature application filter used in IR sensor.

Multi IR is the leading professional IR filter manufacturer. We are experienced on research, design & manufacturing high quality IR filters. Our products: IR Bandpass Filters, IR (AR) lens, windows, IR beamsplitter, filter wheels, etc., from prototyping to mass production. Applications: IR Thermal Imaging, Sensors, detectors, etc. Thousands of IR filters, windows, lens are in stock. Please check our website for availability. We can make various IR filters based on client's order requests. Contact: JING LU, CEO, jl@mirhz.com; Tom Zeiss, marketing manager, cgw@mirhz.com

Multisorb Technologies, Inc. #1122

SPIE Corporate Member

325 Harlem Rd, Buffalo, NY, 14224 USA +1 716 824 8900; fax +1 716 824 4128 info@multisorb.com; www.multisorb.com

Featured Product: POLYSORB™, desiccant loaded polymer, can be molded to replace a structural component in a product.

Multisorb Technologies has been an innovator in sorbent technology for more than 50 years. Our technologies protect electronics from the damaging effects of moisture, oxygen, and volatiles. If your product is experiencing performance degradation, corrosion, fogging on optics, or any other degradation caused by moisture, oxygen, or volatiles within the sealed product enclosure, call Multisorb to find out how we can improve your product's service life. Contact: Nathan Fischer, info@multisorb.com

Naked Optics Corp. #448

SPIE Corporate Member

1090 Delacroix Cir, Nokomis, FL, 34275 USA +1 908 685 0352; fax +1 908 325 0250 sales@nakedoptics.com; www.nakedoptics.com

Featured Product: IR Lenses; ITO windows; IR Materials.

Supplier of IR optics and diamond-turned components with aspheric, diffractive & free-form surfaces in IR materials, plastics and metals; optical design services; Polished & coated windows and substrates from prototype to high-volume production; IR and glass blanks including ZnSe, Si, Ge, BaF₂, CaF₂, KRS-5 and optical glasses; Optical glass strip, molded and CNC-machined blanks of all optical materials Contact: Buzz Nesti, buzz@nakedoptics.com; Anita Foss, anita.foss@nakedoptics.com

Nallatech #413

759 Flynn Rd, Camarillo, CA, 93010 USA +1 805 482 2870; fax +1 805 482 8470 sales@nallatech.com; www.nallatech.com

Featured Product: FPGA products for high performance computing applications and rugged embedded computing platforms.

Nallatech, a subsidiary of Interconnect Systems, Inc. (www.isipkg.com), is a leading supplier of accelerated-computing solutions. Nallatech designs and manufactures FPGA products for high performance computing applications and rugged embedded computing platforms. Customers benefit from lower costs, reduction in size, weight and power and improved performance. For further information, visit www.nallatech.com, or call (805) 383-8997 (North America) or +44 1236 789 567 (Europe). Contact: Ken Roberson, Regional Sales Manager, ken.roberson@isipkg.com; Jon Mudrick, jon.mudrick@isipkg.com

Nanomotion Inc. #502

1 Comac Loop Ste 14B, Ronkonkoma, NY, 11779 USA +1 800 821 6266; fax +1 631 585 1947 nanous@nanomotion.com; www.nanomotion.com

Featured Product: NUC Shutter, Target acquisition devices, Auto Focus mechanisms.

Nanomotion is the leader in piezo based motors and modules for shutter & aperture control, auto focus and zoom, and optical image stabilization. Our motors / modules are supported by our ASIC or MCU for superior closed loop performance. Products are flight qualified and have passed thermal and vibration testing to meet the most demanding applications. Contact: Alan Feinstein, Afeinstein@nanomotion.com

National Aperture, Inc. #338

SPIE Corporate Member

16 Northwestern Dr, Salem, NH, 03079-4810 USA +1 603 893 7393; fax +1 603 893 7857 sales@nationalaperture.com; www.nationalaperture.com

JOB FAIR
SPIE Defense, Security, and Sensing
Sponsored by SPIE Career Center

Exhibition Hall
Tuesday 24 April, 10:00 am to 5:00 pm
Wednesday 25 April, 10:00 am to 5:00 pm

Featured Product Launches

Great River Technology, Inc.

Booth 449
Product: Pantera ARINC 818 Switch



4x4 ARINC 818 Switch and Signal Splitter

Headwall Photonics Inc.

Booth 2220
Product: Hyperspec RECON™



Military's First ruggedized, handheld spectral imager designed for reconnaissance missions.

Heimann Sensor GmbH

Booth 1202
Product: HTPA series



The low cost option for IR-Imaging.

Hellma Materials GmbH & Co. KG

Booth 1531
Product: Calcium Fluoride Crystals



CaF₂ NEW: up to 440 mm diameter UV to IR.

SPIE Defense, Security, and Sensing Exhibition: 24-26 April 2012

INTERNET PAVILION SPONSOR

National Defense Industrial Association #702

2111 Wilson Blvd Ste 400, Arlington, VA, 22201 USA
 +1 703 247 2549; fax +1 703 527 6945
 eutegaard@ndia.org; www.ndia.org
 NDIA is America's leading non-profit Defense Association providing a legal and ethical forum for networking and knowledge exchange between the DoD, Department of Homeland Security, all branches of the US Military, and industry. NDIA has local chapters, 36 divisions for corporate involvement, and numerous conferences and trade shows. Individual and Corporate memberships are available. US government and military are welcome to join free of charge. NDIA has roots dating back to 1919. Contact: Michael Kibler, mkibler@ndia.org; Erica Utegaard, eutegaard@ndia.org

National Reconnaissance Office #2325

14675 Lee Rd, AS&T, Chantilly, VA, 20151-1715 USA
 +1 703 808 2769; fax +1 703 808 2646
 dli@nro.mil; http://dli.westfields.net

Featured Product: DII Research & Development Funding.

A Federal Government R & D Funding Program - The National Reconnaissance Office's Director's Innovation Initiative invests in advanced technologies, fosters innovation, and provides seed funding to push the boundaries of technology to dramatically improve our overhead reconnaissance capabilities. It presents an opportunity for developers not traditionally associated with the NRO to participate in building the National Reconnaissance Office of the 21st Century. Contact: Gil Herlich, Program Manager, dli@nro.mil; Bill Harter, dli@nro.mil

Naval Surface Warfare Ctr. Indian Head Div. #648

3767 Strauss Ave Ste 201, Bldg 20, Indian Head, MD, 20640-5124 USA
 +1 301 744 6505
 www.ih.navy.mil

Neoptix, Inc. #239

1415 Frank-Carrel Ste 220, Quebec, QC, G1N 4N7 Canada
 +1 418 687 2500; fax +1 418 687 2524
 info@neoptix.com; www.neoptix.com

Featured Product: Fiber Optic Thermometer System.

Neoptix designs manufactures and commercializes a complete range of optical temperature sensors, signal conditioners and accessories for temperature monitoring in electromagnetic and harsh environments. Being entirely made out of dielectric material, Neoptix optical temperature probes are not affected by radiations including: Superconductor environment, NMR, MRI, Microwaves or RF. The temperature range is starting from cryogenic until 300 degrees Celsius. (www.neoptix.com)
 Contact: Marc Dore, Sales Manager, mdore@neoptix.com

New England Optical Systems #703

SPIE Corporate Member
 237 Cedar Hill St, Marlborough, MA, 01752 USA
 +1 508 460 0019; fax +1 508 460 0098
 info@neos-inc.com; www.neos-inc.com

Featured Product: LWIR 30/90 DFOV - A lightweight dual field of view lens ideal for man portable and UAV applications.

New England Optical Systems (NEOS) is engineering and manufacturing high performance infrared optical systems with advanced lens controller. Capable of manufacturing complex systems along with high volume production. Products can be found in applications such as ISR, tracking, navigation, and situational awareness. Platforms include LAV, UAV, aerospace, soldier systems and commercial. Also supporting IR Scene Projection, astronomical instrumentation, and optical test stations with automation. Contact: Peter Kornik, Director of Business Development, pkornik@neos-inc.com; Todd Stolberg, COO, tstolberg@neos-inc.com

New England Photoconductor Corp. #650

SPIE Corporate Member
 253 Mansfield Ave, PO Box M, Norton, MA, 02766-0927 USA
 +1 508 285 5561; fax +1 508 285 6480
 nepcorp@nepcorp.com;
 www.nepcorp.com

New Imaging Technologies SAS #614

1-4 impasse de la noisette, Bat D, 1er Etage, Verrieres le Buisson, 91370 France
 +33 1 64 47 88 58
 info@new-imaging-technologies.com;
 www.new-imaging-technologies.com

Featured Product: NSC1005 HD Ready sensor operating in 720p mode, 1280x720 pixels of 5.6um size, frame rate up to 60Hz.

New Imaging Technologies (NIT) offers world class CMOS imaging sensors based upon a unique and patented pixel technology which provides intrinsic high dynamic range response of more than 140dB, no noticeable fixed pattern noise and operability without image artifacts to more than 90°C. NIT offers a complete range of standard, customized and full custom CMOS imaging sensors for a variety of applications where performance, cost, quality and reliability are of premium choice. Contact: Pierre POTET, CEO, info@new-imaging-technologies.com; Jean-Louis LAURONT, Sales Director, info@new-imaging-technologies.com

New Infrared Technologies, Ltd. #2429

Calle Vidrieros 30 Nave 2, Boadilla del Monte Madrid, 28660 Spain
 +34 91 632 4363; fax +34 91 576 4939
 info@niteurope.com; www.niteurope.com

Featured Product: Uncooled, high-speed, midIR infrared sensors: imaging & linear FPA, single element and spectroscopy.

New Infrared Technologies manufactures PbSe imaging FPA and high speed uncooled IR systems. The MATRIX 1024 SERIES, based on the only PbSe imaging FPA in the market, offers uncooled performance, detection in the MWIR band, high speed (> 1,700 fps) at an affordable price. The series includes OEM modules. Other products: LUXELL SERIES (linear arrays) and the LEPTON SERIES (single element detectors with several geometries + low noise preamp stage & digital USB output), IR switch, custom designs. Contact: Rodrigo Linares, Business Development Mgr, sales@niteurope.com; Arturo Baldasano, CEO, sales@niteurope.com



Free Popcorn

Exhibition Hall / 2 Locations
 Popcorn carts will be open Tuesday and Wednesday from 11:00 am to 3:00 pm; Thursday from 11:00 am to 2:00 pm.

YUNG LUN
INDUSTRIAL CO., LTD

2012
**Security+
Defence**

High precision
Customized
Optical metal parts

Manufacturing in Taiwan

Yung Lun Ind. Co. Ltd. 57, Lane 42, Ta Feng Rd., Shen Kang Hsiang, Taichung 42946 - Taiwan, R.O.C. -
Tel : 886-4-25229079 Fax : 886-4-25207482 yunglun@yunglun.com.tw

www.yunglun.com.tw

Newcon Optik

#453

105 Sparks Ave, Toronto, ON, M2H 2S5
Canada

+1 416 663 6963; fax +1 416 663 9065
newconsales@newcon-optik.com;
www.newcon-optik.com

Newcon Optik is a world leader in the design and manufacture of precision electro-optics. Headquartered in Toronto, Canada Newcon Optik's dealer network is present on five continents. With a product portfolio consisting of industry-leading thermal imagers, night vision systems, laser rangefinders, laser aimers and tactical day optics, Newcon Optik's products are relied upon by military, government and commercial customers in more than 60 countries. Contact: Aaron Buckstein, Director or Marketing & Business Development, abuckstein@newcon-optik.com; Alex Rudy, Executive Vice President & COO, arudy@newcon-optik.com

Newport Corp.

#1625

SPIE Corporate Member

1791 Deere Ave, Irvine,
CA, 92606-4814 USA
+1 949 863 3144; fax +1 949 253 1680
sales@newport.com; www.newport.com

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, lasers, and photonics instrumentation, providing the foundation of many development, test, assembly and calibration systems that ensure the accuracy and reliability of our defense systems worldwide. Contact: Kim Abair, Director, Global Marketing, kim.abair@newport.com

Nextreme Thermal Solutions, Inc.

#232

3908 Patriot Dr Ste 140, Durham,
NC, 27703-8031 USA
+1 919 597 7300; fax +1 919 597 7501
info@nextreme.com;
www.nextreme.com

Featured Product: Nextreme's embedded thermoelectric cooling technology (eTEC) enables micro-scale thermal management.

Nextreme Thermal Solutions is a leading manufacturer of thin-film thermoelectric modules and sub-systems for growing markets worldwide. Micro-scale form factors, high power-pumping capabilities and a high-volume semiconductor manufacturing process enables low-cost, high-performance thermal management and energy harvesting solutions. For more information, visit www.nextreme.com. Contact: Karl von Gunten, Director of Marketing, kvongunten@nextreme.com

NiCoForm, Inc.

#108

SPIE Corporate Member

72 Cascade Dr, Rochester, NY, 14614-1109 USA
+1 585 454 5530; fax +1 585 454 5167
inform@nicoform.com;
www.nicoform.com

Featured Product: Electroformed Infrared Radiation Cold Shields, Optical housings and high fidelity replications.

Electroformed as multilayer structures of copper, NiColoy[®], and gold, sometimes containing internal baffles, the shields usually have tight dimensional and weight tolerances. NiCoForm offers as standard deep black and bright gold coatings, on par with the best in the industry. Our precision CNC machining capabilities and advanced electroforming technology allow us to deliver tight dimensional and weight tolerances with high process yields. Come see some of our most interesting accomplishments. Contact: Joe Jachlewski, Project Engineer, jjachlewski@nicoform.com

Ningbo Sunny Infrared Technologies Co., Ltd.

#2525

66-68 Shunyu Rd, Yuyao Zhejiang, 315402 China
+86 574 62530985; fax +86 574 62553000
sunnyir@sunnyoptical.com;
www.sunnyoptical.com

Featured Product: thermal imaging lens

Ningbo Sunny Infrared Technologies Co., Ltd, specializes in the R&D of IR materials, and the design, process and sale of thermal imaging lenses. With excellent experts of infrared materials and decades of experience of lens design and process, the company has possessed complete technology of melting, polishing, turning and high precision molding of chalcogenide glass, and the design and process of high performance thermal imaging lenses. Contact: Liqun Lou, Sales, sunnyIR@sunnyoptical.com; Zifeng Meng, Sales manager, mengzf@sunnyoptical.com

NorPix Inc.

#723

SPIE Corporate Member

1751 Richardson St Ste 6117, Montreal, QC, H3K 1G6 Canada
+1 514 846 0009; fax +1 514 846 0117
sales@norpix.com; www.norpix.com

Featured Product: StreamPix 5 high speed digital video recording software.

Streampix 5 is a high speed digital video recording software package that supports a wide choice of GigE Vision, HD-SDI, Camera Link, USB2, Analog and Firewire cameras. StreamPix 5 can capture from multiple cameras simultaneously. Individual images are time stamped with computer clock, also add GPS positioning or IrigB timing. StreamPix also provides a wide choice of features such as synchronization, AVI or MOV file compression, GUI customization, VCR like controls and much more. Contact: Luc Nocente, President, sales@norpix.com

Norsk Elektro Optikk AS #1404

Solheimveien 62 A, Lørenskog, 1473 Norway
+47 67974700; fax +47 67974900
hyspex@neo.no; www.neo.no

Featured Product: HySpex: Hyperspectral Cameras.

Norsk Elektro Optikk (NEO) was established in '85 as a private research oriented company within the field of electro optics. NEO has grown to be the largest independent research and development organization in electro optics in Norway, and is an established manufacturer of advanced electro optical products for an international market. HySpex is NEO's line of hyperspectral cameras, which aims to offer compact, high performance and versatile instruments for all airborne, lab & field applications. Contact: Hallvard Skjerpung, Product Manager, HySpex, hyspexsales@neo.no

Northrop Grumman

Cutting Edge Optronics #1119

SPIE Corporate Member

20 Point West Blvd, Saint Charles, MO, 63301 USA
+1 636 916 4900; fax +1 636 916 4994
st-ceolaser-info@ngc.com;
www.as.northropgrumman.com/ceolaser

Northrop Grumman Cutting Edge Optronics is a leading supplier of advanced laser diode and DPSS laser technology. CEO specializes in developing & manufacturing high performance laser diode arrays, laser gain modules, control electronics and complete laser systems for military, aerospace and commercial applications. Applications include Laser Pumping, LIDAR, Ranging/Designation and Directed Energy. Discover why CEO diode arrays and DPSS lasers are used in many of the world's most advanced systems. Contact: Wade Collins, Manager Military & Aerospace Lasers, wade.f.collins@ngc.com

Nova Sensors

#1719

SPIE Corporate Member

320 Alisal Rd Ste 104, Solvang, CA, 93463 USA
+1 805 245 9979
tony@novasensors.com;
www.novasensors.com

Incorporating low power and compact camera electronics, Nova Sensors[®] offers cameras covering a wide range of applications including Hostile Fire Identification (HFI), missile launch detection/classification, and dismount identification tracking. The flexible open architecture of Nova's Versatile Infrared Electronics (NVIE) allows inexpensive adaptation of components to virtually any focal plane array. End users get maximum customization options with minimal non-recurring engineering costs. Contact: Tony Vengel, Vice President, Business Development, tony@novasensors.com

Novotech, Inc.

#531

SPIE Corporate Member

916 Main St, Acton, MA, 01720-5808 USA
+1 978 929 9458; fax +1 978 929 9459
peters@novotech.net; www.novotech.net

Featured Product: Single Point Diamond Turned Aspheres & Diffractives.

Global manufacturer of infrared optical materials. Germanium is our core product, stocked in ingots to zone refined bars to level evaporation grade. Manufactured products include CNC generated Blanks, diamond turned Aspheres & Spheres, Windows, Dewars, Finished Optics, Substrates, SMTY and Flats. IR materials include optical grade Germanium & Silicon. Complete vertical integration from recycling-reclamation to precision fabrication, Novotech is ready to manufacture. Contact: Peter Schwarzer, Account Manager IR Materials. Tracy Snelling, VP Bus development, tsnelling@novotech.net

NP Photonics, Inc.

#348

SPIE Corporate Member

9030 S Rita Rd Ste 120, Tucson, AZ, 85747-9102 USA
+1 520 799 7400; fax +1 520 799 7403
info@npphotonics.com;
www.npphotonics.com

Featured Product: Mid-IR Transport Fibers transparent from 2 to 5 microns.

Founded in 1998 NP Photonics Inc. is a leading manufacturer of fiber lasers and specialty fiber for the sensing, defense, metrology and research markets. The NP Photonics proprietary fiber technology is used across a broad family of products including mid-IR transport fibers and narrow line-width, low phase-noise fiber lasers specifically designed for operation in an industrial environment. NP continues to grow through technology innovation and strategic partnerships.

nPoint, Inc.

#2226

SPIE Corporate Member

3030 Laura Ln Ste 100, Middleton, WI, 53562-1872 USA
+1 608 824 1770; fax +1 608 824 1774
info@npoint.com; www.npoint.com

Designs & manufactures nanopositioning tools for OEM and research applications. Products include piezo actuated flexure stages and digital control electronics. Nanopositioner systems provide closed-loop translation in the X, Y, XYZ and tip/tilt. Enables high-speed, high-resolution, sub-nanometer precision for Optics, Semiconductor, Defense, Aerospace and Bio industries. Contact: Stacy Wellford, Controller, stacy.wellford@npoint.com; Justin Brink, Technical Sales Representative, justin.brink@npoint.com

NSCA & TRA-CAL, LLC #220

7901 Beechcraft Ave, Gaithersburg, MD, 20879 USA
+1 301 527 9200; fax +1 301 527 9203
sales@nscainc.com; http://nscainc.com
NSCA, Technologies and Tra-Cal Lab are Service Disabled Veteran Owned Small Businesses has been serving the electronics industries since 1988.

NSCA: New Electronic T & M Equip. – We are an Agilent Small Business Partner. New Physical T & M Equip. Refurb/Cert T&M Equip. Sales, Lease & Rental. Tra-Cal: In-house & On-site Cal. Pick-up & Delivery Service. Repair Service Contact: Todd Chaikin, President, Tchaikin@nscainc.com; Danny McClure, Sales Engineer, Dmccclure@nscainc.com

Nu-Cast, Inc. #637

29 Grenier Field Rd, Londonderry, NH, 03053 USA
+1 603 432 1600; fax +1 603 432 0724
dvz@nucast.net; www.nu-cast.com

Featured Product: Precision Aluminum Investment Castings.

Nu-Cast is an American Small Business established in 1985, manufacturing aluminum investment castings from the lost wax process. We are AS 9100 Certified, and produce castings supporting Military, Medical, & Commercial Aircraft programs. Products include infrared/optical housings, electronic/avionic chassis, and aircraft displays. Production castings are made from hard tooling, and R & D and pre-production parts can be made from quickcast SLA's generated from CAD file data. Contact: Douglas Veysey, Sales & Marketing Manager, dvz@nucast.net; Don Mc Kitterick, President, ddmckitterick@nucast.net

Nuferm #1127

SPIE Corporate Member

7 Airport Park Rd, East Granby, CT, 06026-9523 USA
+1 860 408 5000; fax +1 860 844 0210
info@nuferm.com; www.nuferm.com

Featured Product: Excalibur 1.5kW narrow linewidth ultra compact fiber laser.

Nuferm is a leading U.S. manufacturer of specialty optical fibers, precision wound optical fiber coils, fiber lasers and amplifiers. Our integrated team has the experience, resources, and facilities required to design, manufacture, test and qualify highly-engineered optical fibers and fiber-based products for diverse applications and industries. Contact: Scott Christensen, Sales Director Military, Government or Aerospace, schristensen@nuferm.com; Fernando Martins, Customer Service Manager, fmartins@nuferm.com

NuPhoton Technologies, Inc. #3070

41610 Corning Pl, Murrieta, CA, 92562-7023 USA
+1 951 696 8366; fax +1 951 696 8394
info@nuphoton.com; www.nuphoton.com

NuWaves Engineering #226

132 Edison Dr, Middletown, OH, 45044-3269 USA
+1 513 360 0800; fax +1 513 360 8782
support@nuwaves-ltd.com; http://nuwaves-ltd.com

NuWaves Engineering is a premier supplier of RF Systems, Subsystems, Products, and Engineering Services designed to customer requirements. NuWaves is an RF power house, serving the military, industrial and commercial markets, with the singular mission of delivering unsurpassed RF Products and Engineering Design Services to fit most any RF application requirement. Stop by our booth to learn more about our design capabilities, and to check out our complete line of commercially available products. Contact: Kevin Harrison, Business Development Engineer, kevin.harrison@nuwaves-ltd.com

O/E Land Inc. #136

7639 Cordner, LaSalle, QC, H8N 2X2 Canada
+1 514 334 4588; fax +1 514 334 0216
info@o-eland.com; www.o-eland.com
Contact: Ping Long, President, pinlong@o-eland.com; Kevin Amzil, Sales representative, sales2@o-eland.com

Ocean Optics, Inc. #1525

SPIE Corporate Member

830 Douglas Ave, Dunedin, FL, 34698 USA
+1 727 733 2447; fax +1 727 733 3962
info@oceanoptics.com; www.oceanoptics.com

Ocean Thin Films, Inc. #419

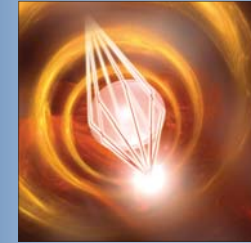
16080 Table Mountain Pkwy Ste 100, Golden, CO, 80403-1669 USA
+1 303 273 9700; fax +1 303 273 2995
www.oceanthinfilms.com

OTF's PixelTec™ patterned optical thin film coatings combined with patented microlithography technology deliver precision patterned optical filters to enable a variety of products and applications including compact solid-state spectral sensing & imaging. Optical coatings, components, assemblies & PixelTec technology will be showcased alongside our fully customizable multispectral camera – SpectroCam™. Contact: Mike Francis, Sales Engineer, mike.francis@oceanthinfilms.com; Randel Mercer, VP of Business Development, randel.mercer@oceanthinfilms.com

Featured Product Launches

Heraeus Quartz America LLC

Booth 2510
Product: Suprasil 3001 / 3002



High purity fused silica for high-power NIR lasers and SWIR detectors.

HGH Infrared Systems

Booth 349



IR Revolution 360 camera provides real-time panoramic detection and tracking.

Hitachi High Technologies America, Inc.

Booth 103
Product: Hitachi TM3000 Tabletop SEM



Hitachi TM3000 – Failure analysis capabilities in a user-friendly tabletop SEM.

id Quantique SA

Booth 1202
Product: id220 Free-Running Module



InGaAs/INP Photon Counter with the lowest Dark Count Rate.

OJSC Germanium #1327

Transport NY Proezd 107, 1 Bldg,
Krasnoyarsk, 660027 Russian
Federation
+7 391 259 3494; fax +7 391 264 6696
germanium@krasmail.ru;
www.krasgermanium.com

Omnetics Connector Corp. #706

7260 Commerce Cir E, Minneapolis,
MN, 55432-3103 USA
+1 763 572 0656; fax +1 763 572 3925
sales@omnetics.com; www.omnetics.com

Featured Product: Omnetics Connector Corporation Quality Interconnect Systems.

Omnetics Connector Company is a world class connector design and manufacturing company with over 25+ years of experience focused upon micro-miniature and nano-miniature high reliability electronic connectors and interconnection systems. Omnetics connectors are ideal for critical, high reliability industries where size, weight and reliability are a major consideration. Omnetics has approved QPL status for Mil-83513 and Mil-32139 connectors.

OmniPulse Technology #247

SPIE Corporate Member

6355 Nancy Ridge Dr, San Diego,
CA, 92121-2247 USA
+1 858 452 7700
sales@omnipulsetechnology.com;
www.omnipulsetechnology.com

Featured Product: The PCD-3-20 Pockels cell driver delivers a 2-3.2 kV pulse to a 30 pF load in less than 20 ns.

OmniPulse Technology specializes in ultra compact, precision current sources for driving pulsed laser diodes in applications such as ranging, target designation, seeding, and pumping solid state lasers. Our team combines expertise in a variety of technical backgrounds including semiconductor and solid-state lasers, power electronics, and electro-optics to create diode drivers that are precise, easily integrated, and that exceed customer expectations and industry standards of performance. Contact: Rose Southall, Sales Manager, rose@omnipulsetechnology.com

Onefive GmbH #704

SPIE Corporate Member

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

Featured Product: Origami XP: 20µJ sub-picosecond laser with variable repetition rate for OEM & R&D applications.

Onefive is a leading global supplier of industry-proven low-noise ultrafast and narrow-linewidth single frequency lasers for OEM integration and R&D as well. Our compact maintenance-free air-cooled lasers stand out for high ease of use & 24/7 operation. The ultrafast lasers portfolio containing picosecond and femtosecond lasers offers wider choice of parameters: UV - IR wavelength range, picosecond to sub-100 fs pulse duration, single-shot to GHz repetition rate, and nJ to > 20 µJ pulse energy. Contact: Lalit Bhushan Sharma, Head of Sales & Marketing, lalit.sharma@onefive.com

Oneida Research Services, Inc. #319

8282 Halsey Rd, Whitesboro,
NY, 13492-3400 USA
+1 315 736 5480; fax +1 315 736 9321
dadelluomo@ors-labs.com;
www.ors-labs.com

Featured Product: Analytical Testing Services.

ORS offers analytical techniques to maintain and improve the quality of microelectronic components. Instrumentation/services include: RGA/IVA, Hermeticity (Helium and Kr-85), Failure Analysis, Construction Analysis, Destructive Physical Analysis, Surface Analysis, FTIR, GC/MS, C-SAM, FeSEM, SEM/EDS, Auger Spectroscopy, Real Time X-ray Radiography, XRF, ICP/MS and Solder Reflow/Moisture Sensitivity. DLA Land & Maritime Suitability for Seal, Radiography, SEM, PIND, Internal Water-Vapor Content. Contact: Daniel Rossiter, Senior Vice President, djrossiter@ors-labs.com; Deborah Delluomo, Customer Service Representative, dadelluomo@ors-labs.com

Ontar Corp. #2411

SPIE Corporate Member

9 Village Way, North Andover,
MA, 01845-2000 USA
+1 978 689 9622; fax +1 978 681 4585
sales@ontar.com; www.ontar.com

Featured Product: PcModWin5, HITRAN PC, PcLnWin, PcNvMod, LIDAR PC, MODTRAN and ALTM.

Ontar Corporation est. 1981 is an R&D software company. We sell software for optical atmospheric remote sensing. Products calculate gas transmission and evaluate sensor performance. PcModWin5, HITRAN PC, PcLnWin, PcNvMod, LIDAR PC, MODTRAN and ALTM. Applications include; laser spectroscopy, atmospheric transmission, smart weapons for defense applications, EO sensors development/evaluations, ground and satellite image correction, hyper spectral imaging, laser comm. and LIDAR apps. Contact: Dylan Payne, Software Manager, dpayne@ontar.com

Onyx Optics Inc. #421

6551 Sierra Ln, Dublin,
CA, 94568-2798 USA
+1 925 833 1969; fax +1 925 833 1759
sales@onyxoptics.com;
www.onyxoptics.com

Onyx Optics' product capabilities include Adhesive-Free Bonded (AFB[®]) crystal and glass laser components such as laser rods, slabs, disks, and waveguiding structures. We work with materials such as doped and undoped YAG, YLF, YVO₄, sapphire, diamond, and spinel, as well as many others. Our patented composite technology enables higher efficiency, more compact, and higher power solid state laser and photonic devices. Contact: Lesley Reo, Sales & Marketing Manager, lreo@onyxoptics.com

GENERAL REFRESHMENT SPONSOR

Opgal Optronics Industries Ltd. #1113

SPIE Corporate Member

PO Box 462, Industrial Area 5, Karmiel,
20101 Israel
+972 4 9953946; fax +972 4 9953900
info@opgal.com; www.opgal.com

Opgal delivers advanced vision and surveillance solutions enabling accurate insight into suspicious situations in adverse and harsh visibility conditions. Using state-of-the-art thermal and active-imaging technologies, Opgal leverages advanced electro-optics and image processing expertise to create high performance, versatile visualization hardware and software products for the defense, security and safety markets. Contact: Hadas Weizman, Marketing Manager, weizman@opgal.com

COLUMN WRAP SPONSOR

Ophir Optics, LLC #1625

SPIE Corporate Member

1600 Osgood St, North, North Andover,
MA, 01845 USA
+1 978 657 6410; fax +1 978 657 6056
optics@ophiropticsinc.com;
www.ophiropticsinc.com

Featured Product: SuplIR™ 15-300mm f/4, Motorized Continuous Zoom Lens for Cooled Cameras.

Ophir designs and produces a full range of high performance optical elements and lenses for the Defense, Security and Commercial markets. All manufacturing is done in-house, using automated CNC and patented Diamond Turning technologies along with advanced automated coating processes, to produce the highest quality IR optical products that our industry demands. Ophir's innovative engineering and designs result in increased optical performance and more manufacturable lenses. Contact: Dennis Cope, President, dennis.cope@ophiroptics.com; Glenn Breeze, Director of Sales & Marketing, glenn.breeze@ophiroptics.com



DVR NETWORKING

With its new networking option, you'll find systems integration with this DVR a breeze.

On its own, IO Industries **DVR Express® Core** is an impressive DVR. DC powered, with less than 50W of power consumption, and a compact design that packs 625 MegaBytes per second of uncompressed recording power, puts it in a class by itself. With the addition of networking, the DVR becomes a **video server**, and recording can be remotely controlled, monitored and reviewed from any computer in the network domain. Video streaming using a hardware-based **H.264 compression engine** keeps image quality high and network traffic light.

Highlights:

- Local uncompressed recording at 625 MegaByte/s direct to 2TB of removable SSD storage
- Models for camera types: Camera Link, 3G/HDSDI, CoaXPress, NTSC/PAL, and GigE Vision
- Precision time-stamping and synchronization with external GPS or IRIG-B time receivers
- Local console or network control
- Unlimited scalability for mixed and multi-camera systems

Networking:

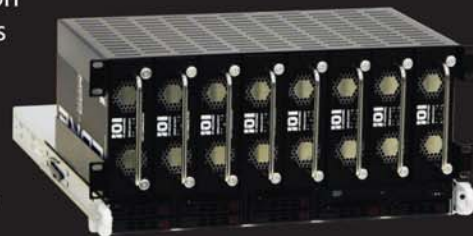
- Connectivity to any computer in the network domain running most operating systems
- H.264, MPEG4 and H.263 video encoding
- Internet standard protocols (RTP/RTSP) for control and video streaming with remote clients

Applications:

- Remote recording with command and control center monitoring
- Vehicle-based recording
- High-end security with unlimited number of cameras

Visit www.ioindustries.com or contact sales@ioindustries.com

Please visit us at Booth 547 at SPIE/DSS to learn more.



IOI
IO INDUSTRIES

Video Cameras and
DVRs for Professionals

Opnext, Inc.

#2521

46429 Landing Pkwy, Fremont, CA, 94538-7322 USA
+1 510 580 8828; fax +1 510 580 8819
info@opnext.com; www.opnext.com
Opnext offers a comprehensive lineup of laser diodes, including red, blue and violet and infrared laser diodes from 404nm through 852nm with output power ranges from 3mW to 150mW. These high quality and reliable products feature high power, low operating current, and circular and multi-beam options. Applications: Medical, Displays, Defense & Security, Machine Control, Barcode Scanning, Consumer Products, Automotive, and Semiconductor Manufacturing. Contact: Bob Murphy, Sales, bmurphy@opnext.com; info@opnext.com

Optical Support, Inc.

#1630


1671 S Research Lp Ste 133, Tucson, AZ, 85710-3998 USA
+1 520 546 0642
msavard@opticalsupport.biz;
www.opticalsupport.biz

OPTICS 1, Inc.

#1824


1050 Holt Ave Ste 12, Manchester, NH, 03109 USA
+1 603 296 0469; fax +1 603 296 0473
sales@optics1.com; www.optics1.com
Contact: James Diamond, Sales & Marketing, jdiamond@optics1.com

optics.org

#318

2 Alexandra Gate, Cardiff, United Kingdom
+44 (0)29 2089 4751
sales@optics.org; www.optics.org
optics.org where the business of photonics meets the global photonics community! Excellent editorial quality, exclusive, must-read content makes optics.org essential for keeping up-to-date on news, market trends, new products, business analysis and financial updates. It also has a comprehensive buyers guide, international career centre and events info. Contact: Rob Fischer, rob.fischer@optics.org

Optiforms

#2425


42310 Winchester Rd, Temecula, CA, 92590-4810 USA
+1 951 296 1300; fax +1 951 296 1178
info@optiforms.com; www.optiforms.com
Optiforms is the world leader in electroformed optics. Capabilities include electroforming standard and custom geometric shapes, thin film vacuum deposited optical coatings, electrodeposited metals, EDM, assemblies, cold shields, radiation shields, and reflector refurbishment services. Optiforms takes pride in its proven track record of unsurpassed quality and personalized customer service. Contact: Mike Birdsell, Sales Manager, mbirdsell@optiforms.com; Donna Stice, Customer Service Specialist, dstice@optiforms.com

Optikos Corp.

#2117



107 Audubon Rd, Bldg 3, Wakefield, MA, 01880-1266 USA
+1 617 354 7557; fax +1 617 354 5946
sales@optikos.com; www.optikos.com

Featured Product: LensCheck LWIR™ - An economical system for infrared production and prototype lens qualification.

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

Optimax Systems, Inc.

#2212



6367 Dean Pkwy, Ontario, NY, 14519-8939 USA
+1585 265 1020; fax +1 585 265 1033
sales@optimaxsi.com;
www.optimaxsi.com

Featured Product: Custom aspheric lenses ground and polished for reduced scatter yielding brighter images.

Optimax grinds and polishes optical materials to make aspheres, cylinders, spheres, and prisms to customer specifications. We specialize in small lot sizes with diameters up to 300mm. With more than 100 opticians, CNC machining, in-house coating capabilities, and our newly completed 20,000 square-foot expansion, Optimax can deliver precision optics in one week. Contact: Jamie Hutchins, Sales Engineer, sales@optimaxsi.com; Rick Plympton, CEO, sales@optimaxsi.com

OptiPro Systems

#2222


6368 Dean Pkwy, Ontario, NY, 14519-8970 USA
+1 585 265 0160; fax +1 585 265 9416
sales@optipro.com; www.optipro.com

Featured Product: New PRO 80 Series: Grind, Hi-Speed Polish, UltraForm Finishing. Compact, powerful, cost effective!

World leader in providing CNC Optical Machining Centers for up to 5 axis grinding & polishing of spherical, aspherical and conformed optics and metrology equipment for the precision optics industry. Products include machines for the shaping and polishing of spherical and aspheric surfaces as well as grinding non-traditional and conformed optics. Contact: Lynda Bechtold, Sales, lynda@optipro.com; David Mohring, Director of Optical Products, dmohring@optipro.com

Opto Knowledge Systems, Inc.

#519


19805 Hamilton Ave, Torrance, CA, 90502-1341 USA
+1 310 756 0520; fax +1 310 756 0511
info@oksi.com; www.oksi.com

Featured Product: Turnkey HyperScan family of sensors.

OKSI specializes in the development of turn-key electro-optical sensor systems covering the UV, VNIR, SWIR, MWIR and LWIR. Primarily, OKSI develops systems that combine imaging and spectroscopy, including the mechanical assembly (high vacuum dewars for cryogenic operations), electronics, optics, computer interface and signal acquisition, algorithms for signal and data processing. OKSI excels in R&D projects where off-the-shelf solutions are unavailable. Contact: Nahum Gat, President, nahum@oksi.com; Jason Kriesel, Lead Scientist, jason@oksi.com

Plan to Attend

WORKSHOP

Early Stage Technology Commercialization

Wednesday • 8:30 to 10:00 am

Open to All Attendees

Exhibition visitors, exhibitors, and technical conference attendees

Panelists from U.S. government laboratories, the venture capital community, and industry discuss ways to speed the commercialization and deployment of early-stage Defense and Homeland Security applications focused on mid-infrared technologies. Listen and interact with the leaders in the IR community, and come to share your ideas.

See p. 21 for details.

Opto-Alignment Technology, Inc.

#643

SPIE Corporate Member

1034 Van Buren Ave, Indian Trail, NC, 28079 USA
+1 704 893 0399
sales@optoalignment.com;
www.optoalignment.com

Featured Product: MWIR & LWIR Lens Assembly Station for small or large lens precision centration and tilt measurement.

US MANUFACTURER of Ultra Precision Lens-Alignment Stations for lens assemblies of IR, Vis or UV, & provider of lens system ASSEMBLY SERVICES since 1992. The LAS provides accurate sub-micron lens centration & tilt measurement for spheric, aspheric & cylindrical lenses without changing objectives, & not limited by lens diameter or by lens radii. OAT also offers assembly tools like vacuum tweezers, lens handling tools & lint-free lens-wipes. Contact: steve.bohuczky@optoalignment.com, P: 704 893 0399 Contact: Steve Bohuczky, Director of Business Development, steve.bohuczky@optoalignment.com

OptoElectronic Components

#2517

SPIE Corporate Member

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

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

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



Free Popcorn

Exhibition Hall / 2 Locations
Popcorn carts will be open Tuesday and Wednesday from 11:00 am to 3:00 pm; Thursday from 11:00 am to 2:00 pm.

Optometrics Corp.

#433

SPIE Corporate Member

8 Nemco Way, Stony Brook Industrial Park, Ayer, MA, 01432-1537 USA
+1 978 772 1700; fax +1 978 772 0017
sales@optometrics.com;
www.optometrics.com

Featured Product: Steep Edge Laser Line Longpass filters.

For more than 40 years, Optometrics has been the OEM instrument manufacturer's one stop for wavelength selection solutions. From diffraction gratings to interference filters to infrared laser products, as well as monochromators and optical systems. Core competencies are grating mastering, both holographic and ruled, as well as full replication facilities. Contact: Laura Lunardo, Chief Operating Officer, lauras@optometrics.com, David Ventola, Engineering Manager, davev@optometrics.com.

OptoSigma Corp.

#720

SPIE Corporate Member

3210 S Croddy Way, Santa Ana, CA, 92704 USA
+1 949 851 5881; fax +1 949 851 5058
sales@optosigma.com;
www.optosigma.com

Orbel Corp

#437

2 Danforth Dr, Easton, PA, 18045 USA
+1 610 829 5000; fax +1 610 829 5050
sales@orbel.com; www.orbel.com

OZ Optics Ltd.

#2317

SPIE Corporate Member

219 Westbrook Rd, W Carleton Industrial Park, Ottawa, ON, K0A 1L0 Canada
+1 613 831 0981; fax +1 613 836 5069
salesadmin@ozoptics.com;
www.ozoptics.com

Featured Product: Fiber Optic Distributed Strain and Temperature Sensors.

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

Featured Product Launches

Infrared Systems Development Corp.

Booth 1730



Turnkey 50Khz IR Array Integrator System

Inspired Energy, LLC

Booth 330



High-power, smart, rechargeable batteries and chargers from Inspired Energy.

Intevac Photonics, Inc.

Booth 2414

Product: Night Port™ Plus



Binocular all digital image intensifier / IR fusion helmet mounted goggle.

Iridian Spectral Technologies Ltd.

Booth 213

Product: IR Optical Filters



Superior performance, reliable optical filters for SWIR to LWIR applications.

Panavision Federal Systems, LLC #313

SPIE Corporate Member

21300 Victory Blvd Ste 840,
Woodland Hills, CA, 91367-2602 USA
+1 818 594 8005; fax +1 818 594 8001
www.panavisionfederalsystems.com

PD-LD, Inc. #308

SPIE Corporate Member

30B Pennington Hopewell Rd, Pennington,
NJ, 08534-3612 USA
+1 609 564 7900; fax +1 609 564 7901
info@pd-ld.com; www.pd-ld.com

Featured Product: Labsource - LS1 and LS2 - Benchtop module available with single or dual laser sources.

PD-LD is a U.S. manufacturer of fiber coupled laser diodes, LED's, Detectors, high power pulsed lasers and multiple active device modules. PD-LD is also the leading manufacturer of Volume Bragg Grating® (VBG®) technology. VBG's are used to stabilize the center wavelength of high power laser diodes to optimize them for pumping, LIDAR, illumination and RAMAN Spectroscopy applications. VBG stabilized lasers are high reliability components used by the leading threat/hazmat detection providers. Contact: Tom Deberardine, Executive VP of Sales, tom@d-pd-ld.com; Uri Abrams, President, uabrams@pd-ld.com

PENTAX RICOH Imaging Americas Corporation #905

633 17th Street, Suite 2600, Security,
Denver, CO, 80202 USA
+1 888 267 6422; fax +1 303 728 0226
susie.jordan@prac.pentax.com;
www.pentaxcctv.us.com

Featured Product: PENTAX Atmospheric Interference Reduction (PAIR): Fog / Heat-Haze reduction - Image Stabiliz. - A/F.

PENTAX is an innovative leader in the production of lens optics products for general security applications, as well as mid-range and long-range surveillance uses like border reconnaissance, port oversight, and airfield protection and management. For over 90 years, PENTAX has developed durable, reliable, high-performance products that meet the needs, and exceed the expectations of our customers. PENTAX also manufactures high-quality machine-vision lenses, digital SLR systems, and sports optics. Contact: Andy Shemo, Technical Sales Executive, andrew.shemo@prac.pentax.com; Mark Smith, Account Executive, mark.smith@prac.pentax.com

PFG Precision Optics, Inc. #1313

SPIE Corporate Member

733 Bienville Blvd, Ocean Springs,
MS, 39564-2842 USA
+1 228 875 0165; fax +1 228 875 9354
sales@pfgoptics.com; www.pfgoptics.com

Featured Product: Expanded capability for manufacturing UV to MWIR optical components & coatings.

We are a solution driven, ISO 9001:2008 certified manufacturer of precision optical components, coatings, and assemblies from 193nm through 5 microns. PFG specializes in high index, high included angle & truncated lenses using the latest CNC milling, shaping, & polishing with MRF finishing & edging technology. Double sided & planetary polishing for Windows, Wedges, Filters, & Prisms. All types of standard and Custom vacuum-deposited & IAD coatings are available from PFG. Contact: Colin Green, VP Sales, cody.pfg@gmail.com

PHASICS #1414

SPIE Corporate Member

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

PHASICS, a French company based in the Paris region, manufactures high resolution (up to 400x300 simultaneous measurement points) wave front sensors based on its innovative technology: 4-wave lateral shearing interferometry. These solutions answer both scientific and industrial needs and are ideal for laser characterization and optical metrology. PHASICS also proposes adaptive optics loops for laser spot optimization and beam shaping. Contact: Raphael SERRA, Sales Manager, contact@phasics.fr; Sabrina VELGHE, R&D Engineer, contact@phasics.fr

Phoenix Optical Technologies Ltd. #448

Glascoed Rd, Saint Asaph, LL17 0LJ
United Kingdom
+44 1745 584484; fax +44 1745 584050
sales@potl.co.uk; www.potl.co.uk

Featured Product: Armourdillo toughened optical windows.

Manufacturer of IR optics and diamond-turned components with aspheric, diffractive & free-form surfaces in IR materials, plastics and metals; Polished & coated windows from prototype to high-volume production; Optical glass strip, molded and CNC-machined blanks of all optical materials. Contact: Buzz Nesti, buzz@nakedoptics.com

Photek Ltd. #923

26 Castleham Road, Saint Leonards on
Sea, East Sussex, TN38 9NS
United Kingdom
+44 (0)1424 850555;
fax +44 (0)1424 850051
sales@photek.co.uk; www.photek.co.uk

Featured Product: Solar blind detector for missile warning systems.

Photek is a ISO9001:2008 certified manufacturer of detectors and camera systems for photon detection. Our product range includes image intensifiers, photomultipliers, streak tubes and miniature high voltage powers suppliers. We are experts in UV, solar blind and visible detection, ultra-fast photomultipliers, large area image intensifiers and advanced photon counting camera systems. Contact: Ian Cox, Sales & Marketing Manager, ian.cox@photek.co.uk; Dan Rao, North American Sales, DanR@sydorinstruments.com

Photodigm, Inc. #3038

1155 E Collins Blvd Ste 200, Richardson,
TX, 75081 USA
+1 972 235 7584; fax +1 972 235 1609
sales@photodigm.com;
www.photodigm.com

Photon Engineering LLC #1311

SPIE Corporate Member

440 S Williams Blvd Ste 106, Tucson,
AZ, 85749 USA
+1 520 733 9557; fax +1 520 733 9609
info@photonengr.com;
www.photonengr.com

Featured Product: FRED Optical Engineering Software.

Photon Engineering, LLC is a consulting and software development firm based in Tucson, Arizona. Photon Engineering develops and markets FRED, the premier proven software to solve today's challenging optical engineering problems. Users working within FRED's 3D virtual prototyping CAD environment can model and analyze virtually any optomechanical system containing arbitrary coherent, incoherent, and partially coherent sources. Engineering consulting and short courses are offered worldwide. Contact: Ryan Irvin, Technical Sales, ryani@photonengr.com; Donata Pfisterer, Sales Manager, donatap@photonengr.com



Three Reasons to Visit the ClearanceJobs Booth at SPIE

- ★ **Discover ClearanceJobs:** the nation's leading Internet-based career network connecting security-cleared professionals with defense recruiters and HR managers.
- ★ **Connect on The Cleared Network™:** Learn how to find and connect with cleared employers in a secure, social environment on The Cleared Network.
- ★ **Win an Amazon Kindle Fire:** Visit our booth and get a ClearanceJobs bag. We will randomly give away one Kindle Fire each day of the conference to people we spot carrying our bag.

ClearanceJobs.com
A Dice Service

WE WANT YOU!
TO VISIT OUR BOOTH.

1.877.386.3323 • www.clearancejobs.com

Photon Gear, Inc.

#726

245 David Pkwy, Ontario, NY, 14519-8955 USA
+1 585 265 3360; fax +1 585 265 3364
sales@photongear.com;
www.photongear.com

Featured Product: Fiber Optic Components, Equipment, Systems Finished Optics, Filters & Coatings, Laser Accessories.

Photon Gear specializes in the design, assembly and characterization of high-precision optical systems. Custom Lens assemblies are verified with interferometric testing from 266 nm to 1600 nm. Supported application areas include semiconductor inspection and processing, military, metrology, biomedical, laser, scanning, high precision fiber collimators, and polymer optics. We provide optical engineering and design services as well as engineering support and optical hardware. Contact: Gary Blough, President, blough@photongear.com; John Bowen, Senior Optical Engineer, bowen@photongear.com

Photon Systems, Inc.

#532

SPIE Corporate Member
1512 W Industrial Park St, Covina, CA, 91722-3417 USA
+1 626 967 6431; fax +1 626 967 5813
www.photonsystems.com

Photonic Cleaning Technologies

#713

SPIE Corporate Member
PO Box 435, Platteville, WI, 53818-8977 USA
+1 608 467 5396; fax +1 608 467 5397
sales@photoniccleaning.com;
www.photoniccleaning.com

Photonic Sense GmbH

#1527

Am Goldberg 3, Eisenach, 99817 Germany
+49 3691 7318 0; fax +49 3691 7318 79
info@photonic-sense.com;
www.photonic-sense.com
PHOTONIC SENSE is a world-class manufacturer of the highest quality GERMANIUM and SILICON for infrared optics. We offer a wide range of sizes and specifications to meet standard and custom requirements for defense & security or commercial applications. ITAR registered and TAA approved. Contact: Dawn Jennings, North America Sales & Marketing Mgr., dawn@photonic-sense.us.com; Andreas Zickler, Global Sales Manager, azickler@photonic-sense.com

Photonics Media

#1926

SPIE Corporate Member

2 South Street, Berkshire Common,
Pittsfield, MA, 01201-6109 USA
+1 413 499 0514; fax +1 413 442 3180
photonics@laurin.com;
www.photonics.com

Featured Product: Photonics Buyers' Guide: stop by our booth and get your 2012 edition of this must-have resource.

Photonics Media – the Pulse of the Industry – invites you to explore the information leader and all that we have to offer. As the publisher of *Photonics Spectra*, *BioPhotonics* and *EuroPhotonics* magazines, *Photonics Buyers' Guide*, *Photonics.com*, and more, we bring you the news, research and applications articles you need to succeed. Many of our offerings are available to you free-of-charge. Contact: Karen Newman, Group Publisher, editorial@photonics.com; Ken Tyburski, Director of Sales, advertising@photonics.com

Photonics Online

#619

2591 Wexford-Bayne Rd, Sewickley,
PA, 15143-8676 USA
+1 724 940 7555; fax +1 724 940 7707
info@photonicsonline.com; www.
photonicsonline.com

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

PHOTONIS USA

#205

SPIE Corporate Member

660 Main Street, Sturbridge Business
Park, Sturbridge, MA, 01566 USA
+1 508 347 4000; fax +1 508 347 3849
sales@usa.photonis.com;
www.photonis.com

Featured Product: Lynx CMOS Low-Light Imaging Sensor designed to perform well under daylight and low-light levels.

PHOTONIS is a leader in low-light level imaging, providing digital CMOS imaging sensors for 24/7 unmanned surveillance, vehicle safety, or man-portable applications. PHOTONIS is also the most widely deployed night vision tube globally, with exclusive Auto-Gating and ONYX black and white phosphor options. Additionally, PHOTONIS manufactures sensors and detectors which are ideal for LIDAR and LADAR detection and image mapping, and 12mm optical receivers for less-than-ideal or unmanned situations. Contact: Lee Nowell, Director of Sales, l.nowell@photonis.com

Photron, Inc.

#2224

SPIE Corporate Member

9520 Padgett Street, Suite 110,
San Diego, CA, 92126 USA
+1 858 684 3555; fax +1 858 684 3558
image@photron.com; www.photron.com

Featured Product: Photron FASTCAM SA-X - high speed camera providing mega pixel resolution to 12,500 frames per second.

The Photron Fastcam SA-X is a mega pixel (1K x 1K) high speed video camera that utilized large twenty micron square 12-bit pixels to provide unmatched performance for light sensitivity and full frame resolution. Available with 8, 16, 32 and 64 GB memory options, the SA-X has an ISO rating (measured against ISO 12232 Ssat method) of 25,000 for the monochrome version. Available with a wide range of accessories, including lens remote control, the SA-X is the fastest mega pixel high speed camera. Contact: Andrew Bridges, Director, Sales & Marketing, abridges@photron.com; Shun Motoyama, Sales Manager, motoyama@photron.com

Physics Today

#1402

One Physics Ellipse, College Park,
MD, 20740-3843 USA
+1 301 209 3005; fax +1 301 209 0842
jbebee@aip.org; www.physicstoday.org

Featured Product: Front page ads: Place your message on page 1 of a PDF that a researcher just downloaded!

Tomorrow's optical innovations start with the 64,000 researchers at government, industrial and university labs who read *Physics Today*. *Physics Today* is the foremost physics magazine in the world, delivered to more than 360,000 readers in four different media—120k subscribers in print (25k outside the USA), 86k pass-along, 140k unique visitors each month, 60k registered for e-mail alerts, and 15k signed up for RSS feeds. 52% of *Physics Today* readers list their primary job function as research. Contact: Randolph Nanna, Publisher, Rnanna@aip.org; Jeff Bebee, Marketing Dir, Magazines, jbebee@aip.org

Physimetrics, Inc.

#616

5020 Old Ellis Pt Ste 100, Roswell,
GA, 30076-6349 USA
+1 770 642 6858; fax +1 770 642 0160
sales@physimetrics.com; www.
physimetrics.com

Physimetrics meets all of your image processing and machine vision needs. In addition to providing a complete product line of components, we offer custom systems, integration, consultation, and other related services. We specialize in digital cameras, image processing software, machine vision software, lighting, lenses fixtures and full turnkey systems. Our products service such applications as microscopy, industrial, security, aerospace, pulp & paper, textile, electronics, medical, and more. Contact: Ruben Uribe, President, ruben@physimetrics.com; Paula Gilliland, Office Manager, paula@physimetrics.com

PI (Physik Instrumente)

L.P.

#2320

SPIE Corporate Member

16 Albert St, Piezo Nano Positioning,
Auburn, MA, 01501-1304 USA
+1 508 832 3456; fax +1 508 832 0506
info@pi-usa.us; www.pi-usa.us

ISO 9001, leader in nanopositioning, Hexapods, ultra-precision motion control & piezo stage positioning systems for OEM & research. Nanopositioning Systems; 6-Axis Hexapod Alignment Systems, Piezo Stages for Microscopy; Lens Positioners; Fast Steering Mirrors / Active Optics; Long-Life Multilayer Piezo Actuators; Ceramic Linear Motors, Piezo Drivers & Digital Controllers; Micropositioning Actuators, Stages & Motion Controllers; MicroMotion Robots for automated 3D to 6D Photonics Alignment. Contact: Sales Department, info@pi-usa.us

PicoQuant GmbH

#2517

Rudower Chaussee 29, Berlin, 12489
Germany
+49 30 6392 6560; fax +49 30 6392 6561
nick.bertone@optoelectronics.com;
www.picoquant.com

Featured Product: Yellow picosecond pulsed diode laser with variable repetition rate (595nm).

PicoQuant GmbH is a research and development company in the field of optoelectronics. Founded in 1996, the company is based in Berlin, Germany and is a worldwide leader in the field of single photon counting applications. The product line includes pulsed diode lasers and LEDs, photon counting instrumentation, fluorescence lifetime spectrometers and time-resolved confocal microscopes. Since April 2008, Sales and Support in North America is handled by PicoQuant Photonics North America Inc. Contact: Nick Bertone, Nick.Bertone@optoelectronics.com

Plasma-Therm LLC

#548

SPIE Corporate Member

10050 16th St N, Saint Petersburg,
FL, 33716-4219 USA
+1 727 577 4999
www.plasmatherm.com

Plasma-Therm LLC., designs, manufactures, sells and supports plasma etch and plasma enhanced chemical vapor deposition (PECVD) equipment to semiconductor device manufacturers. These systems are used in applications ranging from leading edge R&D to high volume production. Our served markets include Photomask Etching, Wireless communication, MEMS, Nanotechnology, Data Storage, Solar Cells and LED/Photonics Processing. Contact: sales@plasmatherm.com

Pleora Technologies Inc. #1020

359 Terry Fox Dr Ste 230, Kanata, ON, K2K 2E7 Canada
+1 613 270 0625; fax +1 613 270 1425
info@pleora.com; www.pleora.com

Featured Product: Include high-value analog cameras to your GigE Vision video network with iPORT™ Analog-Pro IP engine.

Pleora Technologies Inc. pioneered the use of Gigabit Ethernet for real-time video connectivity and revolutionized industrial imaging. Working from its rich portfolio of video network elements, Pleora engineers networked video connectivity solutions for mission-critical applications, from definition to deployment, with full integration support. Find out why more military, medical, and manufacturing integrators and OEMs choose Pleora and stay – visit www.pleora.com. Contact: John Butler, Business Manager, North America, john.butler@pleora.com; Rob Lee, Vice President Marketing & Sales, rob.lee@pleora.com

PLX Inc. #823

25 W Jeffry Blvd Ste A2, Deer Park, NY, 11729-5761 USA
+1 631 586 4190; fax +1 631 586 4196
info@plxinc.com; www.plxinc.com

Featured Product: The PLX Modern Boresight Module dramatically enhances targeting capabilities.

PLX designs and manufactures complex monolithic optical structures, which use flat, front -surface reflective systems, that achieve and maintain state-of-the-art accuracy. Our front surface reflector systems operate in all wavelengths, from UV to far IR. Our proprietary M.O.S.T.™ technology creates a sandwich structure that achieves superb thermal and mechanical stability. PLX's Boresighting Technology is just one of the reasons for our long history with the defense and space industries. Contact: Jack Lipkins, CEO, jl@plxinc.com; Zvi Bleier, CTO, zb@plxinc.com

Polaris Sensor Technologies, Inc. #630

200 Westside Square, Ste 320, Huntsville, AL, 35801 USA
+1 256 562 0087; fax +1 256 562 0088
info@polarissensor.com; www.polarissensor.com

Featured Product: Infrared Imaging Polarimeter with Realtime Image Processing for Target Acquisition & Discrimination.

Polaris Sensor Technologies specializes in state-of-the-art electro optical products and services. Our personnel have extensive experience in developing high performance optical systems for the aerospace, medical, military, law enforcement and intelligence communities. Our products include polarimetric and multispectral imaging systems, high resolution 3D displays, high speed flame detection sensors, and realtime image processing for sensor calibration, 3D reconstruction and visualization. Contact: Joseph Foster, info@polarissensor.com

PolarOnyx, Inc. #1222

SPIE Corporate Member
2526 Qume Dr Ste 17&18, San Jose, CA, 95131-1870 USA
+1 408 573 0930; fax +1 408 573 0932
sales@polaronyx.com; www.polaronyx.com

Featured Product: compact 1 µm high energy, 2 µm high energy/power and 1.55 µm & 1 µm GHz ultrafast fiber lasers.

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

Polatis Inc. #332

One Tech Drive, Suite 101, Andover, MA, 01810 USA
+1 978 327 5080; fax +1 978 327 5081
FedSales@polatis.com; www.polatis.com

Featured Product: The New Series 6000, 192x192 All-Optical Switch. Port counts from 4x4 to 192x192.

Polatis delivers the world's lowest loss all-optical switching solutions for remote fiberlayer provisioning, protection, monitoring, reconfiguration and test, with over 1,000 systems shipped worldwide. Dependable, field-proven DirectLight® optical matrix switch technology scales from 4x4 to 192x192 ports, applying leading-edge performance to provide dynamic optical networking for telecommunications, datacenter, government, test and video markets. Contact: Mike Bitting, AVP Federal Sales, mbitting@polatis.com; Jerry Chappell, Sales Representative, jchappell@teracomm.com

Plan to Attend Government Funding Session

Wednesday • 3:30 to 5:30 pm

Open to All Attendees
Exhibition visitors, exhibitors, and technical conference attendees

The purpose of this session is to assist industry in determining potentially profitable areas where they might invest to develop technology of interest to government funding agencies. Please attend this session to gain insights in future interests and directions for the various agencies represented.

See p. 20 for details.

Featured Product Launches

IRnova AB
Booth 1633
Product: IRnova320ER-1055



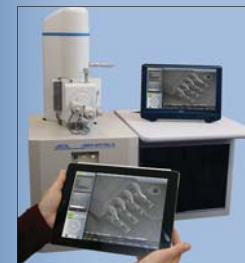
New QWIP DDCA spectrally tailored for SF₆ gas leak detection.

ISP Optics Corp.
Booth 2314
Product: IR-SWIFT LWIR Continuous Zoom Lens



Ultra-compact 18-60mm LWIR continuous zoom lens for 4" payloads.

JEOL USA Inc.
Booth 2215



InTouchScope portable SEM with multi-touch interface for high resolution imaging/EDS analysis.

Kappa optronics Inc.
Booth 534
Product: HD Payload Camera Module



Small High-Definition Camera Module with HD-SDI Interface.

Power Technology, Inc. #2521

SPIE Corporate Member

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

Featured Product: 517nm 5mW Green Laser Diode Module for Weapons/Gun Sight Applications offering unmatched brightness.

Power Technology, est. in 1969, (ITAR Reg. Mfg.) designs, manufactures & distributes laser diode products including OEM analytical, biomedical, industrial, semiconductor inspection, defense & security & machine vision applications. Defense & Security applications include laser diode subassemblies built for target designation/pointing, range-finding, illumination for night vision (NVG, FLIR), aiming/sighting & defensive countermeasures that are UAV mounted, vehicle mounted or hand-held. Contact: Walter Burgess, VP, Sales and Engineering, waburgess@powertechnology.com; Glenn Sullivan, Sales Engineer, gsullivan@powertechnology.com

Pranalytica, Inc. #506

1101 Colorado Ave, Santa Monica, CA, 90401-3009 USA
+1 310 458 4493; fax +1 310 458 0171
www.pranalytica.com

Precision Armaments Laboratory (PAL), US Army #651

Bldg 44, RDAR-MEF-S, Picatinny Arsenal, NJ, 07806-5000 USA
+1 973 724 2460; fax +1 973 724 8539
pica.pal@conus.army.mil;
www.pica.army.mil/PAL

Featured Product: 215' tower facility dedicated to testing and evaluating sensor/seeker performance in adverse weather.

The Precision Armaments Laboratory (PAL) is a DoD facility established to provide a cost effective means to investigate, experiment and evaluate the life cycle aspects of sensor/seeker devices with respect to all-weather performance requirements. Located in NJ at Picatinny, the PAL is a unique facility of the US Army's ARDEC that provides laboratory grade infrared sensors, integrated MET instrumentation, and a fleet of autonomously heat controlled surrogate 2S3 self propelled howitzer targets. Contact: PAL Manager, Pica.Pal@conus.army.mil

Precision Asphere, Inc. #520

SPIE Corporate Member

48860 Millmont Dr Unit 105-C, Fremont, CA, 94538 USA
+1 510 668 1508; fax +1 510 668 1595
sales@precisionasphere.com;
www.precisionasphere.com

Featured Product: Off-Axis-Aspheres and Free-Form optics: Glasses, Silicon, and Silicon Carbide, 10-650mm diameters.

PRECISION ASPHERE, Inc is a proud US company specialized in manufacturing of high precision custom aspheres. Working with glasses, silicon, and silicon carbide, we fabricate aspheric optical surfaces to less than 1/30 waves PV@633nm surface figure, with minimal slope and mid-spatial frequency error. Possessing unique computer controlled polishing technology and over 17 years' experience of aspheres manufacturing, PRECISION ASPHERE offers you the highest PERFORMANCE-to-COST ratio in the industry. Contact: John Kong, jkong@precisionasphere.com

Precision Optical #712

SPIE Corporate Member

320 Kalmus Drive, Costa Mesa, CA, 92626 USA
+1 949 631 6800; fax +1 949 642 7501
sales@precisionoptical.com; www.precisionoptical.com

Precision Optics Gera #448

1090 Delacroix Cir, Nokomis, FL, 34275 USA
+1 941 803 4927; fax +1 941 237 4800
info@pog.eu; www.pog.eu

Featured Product: OLED Active Displays.

POG is a leading manufacturer of custom and standard microstructures on glass and ceramics – reticles, scales, calibration targets and test patterns. In-house photolithographic processes result in the highest possible quality for serial production and small batch quantities. POG designs, develops and processes custom optical and EO-mechanical systems and components from the UV through IR for machine vision, semiconductor industry, aerospace and defense. Contact: Buzz Nesti, buzz.nesti@pog.eu

Precitech, Inc. #2310

SPIE Corporate Member

44 Blackbrook Road, Division of AMETEK, keene, NH, 03431-5040 USA
+1 603-357-2511
precitech.machinesales@ametec.com;
www.precitech.com

Precitech designs and manufactures ultra precision machine tools for turning, milling, & grinding. Our machines produce rotationally symmetric, asymmetric, freeform and sculpted geometries. We achieve form tolerances in the sub-micron range and nanometer surface finishes when equipped with diamond tooling. Precitech provides unmatched support to our customers from development, through installation and over life of the product. Our application engineers can solve the most demanding machining. Contact: Chris Stroshine, North American Sales Manager, chris.stroshine@ametec.com; Kirk Rogers, North American Sales Manager, kirk.rogers@ametec.com

Princetel, Inc. #415, 456

2560 East State Street EXT, Hamilton, NJ, 08619 USA
+1 609 895 9890; fax +1 609 895 9552
info@princetel.com; www.pricetel.com

Princeton Lightwave, Inc. #530

2555 Rte 130 Ste 1, Cranbury, NJ, 08512 USA
+1 609 495 2600; fax +1 609 395 9113
sales@princetonlightwave.com;
www.princetonlightwave.com

Featured Product: PLR-600 rangefinder receiver has a InGaAs APD & TIA for ranging, LADAR and scientific applications.

Princeton Lightwave produces high-performance InP photodetectors and laser diodes covering shortwave infrared wavelengths. Our extensive integration technologies enable solutions ranging from components to turn-key sub-systems for customers in defense, imaging, instrumentation, and optical communications markets. Key products include 1D and 2D focal plane arrays, FPAs and cameras for 3D LADAR, single photon detectors, avalanche photodiodes, high-power diode lasers, and superluminescent diodes. Contact: Joseph Poekert, Director of Business Operations, jpoekert@princetonlightwave.com; Jason De Luca, Customer Service Representative, jdeluca@princetonlightwave.com

Princeton Scientific Corp. #719

414 Wall Street, Princeton, NJ, 08540 USA
+1 609 924 3011; fax +1 609 924 3018
info@princetonscientific.com;
www.princetonscientific.com



Exhibition Hall

Tuesday 24 April, 10:00 am to 5:00 pm
Wednesday 25 April, 10:00 am to 5:00 pm

"Secret capital of small business"
—*Fortune Magazine*

"Ranked as one of the top places to live"
—*CNN Money*



F L O R I D A

INNOVATION HUB OF THE AMERICAS

Visit the Florida Cluster: 2100 aisle in South Hall, booths 2120 - 2129

UCF, one of the most dynamic universities in the USA, offers 225 degree programs through 12 colleges including CREOL, The College of Optics and Photonics. CREOL provides exceptional education for MS and PhD degrees in Optics, and partners effectively with the Florida High Tech Corridor Council and other industry, government, and university organizations to provide innovative R&D collaborations for optics and photonics.

- Aggressive support system for technology commercialization
- State-supported financial advantages and incentives
- Booming high-tech sectors
- Exceptionally strong optics and photonics knowledge and industry base
- Nationally-ranked pro-business climate



Proto Labs, Inc

#125

SPIE Corporate Member

5540 Pioneer Creek Dr, Maple Plain, MN, 55359 USA
+1 877 479 3680; fax +1 763 479 2679
customerservice@protolabs.com;
www.protolabs.com

Proto Labs Inc. is one of the world's fastest providers of CNC-machined and injection-molded parts. The company's Firstcut and Protomold services utilize proprietary computing technologies and automated manufacturing systems to provide both prototype and short-run production parts in as fast as one business day. Contact: customerservice@protolabs.com

Pulse Instruments Co. #1636

1234 Francisco St, Torrance, CA, 90502-1200 USA
+1 310 515 5330; fax +1 310 515 0068
support@pulseinstruments.com; www.pulseinstruments.com

Featured Product: Low Noise Data Acquisition System, Transportable programmable camera electronics.

Pulse Instruments is a leading manufacturer of systems and equipment for characterization and production test of image sensors. In addition to high-profile science applications, our equipment and systems are also used to test visible and infrared imaging devices for defense, security, commercial and industrial automation, machine vision and biomedical imaging applications. Our integrated test systems provide a flexible, expandable and cost effective solution to your testing requirements. Contact: Scott Williams, Director of Engineering, scott@pulseinstruments.com; Steven Kan, Vice President Sales, steven@pulseinstruments.com

Pulse Inteco Systems Ltd. #432

1 Hazoran St, Netanya, 42506 Israel
+1 972 73 2436600; fax +1 972 9 8656034
main@pi-sys.com; www.pi-sys.com
Pulse Inteco Systems Ltd. develops & manufactures Laser Rangefinders & Laser Transmitters modules since 1995 Suitable for land, airborne or naval applications. these modules are integrated in electro-optical payloads, FCS, observation & other systems. PI Systems' range of modules includes long and short range, computer-controlled and handheld LRF's and eye-safe laser transmitters covering a range of output energy, repetition rate & pulse width as well as flash lamps and diode pumping. Contact: Mandy Rosenzweig, OEM Systems Director of Marketing and Sales, mandyr@pi-sys.com; Osnat Lidor, Marketing Communications Director, osnatl@pi-sys.com

PVP Advanced EO Systems, Inc. #2415

SPIE Corporate Member

14312 Franklin Ave Ste 100, Tustin, CA, 92780 USA
+1 714 508 2740
www.pvpaeo.com

PVP Advanced EO Systems, Inc. provides high reliability EO-IR system solutions directly to DOD, Homeland Security, and via associated defense and aerospace program and vehicle primes. Applications include very high performance vehicle based surveillance, mobile weapon and situational awareness systems, fixed location ultra-long range surveillance suites, gyro-stabilized solutions for electro-optical and RF systems, and eye-safe at the aperture laser pointers and imaging illuminators.

METER BOARD SPONSOR

Qioptiq, Inc.

#913

78 Schuyler Baldwin Dr, Fairport, NY, 14450-9100 USA
+1 585 223 2370; fax +1 585 223 1999
www.qioptiq.com

Featured Product: Optical Modules and Components for Avionics, Weapon Sights, Missile Systems and Night Vision.

Qioptiq designs and manufactures photonic products and solutions that serve a wide range of markets and applications in the areas of medical and life sciences, industrial manufacturing, defense and aerospace, and research and development. Qioptiq benefits from having integrated the knowledge and experience of Avimo, Gsänger, LINOS, Optem, Pilkington, Point Source, Rodenstock, Spindler & Hoyer and others. Qioptiq's people work in Europe, Asia and the USA. More at www.qioptiq.com Contact: Patrick Gray, Business Development Director, patrick.gray@qdi.qioptiq.com

QmagiQ, LLC

#2313

22 Cotton Rd Ste 180, Nashua, NH, 03063-4219 USA
+1 603 821 3092; fax +1 603 821 3094
info@qmagiq.com; www.qmagiq.com
QmagiQ, LLC, designs and manufactures a variety of infrared focal plane arrays, sensor engines, and camera systems. Its products serve the commercial market for applications such as persistent surveillance, gas imaging, and radiometry. While the bulk of its products is currently based on Qwip detector arrays, QmagiQ is also vigorously pursuing the development of other promising technologies, notably strained-layer superlattices. Contact: Mani Sundaram, CEO/President, msundaram@qmagiq.com; Axel Reisinger, CTO, areisinger@qmagiq.com

Quality Thin Films, Inc. #2122

141 Burbank Rd, Oldsmar, FL, 34677-4900 USA
+1 813 855 1900; fax +1 813 855 5580
sales@qtf.com; www.qtf.com

Featured Product: Antireflective coating @ 1.064, 1.570 & 3.5-5.0µm on Calcium Fluoride passes acidified salt fog test.

Quality Thin Films supplies optics, laser crystals and thin film coatings. We specialize in ultra high damage threshold coatings on super polished crystals and optics, from the UV to the IR. State of the art equipment for substrate fabrication and leading edge coating chambers enable QTF to continuously improve on quality with emphasis on customer service. ISO 9001:2008 certified. Contact: Karl George Sr, President/CEO, sales@qtf.com; Karl George Jr, Vice President, sales@qtf.com

Raicol Crystals Ltd. #236

SPIE Corporate Member

22 Hamelacha Str Park Cible New Industrial Area, Resh Ha'ain, 48091 Israel
+1 972 3 936 7412; fax +1 972 3 906 8969
info@raicol.com; www.raicol.com

Featured Product: RTP crystals and RTP-based Electro-Optic Cells for high-repetition rate applications.

Raicol Crystals manufactures nonlinear optical elements, including KTP, HGTR KTP, RTP, LBO, BBO, PPKTP and PPSLT. Raicol provides BBO-based electro-optic cells for high power applications. Raicol's newest products are the RTP electro-optic Q-switch for high-repetition rate applications and the monolithic KTP OPO. Contact: Alex Skliar, CTO, alexs@raicol.com

Rainbow Research Optics, Inc. #1741

SPIE Corporate Member

6830 S Dawson Cir, Centennial, CO, 80112 USA
+1 303 371 3000; fax +1 303 371 1333
sales@rroptics.com;
www.rainbowoptics.com

Plan to Attend FREE Exhibitor Product Demonstrations

Refer to pages 28-29 for complete times, schedules, and locations.

Raptor Photonics Ltd. #2036

SPIE Corporate Member

Millbrook Larnie, Willowbank Business Park, Larnie, BT40 2SF United Kingdom +44 2828 270 141; fax +44 2828 275 685 info@raptorphotonics.com; www.raptorphotonics.com

Featured Product: HAWK EMCCD camera, OWL SWIR & Visible SWIR camera, Osprey SCMOS camera, KITE and FALCON EMCCD camera.

Raptor Photonics Ltd offers a full line of high performance, rugged ultra low light cameras, which are optimized for day/night surveillance, homeland security and scientific applications. Raptor specializes in complete cameras and core engine solutions using EMCCD, SCMOS and SWIR sensor technology. The extreme low light capability of Raptor's cameras makes them ideal in a variety of applications, including Border & Coastal Surveillance, Airport & Port Surveillance and Airborne/Land EO systems.

CONFERENCE BAG SPONSOR

Raytheon ELCAN Optical Technologies #1921

SPIE Corporate Member

450 Leitz Rd, Midland, ON, L4R 5B8 Canada
705 526 5401; fax 705 526 5831
info@elcan.com; www.elcan.com

Raytheon ELCAN is a vertically integrated provider of precision optical assemblies for Defense & Security, Medical, Industrial, Commercial and Entertainment customers located in Midland Ontario Canada. Our Regional Sales Managers are positioned in major centers in Europe and North America to be available and dispatched to meet the most demanding production schedules and are supported by 360° Integrated Product Teams within the facility to support design and manufacture of your program. Contact: Wolf Glage, VP Engineering, info@elcan.com; Deborah Ratushniak, Communications Specialist, info@elcan.com

Redfern Integrated Optics, Inc. #332

SPIE Corporate Member

3350 Scott Blvd, Bldg 62, Santa Clara, CA, 95054 USA
+1 408 970 3500; fax +1 408 970 3200
sales@rio-inc.com; www.rio-inc.com

Renishaw Inc. #524

5277 Trillium Blvd, Marketing, Hoffman Estates, IL, 60192 USA
+1 847 286 9953; fax +1 847 286 9974
usa@renishaw.com; www.renishaw.com

Featured Product: High-Performance Encoders for Industry's Toughest Applications.

Renishaw offers a comprehensive range of encoders used by OEMs globally for exact positioning, reliability, and superior performance-to-cost value. Three encoder technologies — optical, magnetic and laser interferometer, provide designers with proven solutions to difficult applications. All are engineered to deliver non-contact, friction-free operation, exceptional ease of installation, space savings, and application flexibility. Contact: Jeffrey Seliga, Marketing Manager, jeffrey.seliga@renishaw.com; Howard Salt, Encoder Business, howard.salt@renishaw.com

Research Electro-Optics, Inc. #624

SPIE Corporate Member

5505 Airport Blvd, Boulder, CO, 80301-2339 USA
+1 303 245 4306; fax +1 303 447 3279
sales@reoinc.com; www.reoinc.com
REO is a volume manufacturer of high precision thin film coatings, optics and optomechanical assemblies for the ultraviolet through the long-wave infrared. We also produce high performance HeNe lasers. Markets served include semiconductor process equipment, aerospace/defense systems, telecom, laser manufacturers, materials processing and life sciences instrumentation. When you need engineering and design expertise, plus cutting edge fabrication, thin film coating and assembly, think REO. Contact: Mark Damery, VP & GM of Sales and CSO, markd@reoinc.com; Ed Yousse, Director of Sales, edy@reoinc.com

Reynard Corporation #612

SPIE Corporate Member

1020 Calle Sombra, San Clemente, CA, 92673-6227 USA
+1 949 366 8866; fax +1 949 498 9528
sales@reynardcorp.com; www.reynardcorp.com

Featured Product: Gapless Photolithography: multiple filter coatings with no gap & overlap between filters.

Reynard Corp. supplies custom & standard optical components & thin film coatings 0.2µm to 50µm (UV-FAR IR) to demanding specs for military, aerospace, medical & telecom applications. Our expertise in these markets enables us to stay on the leading edge of technological advancements through research partnerships, commercial development programs, SBIR programs and internal R&D. Other services include Optical & Mech. Fabrication, Photolithography Patterns, Environmental Testing, & Sub-Assembly. Contact: Beth Kinchyk, sales@reynardcorp.com; Robyn Miller, sales@reynardcorp.com

Featured Product Launches

Kigre, Inc.

Booth 1021

Product: HESP AO Q-Switched Laser



Kigre's New Eye-Safe laser provides ~10-15mj 10Hz 6us@1534nm.

KiloLambda Technologies, Ltd.

Booth 602

Product: Wideband Laser Protection Filter (WPF)



A single filter against all laser wavelengths. Provides protection against laser.

Kopin Corp.

Booth 1106

Product: Ruby Module



Proven LCD performance and reliability in a compact, ultra-low power, FOD sealed package.

Krell Technologies, Inc.

Booth 1331

Product: Rev2 Micro Polisher



Automated micro-polisher for processing optical connectors and bare fibers.

SPIE Defense, Security, and Sensing Directory

RICOR USA, Inc.

#119**SPIE** Corporate Member

1 Tara Blvd Ste 300, Nashua, NH, 03062 USA
+1 603 718 8903; fax +1 603 718 8910
sales@ricor-usa.com; www.ricor-usa.com

Riegl USA Inc.

#1729**SPIE** Corporate Member

7035 Grand National Dr Ste 100, Orlando, FL, 32819 USA
+1 407 248 9927; fax +1 407 248 9927
info@rieglusa.com; www.rieglusa.com

Rigaku Raman Technologies

#150

1101 McKay Dr, San Jose, CA, 95131 USA
+1 281 362 2300; fax +1 281 364 3628
info@rigakuraman.com; www.rigakuraman.com

Rochester Precision Optics, LLC

#806**SPIE** Corporate Member

850 John St, West Henrietta, NY, 14586 USA
+1 585 292 5450; fax +1 585 292 5459
sales@rpoptics.com; www.rpoptics.com

Manufacturer and design services for precision glass and plastic molded optics. Aspheric lenses and optical assemblies for defense, imaging, industrial and medical industries. Vertically integrated manufacturing facility for prototype and high volume production. Automated optical manufacturing, diamond turning, advanced thin-film coating and precision machining centers.

Rocky Mountain Instrument Co.

#525

106 Laser Dr, Bldg 1, Lafayette, CO, 80026-2930 USA
+1 303 664 5000; fax +1 303 664 5001
sales@rmico.com; www.rmico.com

Rocky Mountain Instrument Co. (RMI) is a leading manufacturer of optical components, high power thin film coatings & assemblies. RMI offers design, fabrication and testing services in our 90,000 sq ft manufacturing facility in Lafayette, CO. Contact: Jensen Huddleston, Marketing Manager, jensenh@rnilaser.net; Heath Kirin, Business Development Manager, heath@rmico.com

RPC Photonics, Inc.

#1226**SPIE** Corporate Member

330 Clay Rd, Rochester, NY, 14623 USA
+1 585 272 2840; fax +1 585 272 2845
info@rpcphotonics.com; www.rpcphotonics.com

RPMC Lasers, Inc.

#1224**SPIE** Corporate Member

203 Joseph St, O'Fallon, MO, 63366-2614 USA
+1 636 272 7227; fax +1 636 272 3909
info@rpmclasers.com; www.rpmclasers.com

Rubicon Technology Inc.

#545

900 Green St, Bensenville, IL, 60106-2553 USA
+1 847 295 7000; fax +1 847 295 7555
sales@rubicon-es2.com; www.rubicon-es2.com

SAES Getters USA, Inc.

#2526

1122 E Cheyenne Mountain Blvd, Colorado Springs, CO, 80132 USA
+1 719 576 3200; fax +1 719 576 5025
www.saesgetters.com

Sandia National Labs.

#1003

P.O. Box 5800, Albuquerque, NM, 87125 USA
www.sandia.gov

Sandvik Osprey Ltd.

#305

Millands Rd, Red Jacket Works, Neath W Glamorgan, SA11 1NJ United Kingdom
+44 1639 634121; fax +44 1639 630100

Santa Barbara Infrared, Inc.

#1902**SPIE** Corporate Member

30 S Calle Cesar Chavez Ste D, Santa Barbara, CA, 93103-3641 USA
+1 805 965 3669; fax +1 805 963 3858
sales@sbir.com; www.sbir.com

SBIR designs and manufactures the most innovative IR and E-O test instrumentation available. SBIR's broad line of innovative products support testing of military and commercial sensor systems for world-wide use in laboratory, production, depot and field test applications. Products include: blackbody sources, visible sources, laser test sets, collimators, target projectors, test automation software, multi-spectral test sets, detector test sets and MIRAGE dynamic IR scene projectors. Contact: Steve White, Sales Manager, swhite@sbir.com; Gabe Amparan, Sales & Marketing, gamparan@sbir.com

Satisloh North America Inc.

#202**SPIE** Corporate Member

N116 W18111 Morse Dr, Germantown, WI, 53022-2484 USA
+1 262 255 6001; fax +1 262 255 6002
www.satisloh.com

POPCORN STATION SPONSOR

SCD.USA, LLC

#1927

1901 S Harbor City Blvd Ste 806, Melbourne, FL, 32901-4773 USA
+1 321 724 6146; fax +1 321 724 6267
contactus@scdusa.com; www.scdusa.com

SCD.USA located in Melbourne, FL supplies high tech Infrared Detectors and High Power Laser Diode products to U.S. Military and commercial markets. Our product offerings stem from the technology transfer of the SCD Israel world class products in both cooled and uncooled infrared detectors.

Schneider Optics, Inc.

#1102**SPIE** Corporate Member

285 Oser Ave, Industrial Optics Div, Hauppauge, NY, 11788-3609 USA
+1 631 761 5000; fax +1 631 761 5090
industrial@schneideroptics.com; www.schneideroptics.com

Featured Product: New F-Mount Lenses from Schneider feature lockable iris and focus, & cover the full 43.2mm sensor.

Schneider Optics designs, develops, and manufactures high performance lenses for machine vision & other image processing applications. Standard products include Compact C-mount lenses, Industrial F-Mount lenses, Telecentric lenses, a modular Macro system, large format lenses (area & line scan), and industrial filters. Custom lens solutions are also available. Key markets include Machine Vision, Document Scanning, Industrial Inspection, 2D/3D Metrology, Surveillance, & Hyperspectral Imaging. Contact: Stuart Singer, Vice President, ssinger@schneideroptics.com; Jim Sullivan, Director of Sales & Marketing, jsullivan@schneideroptics.com

Free Popcorn

Exhibition Hall / 2 Locations

Popcorn carts will be open Tuesday and Wednesday from 11:00 am to 3:00 pm; Thursday from 11:00 am to 2:00 pm.



NASA Invites You to Explore the Cutting Edge

The best new design ideas and engineering innovations developed under NASA's \$12 billion R&D budget are reported FIRST in *NASA Tech Briefs* — America's largest-circulation design engineering magazine.

Keep pace with the latest breakthroughs in:

- **Electronics**
- **Test & Measurement**
- **Computing**
- **Bio-medical**
- **Mechatronics**
- **Software**
- **Green Design**

Join over 190,000 design engineers & managers throughout OEM industries who rely on *NASA Tech Briefs* to stay on the cutting edge... and gain a competitive advantage.

You may also qualify to receive *Defense Tech Briefs*,  from the publishers of *NASA Tech Briefs*.



Start your subscription today at: www.techbriefs.com/subscribe/EXP012

 **TECH BRIEFS**

TB **TECH BRIEFS**
MEDIA GROUP

For information on marketing to this audience of highly qualified BUYERS, visit www.techbriefsmedia.com or contact Joe Pramberger, publisher, at 917-286-3758; joe@techbriefs.com.

EXHIBITION MAP/RESTAURANT GUIDE SPONSOR

SCHOTT Defense #1519

2451 Crystal Dr Ste 450, Arlington, VA, 22202 USA
+1 703 418 1409
defense@us.schott.com;
www.us.schott.com/defense

For over 40 years, SCHOTT has delivered a wide range of leading edge glass and glass-ceramic solutions for defense and security applications. SCHOTT's optics, fiber optic, armor material and electronic packaging products are being used in the field today to keep soldiers safe and to improve their effectiveness. SCHOTT stronger. SCHOTT safer. SCHOTT smarter. Contact: Katie MacIntyre, Marketing & PR Manager, katie.macintyre@us.schott.com

SELEX Galileo #344

P O Box 217, Millbrook Industrial Estate, Southampton, Hampshire, SO15 OEG United Kingdom
+44 1268 883203
david.bishton@selexgalileo.com;
www.selexgalileo.com

SELEX Galileo, a Finmeccanica company, provides a full security, safety and ISTAR capability for air, land and sea operations. The Company combines leading edge technologies to deliver integrated sensor solutions to enhance Situational Awareness, Surveillance and Protection and offers through-life management for defense systems and home security applications. SELEX Galileo employs 7,000 people with operations in the United Kingdom, Italy, United States and Saudi Arabia. Contact: David Bishton, Sales and Marketing Manager, david.bishton@selexgalileo.com; Phil Booker, philip.booker@selexgalileo.com

Sensics, Inc. #646

7125 Thomas Edison Dr Ste 103, Columbia, MD, 21046 USA
+1 443 927 9200; fax +1 443 927 9203
support@sensics.com;
www.sensics.com

Sensors Unlimited, Inc., part of Goodrich Corp. #1610

SPIE Corporate Member
3490 Rte 1, Bldg 12, Princeton, NJ, 08540-5914 USA
+1 609 520 0610; fax +1 609 520 1663
sui_info@goodrich.com;
www.sensorsinc.com

Featured Product: New, compact, low power GA640C SWIR camera features 60x512 15µm pitch, 1.5W power, <1 cubic in vol.

Manufacturer of indium gallium arsenide (InGaAs) near-infrared (NIR) and shortwave infrared (SWIR) imagers and detectors (available fully packaged or as OEM imaging modules) for automated inspection, defense, security, biomedical, spectroscopy and solar cell inspection. Innovative InGaAs-based products include fast-framing and high-resolution cameras, linescan imagers, and focal plane arrays. Our NIR and SWIR products feature easy-integration, use standard glass optics and require no cooling. Contact: Bob Jones, Director of Sales, robert.jones@goodrich.com

Shanghai Optics Inc. #350

SPIE Corporate Member
17 Brant Ave Ste 6, Clark, NJ, 07066 USA
+1 732 321 6915; fax +1 732 875 0298
info@shanghai-optics.com; www.shanghai-optics.com

Featured Product: Custom Optics, Lens Design, Lens Assembly, Aspheric Lens, Thin Film Products, Sputtering Targets

Shanghai Optics is a leading optics supplier of photonics products including optical components, lens system and opto-mechanical hardware. We serve OEM customers with ISO:9001 & 14001 Certified in semiconductor, biotechnology, pharmaceutical industrial, commercial and research industries worldwide. From rapid prototyping to high-volume production, we offers a full spectrum of design and manufacturing expertise at low cost that can give our customer the most competitive edge in global markets. Contact: Kristi Sun, info@shanghai-optics.com

Shellcast Foundries Inc. #716

10645 Lamoureux, Montreal-Nord, QC, H1G 5L4 Canada
+1 514 322 3760; fax +1 514 322 7226
techsales@shellcast.com;
www.shellcast.com

Featured Product: Aluminum investment casting manufacturer for Military, Defense, Aerospace, Satellite, High-Tech Ind.

AS9100, ISO9001 and NADCAP certified. All casting processes are performed in-house. This includes a non-destructive test lab (NDT) for X-Ray and Penetrant inspection, a destructive test lab, a chemical test lab with arc emission spectrometer, heat treatment facility and CMM equipment. Shellcast offers RAPID PROTOTYPE castings to accommodate sample requirements without the need of hard tooling for functional verifications of new designs as well as fully machined and finished "turnkey" products. Contact: Joe Khouzam, Marketing Director, joe@shellcast.com; Francois Desrochers, Product Development Engineer, francoisd@shellcast.com

Sierra Precision Optics #1408

12830 Earhart Ave, Auburn, CA, 95602-9027 USA
+1 530 885 6979; fax +1 530 885 1037
sales@sierraoptics.com;
www.sierraoptics.com

Plano optics, Filters, Panels, Windows, Mirrors, Beam Splitters, Wedges and Prisms, Spherical & Cylindrical Lenses, Specialties: Cylindrical optics, Excimer laser Optics, UV/VIS/NIR Resonator optics, Flow Tubes & Custom shaped optics, 1/20th wave metal polishing of Invar & stainless steel. Materials, optical glasses UV, Visible, Near IR such as Fused Silica, BK7, Pyrex, SF grade Glass, Filter Glass, Samarium, Quartz, CaF₂, MgF₂, Zerodur, Yag, Silicon, ZnSe, ZnS, & Germanium. Contact: Jim Stimpson, V. P. Sales & Marketing, jstimpson@sierraoptics.com; Steve Bennion, Engineering Manager, sbennion@sierraoptics.com

Simphotek Inc. #718

SPIE Corporate Member
211 Warren St Ste 202, Newark, NJ, 07103-3568 USA
+1 973 621 2340
info@simphotek.com;
www.simphotek.com

Featured Product: SimphoSOFT CAD-based software simulates laser beam propagation through complex nonlinear materials.

Simphotek is a global leader in simulation of laser-material interactions, with strong expertise in nonlinear materials. Simphotek's team of photonics experts optimizes its versatile SimphoSOFT simulation platform to model your particular photonics applications to minimize development time and maximize your ultimate product performance. SimphoSOFT supports multi-photon absorption, stimulated emission, transmission, Kerr, diffraction, energy transfer, energy level diagrams of arbitrary shape.

Plan to Attend Government Funding Session

Wednesday • 3:30 to 5:30 pm

Open to All Attendees

Exhibition visitors, exhibitors, and technical conference attendees

The purpose of this session is to assist industry in determining potentially profitable areas where they might invest to develop technology of interest to government funding agencies. Please attend this session to gain insights in future interests and directions for the various agencies represented.

See p. 20 for details.

Sinclair Manufacturing Co.

#408

PO Box 398, 12 S Worcester St,
Chartley, MA, 02712 USA
+1 508 222 7440; fax +1 508 226 0517
sales@sinclairmfg.com;
www.sinclairmfg.com

Featured Product: Hermetic Packages; Hermetic Windows

Manufacturer of high reliability hermetic packages and windows for RF/Microwave, Fiber Optic, Detector, Power and Hybrid applications. Custom designs or choose from our thousands of standard tools. Contact: Michael O'Keefe, VP Marketing & Sales, mokeefe@sinclairmfg.com; Jane Koppen, Sales Associate, jkoppen@sinclairmfg.com

Siskiyou Corporation

#805

SPIE Corporate Member

110 SW Booth St, Grants Pass, OR,
97526-2410 USA
+1 541 479 8697; fax +1 541 479 3314
sales@siskiyou.com; www.siskiyou.com

Siskiyou Corporation manufactures motion control devices with manual and computer interfaced controllers, translation stages, mirror mounts, lens positioners, adjustment screws, construction hardware, fiber grippers, and other opto-mechanical components for use in research and manufacturing. Siskiyou Corporation will also custom tailor devices to fit your needs. Contact: Mark Mittelstaedt, Western Regional Sales Manager, mmittelstaedt@siskiyou.com; Fred Haas, Eastern Regional Sales Manager, fred@haastechnologies.com

Snake Creek Lasers, LLC #3042

61 Railroad Ave, Hallstead, PA, 18822 USA
+1 570 879 4992; fax +1 570 879 0912
info@snakecreeklasers.com; www.snakecreeklasers.com

Featured Product: Milliwatt-class miniature green lasers with wider temperature range. Kilowatt-class DPSS laser.

US-based manufacturer of DPSS lasers at 1064, 532 and 473 nm wavelengths, including MicroGreen Series, the world's smallest DPSS green laser, and the MiniGreen Series. These miniature milliwatt-class green lasers are ideal for alignment, bio-fluorescence, Raman, RGB displays, large-body alignment, aiming, and illumination applications. Provides engineering services to adapt lasers to custom environmental requirements and R&D contracts for kilowatt-class Cryogenic-cooled solid-state lasers. Contact: Sten Tornegard, Marketing Manager, stornegard@snakecreeklasers.com

EXHIBITION MAP/RESTAURANT GUIDE SPONSOR

SOFRADIR

#1711

43-47 rue Camille Pelletan, Chatenay-Malabry, 92290 France
+ 33 1 41 13 45 35; fax +33 1 46 61 58 84
marc.larive@sofradir.com;
www.sofradir.com

Featured Product: Come to see our Technology corner to discover the future.

Sofradir is the No. 1 supplier in Europe for 2nd and 3rd generation IR MCT detectors and the No. 2 ranking worldwide. Sofradir and its subsidiaries, ULIS and Sofradir EC, employ 500 people. Sofradir's detectors have been integrated in battlefield proven equipments as well as in space observation missions. They include linear arrays and staring arrays, from ultracompact and low power Epsilon (384x288 15µm pitch) to JUPITER (1280x1024 15µm pitch). Contact: Marc Larive, Marketing Manager, marc.larive@sofradir.com

Sofradir EC, Inc.

#1711

373 US HWY 46 W, Fairfield, NJ, 07004-2442 USA
+1 973 882 0211; fax +1 973 882 0997
info@sofradir-ec.com;
www.sofradir-ec.com

Featured Product: ATOM 1024 High Resolution, 1024 x 768 Uncooled Infrared Imaging Camera.

The Sofradir EC product line includes its US-made cooled and uncooled infrared imaging cores and engines for military, commercial and research applications. The products are available for SWIR, MWIR, LWIR and VLWIR spectral ranges in various array formats. In addition, the company's Electrophysics product line includes AstroScope night vision modules for low-light photography/videography as well as high performance, high-speed infrared research cameras. Contact: Christopher Alicandro, VP - Infrared Sales, info@sofradir-ec.com

Solid Sealing Technology #622

44 Dalliba Ave, Watervliet, NY, 12189 USA
+1 518 874 3600; fax +1 518 874 3610
info@solidsealing.com;
www.solidsealing.com

Free Popcorn

Exhibition Hall / 2 Locations

Popcorn carts will be open Tuesday and Wednesday from 11:00 am to 3:00 pm; Thursday from 11:00 am to 2:00 pm.



Featured Product Launches

Kurt J. Lesker Co.

Booth 503

Product: Thin Film Deposition System



Thin Film Deposition Tools for Optics & Photonics. ITAR compliant.

L-3 Communications Cincinnati Electronics

Booth 1602

Product: IR Micro Cam



L-3 CE announces the Infrared MicroCamera featuring high resolution and small size.

Lake Shore Cryotronics, Inc.

Booth 321

Product: Terahertz and Infrared Band Pass Filters



Lake Shore's flight-proven THz band pass filters enhance signal detection.

Lambda Research Corp.

Booth 2228

Product: TracePro 7.1



TracePro 7.1 features 3D irradiance maps on all selected surfaces!

Solid State Cooling Systems #1937

167 Myers Corners Rd, Wappingers Falls, NY, 12590 USA
+1 845 296 1300; fax +1 845 296 1303
info1@sscooling.com;
www.sscooling.com

Featured Product: ThermoRack 800W Energy Efficient Chiller: unique design for laser applications up to 800 Watts.

We offer precise temperature control for low light CCD cameras, drones, ground test support, diode and DPSS lasers, analytical labs, SEM's, aircraft-ready 28 VDC chillers, portable cooling and more. Since 1994, SSCS has designed and manufactured solid state temperature control products which are compact, quiet, vibration-free and reliable. New products: Oasis 190, ThermoRack 1000PAO, ThermoCube 195 PAO and ThermoRack 800W provide specialized application-specific designs. Contact: Mark Logan, Vice President, Sales, mlogan@sscooling.com; Sophi Kravitz, Sales Associate, skravitz@sscooling.com

Solid State Scientific Corp. #2221

27-2 Wright Rd, Hollis, NH, 03049-6129 USA
+1 603 598 1194; fax +1 603 598 1197
sssc@solidstatescientific.com;
www.solidstatescientific.com

Sony Electronics Inc. #244

One Sony Dr, Visual Imaging Products Group, Park Ridge, NJ, 07656-8003 USA
+1 201 930 7000; fax 201-358-4401
sony.cameras@am.sony.com;
www.sony.com/vidiocameras

Featured Product: Sony - Real Situations, Real World. Real Amazing Camera Technology.

Sony Visual Imaging Products, a renowned leader in camera technology, will be demonstrating its new Color GigE Cameras and its latest High Definition Block Cameras. Sony will also be displaying its ultra-compact and discreet XC-505 color camera. Sony's industrial cameras are known for their outstanding picture quality and reliability. These cameras are ideal for remote monitoring and surveillance applications. By air, sea or ground, Sony has you covered. Contact: Terry Huber, Sr. Marketing Manager, terry.huber@am.sony.com; George Minakas, Product Manager, george.minakas@am.sony.com

Souriau PA&E #2524

434 Olds Station Rd, Wenatchee, WA, 98801 USA
+1 509 667 5480; fax +1 509 663 5039
sales@pacaero.com; www.pacaero.com

Featured Product: SOURIAU PA&E's hermetic RF/Microwave connectors deliver reliable, harsh environment performance.

SOURIAU PA&E specializes in the custom design and manufacture of hermetic connectors and electronic packaging. Our technology is proven in the harshest environments – from deep beneath the earth's surface to deep space and even within the human body. We work directly with engineers to custom design and manufacture electronic packaging and connector products that meet the exacting standards for the reliability satellite, missile, fighter aircraft and other mission-critical systems require. Contact: Rick Kalkowski, Marketing Mgr., rkalkowski@pacaero.com

Special Optics, Inc. #1018

SPIE Corporate Member

315 Richard Mine Rd, Wharton, NJ, 07885-1659 USA
+1 973 366 7289; fax +1 973 366 7407
sales@specialoptics.com;
www.specialoptics.com

Featured Product: Special Optics' teleconverter lenses are ideal for border security and surveillance.

Special Optics specializes in rapidly designing, prototyping, and manufacturing the most innovative and highest performing custom optical systems. We provide state-of-the-art optical solutions that are typically found in applications that demand the finest optical surfaces, highest accuracy and tightest tolerances. In addition to our custom solutions, we carry a complete line of standard "off-the-shelf" products, like Scan Lenses and Beam Expanders all available for quick delivery. Contact: Charles Rafoth, Vice President, Sales and Business Development, crafoth@navitar.com; Kurt Van Hout, Sales Manager, kvanhout@navitar.com

Spectral Evolution, Inc. #431

SPIE Corporate Member

90 Sutton St Unit 4, North Andover, MA, 01845 USA
+1 978 687 1833; fax +1 978 945 0372
sales@spectralevolution.com; www.spectralevolution.com

Spectra-Mat, Inc. #2526

100 Westgate Dr, Watsonville, CA, 95076 USA
+1 831 722 4116; fax +1 831 722 4172
tm_info@saes-group.com;
www.saes-smi-tmsolutions.com

Spectrogon US, Inc. #708

24B Hill Rd, Parsippany, NJ, 07054-1001 USA
+1 973 331 1191
sales.us@spectrogon.com;
www.spectrogon.com

Featured Product: Optical filters, Holographic Diffraction gratings, and thin film coatings and components.

SPECTROGON specializes in the design & manufacture of optical filters, thin film coatings and components, for analytical, medical, and scientific instruments. Spectrogon is the world leader in the manufacture and design of Holographic Diffractions Gratings for laser Compression/Stretcher applications, tuning and spectroscopic instruments. Spectrogon offers a huge inventory of stock filters, (website: www.spectrogon.com), that can be shipped within two weeks. E-mail: sales.us@spectrogon.com Contact: Steve Finn, Sales Manager, sales.us@spectrogon.com; Kelly Koerber, Sales Admin., sales.us@spectrogon.com

Spectrolab, Inc. #1743

12500 Gladstone Ave, Sylmar, CA, 91342-5322 USA
+1 818 365 4611; fax +1 818 361 5102
customerservice@spectrolab.com;
www.spectrolab.com

Featured Product: Geiger-mode Camera & MEMS LIDAR System, APD Arrays & Sensor Chip Assy's, High Intensity Searchlights.

Spectrolab is the manufacturer of high performance sensor products & high intensity searchlight systems for the defense and security markets. Product portfolio includes: 1600W, 750W, 750W Xenon gas lamp searchlights, newly developed low-cost MEMS LIDAR system, single photon counting 32 x 32 Geiger-mode APD SWIR infrared camera, InGaAs APD arrays, low-noise InGaAs PIN arrays and 32 x 32 APD Geiger mode sensor chip assemblies also available in custom packaging options. Contact: Dr. Rengarajan Sudharsanan, Director, Sensor Products, Rengarajan.sudharsanan@boeing.com; Luis Castro, Marketing / Product Development, luis.a.castro@boeing.com

Spectroscopy Magazine #1422

485F US Hwy 1S Ste 100, Advanstar Communications, Iselin, NJ, 08830-3009 USA
+1 732 596 0276; fax +1 732 647 1235
spectroscopyedit@advanstar.com;
www.spectroscopyonline.com

Spectroscopy's mission is to enhance productivity, efficiency, and the overall value of spectroscopic instruments and methods as a practical analytical technology across a variety of fields. Scientists, technicians, and laboratory managers gain proficiency and competitive advantage for the real world issues they face through unbiased, peer-reviewed technical articles, trusted troubleshooting advice, and best-practice application solutions.



opticalfibersensors.org

Your gateway to the optical fiber sensing industry !

FREE SIGN-UP

FREE COMPANY UPLOAD

FREE PRODUCT UPLOAD

The Opticalfibersensors.org platform informs you about:

new launched products, companies active in the field, latest business developments, market & technology insights, research groups and their expertises, upcoming events, etc.

Is your company also active in this field but not yet registered on this platform? Please subscribe at www.opticalfibersensors.org and post your company and products for free.

www.opticalfibersensors.org
info@opticalfibersensors.org



Spica Technologies, Inc. #1021

18 Clinton Dr #3, Hollis, NH, 03049 USA
+1 603 882 8233; fax +1 603 882 8614
mdt@spicatek.com; www.spicatek.com

SPIE Career Center #318

1000 20th St, Bellingham, WA, 98225-6705 USA
+1 360 715 3705; fax +1 360 824 6014
jobsales@spie.org;
www.spie.org/careercenter

Your source for optics and photonics jobs and talent. Recruit your next hire or find your next job on the SPIE Career Center. Job seekers can search job listings, set up email alerts, and view the 'Advice+Tools' section. Employers may post jobs and gain access to a resume database, create a Resume Alert, and participate in job fairs held at SPIE conferences.

Spire Semiconductor, LLC #504

25 Sagamore Park Dr, Hudson, NH, 03051-4901 USA
+1 603 595 8900; fax +1 603 595 0975
sales@bandwidthsemi.com; www.spirecorp.com

SRI International Sarnoff #2311

SPIE Corporate Member

201 Washington Rd, Princeton, NJ, 08540-6449 USA
+1 609 734 2775; fax +1 609 734 2040
info@sri.com; www.sri.com

Featured Product: Acadia® Video Processors, VeriFIR™ Camera System, NV-CMOS™ and EMCCD Low-Light Image Sensors.

SRI Sarnoff delivers advanced capabilities for situational awareness including real-time video processing, multi-spectral image fusion and low-light CMOS imagers. Optimized for SWAP constrained applications these field-proven solutions leverage decades of experience in imaging and vision technologies to address next generation day/night vision systems such as goggles, weapons sights, manned/unmanned aerial and ground vehicles, border/perimeter protection, and security and surveillance platforms. Contact: info@sarnoff.com

Plan to Attend FREE Exhibitor Product Demonstrations

Refer to pages 28-29 for complete times, schedules, and locations.

Stellar Microelectronics #105

28454 Livingston Ave., Valencia, CA, 91355 USA
+1 661 775 3500; fax +1 661 775 3522
info@stellarmicro.com;
www.stellarmicro.com

Featured Product: The latest microelectronic technologies manufactured at Stellar's facility. Trusted DoD IC supplier.

Stellar plays a key role in mission-critical modules such as Aircraft Instrumentation, Missile Guidance, Radars, Weapons, High Frequency Communications, and Countermeasure Systems. A full-service EMS provider, Stellar specializes in advanced custom packaging solutions using the latest microelectronics technologies. Superior process controls keep us competitive, with all production in the USA. DoD Trusted IC Supplier, ITAR compliance, IP protection, ISO9001, AS9100, & ISO 13485 certified. Contact: Dave Ford, Director, Business Development, dford@stellarmicro.com

StellarNet, Inc. #725

SPIE Corporate Member

14390 Carlson Cir, Tampa, FL, 33626-3003 USA
+1 813 855 8687; fax +1 813 855 0394
contactus@stellarnet.us;
www.stellarnet-inc.com

Stemmerich, Inc. #425

SPIE Corporate Member

4728 Gravois Ave, Saint Louis, MO, 63116 USA
+1 314 832 7726; fax +1 314 832 7799
gkoob@stemmerich.com; www.stemmerich.com

Featured Product: Specialty Glass components for the Display and Electronics industries.

Providers of Specialty Glass components for the Display and Electronic Industries. Complex configurations, precision edge profiles, ground and polished surfaces. Clean Room inspection and packaging. R&D, pilot and production run quantities with quick on time deliveries. Contact: Colleen Weber, Sales, colleenweber@stemmerich.com; Greg Koob, Sales, gkoob@stemmerich.com

StingRay Optics, LLC #1634

310 Marlboro St, 2nd Fl, Keene, NH, 03431-4118 USA
+1 603 358 5577; fax +1 603 358 5579
info@stingrayoptics.com;
www.stingrayoptics.com

StingRay specializes in custom infrared optical design, product development, prototyping, and production services; delivering exceptional performance with an emphasis on economical and timely results. We offer our customers a combined 75 years experience in optical design, opto-mechanical design, and optical fabrication knowledge along with a proven track record of developing innovative and cost-effective solutions. Contact: Jennifer Myers, Sales & Marketing Mgr., jmyers@stingrayoptics.com
Contact: Jennifer Myers, Sales and Marketing Manager, jmyers@stingrayoptics.com; William Hill, Sales Engineer, whill@stingrayoptics.com

Sumitomo Electric U.S.A., Inc. #324

21241 S Western Ave Ste 2, Torrance, CA, 90501-2970 USA
+1 310 782 0227; fax +1 310 782 0211
www.sumitomoelectricusa.com

Surface Optics Corp. #237

11555 Rancho Bernardo Rd, San Diego, CA, 92127-1441 USA
+1 858 675 7404; fax +1 858 675 2028
www.surfaceoptics.com

Swiss Jewel Co. #130

325 Chestnut St Ste 509, Philadelphia, PA, 19106 USA
+1 215 925 2867; fax +1 215 922 3055
sales@swissjewel.com;
www.swissjewel.com

Featured Product: Sapphire, Fused Silica, and Glass Windows from Dia. 0.95mm and Ball Lenses from Dia. 0.20mm.

Supplier of Sapphire, Ruby, Fused Silica and Glass components since 1920. Sapphire Windows in stock from Dia. 0.95mm up to 75mm. Ball Lenses and Hemisphere Lenses in stock from 0.20mm for fiber coupling, spacing, drilled for CMM application. Rods & Tubes. Micro-hole Orifice Jewels for fiber alignment. Jewel Bearings for mounts and instrumentation. Over 400 stock items available immediate delivery and specialty requests welcome. Markets served: Optical, Medical, Aeronautical, Industrial. Contact: Adam Steel, adam@swissjewel.com; Dave Steel, dave@swissjewel.com

Sydor Instruments LLC #923

291 Millstead Way, Rochester, NY, 14624-4903 USA
+1 585 278 1168; fax +1 585 278 1169
pavia@sydorinstruments.com;
www.sydorinstruments.com

At Sydor Instruments, we're all about Imaging Intelligent Information. Sydor designs and delivers Photon Counting Cameras, Image Acquisition Systems, Image Intensifiers, and Detectors for Defense, Energy, and Life Sciences. From X-ray to IR and femtosecond to microsecond our products can intelligently detect, discriminate, and display photonic events across the entire time spectrum like never before. Are you ready for new information? Get ready for Sydor – Imaging Intelligent Information. Contact: Daniel Rao, Defense & Energy Sales Manager, danr@sydorinstruments.com; Mark Katafiaz, General Manager, mark@sydorinstruments.com

Syntec Optics #921

SPIE Corporate Member
7100 Junction Rd, Pavilion, NY, 14525-9749 USA
+1 585 768 2513
info@syntecoptics.com;
www.syntecoptics.com

Syntec Optics is North America's largest, private manufacturer of custom plastic optics serving the Medical, Defense and Biometric industries by producing "Precision Plastic Optics for Tomorrow's Technologies" from our location near Rochester, NY. We specialize in Design for Manufacturability, Molded Plastic Optics, Diamond Turning, Assembly and Metrology. With our in house diamond turning and mold making capabilities, we can take your product from prototype to production. Contact: Rick Arndt, VP/GM, rarndt@syntecoptics.com; Doug Hand, Sales Manager, dhand@syntecoptics.com

System Control Technologies (SCT) #331

1801 SE Commerce Avenue, Battle Ground, WA, 98604 USA
+1 360 723 0091; fax +1 360 723 5368
sales@sctec.com; www.sctec.com

Featured Product: Sputtering, evaporation and PECVD coaters for precision optics, plastics and metals.

Designs and manufactures custom web, drum, in-line & batch sputtering and evaporation coating systems. SCT offers patented CFM sputtering systems for precision optical coating applications. This technology allows for cold multi-layer coatings with high ion current & energy. Systems span from 15 - 60 inch sources so product throughput will vary from R&D scale to high volumes. We also offer coaters for ultra-high oxide and thick ferro-magnetic materials. Contact: Jerry Martin, Director, jmartin@sctec.com

Systematic Vision Corp. #118

SPIE Corporate Member
PO Box 490, Ashland, MA, 01721 USA
+1 508 532 1116
info@systematicvision.com;
www.systematicvision.com

Featured Product: Photonfocus DR1-D1312-200-G2-8 High-Speed CMOS GigE Camera. 1312x1082 @ 135fps, VGA @ 577fps.

As the North American Distributor for Photonfocus AG, Systematic Vision offers a complete line of CMOS sensors, OEM modules, Board Level, GigE Vision and Camera Link cameras. In support of these products we also offer an extensive line of Accessories, Cables, Computers, Frame Grabbers, Lighting, Optics and Software as well as turnkey single and multi-camera High-Speed capture systems. Contact: Bill Carson, President, info@systematicvision.com

Tactical Defense Media #3032

PO Box 12115, Leisure World Plz, Silver Spring, MD, 20908 USA
+1 301 974 9792; fax +1 443 637 3714
www.tacticaldefensemedia.com

Tactical ISR Technology #3064

15800 Crabbs Branch Way Ste 300, Rockville, MD, 20855-2604 USA
+1 301 670 5700; fax +1 301 670 5701
kmi@kmimediagroup.com;
www.kmimediagroup.com

ISR gathering, analysis and dissemination takes place at all levels, but delivering actionable information to the warfighter is the result that matters. TISR is laser-focused on the technologies, requirements and capabilities that best serve the warfighter and connect ISR providers and users at all levels. Publishes 6 times per year. www.tisr.com Contact: Dimitri Furman, Associate Publisher, dimitrif@kmimediagroup.com; Scott Parker, Associate Publisher, scottp@kmimediagroup.com

TDK-Lambda Americas Inc. #412

405 Essex Rd, Neptune, NJ, 07753 USA
+1 732 922 9300; fax +1 732 922 1441
www.us.tdk-lambda.com/hp

TechnicalLaser #1424

931 S Semoran Blvd Unit 204, Winter Park, FL, 32792 USA
+1 407 678 9900; fax +1 407 678 9981
info@technicallaser.com;
www.technicallaser.com

Featured Product Launches

Laser Components USA, Inc.

Booth 1109
Product: Low-noise Si- and InGaAs- Avalanche Photodiode



Low-noise Si- and InGaAs-APD receivers with bandwidths up to 80MHz.

Lasertel, Inc.

Booth 2420
Product: T6 High Brightness Multi-kW CW Array



Lasertel's T6 is a compact multi-kW class scaleable CW array.

Liteye Systems, Inc.

Booth 216
Product: AQUILA PTZ Camera Systems



Liteye's New AQUILA line of customizable PTZ cameras.

Maxion Technologies, Inc.

Booth 422
Product: Model 900 Laser System



Model 900 Laser System with QCL or ICL Laser.

Tecport Optics, Inc.

#2125

SPIE Corporate Member

6901 TPC Dr Ste 650, Orlando, FL, 32822-5127 USA

+1 407 855 1212; fax +1 407 855 1213
sales@tecportoptics.com;

www.tecportoptics.com

Manufacturer of Vacuum Coating Systems for Precision Optics, Ophthalmic, Flat Panel Display, Imaging, and Telecommunication applications. An industry leader in innovation, quality, reliability, software and service. Sophisticated yet user friendly systems employ leading edge technology such as plasma assisted deposition. Systems are custom built and pre-configured for your process and your volume. Process is pre-configured, and installed systems are production-ready within one week. Contact: Joseph Kim, Vice President, jkim@tecportoptics.com; Frank Helmes, Sales Director, fhelmes@comcast.net

Teledyne DALSA

#1719

SPIE Corporate Member

605 Murray Rd, Waterloo, ON, N2V 2E9 Canada

+1 519 886 6001; fax +1 519 886 5317
www.teledynedalsa.com

Teledyne DALSA is uniquely positioned to provide state-of-art imaging components and subsystems to the D&S Industry. Our commitment to innovation and performance has led us to build an extensive technology portfolio in UV, VIS and NIR imaging, from advanced detectors through our innovative camera platforms. Also with our world class MEMS foundry and technology partners, we have a unique capability and access to short wavelength and uncooled infrared detector technologies.

Teledyne Digital Imaging #1719

1049 Camino Dos Rios, Thousand Oaks, CA, 91360-2362 USA

+1 805 373 4545; fax +1 805 373 4775
communications@teledyne.com;
www.teledyne-si.com

Teledyne Digital Imaging: Spanning the spectrum, visible through infrared, Teledyne Digital Imaging designs total camera packages with features to exceed your needs: state-of-the-art, cost-conscious Readout Integrated Circuits (ROICs); world-class detectors; sleek, compact, high-functioning camera electronics; non-uniformity-corrected image processing; and custom engineering. Teledyne designs and builds the best visible, SWIR, MWIR, LWIR, dual band, and hyperspectral cameras in the world. Contact: Tony Vengel, Vice President, Business Development, tony@novasensors.com

Teledyne Imaging Sensors

#1719

5212 Verdugo Way, Camarillo, CA, 93012 USA

+1 805 373 4558; fax +1 805 373 4775
www.teledyne-si.com

Teledyne Imaging Sensors (TIS) is a market leader, engaged in the design, development and production of high operating temperature, high performance, visible and infrared focal plane arrays, cameras, and sensor subsystems utilizing Mercury Cadmium Telluride and Strained Layer Super Lattice materials for use in DoD, government, tactical, commercial, and space applications as well as astronomy and civil space applications. TIS also designs and manufactures custom laser eye protection products. Contact: Robert Koegle, Program Manager, rkoegle@teledyne.com; Louis Kilmer, Vice President & General Manger, lkilmer@teledyne.com

Teledyne Judson Technologies

#1719

SPIE Corporate Member

221 Commerce Dr, Montgomeryville, PA, 18936-9641 USA

+1 215 368 6900; fax +1 215 362 6107
1information@judsonstechnologies.com;
www.judsonstechnologies.com

Teledyne Judson Technologies (TJT) is a global leader for IR sensors from the VIS to VLWIR spectrum used in military, space, & commercial markets. TJT has added 2D focal plane arrays (InGaAs, InSb, MCT) to its legacy product suite which may be integrated with the IDCA's TJT offers. Products are used in surveillance, law enforcement/security, laser beam diagnostics, range finding, and chemical/biological detection. We offer supplementary electronics, Peltier cooling, and cryo-cooled modules. Contact: Mark Sediva, Sales Engineer, msediva@teledynejudson.com; Jim Dell, Standard Product Technical Sales & Marketing Mgr., jdell@teledynejudson.com

Teledyne Optimum Optical Systems

#1719

4153 Calle Tesoro, Camarillo, CA, 93012 USA

+1 805 445 6445; fax +1 805 445 6447
www.teledyne-si.com

Teletronics Technology Corp.

#550

15 Terry Dr, Newtown, PA, 18940 USA
+1 267 352 2020; fax +1 267 352 2021
sales@ttcdas.com; www.ttcdas.com

TTC designs/builds ruggedized, networked Data Acquisition, Recording and Telemetry Systems/Products for Flight Test and Operational use including networked (iNet) Acquisition Units, Concentrators, GbE 1588 Switches, Gateways, HS Cameras, Video Encoders/Decoders, Bus Conditioners (CAIS, 1553B, ARINC-429/629, GPS, CAN) and more; Ground products include Tactical Mission Displays, Data Links, Transmitters (PCM/FM & SOQPST), portable Receive/Debrief Stations and Chapter 10-compliant Radar Recorders. Contact: Farhad Daghigh, VP, Business Development, FDaghigh@ttcdas.com

Telops

#1529

SPIE Corporate Member

100-2600 St-Jean-Baptiste Ave, Québec, QC, G2E 6J5 Canada
+1 418 864 7808; fax +1 418 864 7843
contact@telops.com; www.telops.com

Featured Product: Reveal D&I : Real-Time Standoff Detection & Identification Software for multiple gases.

Telops is a leading supplier of high performance infrared cameras and hyperspectral imaging systems. In addition to providing opto-electronic engineering services, Telops has also developed the HD-IR 1280 High Definition Scientific Infrared Camera, the FAST-IR 1000, the first 1,000 FPS Infrared Camera, the TEL-1000, and the powerful Hyper-Cam. With Telops Systems, you will detect, identify and quantify remote substances previously invisible. Contact: Vincent Farley, Business Development Manager, vincent.farley@telops.com; Paul Chabot, V.P. Sales and Marketing, paul.chabot@telops.com

 EXHIBITION MAP/RESTAURANT GUIDE SPONSOR

Temmek Optics Ltd.

#803

PO Box 159, Marketing, Yavne, 81101 Israel
+ 972 8 943 8408

temmek@temmek.com;
www.temmek.com

Featured Product: Infrared Lens Manufacturer for Defense & Homeland Security Applications

Full In-House Infrared Lens Manufacturer, Including: Lens Assembly and Calibration; Lens Element Production (Diamond Turning, Coatings, etc.). Fine Mechanical Fabrication; Advanced Optical, Mechanical & Electro-Mechanical Design. Contact: Jonathan Vanger, VP Marketing & Business Development, jv@temmek.com; Frank Perry, USA Representative, eosecurityguy@gmail.com

TeraComm, LLC

#332

800 Village Walk #296, Guilford, CT, 06437 USA
+1 203 672 5943; fax +1 203 286 1535
sales@teracomm.com;
www.teracomm.com

TeraComm is a leading East Coast Manufacturing Representative organization offering RF/Microwave and optical components and test equipment. With coverage from Maine to Florida, TeraComm represents a number industry leaders including Bristol Instruments, Eagleyard Photonics, EM4, FiberLabs, Finisar, General Photonics, JDSU, Linear Photonics, Luna Technologies, Polatis, Sercalo, u2t Photonics, and Yokogawa. Contact: Jerry Chappell, Sales Engineer, jchappell@teracomm.com

Thales Cryogenics B.V.

#418

Hooge Zijde 14, Eindhoven, 5600 DC Netherlands
+31 40 250 36 03; fax +31 40 250 37 77
www.thales-cryogenics.com

The Optronics Co., Ltd.

#3066

5-5 Shin Ogawamachi, Shinjuku-ku Tokyo, 162-0814 Japan
+81 3 3269 3550; fax +81 3 5229 7253
intl@optronics.co.jp; www.optronics.co.jp

The Shephard Group

#1406

268 Bath Rd, Slough, SL1 4DX United Kingdom
+44 1753 727001; fax +44 1753 727002
info@shephard.co.uk;
www.shephard.co.uk

Thermo Fisher Scientific Inc.

#3054

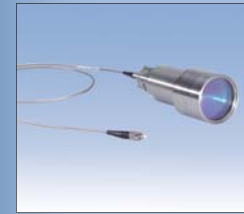
SPIE Corporate Member

101 Commerce Blvd, Liverpool, NY, 13088-4507 USA
+1 800 237 2800; fax +1 315 451 9421
mike.pannella@thermofisher.com;
www.thermofisher.com

Featured Product Launches

Micro Laser Systems, Inc.

Booth 2323



Large Fiber Collimator for fiber lasers with diffraction limited performance.

Micro Photon Devices S.r.l.

Booth 2517

Product: PDM-R



Photon counting detector module with high detection efficiency and >100ps timing resolution.

MISTRAS Group, Inc.

Booth 1325

Product: Line Scanning Thermography LST™



LST, thermography-based real-time NDT method capable of wide area inspection.

MOXTEK, Inc.

Booth 322

Product: ProFlux Pixelated Polarizer



Standard Intensity Image



Polarization Enhanced Image

Moxtek ProFlux Pixelated Polarizer Technology can resolve challenging imaging environments.

**Connecting Peers.
Advancing the Conversation.**

Connect with colleagues, join the discussions, and follow optics and photonics news and activities via SPIE social media channels.

spie.org/connect

Thermoteknix Systems Ltd. #2511

2 Pembroke Ave, Teknix House,
Waterbeach Cambridge, CB25 9QR
United Kingdom
+44 1223 204 000; fax +44 1223 204 010
enquiries@thermoteknix.com;
www.thermoteknix.com

Thorlabs Inc. #2512

SPIE Corporate Member

56 Sparta Ave., Newton, NJ, 07860 USA
+1 973 300 3000; fax +1 973 300 3600
sales@thorlabs.com; www.thorlabs.com
Thorlabs designs, develops, and manufactures building blocks for the Photonics industry, including optomechanics, motion control electronics, nanopositioning stages, fiber and optical components, laser diodes, tunable lasers, and vibration isolation systems. Headquartered in Newton, NJ, our portfolio includes system-level solutions, including complete OCT, multiphoton, confocal, and adaptive optics systems. Contact: sales@thorlabs.com

Threat Spectrum Inc. #1632

1370 Sherman Ave, Menlo Park,
CA, 94025 USA
+1 323 633 6704
mike.shannahan@threatspectrum.com;
www.threatspectrum.com

Featured Product: Man-portable PTZ surveillance system

Threat Spectrum is an R&D focused innovator of robotics and sensor systems for military, homeland security, intelligence and industrial surveillance. Our newly developed PTZ surveillance gimbal has been designed to survive the harsh conditions of mobile deployment inside a soldier's ruck or atop the photonic mast of an off-road vehicle. A patent-pending chassis and UAV grade hermetic sealing promises reliability through high shock, vibration, temperature, and electromagnetic disturbances. Contact: Mike Shannahan, CEO, mike.shannahan@threatspectrum.com

Timbercon, Inc. #603

17387 SW 63rd Ave, Lake Oswego,
OR, 97035 USA
+1 503 827 8141; fax +1 503 228 6747
info@timbercon.com;
www.timbercon.com

Featured Product: Fiber Bragg Grating (FBG) Sensor System

Timbercon is a fiber optic products manufacturing company providing an array of custom and standard connectivity solutions. Products include: armadillo cables, ruggedized cables, military cables, broadcast cables, high density interconnects, ruggedized optical and electrical loopbacks, netsim modules, attenuators, coupler/splitters, Fiber Bragg Grating Sensors, and PM assemblies. Timbercon has pioneered multiple new proprietary products, many of which are now considered to be industry standards. Contact: Nancy Hamar, Marketing Assistant, nancy.hamar@timbercon.com; Cathy Boles, Marketing Manager, cathyb@timbercon.com

Topins Co, Ltd #326

103-6 Moojidong, Yuseoung, F714,
faculty wing, KAIST ICC, Daejeon, Taejon,
305-732 Korea, Republic of
+82 42 488 0916; fax +82 42 864 0917
hnkyukim@topins.co.kr;
www.topins.co.kr

Featured Product: Thermal Imaging Cameras for Night Vision & Thermography. Infrared Lens Modules for IR Cameras.

Thermal Imaging Cameras—Night Vision: TICA-K010 & TICA-K020; Thermography: TICA-K030 & TICA-M010. Infrared Lens Modules for Thermal Imaging Cameras: Single FOV; Dual FOVs; Continuous Zoom; Microscope; Uni-axis (Visible & IR). Contact Point in USA; Mr. Howard Kwak. TOPINS AMERICA 25 Broad Avenue, 2 Fl., Palisades Park, NJ 07650. Tel: 201-313-9800. Fax: 201-313-5800, Email: topinsamerica@gmail.com Contact: Hyun Kyu Kim, CEO, hnkyukim@topins.co.kr; Howard Kwak, Vice President, topinsamerica@gmail.com

tousimis research corp. #2529

2211 Lewis Ave, Rockville,
MD, 20851-2333 USA
+1 301 881 2450; fax +1 301 881 5374
trc@tousimis.com; http://tousimis.com

Featured Product: Critical Point Dryer (Advanced Manual to Automatic) / X-Ray Reference Standards / TEM Lab Supplies.

Tousimis manufactures highly reliable Supercritical CO₂ Dryers. Our Critical Point Dryer (CPD) process technology eliminates surface tension forces enabling delicate 3-D micro structure preservation. Current CPD applications include Biological, MEMS, Bio-MEMS, Aero Gel, Nano Particle, Carbon Nanotube, Graphene and others. Tousimis also manufactures high purity fixatives and X-Ray Reference standards. Tousimis is a USA based company supported via a global sales and service network. Contact: Yianni Tousimis, ytousimis@tousimis.com; Hyun Park, hpark@tousimis.com

Tower Optical Corp. #903

SPIE Corporate Member

3600 S Congress Ave, Boynton Beach,
FL, 33426 USA
+1 561 740 2525; fax +1 561 740 2518
sales@toweroptical.com; www.
toweroptical.com

Tower Solutions #309

SPIE Corporate Member

9814 N 83rd Pl, Scottsdale,
AZ, 85258-1345 USA
+1 480 315 8830; fax +1 480 315 8833
sales@towersolutionsinc.com;
www.towersolutionsinc.com

Featured Product: Automatic, self-erecting towers, used for surveillance, telecommunications and lifting.

Tower Solutions creates totally automatic self-erecting towers. 1) 80 foot tower with a 2,000 lb. payload capacity; 2) 40 foot tower with a 250 lb. payload capacity; 3) 20 foot tower with a 140 lb. payload capacity — it can be mounted on the bumper or roof of a HUMVEE while being operated in the cab. All versions (portable or stationary) rise to full height in minutes at the "push of a button", can stop at any height, have high wind ratings and options and customization are available. Contact: Allen Karson, President, akarson@towersolutionsinc.com

Traycer Diagnostic Systems, Inc. #151

1275 Kinnear Rd Ste 211, TechColumbus,
Columbus, OH, 43212-1155 USA
+1 614 484 5027; fax +1 614 487 3704
www.traycer.com

EXHIBITION MAP/RESTAURANT GUIDE SPONSOR TRIOPTICS GmbH #2426

SPIE Corporate Member

Hafenstr 35-39, Marketing, Wedel,
22880 Germany
+49 4103 18006 0; fax +49 4103 180062 0
info@trioptics.com; www.trioptics.com

Featured Product: OptiCentric® 3D. Measuring Lens Centering, Air Spacing, Center Thickness inside of Assembled Optics.

From the beginning TRIOPTICS has focused on the research and development of accurate and fully PC controlled optical test instruments for the industrial and scientific use. This vision of the development of innovative solutions in many fields of optical testing allowed TRIOPTICS to achieve a prominent presence on the international market and became the world leader in MTF measurement. TRIOPTICS is represented by own subsidiaries in France, Japan, China, Taiwan and USA.

JOB FAIR

SPIE Defense, Security, and Sensing

Sponsored by SPIE Career Center

Exhibition Hall

Tuesday 24 April, 10:00 am to 5:00 pm
Wednesday 25 April, 10:00 am to 5:00 pm



**Finally, a Simple, Reliable
Mid-IR Laser**

IPG's newly developed Mid-IR lasers offer cost-effective solutions for sensing, spectroscopy, material processing, and medical applications.

Visit IPG at DSS!
Booth # 256

IPG Photonics
Mid-IR Lasers
+1(205) 307-6677
sales.us@ipgphotonics.com
www.ipgphotonics.com/midir

TwinStar Optics & Coatings, Inc.

#1021

6741 Commerce Ave, Port Richey, FL, 34668 USA
+1 727 847 2300; fax +1 727 847 2304
sales@twinstaroptics.com;
www.twinstaroptics.com

Featured Product: High Damage UV-Vis-IR Laser Optics, UV-Vis-IR Laser Coatings, UV-Vis-IR Laser Crystals.

TwinStar is a global leader in the fabrication and coating of precision optics and crystals. Twinstar's coating lab produces high damage coatings from the UV thru the FAR IR including solderable edge metalizations. TwinStar fabricates waveplates, etalons, lens ducts, laser slabs/rods, prisms, mirrors, and provides bonding and optical assembly services and also works with linear/non-linear laser crystals including YAG, KTP, LBO, Kigre glasses. TwinStar is an ISO 9001:2008 certified company. Contact: Peter Thomas, Director of Sales & Marketing, petert@twinstaroptics.com; Mark Gruttadauria, General Manager, markg@twinstaroptics.com

U.S. Army Research, Development and Engineering Command

#551

AMSRD-AMR-SG-NC Bldg 5400, Redstone Arsenal, AL, 35898 USA
+1 256 842 9959

u²t Photonics AG

#332

Reuchlinstr 10-11, Berlin, 10553 Germany
+49 30 726 113 500;
fax +49 30 726 113 800
sales@u2t.com; www.u2t.com

ULIS

#1711

ZI des Iles Cordees, BP 27, Veurey Vorozie, 38113 France
+33 4 76 53 74 94; fax +33 4 76 53 74 80
ulis@ulis-ir.com; www.ulis-ir.com

Featured Product: Pico384. Applications aimed: Military, thermography, surveillance, security, transportation.

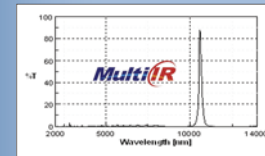
ULIS, a subsidiary of Sofradir, specializes in the design and manufacture of high quality infrared imaging sensors for thermography, security, automotive and military applications. It enables makers of consumer electronics and infrared equipment to produce low weight, low power consumption and cost-effective thermal cameras in large volume. ULIS is ranked #3 in the world for Infrared (IR) sensors delivered. Contact: Hien Pham Gia, Sales Director, ulis@ulis-ir.com; Jean-Luc Tissot, Marketing and Technical Director, ulis@ulis-ir.com

Featured Product Launches

Multi IR Optoelectronics Co., Ltd.

Booth 512

Product: Bp 10.6 μm SF6 gas filter

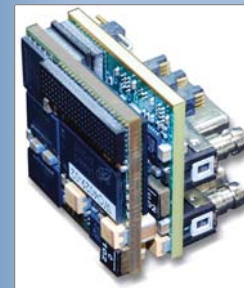


SF6 filter, gas sensor and detector, exact and high efficient.

Nallatech

Booth 413

Product: NSC-625



Miniaturized near-sensor-computing platform for distributed signal/sensor processing.

Nanomotion Inc.

Booth 502

Product: PTZ Motor

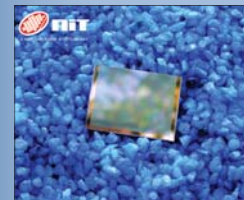


PZT motor eliminates gears/backlash, providing holding force without power.

New Imaging Technologies SAS

Booth 614

Product: NSC1101



The new High Dynamic Range Read out Circuit (<120dB – 640 x 480 pixels).

Ultralife Corporation #107

2000 Technology Pkwy, Newark, NY, 14513 USA
+1 315 332 7100; fax +1 315 331 7800
sales@ulbi.com; www.ultralifecorp.com

Featured Product: URB0001 Multi-Kilowatt Module for Flexible Energy Storage.

We provide products & services from portable power solutions to electronics systems. Our Battery & Energy Products group provides a wide range of high-energy non-rechargeable & rechargeable power & charging systems for both defense & commercial applications. As a market leader providing batteries for military applications, we also have a solid technical base in cell and battery designs for commercial sectors such as medical, security metering, telematics & other industrial segments. Contact: Alex Jordan, Director of Sales, ajordan@ulbi.com; Ken Heckman, Sales Manager, ken.heckman@ulbi.com

BANNER, CONFERENCE APP, AND EXHIBITION MAP/RESTAURANT GUIDE SPONSOR

Umicore Optical Materials USA, Inc. #2021

SPIE Corporate Member

2976 S 614 Rd, Quapaw, OK, 74363 USA
+1 918 673 1650; fax +1 918 673 2121
opticalmaterials@umicore.com;
www.opticalmaterials.umicore.com

Featured Product: GASIR® Standard Assemblies.

Umicore offers infrared materials, optical coatings, components and assemblies for thermal imaging applications using either Ge or GASIR®. GASIR® chalcogenide glass can be molded or finished conventionally with DPT with complex geometry. Umicore has developed coatings, including iDLC hard coating for GASIR®. Umicore's optical-mechanical design competencies enable the manufacture of lens assemblies. Umicore also offers Ge recycling capabilities. Umicore Optical Materials USA Inc is ITAR compliant. Contact: Priyesh Narsale, Sr. Sales and Program Manager, Optics, priyesh.narsale@am.umicore.com; Jeff Koch, Sales Manager, jeff.koch@am.umicore.com

Plan to Attend FREE Exhibitor Product Demonstrations

Refer to pages 28-29 for complete times, schedules, and locations.

Univ. of Massachusetts Lowell #2115

175 Cabot St Ste 130, Submillimeter-Wave Technology Lab, Lowell, MA, 01854 USA
+1 978 934 1300; fax +1 978 452 3333
florence_mello@uml.edu;
http://stl.uml.edu

Since 1982, the Submillimeter-Wave Technology Laboratory (STL) at the University of Massachusetts Lowell has developed solid-state and laser-based terahertz sources along with high-sensitivity incoherent and coherent receivers. Using these technologies, STL researchers have engineered unique Compact Radar Ranges to acquire the radar signature of scaled tactical vehicles. Producing high fidelity radar imagery cost effectively, STL has pioneered terahertz radar modeling.

Universal Photonics Inc. #1019

SPIE Corporate Member

495 W John St, Hicksville, NY, 11801-1028 USA
+1 516 935 4000; fax +1 516 935 4139
info@universalphotonics.com;
www.universalphotonics.com

Featured Product: LP UNALON - Microcellular Foam Elastomer Designed for high precision polishing.

Source for advanced surfacing products & technology. Lapping/polishing consumables for glass, infrared materials, plastics, semiconductors, electro, laser, and fiber optics. Including polish pads, diamond slurries, sub-angstrom polishes, ultra pure alumina, colloidal silica, thermoplastic adhesives, cleaners, compounds, lapping film, precision pitch, lens bonding material, Advantage & DAMA machinery, centrifuges, MegaVap Liquid Elimination System, double/single-sided, polishing/lapping machines. Contact: Jerry Hammock, Sales Representative, Jerryh@universalphotonics.com

Ural Optical and Mechanical Plant #1635

SPIE Corporate Member

Vostochnaya Str 33B, Ekaterinburg, 620100 Russian Federation
+7 254 81 06; fax +7 254 81 22
vts@uomz.com; www.uomz.com

Vacuum Process Technology LLC #522

SPIE Corporate Member

70 Industrial Park Rd, Plymouth, MA, 02360-4829 USA
+1 508 732 7200; fax +1 508 732 0317
sales@vptec.com; www.vptec.com

Veeco Instruments Inc. #120

SPIE Corporate Member

1 Terminal Dr, Plainview, NY, 11803 USA
+1 516 677 0200; fax +1 516 714 1200
sales@veeco.com; www.veeco.com

Velodyne Lidar, Inc. #209

345 Digital Dr, Morgan Hill, CA, 95037 USA
+1 408 465 2800; fax +1 408 779 9227
lidar@velodyne.com; "www.velodynelidar.com

Featured Product: High Performance LiDAR Sensors.

Velodyne LiDAR manufactures high performance LiDAR sensors for obstacle detection and navigation of autonomous ground vehicles and marine vessels. The durability, 360 degree field of view and very high data rate make these sensors ideal for the most demanding perception applications as well as mobile data collection and 3Dmapping applications. Contact: Brent Schwarz, V.P. Lidar Sales & Marketing, bschwarz@velodyne.com; Michael Dunbar, Business Development Lidar, mdunbar@velodyne.com

Vergason Technology Inc #215

166 State Route 224, Van Etten, NY, 14889 USA
+1 607-589-4429; fax +1 607-589-6955
sales@vergason.com;
"www.vergason.com

Vermont Photonics Technologies Corp. #427

22 Browne Ct Unit 110, Brattleboro, VT, 05301 USA
+1 802 275 5210; fax +1 802 275 5215
mail@vermontphotonics.com;
www.vermontphotonics.com
Optical testing, metrology and quality control equipment. Autocollimators (visual and electronic), collimators, diopometers, alignment telescopes, focometers, refractometers. We are AS9100 certified. We offer calibration services. Contact: Gloria Zucker, Office Manager, gzucker@vermontphotonics.com; Michael Mross, President, mail@vermontphotonics.com

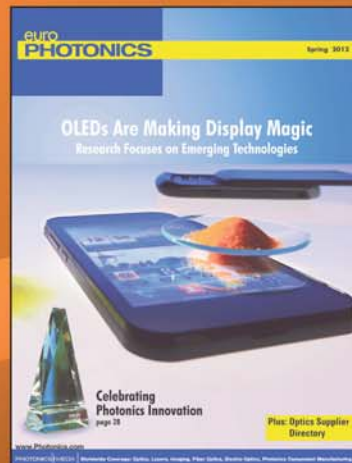
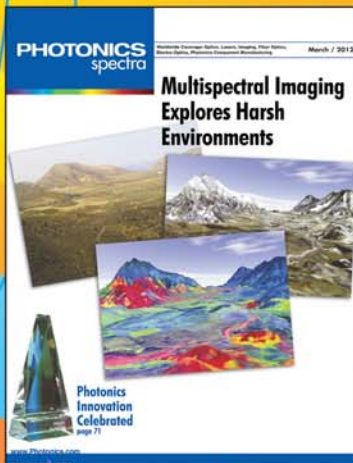
VIGO Systems #1202

129/133 Poznanska St, Ozarow Mazowiecki, 05-850 Poland
+48 22 7335405; fax +48 22 7335426
info@vigo.com.pl; www.vigo.com.pl

Read
the industry's

LEADING magazines

Because staying informed has never been so critical.



2012 Content Sneak Peek

Photonics Spectra

- ▶ Communications
- ▶ Defense & Security
- ▶ Manufacturing
- ▶ Industry Trends

BioPhotonics

- ▶ Medical Imaging
- ▶ Global Health
- ▶ Cancer
- ▶ Medical Devices

EuroPhotonics

- ▶ Machine Vision
- ▶ Solar
- ▶ Optics
- ▶ Laser Systems

Photonics news from *your* industry
and *your* part of the world.

To subscribe, visit: photonics.com/subscribe.

Available in print and digital formats.

To contribute to Photonics Media publications, submit a 100-word abstract to Managing Editor Laura Marshall at laura.marshall@photonics.com for consideration.

Visit us at Booth 1926

PHOTONICS MEDIA

THE PULSE OF THE INDUSTRY

Vincent Associates #920

803 Linden Ave, Rochester,
NY, 14625-2709 USA
+1 585 385 5930; fax +1 585 385 6004
vincentassociates@uniblitz.com;
www.uniblitz.com

Vincent Associates is the manufacturer of UNIBLITZ electronically programmed shutters & shutter drive systems, with standard devices (including the LS, VS and the CS series of high reliability shutter systems), the XRS (for X-ray use) series, the NS (Bi-stable & uni-stable configurable) series, the DSS (Design scalable shutters) series, & the new TS (Flag shutter alternative) series. Standard aperture sizes ranging from 1mm - 90mm with many types of microscope and video mounting systems offered. Contact: Stephen Pasquarella, Senior VP, spsq@uniblitz.com; Adam Lamb, VP Manufacturing, alamb@uniblitz.com

Vision Components GmbH #644

SPIE Corporate Member

Ottostr 2, Ettlingen BW, 76275 Germany
+49 72 432 2167 0
sales@vision-components.de;
www.vision-components.de

Vision Systems Technology, LLC #302

10955 Avenida Del Gato, San Diego,
CA, 92126 USA
+1 585 627 1609
sales@visionsystech.com;
www.visionsystech.com

Featured Product: 29 million pixel 12-bit digital camera. Ideal for Aerial, ISR, UAV, and Security application.

Vision Systems Technology is a leading supplier of digital imaging components. We are specialists in providing support integrating digital imaging components into complex imaging systems. Currently, we distribute Vieworks - High resolution digital cameras featuring resolutions from VGA to 29 million pixels using CCD and CMOS image sensor technology. Contact: Terry Guy, VP Sales & Marketing, terry.guy@visionsystech.com; Kris Balch, President, kris.balch@visionsystech.com

Vision4ce LLC #113

479 Jumpers Hole Rd, Ste 301,
Severna Park, MD, 21146-2925 USA
+1 410 384 9181
sales@vision4ce.com;
www.vision4ce.com

Vistec Electron Beam Lithography Group #3040

Göschwitzer Str 25, Jena, 07745
Germany
+49 3641 65 1900; fax +49 3641 65 1922
electron-beam@vistec-semi.com;
www.vistec-semi.com

VLOC #337

7826 Photonics Dr, Trinity, FL, 34655 USA
+1 727 375 8562; fax +1 727 375 5300
info@vloc.com; www.vloc.com

Manufacturer of fluoride and oxide crystals including YAG, YLF, YAlO, ruby, LiSAF, LiSGaF and YVO4. Nonlinear materials include KTP, KTA and KNbO3. Components include laser mirrors, prisms, lens ducts and waveplates. Custom services include wafer fabrication, repolishing, coatings and optical subassemblies. Coatings are dielectric, metallic, ion-assisted deposition and ion-beam sputtering. Contact: Merry Ann Bryson, Strategic Sales Acct Mgr, mbryson@vloc.com

Voltage Multipliers, Inc. #1535

8711 W Roosevelt Ave, Visalia,
CA, 93291 USA
+1 559 651 1402; fax +1 559 651 0740
www.voltagemultipliers.com

Featured Product: PVM SERIES

Voltage Multipliers, Inc. product line includes high voltage diodes, hand held X-ray power supplies, rectifiers, opto-diodes and opto-couplers for applications such as lab instrumentation, electrostatic paint and agriculture spraying, for military, medical, and industrial uses. Several high voltage diodes are certified to the QPL and QML MIL-PRF-19500 by DSCC. Our facility is certified for lab suitability. Our quality system is ISO9001:2008 compliant. Visit us at booth 1535. Contact: Karen Spano, Sales Administration, kspano@voltagemultipliers.com; Margaret Fulleylove, Sales, mfulley@voltagemultipliers.com

Wafer Technology Ltd. #434

34 Maryland Rd, Tongwell Milton Keynes,
MK15 8HJ United Kingdom
+44 1908 210444; fax +44 1908 210443
sales@wafertech.co.uk;
www.wafertech.co.uk

Wavelength Technology Singapore Pte. Ltd. #315

SPIE Corporate Member

Blk 2 Bukit Batok St 24 #06-03, Skytech
Bldg, Singapore, 659480 Singapore
+65 6564 9624; fax +65 6564 3862
info@wavelength-tech.com;
www.wavelength-tech.com

Featured Product: IR Dual Field Imaging Lens (IR2FV44176320)

Wavelength Technology Singapore is a global company providing fully integrated, high quality and best value electro optic solutions to our worldwide customers. We have personnel over 25 years of accumulated experience in laser optics and IR imaging lens design and production. The headquarter is in Singapore which is the leading role of design and assembly and with manufacturing facilities in Asia. Contact: Robert Huang, CEO, bob@wavelength-tech.com; Yana ABISO, Product Marketing Engineer, yana@wavelength-tech.com

Welch Mechanical Designs, LLC #249

1371 Brass Mill Rd Ste B, Belcamp, MD,
21017-1239 USA
+1 410 698 3024; fax +1 815 301 8416
info@wmdllc.com; www.
welchmechanicaldesigns.com

Featured Product: Off axis telescope, convex grating, hexapod, diamond turned optics, environmental enclosures.

We are a team of engineers, machinists, and technicians designing and manufacturing custom optical systems for scientific, military and commercial applications. We specialize in telescopes, spectrometers, LiDAR, complex optical systems and support equipment ruggedized for deployment. We reduce the stress of instrument development by carefully managing all details from concept through testing. Our efficient operations will generate exceptional quality, rapid delivery and high value for you. Contact: Wayne Welch, Senior Project Staff Engineer, info@wmdllc.com; Adam Kosmer, Mechanical Engineer, info@wmdllc.com



Exhibition Hall

Tuesday 24 April, 10:00 am to 5:00 pm
Wednesday 25 April, 10:00 am to 5:00 pm

Westboro Photonics #507

1505 Carling Ave Ste 301, Ottawa, ON, K1Z 7L9 Canada
+1 613 729 0614; fax +1 613 729 9067
info@wphotonics.com;
www.wphotonics.com

Featured Product: CAS140 array spectrometer.

Westboro Photonics supplies light measurement equipment for LED and display characterization. The Instrument Systems CAS140 array spectrometer is the industry leading instrument for LED characterization in research, quality control and on-line testing. Instruments and accessories for measurement include: spectroradiometers, imaging colorimeters and photometers, viewing angle measurement systems, BRDF/BTDF analyzers, hyperspectral imagers, goniometers and integrating spheres. Contact: info@wphotonics.com

WIBE Telescopic Mast Systems #2127

2095 Indian Summer Ln, Vero Beach, FL, 32963 USA
+1 772 539 9517
www.wibe-usa.com

Wiley-Blackwell #1305

111 River Street, Hoboken, NJ, 07030 USA
+1 201 748 6000; fax +1 201 748 6088
cs-journals@wiley.com;
www.wileyonlinelibrary.com

Featured Product: SCANNING, the Journal of Scanning Microscopies

Wiley-Blackwell is the international scientific, technical, medical, and scholarly publishing business of John Wiley & Sons, with strengths in every major academic and professional field and partnerships with many of the world's leading societies. Wiley-Blackwell publishes nearly 1,500 peer-reviewed journals and 1,500+ new books annually in print and online, as well as databases, major reference works and laboratory protocols.

Wordingham Technologies #921

SPIE Corporate Member
580 Fisher Station Dr, Victor, NY, 14564-9734 USA
+1 585 924 2294; fax +1 585 924 7660
sales@wordingham.com;
www.wordingham.com

Wordingham Tech. provides full service dock-to-stock mechanical components for YOUR precision instrumentation. We have consistently delivered worry-free quality and the most dependable service in our industry for thirty years. Our capabilities include: multi-axis milling, multi-axis and swiss turning, honing, advanced metrology, finishing and mechanical sub-assemblies. Our company motto "Quality Delivered" is achieved through continuous process improvements and dedication to our customers. Contact: Robert Orcutt, General Manager / VP of Sales, borcutt@wordingham.com; Anthony Phillips, Process Engineer, tphillips@wordingham.com

Xactra Technologies #818

9 Marway Cir, Rochester, NY, 14624 USA
+1 585 426 2030; fax +1 585 426 2709
sales@xactra.com; www.xactra.com

Xactra Technologies, produces precision custom machined components for the optics/ photonics marketplace. Our meticulous attention to detail and high quality standards are well known to many major OEM optical companies. We provide precision components for all optical devices: Lenses, laser instrumentation, military/defense, Thermal Imaging, Night Vision, Thermal Weapon Sights. Xactra Technologies: Quality obsessed, Schedule driven and Competitively focused. Contact: Michael Grady, President, sales@xactra.com

Xenics NV #1013

SPIE Corporate Member

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

Xenics is the leading developer of innovative infrared detection solutions for a wide range of applications. Xenics designs, manufactures and sells infrared detectors and cameras. In addition, Xenics delivers custom products according to the agreed specification and planning. As a European vendor with a worldwide service and distributor network, Xenics is strategically placed to serve global markets with highly innovative products drawing on a strong science and technology background.

Yokogawa Corp. of America #332

2 Dart Road, Newnan, GA, 30265 USA
+1 800 888 6400
osales@us.yokogawa.com;
www.tmi.yokogawa.com

Yole Développement #139

Le quartz 75 cours Emile Zola, Lyon-Villeurbanne, 69100 France
+33 472 83 0180
info@yole.fr; www.yole.fr

Yole Développement provides market research, technology analysis, strategy consulting, media, and financial services. Yole Développement group has grown to more than 40 associates worldwide covering emerging and disruptive silicon and micro manufacturing markets including MEMS, medical technologies (including Microfluidics and BioMEMS), advanced packaging, compound semiconductors, power electronics, LEDs, and photovoltaics. The group supports companies, investors and R&D organizations worldwide. Contact: Eric Mounier, Senior Analyst, mounier@yole.fr; clotilde fabre, communication & media coordinator, clotilde.fabre@yole.fr

Featured Product Launches

Ningbo Sunny Infrared Technologies Co., Ltd.

Booth 2525

Product: Thermal Imaging Lens Assemblies



Thermal Imaging Lens Assemblies

Nova Sensors

Booth 1719

Product: Cameras by Teledyne



Cameras covers entire EM spectrum in high definition.

nPoint, Inc.

Booth 2226

Product: nPfocus



High speed microscope objective lens focusing nanopositioner, capacitive sensor feedback.

NuWaves Engineering

Booth 226

Product: L- & S-Band Power Amplifier



Miniature Power Amplifier ideal for Broadband RF military communication systems

Z & Z Optoelectronics Tech. Co., Ltd. #1120

SPIE Corporate Member

No 3 Keyuan S Rd, Chengdu Sichuan, Sichuan, 610041 China
+86 28 8513 9768; fax +86 28 8525 5889
sales@zsoptic.com; www.zsoptic.com

Featured Product: Ultra precision Fused Silica optics, ultra precision Silicon optics and high precision ZnSe optics.

Z & Z OPTOELECTRONICS Tech. Co., Ltd., the first brand of super polishing from China, specializes in R&D and manufacturing ultra precision optics with roughness <0.2nm. We focus on innovation of super polishing technology for 10 years and have achieved great development in research and production of some products, including Ultra precision Fused Silica optics, ultra precision Silicon optics and high precision ZnSe optics. Over 10 kinds of products meet roughness of 0.07-0.2nm. Contact: Cynthia Qi, business manager, sales@zsoptic.com

Zephyr Photonics, Inc. #135

SPIE Corporate Member

PO Box 10779, Zephyr Cove, NV, 89448-2779 USA
+1 775 588 4176; fax +1 775 588 1348
www.zephyrphotonics.com

Featured Product: Harsh Environment Optical Interconnects.

Focused on using innovative patented VCSEL technology to develop custom harsh-environment photonic solutions critical to homeland security and national defense. Contact: Terry Thomas, EVP Business Development, tthomas@zephyrphotonics.com; Tim McAllister, VP Product Marketing, tmcallister@zephyrphotonics.com

Zygo Corporation #1624

SPIE Corporate Member

Laurel Brook Road, Middlefield, CT, 06455-1291 USA
+1 860 347 8506; fax +1 860 347 8372
inquire@zygo.com; www.zygo.com

Featured Product: High precision measurement systems, optical components and assemblies.

Zygo Corporation is a customer-focused technology leader well known for developing yield-enhancement solutions for precision manufacturing industries. Zygo Corporation's solutions employ process high precision measuring instruments, electro-optical design, and precision optical components and assemblies to benefit a wide variety of industries including aerospace, defense, semiconductor capital equipment and components, automotive, optical, and R&D. Contact: George Neale, Director Sales & Support, gneale@zygo.com

Defense, Security, and Sensing ...



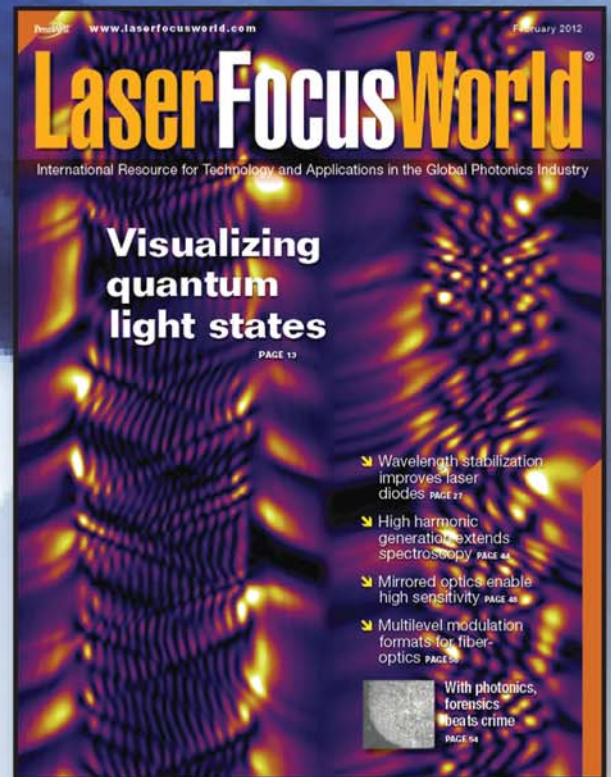
YOU'RE HERE to get all the latest information on optics, lasers, sensors, image processing, spectroscopy, infrared systems, optoelectronic components, and much more.

WE'RE HERE to make sure you continue to get it long after this great conference & exhibition is over.



MILITARY & AEROSPACE ELECTRONICS is the leading media resource serving program and project managers, engineering managers, and engineers involved in electronics and electro-optic design for military, space, and aviation applications.

LASER FOCUS WORLD is a global resource for engineers, researchers, scientists and technical professionals providing comprehensive coverage of optoelectronics and photonics technologies, applications and markets.



Be sure to visit us at **BOOTH #1004** and subscribe today. **OR** scan the above QR codes with your mobile device. **OR** log on to our websites below!

MAE-subscribe.com • LFW-subscribe.com



Product Index

Astronomy

4D Technology Corp.
Active Silicon, Inc.
AdTech Ceramics
Arjae Spectral Enterprises, Inc.
BEI Precision Systems & Space Co., Inc.
E.R. Precision Optical Corp.
e2v Aerospace and Defense, Inc.
EDT (Engineering Design Team), Inc.
Entegris, Inc.
Hellma Materials GmbH
Heraeus Quartz America LLC
Lake Shore Cryotronics, Inc.
Micro Laser Systems, Inc.
Multi IR Optoelectronics Co., Ltd
Opto-Alignment Technology, Inc.
OZ Optics Ltd.
Photek Ltd.
StingRay Optics, LLC
Teledyne Imaging Sensors
Universal Photonics Inc.
Zygo Corporation

Basic Research, Science

AdValue Photonics, Inc.
Advanced Laser Diode Systems A.L.S. GmbH
Arjae Spectral Enterprises, Inc.
Arroyo Instruments, LLC
Block Engineering, LLC
Catalina Scientific Instruments, LLC
CREOL, The College of Optics and Photonics, Univ. of Central Florida
DataRay Inc.
Gatan, Inc.
Gentec Electro-Optics Inc.
Hitachi High Technologies America, Inc.

ID Quantique SA
IO Industries, Inc.
Mantaro Product Development Services®, Inc.
Max Levy Autograph, Inc.
Maxion Technologies, Inc.
Meadowlark Optics, Inc.
Micro Laser Systems, Inc.
Nova Sensors
Nuferr
NuWaves Engineering
Onefive GmbH
Photek Ltd.
Photonics Online
Photron, Inc.
PolarOnyx, Inc.
Precision Armaments Laboratory (PAL), US Army
System Control Technologies (SCT)
Systematic Vision Corp.
Teledyne Judson Technologies
tousimis research corp.

Biomedical, Medical Imaging, Health Care

Active Silicon, Inc.
AdTech Ceramics
AdValue Photonics, Inc.
Alpes Lasers SA
AMETEK HCC Electronic Packaging
Avo Photonics, Inc.
Block Engineering, LLC
Bodkin Design & Engineering, LLC
Boston Electronics Corp.
Brandywine Photonics LLC
Canon U.S.A., Inc.
Catalina Scientific Instruments, LLC
CVI Melles Griot



DYCONEX AG
EDT (Engineering Design Team), Inc.
Eltek USA Inc.
FJW Optical Systems, Inc.
Gatan, Inc.
Gentec Electro-Optics Inc.
Heimann Sensor GmbH
Hitachi High Technologies America, Inc.
ID Quantique SA
IMT North America, Inc.
IO Industries, Inc.
IRCAM GmbH
Iridian Spectral Technologies Ltd.
JAI Inc., USA
Kappa optronics Inc.
Krell Technologies, Inc.
Laser Components USA, Inc.
LEONI Fiber Optics, Inc.
Max Levy Autograph, Inc.
Meadowlark Optics, Inc.
Micro Laser Systems, Inc.
MPA Crystal Corp.
Nanomotion Inc.
Nu-Cast, Inc.
OmniPulse Technology
Onefive GmbH
Opnext, Inc.
Optikos Corp.
Opto-Alignment Technology, Inc.
Optometrics Corp.
OZ Optics Ltd.
PFG Precision Optics, Inc.
Photek Ltd.
Photron, Inc.
Pleora Technologies Inc.
PolarOnyx, Inc.
Proto Labs, Inc
Raptor Photonics Ltd.
Raytheon ELCAN Optical Technologies

Renishaw Inc.
Sensors Unlimited, Inc., part of Goodrich Corp.
Simphotek Inc.
Siskiyou Corporation
Snake Creek Lasers, LLC
Sony Electronics Inc.
tousimis research corp.
ULIS
Zygo Corporation

Cameras and Imaging systems

Active Silicon, Inc.
AdTech Ceramics
AIM INFRAROT-MODULE GmbH
AMETEK HCC Electronic Packaging
Bodkin Design & Engineering, LLC
Boston Electronics Corp.
Brandywine Photonics LLC
Bridger Photonics, Inc.
Brimrose Technology Corp.
Cantronic Systems (Canada) Inc.
Catalina Scientific Instruments, LLC
DataRay Inc.
Defence Vision Systems Inc.
e2v Aerospace and Defense, Inc
FJW Optical Systems, Inc.
FLIR Systems, Inc.
Fotofab
Gatan, Inc.
GE Intelligent Platforms
Gentec Electro-Optics Inc.
Heimann Sensor GmbH
Hellma Materials GmbH
ID Quantique SA
Infrared Systems Development Corp.
INO



Intevac Photonics, Inc.
 IO Industries, Inc.
 IRCAM GmbH
 JAI Inc., USA
 Kappa optronics Inc.
 Kelc Electronics System Co., Ltd
 L-3 Communications Cincinnati
 Electronics
 Labsphere, Inc.
 LITEYE SYSTEMS, INC
 Meadowlark Optics, Inc.
 MISTRAS Group, Inc.
 Moog QuickSet
 Multisorb Technologies, Inc.
 Naked Optics Corp.
 Nanomotion Inc.
 New Imaging Technologies SAS
 Nova Sensors
 Nu-Cast, Inc.
 PHASICS
 Photek Ltd.
 Photonics Online
 PHOTONIS USA
 Photron, Inc.
 Physimetrics, Inc.
 Pleora Technologies Inc.
 Precision Armaments Laboratory
 (PAL), US Army
 Princeton Lightwave, Inc.
 Raptor Photonics Ltd.
 Raytheon ELCAN Optical
 Technologies
 Santa Barbara Infrared, Inc.
 Sensors Unlimited, Inc., part of
 Goodrich Corp.
 Shellcast Foundries Inc.
 SOFRADIR
 Sony Electronics Inc.
 Spectrolab, Inc.
 Systematic Vision Corp.
 Teledyne Imaging Sensors
 Tower Solutions
 ULIS
 Vision Components GmbH
 Vision Systems Technology, LLC
 Westboro Photonics
 Xenics NV

Chemical and Biological Analysis

Alpes Lasers SA
 Andover Corp.
 Arjae Spectral Enterprises, Inc.
 Avo Photonics, Inc.
 Block Engineering, LLC
 Bodkin Design & Engineering,
 LLC
 Boston Electronics Corp.
 Brandywine Photonics LLC

Bridger Photonics, Inc.
 Brimrose Technology Corp.
 Catalina Scientific Instruments,
 LLC
 Defence Vision Systems Inc.
 EDT (Engineering Design Team),
 Inc.
 Eltek USA Inc.
 EMCORE Corporation
 ENMET Corporation
 Exelis Visual Information
 Solutions
 Gatan, Inc.
 Georgia Tech Research Institute
 and SENSIAC
 Hitachi High Technologies
 America, Inc.
 Infrared Systems Development
 Corp.
 INO
 Intevac Photonics, Inc.
 IRCAM GmbH
 IRflex Corp.
 Iridian Spectral Technologies Ltd.
 Maxison Technologies, Inc.
 Meadowlark Optics, Inc.
 Nuferr
 Optometrics Corp.
 Photonics Online
 Photron, Inc.
 Power Technology, Inc.
 Sensors Unlimited, Inc., part of
 Goodrich Corp.
 Shellcast Foundries Inc.
 Sony Electronics Inc.
 StingRay Optics, LLC
 Systematic Vision Corp.
 Teledyne Judson Technologies
 Z & Z Optoelectronics Tech. Co.,
 Ltd.

Communications & Networking

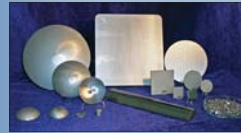
AMETEK HCC Electronic
 Packaging
 Contact! Corp.
 CREOL, The College of Optics
 and Photonics, Univ. of Central
 Florida
 EMCORE Corporation
 Florida Photonics Cluster
 Gooch & Housego Plc
 Iridian Spectral Technologies Ltd.
 Mantaro Product Development
 Services®, Inc.
 Moog QuickSet
 Nuferr
 NuWaves Engineering
 OZ Optics Ltd.
 Polatis Inc.

Featured Product Launches

OJSC Germanium

Booth 1327

Product: GPZ, metallic germanium, germanium ingots, blanks for optical components

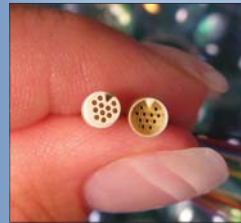


GPZ – alloys production, Germanium monocrystalline – Radio-electronics, Optical blanks – IR optics

Omnetics Connector Corp.

Booth 706

Product: Nano Circular



Pinched for space? Omnetics Nano Circular

Opgal Optronic Industries Ltd.

Booth 1113



Golan™ is an uncooled camera with a 640X480 17/25µ sensor, 70/220mm dual FOV or 25-225mm continuous zoom.

Ophir Optics, LLC

Booth 1625

Product: SupIR 45/135mm f/1.1 f/1.6, Motorized Focus, 2-FOV Lens, 680020.



Ophir's unique design of 2-FOV lens, allows to change FOV & focus using only one motor.

optics.org

Booth 318



View the latest news, analysis, market intelligence and insight direct to your desktop or mobile device.

OptiPro Systems

Booth 2222

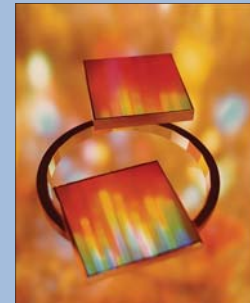


PRO 80 Series: Grind, Hi-Speed Polish, UltraForm Finishing. Compact, powerful, cost effective!

Optometrics Corp.

Booth 433

Product: Gratings ruled in gold.



Gratings ruled in gold for high power infrared applications.

Product Index



Souriau PA&E
Spectra-Mat, Inc.
TeraComm, LLC
Tower Solutions

Computing Systems, Data Processing

Active Silicon, Inc.
EMCORE Corporation
GE Intelligent Platforms
Krell Technologies, Inc.
Mantaro Product Development
Services®, Inc.
NuWaves Engineering
Pleora Technologies Inc.
Polatis Inc.
Shellcast Foundries Inc.

Computing, Data Processing Hardware

Active Silicon, Inc.
EDT (Engineering Design Team),
Inc.
GE Intelligent Platforms
IO Industries, Inc.
Krell Technologies, Inc.
Mantaro Product Development
Services®, Inc.
Pleora Technologies Inc.
Shellcast Foundries Inc.
Systematic Vision Corp.

Consulting Services

Active Silicon, Inc.
Avo Photonics, Inc.
Bodkin Design & Engineering,
LLC
Brandywine Photonics LLC
Exelis Visual Information
Solutions
Lambda Research Corp.
Mantaro Product Development

Services®, Inc.
Meadowlark Optics, Inc.
NuWaves Engineering
Oneida Research Services, Inc.
Optikos Corp.
Opto-Alignment Technology, Inc.
Photon Engineering LLC
Pleora Technologies Inc.
Power Technology, Inc.
Precision Armaments Laboratory
(PAL), US Army
Proto Labs, Inc
Shellcast Foundries Inc.
StingRay Optics, LLC
Welch Mechanical Designs, LLC
Zygo Corporation

Consumer Electronics

Micromechatronics, Inc.
Opnext, Inc.
Proto Labs, Inc

Defense, Security, Law Enforcement

4D Technology Corp.
Active Silicon, Inc.
AdTech Ceramics
Advanced Laser Diode Systems
A.L.S. GmbH
Aerotech, Inc.
AIM INFRAROT-MODULE GmbH
Alpes Lasers SA
AMETEK HCC Electronic
Packaging
Analog Modules, Inc.
Andover Corp.
Arjae Spectral Enterprises, Inc.
Arrow Thin Films, Inc.
Avo Photonics, Inc.
BEI Precision Systems & Space
Co., Inc.
Block Engineering, LLC

Bodkin Design & Engineering,
LLC
Bridger Photonics, Inc.
Canon U.S.A., Inc.
Cantronic Systems (Canada) Inc.
Catalina Scientific Instruments,
LLC
Contact! Corp.
Covesion Ltd.
CREOL, The College of Optics
and Photonics, Univ. of Central
Florida
CVI Melles Griot
DataRay Inc.
Defence Vision Systems Inc.
DYCONEX AG
E.R. Precision Optical Corp.
EDT (Engineering Design Team),
Inc.
Element Six Technologies U.S.
Corporation
Eltek USA Inc.
Entegris, Inc.
FLIR Systems, Inc.
GE Intelligent Platforms
Gentec Electro-Optics Inc.
Georgia Tech Research Institute
and SENSIAC
Gooch & Housego Plc
Great River Technology, Inc.
Hardin Optical Co.
Hellma Materials GmbH
Hitachi High Technologies
America, Inc.
IMT North America, Inc.
INO
Intevac Photonics, Inc.
IO Industries, Inc.
IRCAM GmbH
Iridian Spectral Technologies Ltd.
JAI Inc., USA
JENOPTIK Optical Systems
GmbH

Kappa optronics Inc.
Kelc Electronics System Co., Ltd
Kopin Corp.
Krell Technologies, Inc.
KVH Industries, Inc.
L.A. Gauge Co.
L-3 Communications Cincinnati
Electronics
Laser Components USA, Inc.
Lasertel, Inc.
Lattice Materials LLC
LITEYE SYSTEMS, INC
Mantaro Product Development
Services®, Inc.
Max Levy Autograph, Inc.
Meadowlark Optics, Inc.
Micro Laser Systems, Inc.
Micromechatronics, Inc.
Moog QuickSet
MPA Crystal Corp.
Multi IR Optoelectronics Co., Ltd
Naked Optics Corp.
National Defense Industrial
Association
New Imaging Technologies SAS
Newcon Optik
Northrop Grumman Cutting Edge
Optronics
Nova Sensors
Nu-Cast, Inc.
Nufern
NuWaves Engineering
OmniPulse Technology
Onefive GmbH
Opnext, Inc.
Optikos Corp.
Opto-Alignment Technology, Inc.
Optometrics Corp.
OZ Optics Ltd.
PENTAX RICOH Imaging
Americas Corporation
PFG Precision Optics, Inc.
Photek Ltd.



Showcase your products
at this premiere event!

OPTICS & PHOTONICS
International 2013



IR + UV EXPO

Organizer: Optical Society of Japan
Japan Photonics Council

24-26 April, 2013

Pacifico Yokohama, Japan



Co-located with

LE LASER EXPO

LENS EXPO

VISION Japan

OPTICS & PHOTONICS International Congress

OPIC2013

POSITIONING EXPO

MEBIOS JAPAN

Total Projected Participation - Exhibitors 400 - Attendees 12,000

For further information <http://www.optronicsjp.com/>

The Optronics Co., Ltd. International Dept. E-mail: intl@optronics.co.jp

Visit the Bookstore

Pratt St. Lobby (Level 300)
Open during Registration hours



- ▶ Books
- ▶ Professional Development
- ▶ Membership
- ▶ Souvenirs
- ▶ Gifts
- ▶ Information



Photonic Sense GmbH
 Photonics Online
 PHOTONIS USA
 Photron, Inc.
 Physimetrics, Inc.
 Polatis Inc.
 Power Technology, Inc.
 Precision Armaments Laboratory (PAL), US Army
 Proto Labs, Inc
 Pulse Inteco Systems Ltd.
 Raptor Photonics Ltd.
 Raytheon ELCAN Optical Technologies
 Renishaw Inc.
 Reynard Corporation
 Santa Barbara Infrared, Inc.
 Sensors Unlimited, Inc., part of Goodrich Corp.
 Shellcast Foundries Inc.
 Simphotek Inc.
 Snake Creek Lasers, LLC
 SOFRADIR
 Solid State Cooling Systems
 Sony Electronics Inc.
 Souriau PA&E
 Special Optics, Inc.
 Spectra-Mat, Inc.
 Spectrolab, Inc.
 StingRay Optics, LLC
 System Control Technologies (SCT)
 Systematic Vision Corp.
 Teledyne Imaging Sensors
 Teledyne Judson Technologies
 Tower Solutions
 ULIS
 Vergason Technology Inc
 Vision Components GmbH
 Vision Systems Technology, LLC
 Xenics NV
 Z & Z Optoelectronics Tech. Co., Ltd.

Detectors, Sensors

A.J. Tuck Company
 Advanced Laser Diode Systems
 A.L.S. GmbH
 AIM INFRAROT-MODULE GmbH
 AMETEK HCC Electronic Packaging
 Analog Modules, Inc.
 Arjae Spectral Enterprises, Inc.
 Avo Photonics, Inc.
 BEI Precision Systems & Space Co., Inc.
 Block Engineering, LLC
 Boston Electronics Corp.
 Brandywine Photonics LLC
 Brimrose Technology Corp.
 Canon U.S.A., Inc.
 Cantronic Systems (Canada) Inc.
 Covision Ltd.
 CREOL, The College of Optics and Photonics, Univ. of Central Florida
 DataRay Inc.
 Defence Vision Systems Inc.
 e2v Aerospace and Defense, Inc
 Electro-Optics Technology, Inc.
 Element Six Technologies U.S. Corporation
 EMCORE Corporation
 ENMET Corporation
 FLIR Systems, Inc.
 Gatan, Inc.
 GE Intelligent Platforms
 Gentec Electro-Optics Inc.
 Georgia Tech Research Institute and SENSIAC
 Gurley Precision Instruments, Inc.
 Heimann Sensor GmbH
 Hellma Materials GmbH
 ID Quantique SA





Infrared Systems Development Corp.
 INO
 IRflex Corp.
 KVH Industries, Inc.
 L-3 Communications Cincinnati Electronics
 Lake Shore Cryotronics, Inc.
 Laser Components USA, Inc.
 Lattice Materials LLC
 LEONI Fiber Optics, Inc.
 Mantaro Product Development Services®, Inc.
 Meadowlark Optics, Inc.
 MISTRAS Group, Inc.
 Moog QuickSet
 Multi IR Optoelectronics Co., Ltd
 Multisorb Technologies, Inc.
 New Imaging Technologies SAS
 Newcon Optik
 Nova Sensors
 Nu-Cast, Inc.
 Nuferr
 OZ Optics Ltd.
 PHASICS
 Photek Ltd.
 Photonics Online
 PHOTONIS USA
 Photron, Inc.
 Precision Armaments Laboratory (PAL), US Army
 Princeton Lightwave, Inc.
 Raptor Photonics Ltd.
 Raytheon ELCAN Optical Technologies
 Renishaw Inc.
 Santa Barbara Infrared, Inc.
 SELEX Galileo
 Sensors Unlimited, Inc., part of Goodrich Corp.
 Shellcast Foundries Inc.
 Siskiyou Corporation
 SOFRADIR

Spectrolab, Inc.
 Teledyne Imaging Sensors
 Teledyne Judson Technologies
 Tower Solutions
 ULIS
 Vision Systems Technology, LLC
 Xenics NV

Displays

Covesion Ltd.
 CREOL, The College of Optics and Photonics, Univ. of Central Florida
 Kopin Corp.
 Leybold Optics USA, Inc.
 LITEYE SYSTEMS, INC
 Nu-Cast, Inc.
 Photonics Online
 SCHOTT Defense
 Shellcast Foundries Inc.

Displays: Consumer, Information, Entertainment

Great River Technology, Inc.
 Iridian Spectral Technologies Ltd.
 Kopin Corp.
 Leybold Optics USA, Inc.
 Opnext, Inc.
 SCHOTT Defense
 Westboro Photonics

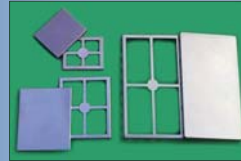
Distributor, Reseller, Integrator

Cantronic Systems (Canada) Inc.
 Contact! Corp.
 LITEYE SYSTEMS, INC
 Nova Sensors
 Systematic Vision Corp.
 Universal Photonics Inc.

Featured Product Launches

Orbel Corp.

Booth 437
 Product: SNAP – SHIELD MICRO™



Orbel's micro™ - Low Profile two-piece board level shielding for EMI compliance.

PD-LD, Inc.

Booth 308
 Product: LabSource – LS-1 and LS-2



Benchtop module available with single or dual laser sources. LS1 can be used to add Raman spectroscopy capabilities to analytical equipment. LS2 can be used for SERDS analysis.

PENTAX RICOH Imaging Americas Corp.

Booth 905
 Product: PAIR02 55X Zoom Lens



Reduces Atmospheric Interference (including heat haze) in long-range video surveillance.

Photonics Media

Booth 1926
 Product: 2012 Photonics Buyers' Guide



Stop by our booth to pick-up your complimentary copy!

Photron, Inc

Booth 2224
 Product: Photron Fastcam SA-X



The 12,500fps Fastcam SA-X is the world's fastest mega-pixel high speed camera.

Physics Today

Booth 1402
 Product: Physics Today



Physics Today – where tomorrow's innovations start.

Plasma-Therm LLC

Booth 548
 Product: VERSALINE®



VERSALINE®: The proven performance leader in plasma etching.

Product Index

Earth Sciences, Environmental Monitoring, Climate

AIM INFRAROT-MODULE GmbH
Alpes Lasers SA
Arjae Spectral Enterprises, Inc.
BEI Precision Systems & Space Co., Inc.
Block Engineering, LLC
Brandywine Photonics LLC
Bridger Photonics, Inc.
Exelis Visual Information Solutions
Hellma Materials GmbH
Krell Technologies, Inc.
KVH Industries, Inc.
Micro Laser Systems, Inc.
Multi IR Optoelectronics Co., Ltd
OZ Optics Ltd.
Photron, Inc.

Education and Training

CREOL, The College of Optics and Photonics, Univ. of Central Florida
Florida Photonics Cluster
Georgia Tech Research Institute and SENSIAC
ID Quantique SA
National Defense Industrial Association
Photon Engineering LLC

Electrical/Signal Analysis Equipment

GE Intelligent Platforms
Great River Technology, Inc.
Infrared Systems Development Corp.
NSCA & TRA-CAL, LLC
Photron, Inc.
ULIS

Electronic Components

AdTech Ceramics
AMETEK HCC Electronic Packaging
Analog Modules, Inc.
Arroyo Instruments, LLC
BEI Precision Systems & Space Co., Inc.
DYCONEX AG
EDT (Engineering Design Team), Inc.
Eltek USA Inc.
Gooch & Housego Plc
Heimann Sensor GmbH
IMT North America, Inc.
Mantaro Product Development Services®, Inc.
NSCA & TRA-CAL, LLC
Nu-Cast, Inc.
NuWaves Engineering
SCHOTT Defense
Sensors Unlimited, Inc., part of Goodrich Corp.
Souriau PA&E
Spectra-Mat, Inc.
TeraComm, LLC
Vergason Technology Inc

Electronic, Digital Imaging

Active Silicon, Inc.
AdTech Ceramics
Brimrose Technology Corp.
Cantronic Systems (Canada) Inc.
e2v Aerospace and Defense, Inc
EDT (Engineering Design Team), Inc.
Fotofab
Gatan, Inc.
GE Intelligent Platforms
Great River Technology, Inc.
IMT North America, Inc.



IO Industries, Inc.
IRCAM GmbH
Multisorb Technologies, Inc.
Nova Sensors
PENTAX RICOH Imaging Americas Corporation
Photron, Inc.
Sensors Unlimited, Inc., part of Goodrich Corp.
Sony Electronics Inc.
StingRay Optics, LLC
Systematic Vision Corp.
Teledyne Imaging Sensors
ULIS
Vision Components GmbH

Emerging Photonics Technologies

AdTech Ceramics
Alpes Lasers SA
Arjae Spectral Enterprises, Inc.
CREOL, The College of Optics and Photonics, Univ. of Central Florida

Fiber Optics and Accessories

Aerotech, Inc.
Analog Modules, Inc.
Avantes, Inc.
Brandywine Photonics LLC
Brimrose Technology Corp.
CREOL, The College of Optics and Photonics, Univ. of Central Florida
EDT (Engineering Design Team), Inc.
Electro-Optics Technology, Inc.
EMCORE Corporation
Fibercore Ltd.
FJW Optical Systems, Inc.
Fotofab
Gooch & Housego Plc

Gould Fiber Optics
INO
IRflex Corp.
Krell Technologies, Inc.
KVH Industries, Inc.
LEONI Fiber Optics, Inc.
Micro Laser Systems, Inc.
Micromechatronics, Inc.
Nufern
NuWaves Engineering
OZ Optics Ltd.
Polatis Inc.
Power Technology, Inc.
SCHOTT Defense
Souriau PA&E
Spectra-Mat, Inc.
TeraComm, LLC

Industrial Sensing and Measurement

Advanced Laser Diode Systems
A.L.S. GmbH
Alpes Lasers SA
AMETEK HCC Electronic Packaging
Bodkin Design & Engineering, LLC
Canon U.S.A., Inc.
Catalina Scientific Instruments, LLC
Covesion Ltd.
DataRay Inc.
Defence Vision Systems Inc.
Eltek USA Inc.
ENMET Corporation
FJW Optical Systems, Inc.
Gurley Precision Instruments, Inc.
Heimann Sensor GmbH
Hitachi High Technologies America, Inc.
ID Quantique SA
IRCAM GmbH
Labsphere, Inc.



Laser Components USA, Inc.
 LEONI Fiber Optics, Inc.
 Luna Technologies
 Mantaro Product Development Services®, Inc.
 Meadowlark Optics, Inc.
 MISTRAS Group, Inc.
 Multi IR Optoelectronics Co., Ltd
 Oneida Research Services, Inc.
 Opnext, Inc.
 Optometrics Corp.
 PHASICS
 Polatis Inc.
 Renishaw Inc.
 Sensors Unlimited, Inc., part of Goodrich Corp.
 SOFRADIR
 Sony Electronics Inc.
 StingRay Optics, LLC
 Systematic Vision Corp.
 Teledyne Judson Technologies
 TRIOPTICS GmbH
 Vision Components GmbH
 Zygo Corporation

Information Processing and Computing

AMETEK HCC Electronic Packaging
 Precision Armaments Laboratory (PAL), US Army

Laser Components and Accessories

AMETEK HCC Electronic Packaging
 Analog Modules, Inc.
 Arroyo Instruments, LLC
 Canon U.S.A., Inc.
 Covesion Ltd.
 DataRay Inc.
 Element Six Technologies U.S. Corporation
 FJW Optical Systems, Inc.
 Hellma Materials GmbH
 Heraeus Quartz America LLC
 Infinite Optics Inc.
 Infrared Systems Development Corp.
 Labsphere, Inc.
 Laser Components USA, Inc.
 LEONI Fiber Optics, Inc.
 Meadowlark Optics, Inc.
 Multi IR Optoelectronics Co., Ltd
 Multisorb Technologies, Inc.
 Northrop Grumman Cutting Edge Optronics

Nufern
 OmniPulse Technology
 Optometrics Corp.
 OZ Optics Ltd.
 PFG Precision Optics, Inc.
 Photonics Online
 PolarOnyx, Inc.
 Polatis Inc.
 Power Technology, Inc.
 Pulse Inteco Systems Ltd.
 Renishaw Inc.
 SCHOTT Defense
 Shanghai Optics Inc.
 Spectra-Mat, Inc.
 TeraComm, LLC
 TwinStar Optics & Coatings, Inc.
 VLOC

Laser Industry

Access Laser Co.
 Advanced Laser Diode Systems A.L.S. GmbH
 Arrow Thin Films, Inc.
 Arroyo Instruments, LLC
 Covesion Ltd.
 CVI Melles Griot
 DataRay Inc.
 Element Six Technologies U.S. Corporation
 FJW Optical Systems, Inc.
 Gentec Electro-Optics Inc.
 Gooch & Housego Plc
 Hellma Materials GmbH
 Heraeus Quartz America LLC
 Intevac Photonics, Inc.
 Labsphere, Inc.
 Laser Components USA, Inc.
 Leybold Optics USA, Inc.
 Maxion Technologies, Inc.
 Micromechatronics, Inc.
 Newcon Optik
 Nufern
 OmniPulse Technology
 Onefive GmbH
 PolarOnyx, Inc.
 Power Technology, Inc.
 Pulse Inteco Systems Ltd.
 Reynard Corporation
 Shanghai Optics Inc.
 Simphotek Inc.
 Solid State Cooling Systems
 Spectra-Mat, Inc.
 Teledyne Judson Technologies
 Z & Z Optoelectronics Tech. Co., Ltd.

Featured Product Launches

Pleora Technologies Inc.
 Booth 1020
 Product: iPort™ Analog-Pro Video Transmitters



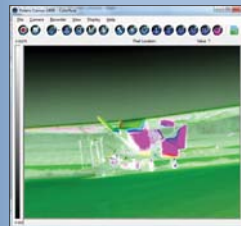
iPort™ Analog-Pro IP engines transmit high-quality video from analog cameras over GigE.

PLX Inc.
 Booth 823
 Product: PLX Modified BoreSight Module for the Apache Helicopter



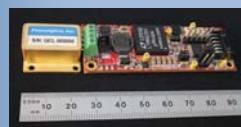
Simultaneous viewing of multiple lines of sight allows extraordinary accuracy.

Polaris Sensor Technologies, Inc.
 Booth 630
 Product: Multispectral Imaging Polarimeter



High performance multispectral imaging polarimeter for counter UAV/LED missions.

Pranalytica, Inc.
 Booth 506
 Product: Ultra Compact High Power Quantum Cascade Laser



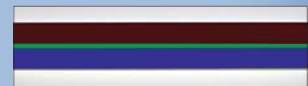
High Power QCL for hand portable and other swap constrains applications.

Princeton Lightwave, Inc.
 Booth 530
 Product: Eyesafe laser rangefinder receiver



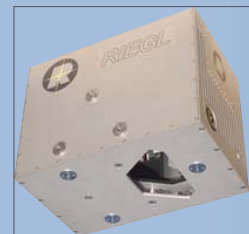
Eye-safe, high-performance, feature rich APD-based laser rangefinder receiver module.

Reynard Corp.
 Booth 612



Gapless Photolithography: Multiple filter coatings with no gap and overlap between filters.

Riegl USA Inc.
 Booth 1729
 Product: RIEGL VQ – 820 – G



RIEGL is going "Green" – the New VQ – 820 – G Bathymetric Green Laser.

SAES Getters USA, Inc.
 Booth 2526
 Product: Thin-film getter



SAES's thin-film page getter deposited on lids and wafers.



SPIE Membership

A long-term investment that pays off

Join or renew your SPIE Membership

1 year \$105 | 3 years \$297 | Lifetime \$995

Discounts for students and early career professionals

- ▶ 10 SPIE Digital Library downloads
- ▶ Complimentary online SPIE Journal
- ▶ 1 Complimentary online course
- ▶ Networking and access to information
- ▶ Discounts on events, courses, and publications
- ▶ Career advancement and peer recognition

Make SPIE your resource. Join or renew online today.

spie.org/membership

help@spie.org
+1 360 676 3290



Lasers and Systems

- Access Laser Co.
- AdValue Photonics, Inc.
- Advanced Laser Diode Systems A.L.S. GmbH
- Alpes Lasers SA
- Avo Photonics, Inc.
- Boston Electronics Corp.
- Canon U.S.A., Inc.
- CREOL, The College of Optics and Photonics, Univ. of Central Florida
- CVI Melles Griot
- Georgia Tech Research Institute and SENSIAC
- Gooch & Housego Plc
- ID Quantique SA
- INO
- IRflex Corp.
- Lasertel, Inc.
- LEONI Fiber Optics, Inc.
- Maxion Technologies, Inc.
- Micro Laser Systems, Inc.
- Northrop Grumman Cutting Edge Optronics
- Nuferr
- OmniPulse Technology
- Onefive GmbH
- PolarOnyx, Inc.
- Power Technology, Inc.
- Precision Armaments Laboratory (PAL), US Army
- Princeton Lightwave, Inc.
- Pulse Inteco Systems Ltd.
- Santa Barbara Infrared, Inc.
- Snake Creek Lasers, LLC

LED, OLED, non-laser Light Sources

- Arroyo Instruments, LLC
- Boston Electronics Corp.
- Cantronic Systems (Canada) Inc.
- Labsphere, Inc.
- LITEYE SYSTEMS, INC
- Maxion Technologies, Inc.
- PHOTONIS USA
- Proto Labs, Inc
- Spectrolab, Inc.
- Syntec Optics
- Westboro Photonics

Lighting and Illumination

- Labsphere, Inc.
- Leybold Optics USA, Inc.
- MPA Crystal Corp.
- New Imaging Technologies SAS

- Proto Labs, Inc
- Reynard Corporation
- Schneider Optics, Inc.
- SCHOTT Defense Spectrolab, Inc.
- Tower Solutions
- Vergason Technology Inc
- Westboro Photonics

Lithographic Equipment

- Advance Reproductions Corp.
- Bid-Service LLC

Machine Vision, Factory Automation

- Active Silicon, Inc.
- Aerotech, Inc.
- Bid-Service LLC
- Brandywine Photonics LLC
- Bridger Photonics, Inc.
- EDT (Engineering Design Team), Inc.
- Gurley Precision Instruments, Inc.
- IMT North America, Inc.
- IRCAM GmbH
- JAI Inc., USA
- Max Levy Autograph, Inc.
- MISTRAS Group, Inc.
- MPA Crystal Corp.
- Nanomotion Inc.
- New Imaging Technologies SAS
- Nova Sensors
- Optikos Corp.
- PENTAX RICOH Imaging Americas Corporation
- Physimetrics, Inc.
- Pleora Technologies Inc.
- Power Technology, Inc.
- Raytheon ELCAN Optical Technologies
- Schneider Optics, Inc.
- Sensors Unlimited, Inc., part of Goodrich Corp.
- Sony Electronics Inc.
- Systematic Vision Corp.
- ULIS
- Vision Components GmbH
- Xenics NV

Manufacturing, Assembly, Quality Inspection

- Aerotech, Inc.

Materials Processing, Lasers in Manufacturing

- AdValue Photonics, Inc.

Aerotech, Inc.
 CREOL, The College of Optics and Photonics, Univ. of Central Florida
 Heraeus Quartz America LLC
 Lattice Materials LLC
 Northrop Grumman Cutting Edge Optronics
 Onefive GmbH
 PolarOnyx, Inc.
 Power Technology, Inc.
 Snake Creek Lasers, LLC
 tousimis research corp.

Materials, Abrasives, Chemicals

Andover Corp.
 E.R. Precision Optical Corp.
 Element Six Technologies U.S. Corporation
 Entegris, Inc.
 Georgia Tech Research Institute and SENSIAC
 Hellma Materials GmbH
 Heraeus Quartz America LLC
 Infinite Optics Inc.
 Lattice Materials LLC
 MPA Crystal Corp.
 Naked Optics Corp.
 Photonic Sense GmbH
 Reynard Corporation
 Swiss Jewel Co.
 tousimis research corp.
 Universal Photonics Inc.

Microscopes

Bid-Service LLC
 Boston Electronics Corp.
 Gatan, Inc.
 Hitachi High Technologies America, Inc.
 Krell Technologies, Inc.
 Max Levy Autograph, Inc.
 Nanomotion Inc.
 PolarOnyx, Inc.
 Raytheon ELCAN Optical Technologies
 Zygo Corporation

Microtechnology

Advance Reproductions Corp.
 Fotofab
 Georgia Tech Research Institute and SENSIAC
 Polatis Inc.
 System Control Technologies (SCT)
 tousimis research corp.

Misc Consumables and Equipment

Krell Technologies, Inc.
 Power Technology, Inc.
 System Control Technologies (SCT)
 tousimis research corp.

Mounts, Tables, Vibration Isolation

4D Technology Corp.
 Aerotech, Inc.
 Arroyo Instruments, LLC
 Contact! Corp.
 CVI Melles Griot
 Micromechatronics, Inc.
 NSCA & TRA-CAL, LLC

Nanotechnology products

Aerotech, Inc.
 Arjae Spectral Enterprises, Inc.
 Bid-Service LLC
 Georgia Tech Research Institute and SENSIAC
 Hitachi High Technologies America, Inc.
 Lake Shore Cryotronics, Inc.
 PolarOnyx, Inc.
 tousimis research corp.
 Universal Photonics Inc.

Optical Coatings, Thin Films

Advance Reproductions Corp.
 Andover Corp.
 Arrow Thin Films, Inc.
 Entegris, Inc.
 Gurley Precision Instruments, Inc.
 Hardin Optical Co.
 IMT North America, Inc.
 Infinite Optics Inc.
 Iridian Spectral Technologies Ltd.
 JML Optical Industries, LLC
 Laser Components USA, Inc.
 Lattice Materials LLC
 Leybold Optics USA, Inc.
 Max Levy Autograph, Inc.
 MPA Crystal Corp.
 Multi IR Optoelectronics Co., Ltd
 Optometrics Corp.
 OZ Optics Ltd.
 PFG Precision Optics, Inc.
 Reynard Corporation
 SCHOTT Defense
 Shanghai Optics Inc.

Featured Product Launches

Santa Barbara Infrared, Inc.

Booth 1902
 Product: Common EO Laser Tester



Supports: Temporal Measurements, Detection, Presence, Power, Alignment, and Beam Analysis.

Souriau PA&E

Booth 2524
 Product: Mini Micro-D Connector



Saves space: 27% lower profile than standard Micro-D Connectors.

Simphotek Inc.

Booth 718
 Product: SimphoSOFT - Multiple Pulse



Accurate simulation and optimization of photo-activated materials; fit experimental data.

Special Optics, Inc.

Booth 1018
 Product: Teleconverter Lenses for Block Cameras



Special Optics' teleconverter lenses: ideal for border security and surveillance.

Sofradir EC, Inc.

Booth 1711
 Product: ATOM 1024



Highest Resolution Uncooled Infrared Camera 1024x768 Produces Stunning Thermal Images.

Spectrolab, Inc.

Booth 1743
 Product: SpectroCam LG3D



SpectroCam LG3D - Spectrolab's new Single Photon LIDAR Camera.

Solid State Cooling Systems

Booth 1937
 Product: Thermo Rack 1000W PAO



ThermoRack 1000 watt rack-mount chiller for leak-free use with PAO.

Stemmerich, Inc.

Booth 425
 Product: "C" Radius and Polished Edge



Chip-free Radius and Polished Seamed Edge.

Product Index



System Control Technologies (SCT)

TwinStar Optics & Coatings, Inc.
Vergason Technology Inc
VLOC

Optical Communication, Networking Devices

AMETEK HCC Electronic Packaging
EMCORE Corporation
Gooch & Housego Plc
PHOTONIS USA
Pleora Technologies Inc.
Polatis Inc.
TeraComm, LLC
Z & Z Optoelectronics Tech. Co., Ltd.

Optical Components - Filters, Mirrors, Other

Andover Corp.
Arrow Thin Films, Inc.
Avo Photonics, Inc.
CVI Melles Griot
Diverse Optics Inc.
E.R. Precision Optical Corp.
Electro-Optics Technology, Inc.
Entegris, Inc.
FJW Optical Systems, Inc.
Gurley Precision Instruments, Inc.
Hardin Optical Co.
Heraeus Quartz America LLC
IMT North America, Inc.
Infinite Optics Inc.
Iridian Spectral Technologies Ltd.
L.A. Gauge Co.
LEONI Fiber Optics, Inc.
Max Levy Autograph, Inc.
MPA Crystal Corp.
Multi IR Optoelectronics Co., Ltd
Naked Optics Corp.

Optometrics Corp.
PFG Precision Optics, Inc.
Photonic Sense GmbH
Reynard Corporation
Schneider Optics, Inc.
Shanghai Optics Inc.
StingRay Optics, LLC
Swiss Jewel Co.
TwinStar Optics & Coatings, Inc.
VLOC
Wavelength Technology Singapore Pte. Ltd.
Welch Mechanical Designs, LLC
Z & Z Optoelectronics Tech. Co., Ltd.

Optical Components - Lenses

Arrow Thin Films, Inc.
Criterion Instrument
CVI Melles Griot
Diverse Optics Inc.
E.R. Precision Optical Corp.
Element Six Technologies U.S. Corporation
Gurley Precision Instruments, Inc.
Hardin Optical Co.
Heraeus Quartz America LLC
Infinite Optics Inc.
IRCAM GmbH
JML Optical Industries, LLC
Laser Components USA, Inc.
Lattice Materials LLC
Max Levy Autograph, Inc.
Micro Laser Systems, Inc.
MPA Crystal Corp.
Multi IR Optoelectronics Co., Ltd
Multisorb Technologies, Inc.
Opto-Alignment Technology, Inc.
PENTAX RICOH Imaging Americas Corporation
PFG Precision Optics, Inc.

Photonic Sense GmbH
Raytheon ELCAN Optical Technologies
Schneider Optics, Inc.
Shanghai Optics Inc.
Siskiyou Corporation
StingRay Optics, LLC
Swiss Jewel Co.
Syntec Optics
Systematic Vision Corp.
Teledyne Imaging Sensors
TwinStar Optics & Coatings, Inc.
Wavelength Technology Singapore Pte. Ltd.
Z & Z Optoelectronics Tech. Co., Ltd.
Zygo Corporation

Optical Design and Engineering

Avo Photonics, Inc.
Bodkin Design & Engineering, LLC
Brandywine Photonics LLC
Diverse Optics Inc.
Element Six Technologies U.S. Corporation
Eltek USA Inc.
Entegris, Inc.
Infrared Systems Development Corp.
INO
Kopin Corp.
Labsphere, Inc.
Lambda Research Corp.
LEONI Fiber Optics, Inc.
LITEYE SYSTEMS, INC
Micromechatronics, Inc.
New Imaging Technologies SAS
Optikos Corp.
Opto-Alignment Technology, Inc.
PHASICS
Photon Engineering LLC

Photonics Online
PolarOnyx, Inc.
Raytheon ELCAN Optical Technologies
Schneider Optics, Inc.
SCHOTT Defense
Shanghai Optics Inc.
Simphotek Inc.
Special Optics, Inc.
StingRay Optics, LLC
Wavelength Technology Singapore Pte. Ltd.
Xenics NV
Z & Z Optoelectronics Tech. Co., Ltd.
Zygo Corporation

Optical Fabrication Equipment

E.R. Precision Optical Corp.
Krell Technologies, Inc.
Leybold Optics USA, Inc.
Optikos Corp.
OptiPro Systems
Opto-Alignment Technology, Inc.
Reynard Corporation
Special Optics, Inc.
System Control Technologies (SCT)
Tecport Optics, Inc.
Universal Photonics Inc.
Vergason Technology Inc
Zygo Corporation

Optics Manufacturing

4D Technology Corp.
AdTech Ceramics
Aerotech, Inc.
Andover Corp.
Arrow Thin Films, Inc.
Canon U.S.A., Inc.
CVI Melles Griot



Diverse Optics Inc.
 E.R. Precision Optical Corp.
 Entegris, Inc.
 Fotofab
 Gooch & Housego Plc
 Gurley Precision Instruments, Inc.
 Hardin Optical Co.
 Heraeus Quartz America LLC
 Infinite Optics Inc.
 IRflex Corp.
 JML Optical Industries, LLC
 L.A. Gauge Co.
 Laser Components USA, Inc.
 Lattice Materials LLC
 Leybold Optics USA, Inc.
 Max Levy Autograph, Inc.
 Micromechatronics, Inc.
 MPA Crystal Corp.
 Naked Optics Corp.
 Optikos Corp.
 OptiPro Systems
 Opto-Alignment Technology, Inc.
 PFG Precision Optics, Inc.
 Photonic Sense GmbH
 Photonics Online
 Precitech, Inc.
 Raytheon ELCAN Optical Technologies
 Reynard Corporation
 SCHOTT Defense
 Shanghai Optics Inc.
 Syntec Optics
 System Control Technologies (SCT)
 Teledyne Imaging Sensors
 TwinStar Optics & Coatings, Inc.
 Vergason Technology Inc
 VLOC
 Wavelength Technology Singapore Pte. Ltd.
 Welch Mechanical Designs, LLC
 Z & Z Optoelectronics Tech. Co., Ltd.
 Zygo Corporation

Optomechanical Components, Devices

Aerotech, Inc.
 FJW Optical Systems, Inc.
 Instrument Development Corp.
 L.A. Gauge Co.
 Micromechatronics, Inc.
 Nu-Cast, Inc.
 Opto-Alignment Technology, Inc.
 Proto Labs, Inc
 Schneider Optics, Inc.
 Shanghai Optics Inc.

Special Optics, Inc.
 Spectra-Mat, Inc.
 Welch Mechanical Designs, LLC

Positioning Equipment, Motion Control and Accessories

Aerotech, Inc.
 BEI Precision Systems & Space Co., Inc.
 Bid-Service LLC
 Canon U.S.A., Inc.
 Contact! Corp.
 CVI Melles Griot
 Gurley Precision Instruments, Inc.
 KVH Industries, Inc.
 Micromechatronics, Inc.
 Nanomotion Inc.
 PI (Physik Instrumente) L.P.
 Renishaw Inc.
 Special Optics, Inc.
 Vision Components GmbH
 Welch Mechanical Designs, LLC

Publishers, Associations, Clusters, Societies

C4ISR Journal & Defense News
 C4ISR Journal & Defense News
 Defense Tech Briefs
 Electro Optics Magazine
 Florida Photonics Cluster
 National Defense Industrial Association
 Photonics Media
 Photonics Online
 Spectroscopy Magazine
 Tactical ISR Technology

Semiconductor Manufacturing

AdTech Ceramics
 Advance Reproductions Corp.
 AIM INFRAROT-MODULE GmbH
 Canon U.S.A., Inc.
 Element Six Technologies U.S. Corporation
 Gatan, Inc.
 Gentec Electro-Optics Inc.
 Gooch & Housego Plc
 Nova Sensors
 Physimetrics, Inc.
 SOFRADIR
 Solid State Cooling Systems

Featured Product Launches

StingRay Optics, LLC

Booth 1634
 Product: Fuchsia Motorized SWIR Zoom Lens



SWIR Continuous Zoom, with motorized FOV, focus, aperture, filter wheel.

TDK-Lambda Americas Inc.

Booth 412
 Product: GENESYS™ 10 2.4 kw AC/DC Supply



Breakthrough power density, identical interface programmable family 750w to 60kw.

Teledyne Judson Technologies

Booth 1719
 Product: Integrated Detector Cooler Assembly with 640x480 Mid Wave FPA



Teletronics Technology Corp.

Booth 550
 Product: High Speed High Resolution Camera (n HSC-3x-s)



TTC's High Speed High Resolution Camera includes an internal recorder.

Telops

Booth 1529
 Product: Telops Fast-IR 1000



The first 1000 FPS high performance cooled infrared camera.

Thermo Fisher Scientific Inc.

Booth 3054
 Raman spectrometer, featuring the Law Enforcement and Security (LEnS) Raman library



Analyze Chemical Weapons, Explosives, Illicit Drugs, Chemicals and Trace Unknowns

Thorlabs Inc.

Booth 2512
 Product: PM200



Thorlabs' PM200 Touch Screen Power and Energy Meter Console.

Timbercon, Inc.

Booth 603
 Product: FBG Sensor System



Ultra High Speed Bragg Grating Measurement System.

SPIE **Newsroom**
App for iPhone & iPad

NEW

Carrier 8:19 AM

SPIE Newsroom

Latest News

SENSING & MEASUREMENT
Nuclear photonics with laser-based gamma rays
Laser-based, mono-energetic gamma-ray sources are enabling entirely new isotope-specific applications of importance to mater...

ELECTRONIC IMAGING & SIGNAL PROCESSING
Improved integral imaging approach for 3D object recognition
A new method for displaying 3D images uses principal component analysis and neural networks to achieve accurate object recogn...

SENSING & MEASUREMENT
Flexible solar cells with carbon nanotubes
Transparent organic contacts are fabricated with low mechanical resistance for solar cells.

SOLAR & ALTERNATIVE ENERGY
The Solar Hydrogen Activity Research

SPIE
Latest News Communities Favorites Search On the Web

Over 3,000 technical articles highlighting the latest innovations in:

- Astronomy
- Biomedical Optics & Medical Imaging
- Defense & Security
- Electronic Imaging & Signal Processing
- Illumination & Displays
- Lasers & Sources
- Micro/Nano Lithography
- Nanotechnology
- Optical Design & Engineering
- Optoelectronics & Communications
- Remote Sensing
- Sensing & Measurement
- Solar & Alternative Energy

Available on the **App Store** Available from iTunes® and at spie.org/mobile

Spectra-Mat, Inc.
Stellar Microelectronics

Software

4D Technology Corp.
Active Silicon, Inc.
Exelis Visual Information Solutions
IO Industries, Inc.
IRCAM GmbH
Lambda Research Corp.
Mantaro Product Development Services®, Inc.
Photon Engineering LLC
Pleora Technologies Inc.
Santa Barbara Infrared, Inc.
Simphotek Inc.
Teledyne Imaging Sensors
Vision Components GmbH

Solar & Alternative Energy

Advanced Laser Diode Systems A.L.S. GmbH
E.R. Precision Optical Corp.
EMCORE Corporation
Entegris, Inc.
Gatan, Inc.
Georgia Tech Research Institute and SENSIAC
Heraeus Quartz America LLC
Labsphere, Inc.
Lake Shore Cryotronics, Inc.
Lattice Materials LLC
LEONI Fiber Optics, Inc.
Leybold Optics USA, Inc.
Physimetrics, Inc.
Reynard Corporation
SCHOTT Defense
System Control Technologies (SCT)
Vergason Technology Inc

Solar and Alternative Energy Technology

EMCORE Corporation
Entegris, Inc.
Heraeus Quartz America LLC
Lake Shore Cryotronics, Inc.
Leybold Optics USA, Inc.
Spectra-Mat, Inc.
Vergason Technology Inc

Spectroscopy Devices and Equipment

AIM INFRAROT-MODULE GmbH
Alpes Lasers SA
Andover Corp.
Arjae Spectral Enterprises, Inc.
Avantes, Inc.
Avo Photonics, Inc.

Block Engineering, LLC
Bodkin Design & Engineering, LLC
Brandywine Photonics LLC
Catalina Scientific Instruments, LLC
EMCORE Corporation
Gatan, Inc.
Hitachi High Technologies America, Inc.
Infrared Systems Development Corp.
Intevac Photonics, Inc.
IO Industries, Inc.
Labsphere, Inc.
Laser Components USA, Inc.
Maxion Technologies, Inc.
Micromechatronics, Inc.
Nova Sensors
PHOTONIS USA
PolarOnyx, Inc.
Raytheon ELCAN Optical Technologies
Sensors Unlimited, Inc., part of Goodrich Corp.
SOFRADIR
Welch Mechanical Designs, LLC
Westboro Photonics

Structural and Infrastructure Sensing

Avo Photonics, Inc.
L.A. Gauge Co.
Luna Technologies
MISTRAS Group, Inc.
Moog QuickSet
Multi IR Optoelectronics Co., Ltd
Nova Sensors
Pleora Technologies Inc.
Shellcast Foundries Inc.
TeraComm, LLC

Test and Measurement, Metrology

4D Technology Corp.
Andover Corp.
Arjae Spectral Enterprises, Inc.
Arroyo Instruments, LLC
Block Engineering, LLC
Bodkin Design & Engineering, LLC
Bridger Photonics, Inc.
Bristol Instruments, Inc.
Canon U.S.A., Inc.
DataRay Inc.
Gentec Electro-Optics Inc.
Great River Technology, Inc.
Hitachi High Technologies America, Inc.
IRCAM GmbH
Labsphere, Inc.
Lake Shore Cryotronics, Inc.
Lambda Research Corp.
Luna Technologies
Max Levy Autograph, Inc.
MISTRAS Group, Inc.

NSCA & TRA-CAL, LLC
 Optikos Corp.
 OptiPro Systems
 Opto-Alignment Technology, Inc.
 Optometrics Corp.
 OZ Optics Ltd.
 PHASICS
 Polatis Inc.
 Precision Armaments Laboratory
 (PAL), US Army
 Proto Labs, Inc
 Renishaw Inc.
 Reynard Corporation
 Santa Barbara Infrared, Inc.
 TeraComm, LLC
 TRIOPTICS GmbH
 Westboro Photonics
 Zygo Corporation

Vacuum, Cooling, Gas Handling Equipment

AIM INFRAROT-MODULE GmbH
 Bid-Service LLC
 ENMET Corporation
 Leybold Optics USA, Inc.
 Solid State Cooling Systems
 System Control Technologies
 (SCT)
 Vergason Technology Inc

Vehicle Sensing and Control

Andover Corp.
 Defence Vision Systems Inc.
 E.R. Precision Optical Corp.
 GE Intelligent Platforms
 Georgia Tech Research Institute
 and SENSIAC
 Kappa optronics Inc.
 Moog QuickSet
 Pleora Technologies Inc.
 Proto Labs, Inc
 Renishaw Inc.
 Shellcast Foundries Inc.
 Spectrolab, Inc.
 Vergason Technology Inc
 Vision Components GmbH
 Westboro Photonics

Featured Product Launches

Topins Co, Ltd.
 Booth 326
 Product: TICA-K030



Thermal Imaging Camera & Infrared Lens Module for Security and Thermography.

Tousimis Research Corp.
 Booth 2529
 Product: tousimis® 931 Series
 Critical Point Dryer – “Multi-App”



The tousimis® 931 is a programmable multi-application critical point dryer.

TRIOPTICS GmbH
 Booth 2426
 Product: OptiCentric® 3D IR



Precise Optomechanical Characterization for the Perfectly Aligned Assembly of LWIR Optics.

Ultralife Corp.
 Booth 107
 Product: UKT0037 Solar Charger Kit



Man-portable solar charger kit for UBBL06/UBBL08 batteries.

Universal Photonics Inc.
 Booth 1019
 Product: SOMOS MDF400



High Speed/Pressure, Double-Sided Processing, Plate diameter to 90.55”

Vision Systems Technology, LLC
 Booth 302
 Product: VA-29MC-M5



29 million pixel digital camera for Aerial Imaging, surveillance, and Remote Sensing applications.

Vision4ce LLC
 Booth 113
 Product: Grip Epsilon Rugged PC



Rugged Real-Time Image Processor with i7 and Fermi CPU/GPU.

Voltage Multipliers, Inc.
 Booth 1535
 Product: PVM Miniature High Voltage Multipliers



3KV/6KV single/double output-miniature High Voltage Multipliers from VMI

Wavelength Technology Singapore Pte. Ltd.

Booth 315
 Product: IR Dual Field Imaging Lens



IR Dual Field Imaging Lens is for zooming functionality with two distinct fields.

Xenics NV
 Booth 1013
 Product: XSW-640 OEM SWIR module



Xenics' SWIR OEM module, ready-to-integrate for night vision surveillance.

Z & Z Optoelectronics Tech. Co., Ltd.

Booth 1120
 Product: Ultra precision Fused Silica Optics



Ultra-precision optics, roughness <0.1nm apply in advanced optical systems.



Through collaboration, companies large and small, steer the latest innovations toward practical relevance in the global marketplace.

SPIE Corporate Membership increases your visibility, adds individual benefits, and provides significant discounts on:

SPIE exhibitions* | SPIE Digital Library subscriptions
Advertising rates | Mailing lists | Recruitment services

*Corporate Members receive a 15% discount on exhibit space at SPIE Exhibitions.

3SAE Technologies, Inc.
4AD Enterprises, Inc.
4D Technology Corp.
5N Plus Trail
89 North
A*STAR National Metrology Ctr.
ABB Analytical Measurement
Abet Technologies, Inc.
Absolute Coating
ABTech, Inc.
Accendo Systems
Access Laser Co.
Access Optics LLC
Accuratus Corp.
Acktar Ltd.
Active Optics Night N Ltd.
Adimec Electronic Imaging, Inc.
AdlOptica Optical Systems GmbH
Adsys Controls, Inc.
AdTech Ceramics
AdTech Optics, Inc.
AdValue Photonics, Inc."
Advanced Microoptic Systems GmbH
Advanced Optowave Corp.
Advanced Photonix, Inc.
Advanced Research Corp.
Advanced Thin Films
Aerotech, Inc.
AFL
Agilent Technologies, Inc.
Alazar Technologies Inc.
ALIO Industries
AllMotion Inc.
Alpine Research Optics, LLC
Alson E. Hatheway Inc.
Altos Photonics, Inc.
American Laser Enterprises, LLC
AMETEK Precitech, Inc.
Ampex Data Systems Corp.
Amplification Technologies, Inc.
Amplitude Laser
ANDANTA GmbH
Andor Technology Ltd.
Andover Corp.
Angstrom Precision Optics Inc.
Aperture Optical Sciences Inc.
Apollo Instruments, Inc.
Apollo Optical Systems, Inc.
Applied Image, Inc.
Applied Photonics Inc.
Applied Physics & Electronics, Inc.

Applied Technology Associates
Arbor Photonics, Inc.
Archer OpTx, Inc.
Arjae Spectral Enterprises, Inc.
Arrow Thin Films, Inc.
Arroyo Instruments, LLC
Artemis Optical Ltd.
ARTEMIS, Inc.
Artifex-Engineering e.K.
ASA Astrosysteme GmbH
Asahi Spectra USA Inc.
ASD, Inc.
ASML
ASML US, Inc.
Automated Imaging Association
Avantes, Inc.
Avo Photonics, Inc.
Ayase America Inc.
B&W Tek, Inc.
Beamtech Optronics Co. Ltd.
Beijing Guojing Infrared Optical Technology Co., Ltd.
Berliner Glas KGaA Herbert Kubatz GmbH & Co.
Berliner Glas U.S.
BigC.com
Block Engineering, LLC
Blue Ridge Optics, LLC
Bodkin Design & Engineering, LLC
Boston Applied Technologies, Inc.
Boston Electronics Corp.
Boston Micromachines Corp.
Boulder Imaging Inc.
Boulder Nonlinear Systems
Brandywine Photonics LLC
Breault Research Organization, Inc.
Brewer Science, Inc.
Brion Technologies, Inc.
Bristol Instruments, Inc.
BWT Beijing Ltd.
Calmar Laser
Cambridge Research & Instrumentation, Inc.
Cambridge Technology, Inc.
Canalaser Technologies Co., Ltd.
Carl Zeiss, Inc.
Cascade Laser Corp.
Cascade Optical Corp.
CASTON Inc.
Catalina Scientific

Central Research Institute Cyclone
CeramOptec Industries, Inc.
Changchun New Industries Optoelectronics Technology Co., Ltd.
China Daheng Group, Inc.
China Germanium Co., Ltd.
China MDK Holding Group
Chroma Technology Corp.
CI Systems, Inc.
Clark-MXR Inc.
Clear Align
Coastal Connections
Coherent, Inc.
College of Optical Sciences, The Univ. of Arizona
Continuum, Inc.
CorActive High-Tech Inc.
CREOL, The College of Optics and Photonics, Univ. of Central Florida
Cristal Laser S.A.
CV Nanotechnology, Inc.
CVI Melles Griot
CVI Melles Griot BV
Cyantek Corp.
DataRay Inc.
Davidson Optronics Inc.
Davis Marketing International
Daylight Solutions Inc.
DELTA
DeltaNu
Deltronic Crystal Industries, Inc.
Deposition Sciences, Inc.
DiCon Fiberoptics, Inc.
Diemat, Inc.
DILAS Diode Laser, Inc.
Directed Light, Inc.
Diverse Optics Inc.
Docter Optics, Inc.
Dr. Mergenthaler GmbH & Co. KG
DRS Technologies, Inc.
DST Control AB
Dyna Technologies, Inc.
E.R. Precision Optical Corp.
e2v
e2v technologies plc
Edmund Optics Inc.
EIS Optics Ltd.
Electro Optical Components, Inc.
Electro Optical Industries, Inc.
Electro-Optical Imaging, Inc.
Electro-Optics Technology, Inc.

Elite Optoelectronics Co., Ltd.
Elliot Scientific Ltd.
EMD Chemicals
Energetiq Technology, Inc.
Engineering Synthesis Design, Inc.
Entegris, Inc.
EOTRON, LLC
EPIX, Inc.
Eper Technology Inc.
ET Precision Optics Inc.
Evaporated Coatings, Inc.
Evaporated Metal Films Corp.
Exalos AG
Excell Technology
Exciton, Inc.
Fairfield Crystal Technology, LLC
Femtochrome Research, Inc.
FEMTOLASERS, Inc.
Fianium Inc.
Fianium Ltd.
Fiber Optic Valley AB
Fiberguide Industries, Inc.
Fibertech Optica Inc.
First Sensor, Inc.
FJW Optical Systems, Inc.
Flexible Optical B.V.
FLIR Advanced Imaging Systems, Inc.
FLIR Systems, Inc.
FluxData, Inc.
Focal Point, Inc.
FOCtek Photonics, Inc.
Foreal Spectrum, Inc.
Fotofab
Frankfurt Laser Co.
Fresnel Technologies Inc.
Frontier Optics, Inc.
FUJIFILM Electronic Materials U.S.A., Inc.
Fuzhou Alpha Optics Co., Ltd.
G-S Plastic Optics
GE Intelligent Platforms
General Dynamics-Global Imaging Technologies
Gentec Electro-Optics Inc.
Georgia Tech Research Institute
Glass Fab, Inc.
Gooch & Housego Plc
Greenlight Optics, LLC
Greenpak Development, Inc.
Grintech GmbH
GT Crystal Systems, LLC

SPIE Corporate Members

Guangzhou SAT Infrared Technology Co., Ltd.
 Gulf Photonics, Inc.
 Haas Laser Technologies, Inc.
 Halocarbon Products
 Hamamatsu Corp.
 Hamamatsu Photonics Belgium
 HamaTech APE GmbH & Co. KG
 Hardin Optical Co.
 HC Photonics Corp.
 Headwall Photonics Inc.
 Heidelberg Instruments Inc.
 Hellma USA, Inc.
 Heraeus Quartz America LLC
 Hinds Instruments, Inc.
 Hitachi High Technologies America, Inc.
 Hofstadter Analytical Services, LLC
 Holo/Or Ltd.
 HOLOEYE Photonics AG
 Holographix LLC
 Hong Kong Productivity Council
 HORIBA Instruments Inc.
 HOYA Corp. USA
 Huanic Corp.
 Hyperion Technology Group, Inc.
 Ibsse Group, Inc.
 Image Engineering GmbH & Co. KG
 Imagine Optic Inc.
 Imaging Solutions Group
 IMEC
 Imperx Inc.
 IMRA America, Inc.
 Incom Inc.
 Infinite Optics Inc.
 Infrared Systems Development Corp.
 Infratec Infrared LLC
 INGENERIC GmbH
 Innolume GmbH
 Innovation Photonics
 Innovations in Optics, Inc.
 Innovative Photonic Solutions
 INO
 InPhenix, Inc.
 Inrad Optics
 Insight Photonic Solutions, Inc.
 Inspectrology LLC
 Intevac Photonics, Inc.
 IntraAction Corp.
 Intrinsic Crystal Technology Co., Ltd.
 IO Industries, Inc.
 IPG Photonics Corp.
 IRCAM GmbH
 IRD Glass
 IRflex Corp.
 Iridian Spectral Technologies Ltd.
 Isomet Corp.
 ISP Optics Corp.
 Isuzu Glass, Inc.
 ITF Labs./Avensys Tech
 Janos Technology, LLC
 JDSU
 JenLab GmbH
 JENOPTIK Optical Systems GmbH
 JENOPTIK Optical Systems, Inc.
 JEOL USA Inc.
 JSC Ctr. for Surface and Vacuum Research
 JSR Inc.
 Kaleido Technology ApS
 Kappa optronics Inc.
 Kapteyn-Murnane Labs., Inc.
 Kentek Corp.
 Keynote Photonics
 Kigre, Inc.
 KiloLambda Technologies, Ltd.
 Kinetic Systems, Inc.
 Klinger Educational Products Corp.
 Korea Univ.
 Kugler of America Ltd.
 L-3 Communications - Applied Optics Center
 L-3 Communications Cincinnati Electronics
 L-3 Communications Tinsley Labs. Inc.
 Labsphere, Inc.
 LaCroix Optical Co.
 Lake Shore Cryotronics, Inc.
 Lambda Research Corp.
 Lambda Research Optics, Inc.
 Lanmark Controls Inc.
 Laser Components USA, Inc.
 Laser Focus World
 Laser Institute of America
 Laser Light Solutions
 Laser Operations LLC / QPC Lasers
 Laser Optex Inc.
 Laser S.O.S. USA, Inc.
 Laser-Compact Co. Ltd.
 Laser-Export Co. Ltd.
 Laserline Optics Canada Inc.
 Laserod Technologies LLC
 Lasertel, Inc.
 Laservision USA
 LASOS Lasertechnik GmbH
 Lattice Electro Optics, Inc.
 Leister Technologies LLC
 LEONI Fiber Optics, Inc.
 Leybold Optics USA, Inc.
 Light Age, Inc.
 LightGuideOptics USA, LLC
 LightPath Technologies, Inc.
 LightSmyth Technologies, Inc.
 LightWorks Optics, Inc.
 Lincoln Laser Co.
 Lockheed Martin Aculight
 LovaLite
 LT Ultra Precision Optics, LLC
 Lumencor, Inc.
 LUMERA LASER GmbH
 Luxel Corp.
 M&K Inc.
 M3 Measurement Solutions
 Mad City Labs., Inc.
 Market Tech, Inc.
 Markttech Optoelectronics
 Materion Barr Precision Optics & Thin Film Coatings
 Max Levy Autograph, Inc.
 Meadowlark Optics, Inc.
 MegaWatt Lasers, Inc.
 Metrology Concepts LLC
 miCos USA LLC
 Micro Care Corp.
 Micro Laser Systems, Inc."
 Microtech Instruments, Inc.
 Mightex Systems
 Mildex, Inc.
 Mindrum Precision, Inc.
 Minus K Technology Inc.
 MLD Technologies, LLC
 Molecular Imprints, Inc.
 MPA Crystal Corp.
 MPB Communications Inc.
 Multi IR Optoelectronics Co., Ltd
 Multisorb Technologies, Inc.
 Multiwave Photonics
 Naked Optics Corp.
 Nanjing Creator Optics Co., Ltd.
 National Aperture, Inc.
 National Institute of Standards and Technology
 New England Optical Systems
 New England Photoconductor Corp.
 New Mexico Optics Industry Association
 New Source Technology, LLC
 Newport Corp.
 NiCoForm, Inc.
 NKT Photonics A/S
 nLIGHT Corp.
 NoIR Laser Co., LLC
 Noren Products Inc.
 Norland Products Inc.
 NorPix Inc.
 Northrop Grumman Cutting Edge Optronics
 Nova Sensors
 Novotech, Inc.
 NP Photonics, Inc.
 nPoint, Inc.
 Nufern
 Ocean Optics, Inc.
 Ocean Thin Films, Inc.
 Oclaro, Inc.
 OFS Specialty Photonics Div.
 Ohara Corp.
 Ohara Corp.
 OmniPulse Technology
 Ondax, Inc.
 Onefive GmbH
 Ontar Corp.
 Opgal Optronics Industries Ltd.
 Ophir Optics, LLC
 Ophir Photonics LLC
 Optec S.p.A.
 Opti Temp, Inc.
 Optical Building Blocks Corp.
 Optical Filter Source, LLC
 Optical Support, Inc.
 OPTICS 1, Inc.
 Optics Balzers
 Optics Technology, Inc.
 Optiforms
 OptiGrate Corp.
 Optikos Corp.
 Optima Research Ltd.
 Optimax Systems, Inc.
 OptiPro Systems
 OptiSource, LLC
 Optiwave Systems Inc.
 OptiWorks, Inc.
 Opto Diode Corp.
 Opto Knowledge Systems, Inc.
 Opto-Alignment Technology, Inc.
 OptoElectronic Components
 Optometrics Corp.
 Optonetic LLC
 OptoSigma Corp.
 Optotune AG
 Osela inc.
 Oxsius SA
 OZ Optics Ltd.
 Pôle Optique et Photonique sud
 Pacific Coast Optics
 Pacific Laser Equipment
 Panavision Federal Systems, LLC
 Pangolin Laser Systems, Inc.
 Pavilion Integration Corp.
 PD-LD, Inc.
 PFG Precision Optics, Inc.
 PHASICS S.A.
 Photon Design
 Photon Engineering LLC
 Photon Systems, Inc.
 Photon Technology International, Inc.
 Photonic Cleaning Technologies
 Photonics Media/Laurin Publishing
 PHOTONIS USA
 Photop Technologies, Inc.
 Photron USA, Inc.
 PI (Physik Instrumente) L.P.
 PicoQuant Photonics North America, Inc.
 piezosystem jena, Inc.
 Plasma-Therm LLC
 PLC Connections, LLC
 PolarOnyx, Inc.
 Polymicro Technologies, A Subsidiary of Molex Incorporated
 Povolzhskaya State Academy of Telecommunications and Informatics
 Power Technology, Inc.
 Precision Asphere, Inc.
 Precision Glass & Optics
 Precision Optical
 Precision Photonics Corp.
 Princeton Instruments
 PROMET International Inc.
 ProPhotonix Ltd.
 ProSpect Photonics, Inc."
 Proto Labs, Inc.
 PVP Advanced EO Systems, Inc.
 Pynco, Inc.
 QED Technologies, Inc.
 Qioptiq S.A.S.
 Qioptiq, Inc.
 Qoniac GmbH
 Quantel USA
 Quantronix Corp.
 Raicol Crystals Ltd.
 Rainbow Research Optics, Inc.
 Raptor Photonics Ltd.
 Rayleigh Optical Corp.
 Raytheon ELCAN Optical Technologies
 Red Maple Capital LLC

SPiE Corporate Members

Redfern Integrated Optics, Inc.	Shasta Crystals	TecOptics, Inc.	Vacuum Process Technology LLC
Redondo Optics, Inc.	Sheaumann Laser, Inc.	Tecport Optics, Inc.	Valtech Corp.
Research Electro-Optics, Inc.	Sigmadyne, Inc.	Teledyne DALSA	Veeco Instruments Inc.
Reynard Corp.	Sill Optics GmbH & Co. KG	Teledyne Judson Technologies	VisiMax Technologies, Inc.
RICOR USA, Inc.	Simphotek Inc.	Telops	Vision Components GmbH
Riegl USA Inc.	Siskiyou Corporation	Tempotec Optics Co., Ltd.	Vista Optronics Inc.
RMT Ltd.	Space Optics Research Labs., LLC (SORL)	Tessera, Inc.	Vixar Inc.
Rochester Precision Optics, LLC	Special Optics, Inc.	The Cooke Corp.	VORTRAN Laser Technology, Inc.
Rolyn Optics Co.	Specim Spectral Imaging Ltd.	The Hong Kong Polytechnic Univ.	VueMetrix
Ross Optical Industries	Spectral Evolution, Inc.	The Univ. of New Mexico	Wasatch Photonics, Inc.
RPC Photonics, Inc.	Spectralus Corp.	Thermo Fisher Scientific Inc.	Wavelength Electronics, Inc.
RPMC Lasers, Inc.	Spectrogon AB	Thorlabs GmbH	Wavelength Technology Singapore Pte. Ltd.
RSoft Design Group, Inc.	Spectrogon UK Ltd.	Thorlabs Inc.	Western Photonics Technology
Rutherford Appleton Lab.	Spectrogon US, Inc.	Tian Optics	Wordingham Technologies
Sacher Lasertechnik GmbH	Spectrum Scientific, Inc.	Time-Bandwidth Products AG	World Star Tech
Salem Distributing Co.	SRI International Sarnoff	TLC International	WZW-Optic AG
Santa Barbara Infrared, Inc.	Stanford Computer Optics, Inc.	TNT Plastic Molding	XEI Scientific, Inc.
Satisloh North America Inc.	StellarNet, Inc.	TomoWave Labs., Inc.	Xenics NV
Savvy Optics Corp.	Stemmerich, Inc.	TOPTICA Photonics Inc.	XYALIS
SCANLAB America, Inc.	Sunny Technology	Tornado Medical Systems	Z & Z Optoelectronics Tech. Co., Ltd.
SCD Semiconductor Devices	Sutter Instrument Co.	Tower Optical Corp.	Z-LASER Optoelektronik GmbH
SCD.USA, LLC	Suzhou Stanley Optics Co., Ltd.	Tower Solutions	Z-LASER-America Inc.
Schneider Optical Machines Inc.	SwissOptic AG	TrackingPoint, Inc.	Zaber Technologies Inc.
Schneider Optics, Inc.	Synopsys, Inc.	Translume, Inc.	Zephyr Photonics, Inc.
SCHOTT AG	Syntec Optics	Trex Advanced Materials	Zeta Instruments
SCHOTT North America, Inc.	Systematic Vision Corp.	Triad Technology	ZiNIR Ltd.
Scintec Corp.	TEC Microsystems GmbH	TRIOPTICS GmbH	Zomega Terahertz Corp.
SemiNex Corp.	tec5USA, Inc.	TRUMPF Inc.	Zurich Instruments AG
Semrock Inc.	Techmetals, Inc.	Tydex	Zygo Corporation
SensL	Technical Manufacturing Corp.	Umicore Optical Materials USA, Inc.	
Sensors Unlimited, Inc., part of Goodrich Corp.	Technische Informationsbibliothek und Univ. Hannover	Umicore Thin Film Products	
Shanghai Optics Inc.		Universal Photonics Inc.	
		Ural Optical and Mechanical Plant	

SPiE provided over \$2.5 million in support of education and outreach programs in 2011

- ▶ SPiE Scholarships
- ▶ Education Outreach Grants
- ▶ Student Chapters
- ▶ Student Activities
- ▶ Best Student Paper Prizes
- ▶ Free Posters
- ▶ Free Educational CDs, DVDs, and Videos
- ▶ Women in Optics
- ▶ Education and Training in Optics and Photonics Conference (ETOP)
- ▶ Student Outreach
- ▶ Science Fairs
- ▶ Optics Education Directory
- ▶ Free SPiE Journal Access in developing nations
- ▶ Active Learning in Optics and Photonics (ALOP): Teacher Training
- ▶ International Centre for Theoretical Physics (ICTP) Winter College
- ▶ Visiting Lecturers Program

spie.org/giving



SPiE®

Winning the battle against night, bullets and mediocrity.

SCHOTT component technologies lead the way in armor, night vision, electronic packaging and optics.

Component failure is not an option. That's why SCHOTT fights the laws of physics every day to achieve the very highest levels of success. It's why the defense industry consistently chooses our components for critical equipment and systems. Our SCHOTT Resistan® transparent vehicle armor, currently deployed in Afghanistan, is lighter than competing armor. It provides multi-hit ballistic performance while still allowing soldiers to use night vision equipment – a key factor in their safety. We've expanded and enhanced our capabilities in fiber optics and lighting, IR and eye-safe laser materials and electronic packaging. Insist on components that are SCHOTT stronger, SCHOTT safer, SCHOTT smarter.

Visit us at DSS:
Defense, Security & Sensing
April 24-26, Baltimore, MD
SCHOTT Booth 1519

SCHOTT Defense
2451 Crystal Drive, Suite 450
Arlington, VA 22202
Phone: 703-418-1409
Fax: 703-418-4762
E-mail: defense@us.schott.com

www.us.schott.com/defense

SCHOTT
glass made of ideas

scd USA

SEMI CONDUCTOR DEVICES USA

THE FUTURE REVEALED

SEE US AT BOOTH #1927



Mini InSb 640x512, 15 um



InSb 1280x1024 Digital IDCA, 15 um



VOx 640x480, 17um



InSb 640x512 Digital IDCA, 15 um

Full M&R Capabilities



SCD.USA, LLC—1901 S HARBOR CITY BLVD., STE #806, MELBOURNE, FL 32901

P: 321-724-6146 F: 321-724-6267 T-F: 866-972-3872

EMAIL: CONTACTUS@SCDUSA.COM WEB: WWW.SCDUSA.COM