

2011 Optics + Photonics

Exhibition Guide

San Diego Convention Center
San Diego, California, USA

Moving Technology to Market™

23–25 August 2011
San Diego, California, USA



The Future of Objective Lens Testing

Measuring lens centering errors, air gaps, and center thickness of assembled optical systems with **ONE** instrument

OptiCentric® 3D

- Combining the known centering measurement technology integrated in OptiCentric® with the OptiSurf® low coherence interferometer for measuring the air gaps between lens elements and the center thickness of lenses within the optical system
- The cross-interaction allows fast alignment of the lens system, and provides a significant increase of the overall measurement accuracy and detailed manufacturing quality information for comprehensive compliance testing of assembled optics
- Measurement accuracy of centering errors/ air spacing and center thickness: 0.1 μm / 1 μm

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Booth #536



TRIOPTICS

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2011 Optics + Photonics

Exhibition

23–25 August 2011
San Diego, California, USA



Exhibition Hours

Exhibition Hall A

Tuesday 23 August · 10:00 am to 5:00 pm

Wednesday 24 August · 10:00 am to 5:00 pm

Thursday 25 August · 10:00 am to 2:00 pm



SPIE is the international society for optics and photonics founded in 1955 to advance light-based technologies. Serving more than 188,000 constituents from 138 countries, the Society advances emerging technologies through open interdisciplinary information exchange, continuing education, publications, patent precedent, and career and professional growth.

This program is based on commitments received up to the time of publication and is subject to change without notice.

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Visit us at Booth #433

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We've expanded our line of optical products to include the **SmartShutter™**, a full-featured controllable shutter, and the **Lambda 10-3** controller, capable of commanding up to three filter wheels and two shutters. Other optical instruments include the **DG-4** high-speed wavelength switcher, **Lambda XL** 10,000 hour light source, and a full range of filter wheels. Robust, reliable, and versatile, our imaging hardware can be driven by most imaging software and adapted to any microscope.



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Rock-solid precision and sub-micron accuracy. Our expertise in electromechanical engineering and stepper-motor control is evident in the sub-micron resolution of our highly stable motorized and mechanical micromanipulators, stages, and translation systems. Our high performance designs offer precision smooth, ergonomic, micro-movements adaptable to diverse system designs and platforms.



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We've combined extensive years of motor control experience and in-house precision CNC machined parts to create a line of versatile optical products to serve the tremendous growth in photonics, optical research, and imaging techniques. Our extensive engineering expertise and 50,000 square foot state-of-the-art manufacturing facility, allow us to rapidly fabricate custom imaging solutions at economical prices, making us a preferred OEM vendor for life sciences and industry.



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Sutter Instrument has been a recognized leader in micropipette fabrication technology for over 37 years. Our puller technology includes the **P-2000**, an advanced CO₂ laser-based micropipette puller, that has been critical in the development of near-field scanning optical microscopy, fabricating fused silica probes with tip diameters as small as 20 nanometers.



SUTTER INSTRUMENT

ONE DIGITAL DRIVE, NOVATO, CA, 94949 | PHONE: 415.883.0128 | FAX: 415.883.0572
EMAIL: INFO@SUTTER.COM | WWW.SUTTER.COM

Job Fair

Two Days Only

Convention Center, Exhibition Hall

Tuesday 23 August · 10:00 am to 5:00 pm

Wednesday 24 August · 10:00 am to 5:00 pm

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 Optics + Photonics. Come prepared to discuss your skills and talents with our industry leaders.

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

spie.org/careercenter

FOCUS ON THE PERFECT MATCH

These companies will be on hand to discuss career opportunities.





LaserFocusWorld

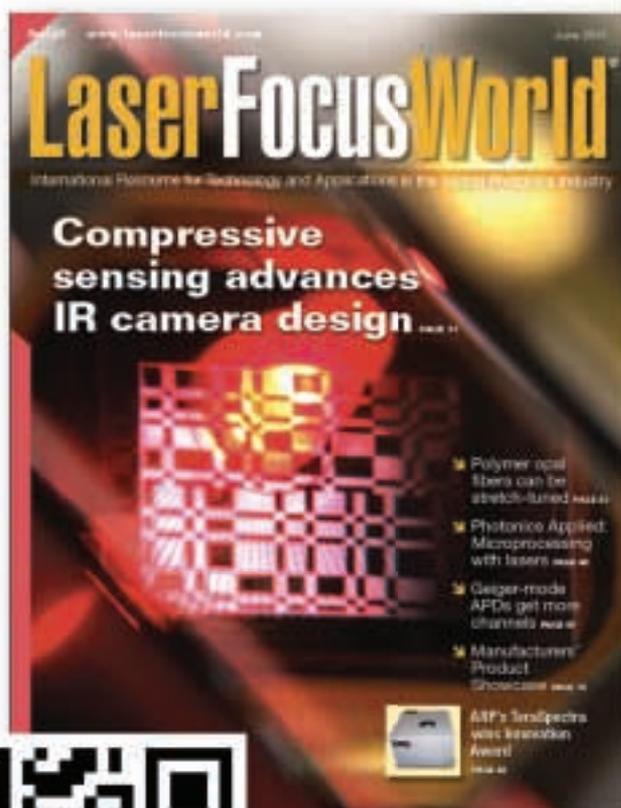
International resource for technology and applications in the global photonics industry

Published since 1965, *Laser Focus World* is a global resource for engineers, researchers, scientists, and technical professionals providing comprehensive global coverage of optoelectronics technologies, applications and markets.

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Exhibitor Index

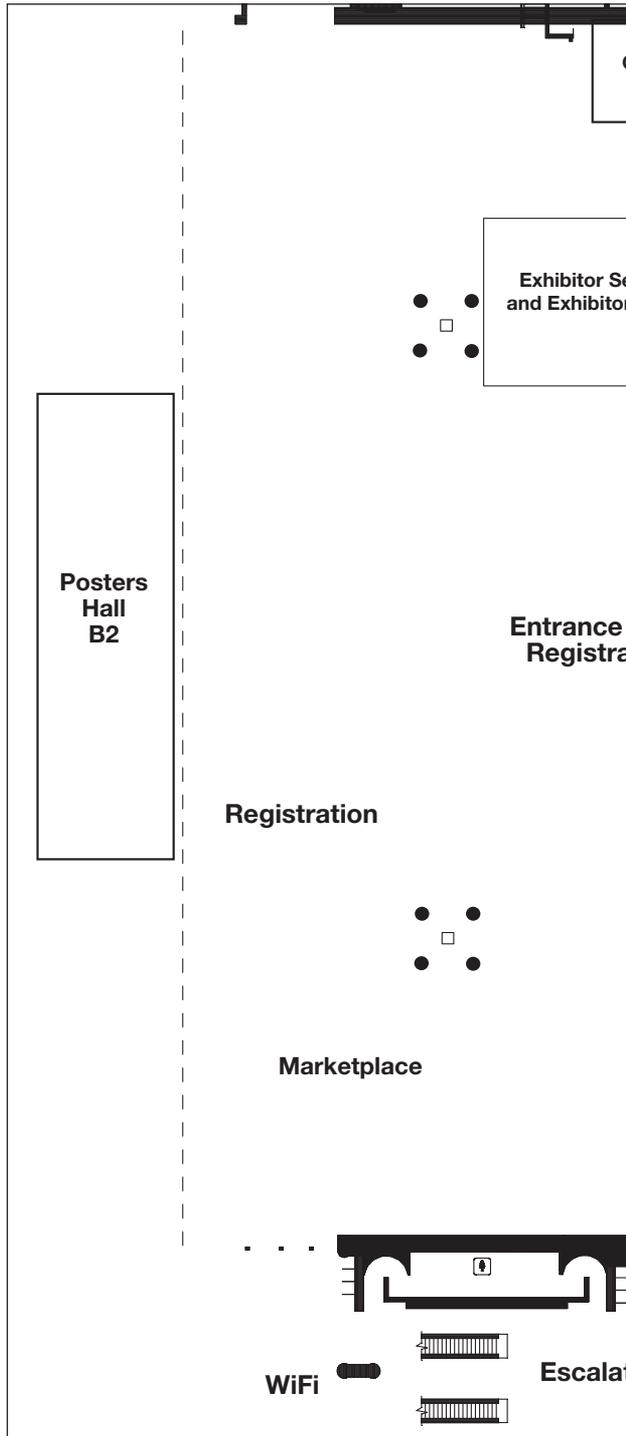
Companies as of 7/15/11

- 123 Agilent Technologies
- 129 Optical Building Blocks Corporation
- 131 Infinite Optics Inc.
- 133 Ocean Optics, Inc.
- 137 MediVision Optics
- 139 Gulf Photonics, Inc.
- 141 Tecport Optics, Inc.
- 143 Flexible Optical B.V.
- 219 Bach Research Corp.
- 222 Optikos Corp.
- 225 Optometrics Corp.
- 228 Apogee Imaging Systems Inc.
- 229 RPMC Lasers, Inc.
- 230 Federal Laboratory Consortium for Technology Transfer
- 231 Zygo Corporation
- 232 Photon Engineering, LLC
- 236 PI (Physik Instrumente) LP
- 237 Mindrum Precision, Inc.
- 238 StellarNet, Inc.
- 239 J.A. Woollam Co.
- 240 Spectral Instruments Inc.
- 241 Optimax Systems, Inc.
- 242 Photonics Media
- 310 Spectrogon US, Inc.
- 311 LovaLite SAS
- 312 1-Material
- 314 Nature Publishing Group
- 316 Materials Today
- 318 Webcom Communications/LED Journal
- 319 Cascade Optical Corp.
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- 329 Metrology Concepts LLC
- 330 Xenics nv
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- 332 Mildex, Inc.
- 333 Lambda Research Corp.
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- 337 Newport Corporation
- 338 U.S. Army Research, Development and Engineering Command
- 340 Boulder Nonlinear Systems, Inc.
- 341 Mad City Labs, Inc.
- 410 Precision Glass & Optics (PG&O)
- 411 Avantes, Inc.
- 413 G-S PLASTIC OPTICS
- 415 Physics Today
- 416 JENOPTIK Optical Systems, Inc.

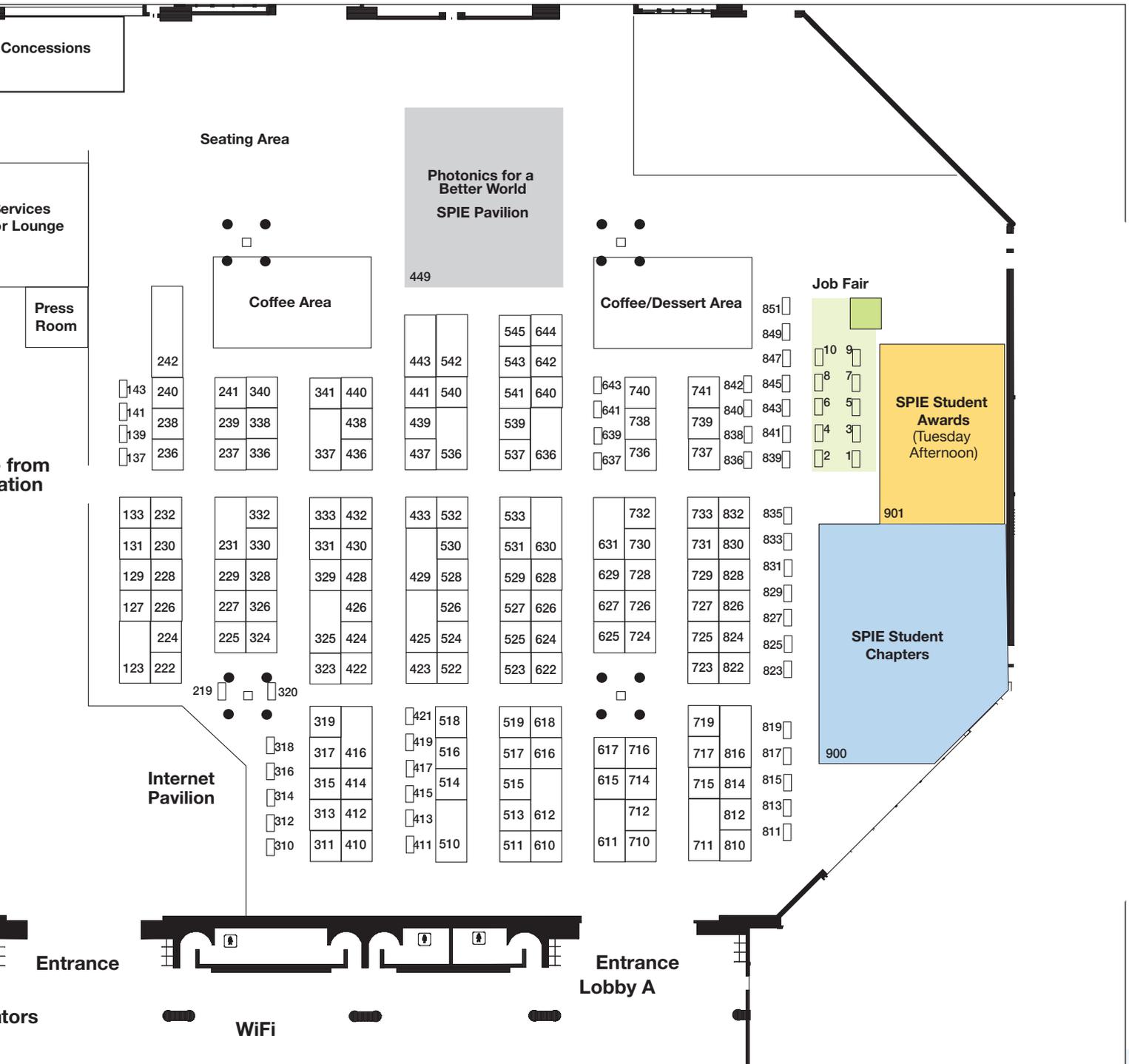
- 417 Deposition Sciences, Inc. (DSI)
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- 525 Char don Tool
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- 527 NKT Photonics
- 528 SPIE Career Center
- 529 V isiMax Technologies, Inc.
- 530 optics.org
- 531 Thorlabs, Inc.
- 532 OptoSigma Corp.
- 533 Breault Research Organization, Inc.
- 536 Davidson Optronics Inc.
- 536 TRIOPTICS GmbH
- 537 Minus K Technology, Inc.
- 539 National Instrument Technology Research Center
- 540 Lake Shore Cryotronics, Inc.
- 541 Omega Optical, Inc.
- 542 Hellma USA, Inc.
- 542 tec5USA, Inc.
- 543 Univ. of Arizona College of Optical Sciences
- 545 National Aperture, Inc.
- 610 ESDI
- 611 SCHOTT North America, Inc.

- 612 Hinds Instruments, Inc.
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- 622 Olympus America Inc.
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- 740 Hitachi High Technologies America
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- 816 Entegris, Inc.
- 819 Division S
- 822 Teledyne Judson Technologies
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- 832 Max Levy Autograph, Inc.
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San Diego Convention Center, Hall A



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 Univ. Nacional de Colombia - Medellín Chapter
 Vrije Univ. Brussel Chapter
 Yerevan State University Chapter

Exhibition Guide

SPIE
Optics+Photonics

Exhibition Hours

Exhibition Hall A

Tuesday 23 August · 10:00 am to 5:00 pm

Wednesday 24 August · 10:00 am to 5:00 pm

Thursday 25 August · 10:00 am to 2:00 pm

How to use this guide

SPIE Optics + Photonics exhibitors are listed in alphabetical order with details about products or services each is exhibiting. Companies are additionally cross-indexed by technology areas in the Product Category Index on pages 37-38, to allow you to quickly shop for products for your engineering and business needs.

Booth numbers are provided in the Exhibition Guide, and may be cross-referenced with the map on pages 6-7. The address of each exhibitor is also listed, making this Exhibition Guide an excellent reference tool.



Showcase your products
at this premiere event!

OPTICS & PHOTONICS
International 2012

LE LASER EXPO

Organizer: Laser Society of Japan

25-27 April, 2012

Pacifico Yokohama, Japan

Co-located with



LENS EXPO



IR + UV EXPO



VISION Japan



MEBIOS JAPAN NEW



POSITIONING EXPO

Total Projected Participation

- Exhibitors 400
- Attendees 12,000



For further information

<http://www.optronicsjp.com/laser/>

The Optronics Co., Ltd. International Dept. E-mail: intl@optronics.co.jp

Exhibition Guide

1-Material

2485 Guenette, St Laurent, QU, Canada H4R 4E9
+1 514 564 2814; fax +1 514 564 2815
info@1-material.com; www.1-material.com

4D Technology Corp.

SPIE Corporate Member

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

Featured Product: AccuFiz Laser Interferometer with best available combination of performance, quality and price.

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

Abet Technologies, Inc.

SPIE Corporate Member

168 Old Gate Lane, Milford, CT 06460 USA
+1 203 540 9990; fax +1 203 301 0059
sales@abet-technologies.com; www.abet-technologies.com

Abet Technologies manufactures a broad range of standard and custom PV-IV test systems for solar cells up 210 x 210 mm, ASTM and IEC compliant steady state solar simulators, test stations from simple manual load to temperature stabilized vacuum chuck models, standards compliant software, calibrated reference cells, and a range of electronic loads for low and high current cells. Complete solutions are assembled and tested for performance before shipment or any one or all of the system component
Contact: Allen Smith, asmith@abet-technologies.com

AccuCoat, Inc.

111 Humboldt St, 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 antireflective, beamsplitter, hot & cold mirror, ITO, filter, hydrophobic and metal coatings as well as custom coatings to meet your dynamic applications. Experienced in handling prototype thru OEM volumes. Coatings available from the UV to the NIR. Over 60 years combined engineering experience can provide custom designed solutions. Contact: Alan Parsons, Sales Engineer, alan@accucoatinc.com

ADIT Electron Tubes

300 Crane St, Sweetwater, TX 79556-0870 USA
+1 800 521 8382; fax +1 325 235 2872
sales@electrontubes.com; www.electrontubes.com

Featured Product: New high voltage power base for use with 25mm and 30mm photomultiplier tubes. HV2520AN, HV3020AN.

ADIT / Electron Tubes designs and manufactures photomultiplier tubes, housings, voltage dividers and signal processing modules. Photomultipliers are available in diameters from 1/2" to 9". Special tubes are available for use at cryogenic temperatures and with ultra low radioactivity glass for HEP and cosmic ray physics experiments. Ruggedized tubes are available for oil well logging and space flight applications. We welcome your inquiry for special tubes for non-standard applications. Contact: Paul Davison, Sales Manager, paul@electrontubes.com

#312 Aerotech, Inc.

SPIE Corporate Member

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

Aerotech manufactures automated alignment, positioning, and motion control systems and components for 24/7 manufacturing. Products include optical mounts and gimbals; a complete line of single- and multi-axis photonic/fiberoptic direct-drive nanopositioners; gantry systems; goniometers; air-bearing and mechanical-bearing linear and rotary stages; lift stages; a full line of single- and multi-axis motion controllers; PWM and linear drives; linear and rotary brushless motors; and custom systems. Contact: Thomas Markel, Product Manager, Precision Positioning Group, tmarkel@aerotech.com; Steve Malone, Application Engineer, Precision Positioning Group, smalone@aerotech.com

#630

#437

Agilent Technologies

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

Agilent manufactures and distributes a complete line of instrumentation serving the clinical, analytical, biotech, environmental, pharmaceutical, forensic science, food and flavor, academia, and all other laboratory markets that have needs for the best in quality, performance, and serviceability in the instruments they purchase.

#123

ALIO Industries

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11919 W I-70 Frontage Rd N #119, Wheat Ridge, CO 80033 USA
+1 303 339 7500; fax +1 303 339 7501
sales@alioindustries.com; www.alioindustries.com

Featured Product: Nano Precision Motion Systems for the Next Generation Applications.

ALIO Industries is a global leader for true nano precision stages and motion systems. ALIO offers a full line of over 250 standard products ranging from small single axis positioning stages to fully integrated multiple-axis nano-precision metrology air bearings systems. ALIO is the True Nano Precision™ leader. Contact: Dan Crews, VP - Sales Engineering, sales@alioindustries.com

#424

AllMotion, Inc.

SPIE Corporate Member

5501 Del Oro Court, San Jose, CA 95124-6110 USA
+1 510 460 1345; fax +1 408 358 4781
support@allmotion.com; www.allmotion.com/

Featured Product: AllMotion StepperStick.

StepperStick designed to allow a first time user to learn to move a stepper motor intelligently in under half an hour. Housed in a USB Stick measuring only 2" x 1" x 0.5" thick, the fully intelligent stepper motor Controller + Driver is capable of moving bipolar stepper motors of 0.5A current. When inserted to the USB of PC, the drive draws power up to 0.5A from the PC, which is adequate to drive a small motor. The StepperStick is also capable of stand-alone operation with no connection to a PC. Contact: Arjuna Karunaratne, Engineer, sarah@allmotion.com

#823

AMO WaveFront Sciences, LLC

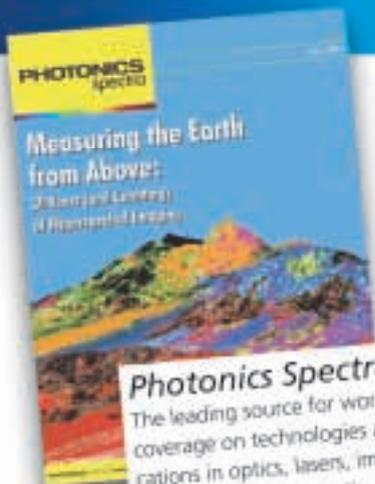
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+1 505 275 4747; fax +1 505 275 4749
info@amo.abbott.com; www.wavefrontsciences.com

#421

Photonics Media

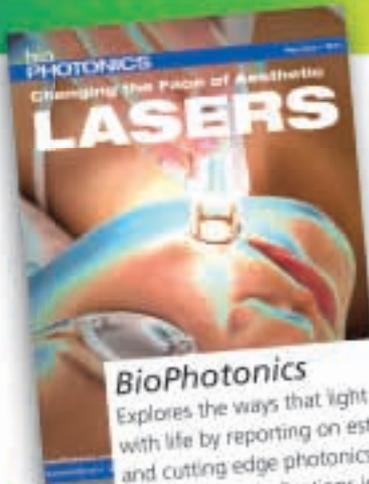
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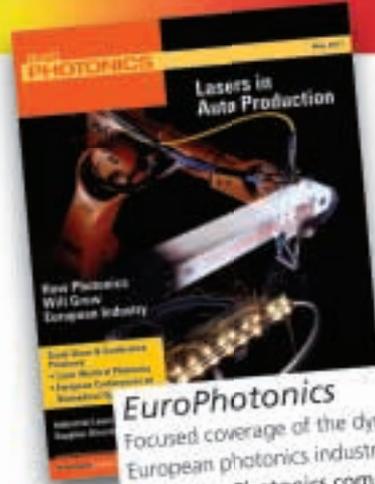
Photonics Spectra

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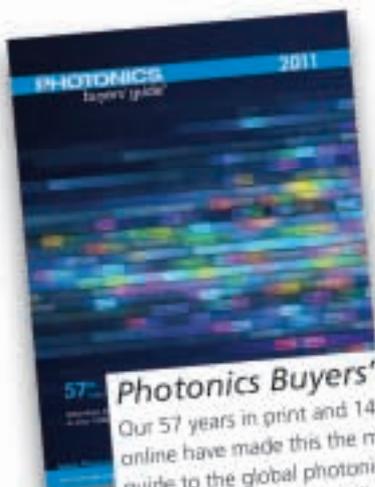
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Exhibition Guide

Andover Corp.

SPIE Corporate Member

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#737

Avantes, Inc.

SPIE Corporate Member

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

#411

Apogee Imaging Systems Inc.

151 Sunrise Ave Ste 902, Roseville, CA, 95661-2929 USA
+1 916 218 7450; fax +1 916 218 7451
mbowman@ccd.com; www.ccd.com

#228

Apple Rubber Products, Inc.

310 Erie St, Lancaster, NY 14086 USA
+1 716 684 6560; fax +1 716 684 8302
info@applerubber.com; www.applerubber.com

#423

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Manufacturer of elastomeric pasts, These include O-Rings from microminiature, to macro as well as AS568 and metric. We design and manufacture custom parts including rubber bonded to plastic, metal and filter materials. Services include engineering assistance & QC testing & reporting, We are ISO 9001-2000 and 9100B registered and have a class 10,000 clean room. Contact: Dan Goehle, Account Executive, dang@applerubber.com

ASD Inc.

SPIE Corporate Member

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

#738

Determine light source characteristics through radiant energy measurements with ASD's rapid, precise spectroradiometers. Our highly sensitive, mobile Vis/NIR instruments measure laser power, characterize solar simulators, spectral lamp flux, and critical measurements of laser diodes and LEDs such as optical power, color, and goniometric measurements. R&D, production and quality assurance teams benefit from flexible measurement integration, superior sensitivity and rapid data collection. Contact: Dayton Jones, Technical Sales, dayton.jones@asdi.com; Craig Magee, Senior Sales, craig.magee@asdi.com

ASML Optics

77 Danbury Road, Wilton, CT 6897 USA
+1 203 761 4549; fax +1 203 761 4095
information@asml.com; www.asml.com

#422

Featured Product: Advanced Optical Systems

ASML Optics is recognized as a technology leader, supplying advanced optical systems for commercial, industrial and scientific applications worldwide. For customers seeking next generation optical systems, accessing a premier supply chain partner with a complete portfolio of optical technologies can ensure cost-efficient product development, faster time to market and greater return on investment. To bring you next generation optical system to light, partner with ASML Optics. Contact: Mark Bigelow, VP Sales ASML Optics, mark.bigelow@asml.com; Cynthia Houston, Sales ASML Optics, cynthia.houston@asml.com

B&W Tek, Inc.

SPIE Corporate Member

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

#741

Featured Product: Glacier X, smallest TE Cooled spectrometer, is now preconfigured for fluorescence and Raman.

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

Bach Research Corp.

#219

2200 Central Ave Ste D3, Boulder, CO 80301-2859 USA
+1 303 444 3602; fax +1 303 444 3633
info@bachresearch.com; www.bachresearch.com

Featured Product: Continuous blazed convex/concave gratings for hyperspectral sensing.

Bach Research manufactures custom diffraction gratings and diamond turned mirrors. Our experience stretches from NASA Skylab Mission to the James Webb Space Telescope. We can turn your design into reality. Contact: Erich Bach, President, ebach@bachresearch.com; Kirk Bach, V.P Grating Lab, kbach@bachresearch.com

Boulder Nonlinear Systems, Inc.

#340

SPIE Corporate Member

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

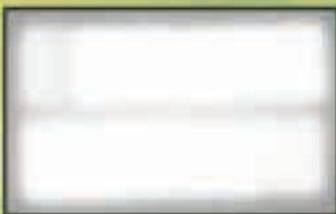
Featured Product: Spatial Light Modulators with 16-bit Control Electronics.

Boulder Nonlinear Systems, Inc. (BNS) specializes in liquid crystal control solutions for both laser-based and imaging systems. Company R & D strengths are leveraged into OEM and standard products targeted for astronomy, biomedical, defense, microscopy, optical trapping, and telecommunications applications. Products include XY and Linear format Spatial Light Modulators, Optical Shutters, Polarization Rotators, and associated electronics. Contact: Kelly Gregorak, Director, Sales & Marketing, kelly@bnonlinear.com

Visible image shows only color variations, resulting from the AR coating



Thermal microbolometer image exposes little or no detail



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www.sensorsinc.com

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Exhibition Guide

Breault Research Organization, Inc. #533

SPIE Corporate Member

6400 E Grant Rd Ste 350, Tucson, AZ 85715-3823 USA
+1 721 0500; fax +1 520 721 9630
info@breault.com; www.breault.com

Featured Product: APEX 2010 V2R2 - Optical design and analysis software integrated in the industry-standard SolidWorks 3D-modeling environment.

BRO is an optical engineering firm of global reach and reputation. BRO's APEX, ASAP, and ReflectorCAD optical software products help engineers turn creative visions into working prototypes, and the company's own engineers work on beyond-state-of-the-art projects for enterprise companies, research institutions, and top government labs. In over three decades of innovation, BRO has contributed to the success of engineering projects for thousands of clients. Contact: Wayne Hall, COO, RE: BRO Software Inquiries, whall@breault.com; Robert Shroder, Optical Engineer, RE: BRO Engineering Services Inquiries, rshroder@breault.com. Contact: Michael Stevenson, mstevenson@breault.com

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+49 89 998300; fax +49 89 984809
info@hanser.de; www.hanser.de

Cascade Optical Corp. #319

SPIE Corporate Member

1225 E Hunter Ave, Santa Ana, CA 92705 USA
+1 714 543 9777; fax +1 714 543 4394
info@c-optical.com; www.c-optical.com

Chardon Tool #525

115 Parker Ct, Chardon, OH 44024-9018 USA
+1 440 286 6440; fax +1 440 286 7165
info@chardontool.com; www.chardontool.com

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Chroma Technology Corp. #436

SPIE Corporate Member

10 Imtec Ln, Bellows Falls, VT 5101 USA
+1 802 428 2500; fax +1 802 428 2525
sales@chroma.com; www.chroma.com

CoorsTek Technical Ceramics #723

555 NE 53rd Ave, Hillsboro, OR 97124 USA
+1 503 693 2159; fax +1 503 648 1501
optics@coorstek.com; www.coorstek.com

Featured Product: Alpha grade silicon carbide optics manufacturing

CoorsTek is the largest alpha grade silicon carbide optics manufacturer in the USA for up to 1.5 meter class-space or ground telescope components, image sensors, surveillance systems & directed energy applications. We offer advanced forming, sintering, grinding, lapping & precision metrology to make lightweight mirror substrates and optical structures. Materials are well suited for high precision applications in Metrology, Solar Energy, Photonic Devices and Optical surfaces and structures. Contact: Janet Kolen, Product Sales Manager, optics@coorstek.com; Dennis Cavanaugh, General Manager, dcavanaugh@coorstek.com

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CVI Melles Griot #644

SPIE Corporate Member

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

Featured Product: Filters, IR Optics, Lasers.

CVI Melles Griot is excited to be your photonic technology partner! Visit us at booth #644. Learn how are new lasers can help you deliver faster, better results – cost effectively. - See our new customizable, high precision line of IR optics available in a wide variety of IR materials. - Pick up our new All Things Photonic-The Technical Guide to help solve your optical engineering problems. Visit us at www.cvimellesgriot.com and learn how to make your project a success! Contact: Todd Jaeger, Research Market Manager, tjaeger@cvimellesgriot.com; Yvette Zuzeek, Research Market Manager, yzuzeek@cvimellesgriot.com

Davidson Optronics Inc. #536

2223 W San Bernardino Rd, West Covina, CA 91790-1008 USA
+1 626 962 5181; fax +1 626 962 5188
sales@davidsonoptronics.com; www.davidsonoptronics.com

Deposition Sciences, Inc. (DSI) #417

SPIE Corporate Member

3300 Coffey Lane, Santa Rosa, CA 95403 USA
+1 707 573 6700; fax +1 707 573 6748
solutions@depsci.com; www.depsci.com

Featured Product: Durable and reliable Precision Thin Film Coatings

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



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Exhibition Guide

Diverse Optics Inc.

SPIE Corporate Member

1318 Palomares Ave, La Verne, CA 91750-5232 USA
+1 909 593 9330; fax +1 909 596 1452
info@diverseoptics.com; www.diverseoptics.com

Featured Product: First exhibit since the split from Qioptiq. Come learn all about Diverse Optics Inc.

Diverse Optics Inc. is a leading designer and manufacturer of polymer optic components and systems providing a complete custom solution for multiple applications in defense, medical, and commercial applications. Core manufacturing processes include single point diamond turning (SPDT), precision injection molding, thin-film coating, optical metrology, optical bonding, and assembly. 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

Division S

978 Hamilton Ct, Menlo Park, CA 95124 USA
+1 409 916 5583
contactus@division-s.com; www.division-s.com

Featured Product: SWIR Imaging

Division S is revolutionizing the future of infrared imaging through the use of advanced semiconductor materials to provide imaging solutions. Contact: Michael Hepp, Director, employee-m@division-s.com

e2v

520 White Plains Rd Ste 450, Tarrytown, NY 10591 USA
+1 914 592 6050; fax +1 914 592 5148
enquiries@e2v.com; e2v.com

e2v has over 30 years of experience in the design and manufacture of CCD, EMCCD, CMOS 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. Contact: Peter Fochi, Director, Space & Defense Imaging, peter.fochi@e2v-us.com

Edmund Optics

SPIE Corporate Member

101 E Gloucester Pike, Barrington, NJ 08007 USA
+1 856 547 3488; fax +1 856 573 6271
sales@edmundoptics.com; www.edmundoptics.com

Featured Product: TECHSPEC Germanium Infrared Hybrid Aspheric Lenses provide diffraction limited focusing performance.

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; EO products are used in a variety of applications ranging from DNA sequencing to retinal eye scanning to high-speed automation. EO's state-of-the-art manufacturing capabilities combined with its global distribution network has earned it the position of the world's largest supplier of off-the-shelf optical components. Contact: Anthony Artigliere, Director of Sales-North America, sales@edmundoptics.com; Kirsten Bjork-Jones, Director of Global Marketing, sales@edmundoptics.com

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EDP Sciences

17 Ave du Hoggar, PA de Courtaboeu, Les Ulis, France 91944
+33 1 69 18 75 75; fax +33 1 69 86 07 65
edps@edpsciences.org; www.edpsciences.org

#426

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Electro Optics Magazine

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

Featured Product: Electro Optics is now 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

#833

#819

Element Six

1 Broadway, Cambridge Innovation Ctr, Cambridge,
MA 02142 USA
+1 617 682 3675; fax +1 617 225 4490
ustechologies@e6.com; http://www.e6.com

Featured Product: Polished industrial diamond.

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, Business Development Manager, peter.santini@e6.com; Brian Rossi, New Business Development, brian.rossi@e6.com

#524

#336

Energetiq Technology, Inc.

SPIE Corporate Member

7 Constitution Way, Woburn, MA 01801-1024 USA
+1 781 939 0763; fax +1 781 939 0769
info@energetiq.com; www.energetiq.com

Energetiq Technology, Inc. is a developer and manufacturer of ultrahigh-brightness light sources for use in analytical instrumentation. Energetiq's unique Laser-Driven Light Source (LDLS (TM)) technology features broadband output from 170nm in the deep UV, through visible and into the infrared. The LDLS products offer more than 10X brightness and 10X lifetime of conventional Xe and D2 lamps. For more information, visit www.energetiq.com. Contact: Peter Dwyer, Global Sales Director, pdwyer@energetiq.com

#628

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Entegris, Inc.

SPIE Corporate Member

300 Old Greenwood Rd, Decatur, TX 76234-3068 USA
+1 940 627 2121

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

#816

PROMOTIONAL PARTNER

Federal Laboratory Consortium for Technology Transfer

#230

C/O UTRS, Inc. 950 N Kings Hwy Ste 208, Cherry Hill, NJ 08034-1517 USA

+1 856 667 7727; fax +1 856 667 8009
info@federallabs.org; www.federallabs.org

Featured Product: The Federal Laboratory Consortium (FLC) is the nationwide network of federal laboratories.

It provides a forum to develop strategies & opportunities for linking laboratory mission technologies & expertise with the marketplace. The Consortium creates an environment that adds value to & supports the technology transfer efforts of its members & potential partners. The FLC develops & tests transfer methods, addresses barriers to the process, provides training, highlights grass-roots transfer efforts, & emphasizes national initiatives where technology transfer has a role. Contact: Thomas Brown, Program Manager, info@federallabs.org

Epner Technology, Inc.

SPIE Corporate Member

78 Kingsland Ave, Brooklyn, NY 11222 USA
+1 718 782 5948; fax +1 718 963 2930

info@epner.com; www.epner.com

Featured Product: Laser Gold® and Black®.

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, Paul@epner.com

#637

Fiberguide Industries, Inc.

#439

SPIE Corporate Member

1 Bay St, Stirling, NJ 07980-1529 USA
+1 877 490 7803; fax +1 908 647 8464

info@fiberguide.com; www.fiberguide.com

Featured Product: Fiberguide's High Power Cable Assemblies feature superior thermal management for laser applications.

Fiberguide Industries manufactures specialty fiber and assemblies for optical power delivery and optical sensing applications. Assembled products include Custom Multi-Fiber Bundles, High Power Cables, V-Grooves, Precision 2D Arrays, and Vacuum Feed Throughs. Our fiber optic draw operation is located in Stirling, NJ and we build assemblies in Caldwell, ID and Shanghai, China. Our main customer base is OEM's in the Medical, Industrial, Energy, Geophysical, Defense and Aerospace Markets. Contact: Steve Wilkes, VP, Sales & Marketing, swilkes@fiberguide.com

ESDI

SPIE Corporate Member

150 N Tucson Blvd, Tucson, AZ 85716-4740 USA
+1 520 296 3068; fax +1 520 296 2897

sales@esdimetrology.com; www.esdimetrology.com

Featured Product: IntelliWave™ Interferometric Analysis Software & Fizeau Interferometers.

ESDI is a globally recognized leader in providing innovative surface & wavefront metrology solutions for astronomical, aerospace, bio-medical, optical fabrication, data storage & production metrology applications. ESDI products include Fizeau, Shearing, sub-Nyquist and "Real Time" vibration insensitive Interferometers; the world-renowned IntelliWave™ software; Interferometer Accessories & Upgrades; and Custom Metrology Solutions. Contact: Don Pearson, Director, Sales and Marketing, don.p@esdimetrology.com.

#610

Fibertech Optica, Inc.

#843

SPIE Corporate Member

330 Gage Ave Ste 1, Kitchener, ON, Canada N2M 5C6
+1 519 745 2763

info@fto.ca; www.fibertech-optica.com

Featured Product: Specialty fiber optic assemblies.

Designer and manufacturer of a broad range of specialty fiber optic assemblies: Bundles, patchcords, ruggedized industrial cables, high power laser cables, fiber optic probes, feedthroughs, vacuum assemblies and fiber optic arrays. Custom design assemblies for operation in extreme environments (high temperature, cryogenic, high pressure). Spectral range from Deep-UV (190nm) to MIR (5500nm). Core diameters available: 10 to 2000um. Applications include laser power delivery, spectroscopy, pr Contact: Jeff Dupuis, Sales & Mktg Manager, jeffdup@fto.ca

Exotic Electro-Optics, Inc.

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

#830

Flexible Optical B.V.

#143

SPIE Corporate Member

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

Flexible Optical B.V. (a.k.a. OKO Technologies) develops, manufactures and delivers integral solutions based on smart and adaptive optics for medical, industrial, astronomical, laser and other applications. The company produces a wide range of custom deformable mirrors and wave-front sensors. From its foundation in 1997, OKO offers high-quality deformable mirrors at affordable prices. OKO micromachined or piezoelectric deformable mirrors can be seen in many (adaptive) optical labs all over the world. OKO has large experience in developing mirrors and AO systems for wide range of general and specific applications; the best evidence to this is a constantly growing number of publications not only written by OKO members, but also based on OKO's products.

Exhibition Guide

FLIR Systems

27700 SW Parkway Ave, Wilsonville, OR 97070 USA
+1 503 498 3859; fax +1 503 498 3551
kip.nix@flir.com; www.flir.com

Featured Product: Our premier DLC coatings will withstand the harshest desert conditions required in force protection.

FLIR Precision Optics is the premier manufacturer of optical components, reticles, and assemblies. Our onsite optical fabrication gives FLIR the industry's edge needed to produce high quality optical components, edge metallization, reticles and surface quality inspection standards. Our engineering expertise takes those components to the next level by developing high quality coatings including broadband A/R, DLC, HEAR and more. Kip.nix@flir.com Contact: Kip Nix, Business Development Manager, kip.nix@flir.com

Fotofab

SPIE Corporate Member

3758 W Belmont Ave, Chicago, IL 60618 USA
+1 773 463 6211; fax +1 773 463 3387
sales@fotofab.com; www.fotofab.com

Featured Product: Fotofab produces custom precision thin metal parts in as little as 24 hours.

Fotofab manufactures precision, thin metal parts to customer specifications. Common applications include RF shields, step lids, screens, apertures, leadframes, enclosures, connector housings, and deposition masks. Using their process of Photochemical Machining, Fotofab can achieve lower tooling costs and a quicker turnaround than traditional methods of manufacturing. Standard delivery is one week with 24 hour delivery options available. Contact: Dan Sima, Marketing Manager, dsima@fotofab.com; James Tankersley, Technical Sales Supervisor, sales@fotofab.com

G-S PLASTIC OPTICS

SPIE Corporate Member

408 St Paul St, Rochester, NY 14605 USA
+1 585 295 0200; fax +1 585 232 2314
info@gsoptics.com; www.gsoptics.com

Featured Product: Precision polymer optics.

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

Gulf Photonics, Inc.

SPIE Corporate Member

448 Commerce Blvd, Oldsmar, FL 34677 USA
+1 813 855 6618; fax +1 813 855 6627
photonics@gulffiberoptics.com; www.gulffiberoptics.com/
photonics.html

Featured Product: We offer quick-turn custom fiber assemblies, often in less than 1 week!

Gulf Photonics is a supplier of high quality, quick turn fiber optic assemblies for research and OEM use. We work with fused silica fiber and borosilicate fiber drawn in-house, offering a line of standard patch and bifurcated cables, reflection probes, and accessories, as well as a wide array of options for custom assemblies.

#617 Hamamatsu Corp.

SPIE Corporate Member

360 Foothill Rd, Bridgewater, NJ 08807 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. Contact: Helen Bylicki, Tradeshow Manager, hbylicki@hamamatsu.com; Calvin Waller, Tradeshow Assistant, cwaller@hamamatsu.com

#443

#432 Hardin Optical Company

SPIE Corporate Member

87679 Kehl Rd, 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

#522

Heidelberg Instruments Inc.

SPIE Corporate Member

2807 Oregon Ct Ste E2, Torrance, CA 90503-2635 USA
+1 310 212 5071; fax +1 310 212 5254
info@himt.de; www.himt.de

#624

Hellma USA, Inc.

SPIE Corporate Member

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

#542

Featured Product: High-quality CaF₂ crystals grown from purest (synthetic) raw material-formerly by Schott Lithotec.

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

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Heraeus Quartz America LLC

SPIE Corporate Member

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

#441

Hinds Instruments, Inc.

SPIE Corporate Member

7245 NW Evergreen Pkwy, Hillsboro, OR 97124 USA
+1 503 690 2000; fax +1 503 690 3000
sales@hindsinstruments.com; www.hindsinstruments.com

Hinds product line includes Stokes polarimeters (for fiber, free space, astronomical light), Excior® birefringence measurement tools (for research and process control), and an automated Polarization Extinction Ratio (PER) and Extinction Ratio (ER) system. A complete line of polarization components for researchers and OEMs includes optical choppers (20-84kHz), photoelastic modulators (for MOKE, ellipsometry, RAS, and fluorescence), detectors, lock-in amplifiers, and a Pulse Delay Generator. Contact: Connie Wimmer, Sales, sales@hindsinstruments.com

#612 Hofstadter Analytical Services

SPIE Corporate Member

10 N Norton Ave Ste 120, Tucson, AZ 85719 USA
+1 520 747 3282
www.hofstadteranalytical.com

Hokkaido Univ.

#626

N 21 W 10, Rm#05-102 Creative Research Institution Sosei, Kita-ku Sapporo Hokkaido, Japan 001-0021
+81 011 706 9554; fax +81 011 706 9550
kokusai@mcip.hokudai.ac.jp; www.mcip.hokudai.ac.jp/eng/

Hitachi High Technologies America #740

SPIE Corporate Member

5100 Franklin Dr, Pleasanton, CA 94588 USA
+1 800 548 9001; fax +1 925 218 2900
sales-ls@hitachi-hta.com; www.hitachi-hta.com

Featured Product: U-4100 UV-Vis-NIR Spectrophotometer.

Hitachi High Technologies America, Inc., provides a wide array of advanced scientific instrumentation, including Variable Pressure/UHR Field Emission Scanning Electron Microscopes, Biological and Analytical Transmission Electron Microscopes, Focused Ion/Electron Beam Systems, Table Top Microscopes, Ion Milling sample preparation equipment, Data Storage Systems, HPLC, Preparative/Counter Current Chromatography systems, Amino Acid Analyzers, LC/MS and UV/FL Spectrophotometers. Contact: Luis Moreno, Senior Product Marketing Manager, luis.moreno@hitachi-hta.com

Infinite Optics Inc. #131

SPIE Corporate Member

1712-F Newport Cir, Santa Ana, CA 92705 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 DDTC registered and ITAR compliant. Contact: Stan King, stan@infiniteoptics.com; Geza Keller, geza@infiniteoptics.com

LAMBDA VF-5 Tunable filter changer

NEW!



Introducing the world's first filter changer to use tunable thin film optical filters. The Sutter **LAMBDA VF-5** allows you to quickly access any center bandpass from 330 to 800nm in nanometer increments. Building on the VersaChrome® filters from Semrock®, the **LAMBDA VF-5** maintains transmission over the tuning range of each filter.

Easy Wavelength Selection

Wavelength range as wide as 330-800nm
Keypad or computer interface (USB or serial)

Flexible

Suitable for excitation or emission
Easily switch between fluorophore combinations
Optional liquid light guide offers absolute vibration isolation
Images pass through filters

Thin filter advantage

High transmission
Steep spectral edges
High out-of-band blocking
Polarization independence (s and p nearly identical)

SUTTER INSTRUMENT

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Exhibition Guide

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IOP Publishing

#836

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Iridian Spectral Technologies Ltd.

#526

SPIE Corporate Member

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

Iridian Spectral Technologies, the global leader in optical filter solutions, uses leading-edge technology to meet and exceed expectations for performance and reliability while maintaining excellent customer focus. Iridian offers optical filter solutions for a wide range of applications from the UV to LWIR. In addition to our standard product offering, we are happy to provide customized performance and size. Contact: Catherine Aldous, Sales Engineer, catherine.aldous@iridian.ca

Isuzu Glass Inc.

#642

SPIE Corporate Member

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

Featured Product: Moldable UV transmissive glass.

Manufacturer of molded glass optical components, Lenses, Lens Arrays, Aspheric, Fly Eye, Fresnell, Secondary Concentrators for CPV Solar, Light Pipes and custom optical configurations. Manufacturer of optical filter glasses. UV, IR, heat absorbing, laser safety, cut of, cut on and neutral density filter glasses. Contact: Mike Preston, Sales, mike@isuzuglass.com; Hiro Yokoi, Vice President, hiro@isuzuglass.com

J.A. Woollam Co.

#239

645 M St Ste 102, Lincoln, NE 68508 USA
+1 402 477 7501; fax +1 402 477 8214
sales@jawoollam.com; www.jawoollam.com

Featured Product: Spectroscopic Ellipsometers.

The J.A. Woollam Company offers a wide range of spectroscopic ellipsometers for non-destructive materials characterization, including thin film thickness (single and multilayer), optical constants, composition, growth/etch rates, and more. Instruments available for research and manufacturing metrology covering spectral ranges from vacuum ultra-violet to far infrared. Offering table-top, in-line, and in-situ models. Contact: Ron Synowicki, Applications Engineer, rsynowicki@jawoollam.com

JENOPTIK Optical Systems, Inc.

#416

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, Inc. delivers a unique range of custom optical solutions with expertise ranging from precision assemblies to precision components and from waferscale microoptics to large aspheres in materials ranging from glasses, to crystals and polymers. We join precision optical design and engineering with high quality volume manufacture at US manufacturing locations in Massachusetts, Florida, and Huntsville along with Global sites in Germany and Israel. Contact: Ray Malcom, VP Marketing & Sales, ray.malcom@jenoptik-inc.com

Konica Minolta Sensing Americas, Inc. #731

101 Williams Dr, Ramsey, NJ 07446 USA

+1 201 236 4300; fax +1 201 785 2482
marketing@se.konicaminolta.us; www.konicaminolta.com/sensingusa

Konica Minolta Sensing Americas, Inc. is recognized as the international leader of industrial color, light and shape measurement. The company developed and introduced the first portable color measurement units. Their catalog contains portable colorimeters, portable and benchtop spectrophotometers for color measurement, spectroradiometers and lux meters for light/display measurement and 3D non-contact scanners for shape measurement.

L-3 Communications, Tinsley Laboratories

#625

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 Sales and Marketing, clay.sylvester@l-3com.com; Teri Bordeau, Sales Support Administrator, teri.bordeau@L-3com.com

Labsphere, Inc.

#323

PO Box 70, North Sutton, NH 03260 USA

+1 603 927 4266; fax +1 603 927 4266
lapbsphere@labsphere.com; www.labsphere.com

Featured Product: Demos include a 10-inch Light Measurement System, and 20-inch Luminance/Radiance Sphere System

Labsphere has provided innovative light measurement technology since 1979 producing best-in-class test and measurement systems for light measurement and sensor calibration, and diffuse reflectance materials. Products include uniform light sources to calibrate imaging devices and camera systems in the visible and IR; light measurement systems for LEDs, and traditional light sources; and reflectance standards for calibrating spectroscopic measurement systems. Contact: Victoria Rivera, Western Regional Sales Manager, vrivera@labsphere.com; Jonathan Barletta, Eastern Regional Sales Manager, jbarletta@labsphere.com

Exhibition Guide

Lake Shore Cryotronics, Inc.

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: The new 8400 series Hall effect measurement system, with the unique AC field Hall measurement option.

Lake Shore Cryotronics is an international leader in developing innovative measurement and control solutions. Products include cryogenic temperature sensors and instrumentation, and magnetic test equipment, as well as metrology system and probe stations used for characterizing the physical properties of materials. The new 8400 series Hall effect measurement system, with the unique AC field Hall measurement option, allows you to characterize materials with mobilities down to 0.001 cm²/Vs.

Lambda Research Corp.

SPIE Corporate Member

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

Featured Product: TracePro 7.1, TracePro Bridge, OSLO 6.5, opsira product line and the ScatterScope 3D.

Lambda Research Corporation sets itself apart as a cost effective, single source solution for optical and illumination design. Lambda sells TracePro[®], opto-mechanical software differentiated by its ease-of-use, CAD interface and accuracy in illumination design, OSLO[®], renowned for its power and flexibility in lens design and the TracePro Bridge[™], a full integrated seamless add-in for Solidworks. Lambda distributes the ScatterMaster ScatterScope3D[™] scatterometer for fast surface defect detection Contact: Andrew knight, Sales Manager, sales@lambdaresearch.com.

PROMOTIONAL PARTNER

Laser Focus World

SPIE Corporate Member

98 Spit Brook Rd, PennWell Technology Div, Nashua, NH 03062-5737 USA
+1 603 891 0123; fax +1 603 891 0574
info@laserfocus.com; www.laserfocusworld.com

Featured Product: Media

Published since 1965, Laser Focus World is a global resource for engineers, researchers, scientists and technical professionals providing comprehensive coverage of optoelectronics and photonics technologies, applications and markets. Each month, Laser Focus World reports on and analyzes the latest developments and significant trends in both technology and business in the worldwide optoelectronics and photonics industry. Contact: Jeff Nichols, Sales Director, jeffn@pennwell.com.

LEONI Fiber Optics, Inc.

SPIE Corporate Member

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

LEONI Fiber Optics, Inc., exclusively fiberoptics, manufacturers fiberoptic assemblies and components for spectroscopic, laser pharmaceutical and medical applications. Products include probes, cables, patchcords, bundles, arrays, collimators, couplers, tapers and filter packages. WE routinely take concept to product, creating solutions for the most difficult problems. Contact: Lisa Young, contact@romackfiberoptics.com

#540

LightPath Technologies, Inc.

SPIE Corporate Member

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

Featured Product: Geltech Molded Glass Aspherics Lenses, Black Diamond 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

#438

LovaLite SAS

SPIE Corporate Member

18 rue Alain Savary, Besancon, France 25000
+33 3 81 53 26 25; fax +33 3 81 53 25 51
sales@lovalite.com; www.lovalite.com/

Featured Product: SNOM Optical Micro-tips, microlensed fibres, Micro Optical Modeling Software, SPM.

LovaLite provides you expert supporting services and best micro-optical components for your advanced applications in micro-optics and nanotechnologies. LovaLite is based in France and delivers worldwide directly and through a network of qualified distributors. Our custom realizations fulfill specific needs in demanding environment. We also provide support services to help you develop the next generation micro/nano scale photonic technologies. Contact: Brahim Dahmani, CEO, dahmanib@lovalite.com; Gregory Baethge, Sales manager, baethgeg@lovalite.com

#311

Luxel Corp.

SPIE Corporate Member

515 Tucker Ave, Friday Harbor, WA 98250-1879 USA
+1 360 378 4137; fax +1 360 378 4266
luxel@luxel.com; www.luxel.com

Luxel is the preeminent supplier of ultra-thin freestanding filters. We support customer requirements for X-ray and Extreme Ultraviolet (EUV) programs. Since 1973 we have produced bandpass filters for use in the extreme ultraviolet and soft X-ray portion of the electromagnetic spectrum, for both laboratory and space research. A large portion of our business is in designing and fabricating custom bandpass filters to your specific applications. Contact: Travis Ayers, President, travis.ayers@luxel.com; Alison Engle, Accounts Manager, alison.engle@luxel.com

#714

Mad City Labs, Inc.

SPIE Corporate Member

2524 Todd Drive, Madison, WI 53713 USA
+1 608 298 0855; fax +1 608 298 9525
sales@madcitylabs.com; www.madcitylabs.com

Featured Product: Closed loop nanopositioners with low noise & high stability for optical trapping, imaging, photonics.

Mad City Labs designs and manufactures high precision, piezo based nanopositioning devices for research and industry. Our products incorporate innovative true flexure guided (decoupled) designs, proprietary PicoQ sensor technology and closed loop control. Our PicoQ sensors yield systems with low drift and superior stability. System attributes include picometer resolution, high speeds, real time position sensing. Suitable for microscopy, imaging, metrology and beam steering applications. Contact: Dale Baldwin, Technical Sales, dbaldwin@madcitylabs.com; Technical Enquiries, sales@madcitylabs.com

#331

#341

Exhibition Guide

PROMOTIONAL PARTNER

Materials Today

#316

The Blvd Lanford Ln, Kidlington Oxford, United Kingdom OX5 1GB
+44 1865 843 140; fax +44 1865 843 933
materialstoday@elsevier.com; www.materialstoday.com

Max Levy Autograph, Inc.

#832

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: MLA introduces fine line patterning for EMI and FSS applications for plano or curved surfaces.

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; Rich Rosenfeld, Purchasing Manager, rosenfeld@maxlevy.com

MediVision Optics

#137

1210 N Jefferson St Ste D, Anaheim, CA 92807 USA
+1 714 563 2772; fax +1 714 563 2711
optics@medivisionusa.com; www.medivisionusa.com

MediVision offers custom optics ranging from spherical, flat to multi-element systems. Sizes ranging from 0.5mm to 400mm. Our special capabilities include ground and polished aspheric lenses. Applications include industrial, medical, military, aerospace, measuring. We work with customers from prototype to production. Contact: Roxanne Johnson, Optics Sales Manager, rjohnson@medivisionusa.com

Metrology Concepts LLC

#329

SPIE Corporate Member

3495 Winton Pl Bldg E-120, Rochester, NY 14623 USA
+1 585 427 9155; fax +1 585 427 9026
info@metrologyconcepts.com; www.metrologyconcepts.com

Featured Product: Wavefront measuring instruments with cosmetic inspection: bright & dark field illumination.

Metrology Concepts offers surface and wavefront measurement solutions for the defense, laser, ophthalmic, precision optics and scientific markets. Our core technologies include interferometry and Shack-Hartmann sensors. We offer standard and custom instruments as well as measurement services and workforce training. Contact: John Nemechek, jnemechek@metrologyconcepts.com

Micro Laser Systems, Inc.

#428

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: New 514nm 20mW laser and sturdy tripod.

We're a manufacturer of high performance Free Space and Fiber Coupled Diode Laser Systems ranging from 375nm to 1600nm and up to 5 Watts. Many lasers operate with narrow linewidth and very high stability. Accessories include beam expanders, focusing optics, isolators, radial polarizers and Fiber Collimators. Semi-custom and custom laser-optical systems and fiber optic systems are routinely manufactured for OEM users. Contact: Norma Adachi, Marketing Dir., norma@microlaser.com

MicroCare Corp.

#733

SPIE Corporate Member

595 John Downey Dr., New Brittan, CT 06051 USA
+1 860 827 0626; fax +1 860 827 8105
techsupport@microcare.com; www.microcare.com

MicroCare delivers mission-critical cleaning processes that improve product quality and lower costs. These are used in photonics, lasers, fiber optics, medical devices and other high-precision optical applications. MicroCare features the high-purity, plastic-safe fluids that are ideal for cleaning lenses, prisms, mirrors, diffraction gratings and even fiber optics. These cleaners replace even the largest, energy-hungry water-based cleaning systems, and so are ideal for cleaning the super-precision mechanical subassemblies used in photonics. The products come out clean, dry, at room temperature. Throughput is fast; usually far faster than water-based systems. Plus, all MicroCare products come with industry-leading product stewardship program that protects the planet, the processes, the products, the people and the profits because has the expertise to use these products properly. It's time to start working with MicroCare. ISO 9001:2008 registered.

Mildex, Inc.

#332

SPIE Corporate Member

1388 Crittenden Rd, Rochester, NY 14623-2308 USA
+1 585 473 6540; fax +1 585 475 1971
info@mildex.com; www.mildex.com

Featured Product: Trioptics OptiCentric/OptiSpheric PC lens bench. measures EFL, BFL, MTF, Radius and lens centration.

Mildex is a supplier of precision optics manufacturing and testing equipment serving the US optical industry since 1975. Our product offerings include conventional grind and polishing machinery, manual loading and fully automatic lens centering and beveling machines, manual loading and fully automatic lens curve generators and a full range of optical testing equipment, including collimators, autocollimators, electronic autocollimators, PC-controlled lens benches and UV/VIS/IR MTF equipment. Contact: Harvey Miller, President, hmiller@mildex.com

Mindrum Precision, Inc.

#237

SPIE Corporate Member

10000 Fourth St, Rancho Cucamonga, CA 91730 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, Customer Sales & Support Manager, sales@mindrum.com; Adam Pohl, Business Development Manager, adam@mindrum.com

Minus K Technology, Inc.

#537

SPIE Corporate Member

420 S Hindry Ave Unit C, Inglewood, CA 90301 USA
+1 310 348 9656; fax +1 310 348 9638
sales@minusk.com; www.minusk.com

Featured Product: New SM-1 Low frequency vibration isolators 400 lbs – 4000 lbs with 1/2-Hz natural frequencies.

Manufacturer of vibration isolation systems for AFMs, SPMs, SEMs, metrology, micro-hardness testers, lasers and optics. They are low-cost, passive, vacuum adaptable and require no air or electricity. Products: table-top platforms, workstations, floor platforms and custom systems. Guaranteed 1/2 Hz natural frequencies make them effective against low-frequency building vibrations. Isolation is typically 10 to 100 times better than air tables and even better than the higher-priced active systems. Contact: Erik Runge, Director Product Development, sales@minusk.com

MOXTEK Inc.

452 W 1260 N, Orem, UT 84057 USA
+1 801 225 0930; fax +1 801 221 1121
moxtek@moxtek.com; www.moxtek.com

Featured Product: The ProFlux® line of optical polarizer's.

Moxtek is a leading supplier of optical components for analytical instrumentation and display electronics. Moxtek is focused on providing innovative, solution-based products and services which set the standard for quality, value, and dependability. The ProFlux® line of optical polarizer's enable advancements in projection display; including television, near-eye display, and 3D. The high polarization purity, provided by the ProFlux line, imparts durability at high temperature and allows a small Contact: Will Abraham, wabraham@moxtek.com; Roger Ketcheson, rketch@moxtek.com

nanoplus Nanosystems and Technologies GmbH

#839

Oberer Kirschberg 4, Gerbrunn, Germany 97218
+49 931 908 270; fax +49 931 908 2719
sales@nanoplus.com; www.nanoplus.com

nanoplus is a worldwide leader in the production and distribution of: DFB and Fabry Perot laser diodes from 750 nm to 2.9 µm, as well as quantum cascade lasers from 5 µm to 16 µm. The devices allow precise sensing applications in the fields of e. g. remote gas sensing, precision metrology, process control and atomic clocks. Contact: Daniela Brueckner, Sales and Marketing, daniela.brueckner@nanoplus.com; Katharina Forchel, Sales and Marketing, katharina.forchel@nanoplus.com

NASA JPL Exoplanet Exploration Program

#729

4800 Oak Grove Dr, MS 301-355, Pasadena, CA 91109-8001 USA
+1 818 354 3019; fax +1 818 393 4950

#325 National Aperture, Inc.

SPIE Corporate Member

16 Northwestern Dr, Salem, NH 3079 USA
+1 603 893 7393; fax +1 603 893 7857
sales@nationalaperture.com; www.nationalaperture.com

National Instrument Technology Research Center

#539

20, R&D Rd VI, Hsinchu Science Park, Hsinchu, Taiwan 30076
+886-3-5779911; fax +886-3-5789343
gisele20th@itrc.org.tw; itrc.narl.org.tw

Featured Product: Customized optical, mechanical and electrical instruments.

National Instrument Technology Research Center of Taiwan is a government funded research institute constituted by research teams and facility shops with nearly four decade's history in the integral services for optics, mechanics, electronics, vacuum, and nanotechnology. We provide the customized manufacturing of remote sensing instrument, instrument integration, optical design and fabrication, vacuum process and calibration, and instrument accommodation and environment conditions. Contact: Shu Wen Li, Assistant Administrator, gisele20th@itrc.narl.org.tw; Chi Hung Hwang, Deputy Director General, chhwang@itrc.narl.org.tw

National Reconnaissance Office

#715

14675 Lee Rd, Chantilly, VA 20151-1715 USA
+1 703 808 2769; fax +1 703 808 2646
dii@nro.mil

Featured Product: NRO's Director's Innovation Initiative Program.

R&D Funding - The National Reconnaissance Office's Director's Innovation Initiative Program invests in advanced technologies, fosters innovation, and pushes the boundaries of technology to dramatically improve their over-head reconnaissance capabilities. It's an opportunity for developers not traditionally associated with the NRO to participate in building the NRO of the future. Contact: Gil Herlich, Program Manager, dii@nro.mil; Kevin Donaleski, Program Support, kevin.donaleski@nro.mil

NiPro Optics
Tustin, Ca. 92780
714-542-5648
www.NiProOptics.com

NiPro Optics, Inc.

Booth 831

Precision Optics and Thin Film Coatings

Single Point Diamond Turning.....

2 axis spheres and aspheres, 3 axis asymmetrical slow servo off axis, symmetrical freeforms

High Performance Optical Coatings.....

Customized hot and cold mirrors, durable aluminum or rhodium - Salt fog tested and proven

Electroforming of Complex Structures.....

Replication of Fresnel and gratings in the sub-micron range and Precision "Digital Reflectors"™

In-house Hi-Phos Nickel for SPDT.....

The "No excuse" diamond turning solution for excellent quality and short lead times

Turn-key Technology Transfers.....

Precision nickel electroforming designed for your needs and high phos (NiP) plating process

Exhibition Guide

PROMOTIONAL PARTNER

Nature Publishing Group

#314

4 Crinan St, Macmillan Bldg, London, United Kingdom N1 9XW
+44 20 7833 4000; fax +44 20 7843 4596
enquiries@nature.com; www.nature.com

Newport Corporation

#337

SPIE Corporate Member

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

Newport is a supplier of innovative solutions to multiple marketplaces including the photonics and photovoltaic industries. Our combined product portfolio which includes Corion®, New Focus™, Oriol® Instruments, Richardson Gratings™ and Spectra-Physics® Lasers enables us to better partner with our customers to provide complete photonic solutions to make, manage and measure light. Contact: Kim Abair, Director, Global Marketing, kim.abair@newport.com

NiPro Optics, Inc.

#831

14771 Myford Rd, Ste C, Tustin, CA 92780-7206 USA
+1 714 542 5648; fax +1 714 542 2820
info@niprooptics.com; www.niprooptics.com

Featured Product: Durable, enhanced aluminum and rhodium coatings "Digital Reflectors" from diamond turned masters.

Manufacturer of precision optical components and thin film coatings. Single Point Diamond Turning, High Performance Optical Coatings, Electroforming of Complex Structures. NiPro provides a variety of options to meet the demanding needs of your optical project. Our Optical Diamond Turning Center produces to sub-micron tolerances for critical applications and our vacuum deposition capabilities include several proprietary coatings specifically designed for durability and maximum reflectance. Contact: Robin Reed, Sales Manager, Rob@Niprooptics.com; Tom Gross, President, Tom@Niprooptics.com

NKT Photonics

#527

SPIE Corporate Member

1400 Campus Drive West, Morganville, NJ 07751 USA
+1 732 972 9937; fax +1 732 414 4094
nktp_sales@nktphotonics.com; www.nktphotonics.com

Noren Products, Inc. Thermal Solutions

#736

SPIE Corporate Member

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

Ocean Optics, Inc.

#133

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

Featured Product: Torus concave spectrometer, Jaz spectroscopy suite, Maya2000 for Deep UV, QE65000 spectrometer.

Ocean Optics is the inventor of the world's first miniature spectrometer and the industry leader in optical sensing. We provide single solutions, turnkey solutions and spectrometers for field. Ocean Optics also offers a full line of sensing accessories, light sources and optical fibers. Ask about our exclusive 3-Year warranty and Total Technical Services.

Ocean Thin Films, Inc.

#324

SPIE Corporate Member

16080 Table Mountain Pkwy #100, Golden, CO, 80403 USA
303-273-9700; fax 303-273-2995
info@oceanthinfilms.com; http://www.oceanthinfilms.com

Featured Product: PixelTec patterned optical coating, SpectroCam™ Multispectral Camera.

Ocean Thin Films designs and produces precision optical coatings, components and assemblies that enable a wide variety of products and specialty applications. Leveraging comprehensive know-how in thin film coating development and patented PixelTec™ patterning, the company provides expert design assistance for collaborative custom-engineered solutions, from rapid prototyping through high-volume contract manufacturing. Contact: Todd Jennings, Business Development / Sales Engineer, todd.jennings@oceanthinfilms.com; John Dougherty, Business Development / Sales Engineer, john.dougherty@oceanthinfilms.com

Ohara Corp.

#716

23141 Arroyo Vista Ste 200, Rancho Santa Margarita, CA 92688 USA
+1 949 858 5700; fax +1 949 858 5455
sales@oharacorp.com; www.oharacorp.com

Manufacturer of precision optical glasses available as strip/slab, cut/molded blanks, high homogeneity blanks, fine gobs and polished ball lenses, near UV transmitting i-Line glasses, glass ceramic substrates, CaF₂, UV & IR materials, Quartz, Fused Silica (standard and excimer grade). Ohara ClearCeram-Z ultralow expansion glass with excellent CTE uniformity. Supplier of double side polished substrates (excellent flatness/low surface roughness). Contact: Brion Hoffman, President, brionhoffman@oharacorp.com; Chris Ghio, Director of Sales, chrisghio@oharacorp.com

Olympus America Inc.

#622

SPIE Corporate Member

3500 Corporate Pkwy, Center Valley, PA 18034 USA
+1 484 896 5000; fax +1 484 896 7131
industrial.info@olympus.com; www.olympus-ims.com/en/microscope/

Olympus is a leader in industrial microscopy, with its recognized innovation, optical quality, customer support and training. Olympus industrial microscopes and metrology systems play a vital role in precision R&D, engineering and manufacturing applications in fields as diverse as the aerospace, automotive, electronics, materials science/metallurgy, medical device, photovoltaics and semiconductor arenas.

Omega Optical, Inc.

#541

SPIE Corporate Member

21 Omega Dr, Delta Campus, Brattleboro, VT 05301-2843 USA
+1 802 254 2690; fax +1 802 254 3937
sales@omegafilters.com; www.omegafilters.com

Omega Optical offers standard and custom high performance optical filters manufactured as both surface hard coatings and protected soft coatings. The extensive range of products includes bandpass, longpass/shortpass, rejection bands, dichroic beamsplitters/mirrors, neutral density, UV, analytical, and laser line filters. Contact: Bill Hill, whill@omegafilters.com; Ruth Gorham-Houle, VP Business Development, rgorham@omegafilters.com

Exhibition Guide

Ontar Corp.

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 in 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, Administrative Assistant, dpayne@ontar.com.

#320

PROMOTIONAL PARTNER

optics.org

Ffordd Pengam, 2 Alexandra Gate, Cardiff, United Kingdom
CF24 2SA

+44 29 2089 4747; fax +44 29 2089 4750
sales@optics.org; www.optics.org

Optics.org is the leading online resource for the photonics industry. Hear the latest news (Newsdesk) see what jobs are available (powered by SPIE Career Center), find the latest products (Buyers Guide), and get the latest news via the weekly Newsletter. With more than 90,000 unique visitors each month, channelized content and weekly e-mail alerts to 44,000 opt-in subscribers, optics.org is a key information source for the photonics community. Contact: Rob Fisher, rob.fisher@optics.org; Mike Hatcher, mike.hatcher@optics.org

#530

Ophir Photonics LLC

SPIE Corporate Member

3050 North 300 West, Logan, UT 84341 USA
+1 435 753 3729; fax +1 435 753 5231
sales@ophir-spiricon.com; www.ophir-spiricon.com

Ophir-Spiricon is the world leader in integrated laser power, energy, and beam profile measurement solutions. Contact: Dan Ford, Sales Engineer - Southern CA, dan.ford@ophir-spiricon.com; Larry Green, Sales Engineer - Northern CA, larry.green@ophir-spiricon.com

#732

Optiforms

SPIE Corporate Member

42310 Winchester Rd, Temecula, CA 92590 USA
+1 951 296 1300; fax +1 951 296 1178
info@optiforms.com; www.optiforms.com

Optiforms manufactures precision electroformed nickel optical reflectors with a variety of high performance vacuum or electrodeposited coatings. Celebrating 27 years of unmatched excellence to the optics industry, we offer a complete line of standard geometric shapes including elliptical, parabolic, spherical, and off-axis segments. Goldshields are among the latest product lines where OFI has combined its plating and machining expertise to introduce superior quality low mass infrared absorbers Contact: Larry Walker, Dir. Sales / Customer Service, lwalker@optiforms.com; Donna Stice, Custerom Svc. Specialist, dstice@optiforms.com

#429

Optical Building Blocks Corporation #129

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

Optical Building Blocks Corporation (OBB) is built on 34 years of pioneering industry experience in Electro-optical instrumentation. OBB designs, manufactures and markets proprietary light sources, monochromators, detectors, light based components for microscopes and bench top fluorescence systems. OBB products can be found at work in medical, healthcare, industrial process, quality control and environmental science laboratories and research facilities around the world. Contact: Charles Marianik, contact@obb1.com; Ronald Kovach, contact@obb1.com

Optical Reference Laboratory, Inc. #825

201 Lindo Pl, Davis, CA, 95616 United States
+1 530 753 4358

Optical Support, Inc. #840

SPIE Corporate Member

1671 S Research Loop Ste 133, Tucson, AZ 85710 USA
+1 520 546 0642; fax +1 520 545 0376
msavard@opticalsupport.biz; www.opticalsupport.biz

Optical Support provides complete optomechanical design and prototyping services. Starting with a design concept, system requirements or an optical prescription, we provide complete optomechanical system design, assembly, alignment and testing. We are facilitated with a fully operational CNC machine shop, clean optical assembly workstations test and alignment equipment for visible and NIR applications. Save your team time and money to manage other efforts by succeeding with Optical Support. Contact: Michael Savard, President, msavard@opticalsupport.biz; Skip Savard, Engineer, ssavard@opticalsupport.biz

Optics Technology, Inc. #440

3800 Monroe Ave, Pittsford, NY 14534 USA
+1 585 586 0950; fax +1 585 248 2371
info@optics technology.com; www.optics technology.com

NANOPositioning SYSTEMS

Beam Steering
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Exhibition Guide

Optikos Corp.

SPIE Corporate Member

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: The LensCheck™ is an economical system for accurately quantifying imaging properties of lenses.

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

Optimax Systems, Inc.

SPIE Corporate Member

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

Optimax is America's largest prototype optics manufacturer, with more than 100 opticians. Our innovative manufacturing enables rapid delivery of custom optical components. Optimax makes Aspheres, Cylinders, Spheres, and Prisms to customer specifications. We excel in producing optics in small lot sizes with diameters up to 300mm. With in-house coating and deterministic CNC machine tools for predictable removal, Optimax meets tight tolerances and delivers precision optics in record time! Contact: Joe Pinto, Sales Engineer, joep@optimaxsi.com; Rick Plympton, CEO, rick@optimaxsi.com

OptiPro Systems

SPIE Corporate Member

6368 Dean Pky, Ontario, NY 14519 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!

OptiPro Systems, located in Rochester, NY, has more than 25 years experience designing and manufacturing precision optical fabrication machines and metrology systems. A leader in the implementation of optical fabrication and metrology equipment, OptiPro develops cutting edge machines for complex optics with challenging surface and production requirements. Our team of engineers, technicians and scientists can turn your concepts into optimized production solutions. Contact: Michael Bechtold, President, mike@optipro.com; David Mohring, Director of Optical Products, dmohring@optipro.com

Optometrics Corp.

SPIE Corporate Member

8 Nemco Way, Ayer, MA 01432 USA
+1 978 722 1700; fax +1 978 772 0017
mjones@optometrics.com; www.optometrics.com

Featured Product: Diffraction gratings for UV, VIS, NIR, IR & gratings ruled in gold. Interference filters for UV-NIR.

For more than 40 years, Optometrics has been the OEM instrument manufacturer's one stop for wavelength selection solutions, from diffraction gratings & interference filters to IR laser products, as well as monochromators & optical systems. Core competencies are grating mastering, holographic and ruled, as well as full replication facilities. Contact: Mike Walsh, Sales and Marketing Manager, mw Walsh@optometrics.com; Laura Lunardo, COO, lauras@optometrics.com.

#222

OptoSigma Corp.

3210 S Croddy Way, Santa Ana, CA 92704 USA
+1 949 851 5881; fax +1 949 851 5058
sales@optosigma.com; www.optosigma.com

Featured Product: Ultra Thin Extended Contact Stages with embedded ball bearings in super thin steel positioner.

OptoSigma Corporation is a global manufacturer of photonic components, opto-mechanics, manual and motorized positioners, laser grade optics and specialized optical coatings. One of seven manufacturing facilities, OptoSigma located in Santa Ana, CA offers optical and mechanical applications engineering support, customer satisfaction and off-the-shelf availability of over 4000 components. New Catalog - New products - visit www.optosigma.com or contact sales@optosigma.com for more information. Contact: Dan Denison, Western Region Sales Mngr, dan@optosigma.com; Michelle Young, Eastern Sales Manager, michelle@optosigma.com

#532

PROMOTIONAL PARTNER

Optronics Co., Ltd.

5-5 Shin Ogawamachi, Shinjuku-ku Tokyo, Japan 162-0814
+81 3 3269 3550; fax +81 3 5229 7253
intl@optronics.co.jp; www.optronics.co.jp

#841

PerkinElmer

710 Bridgeport Ave, Shelton, CT 6484 USA
+1 203 925 4600
insidesales-us@perkinelmer.com; www.perkinelmer.com

Featured Product: Thermal Analysis, FTIR, UV-Vis, Raman, GC, GC/MS, LC, LC/MS, AA, ICP-OES, and ICP-MS.

PerkinElmer, Inc. is a global leader focused on improving the health and safety of people and their environment. PerkinElmer is dedicated to the quality and sustainability of the environment. With our analytical instrumentation, illumination and detection technologies, and leading laboratory services, we focus on improving the integrity and safety of the world we live in. Contact: Tracy Tran, Marketing Specialist, Tracy.Tran@perkinelmer.com; David Jones, Sales Specialist, UV-Vis, UV-Vis-NIR, Fluorescence, David.Jones@perkinelmer.com

#724

PHASICS S.A.

XTEC Bât 404 Campus de l'Ecole Polytechnique, Palaiseau, France 91120
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contact@phasics.fr; www.phasics.com

#627

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Photon Engineering, LLC

SPIE Corporate Member

440 S Williams Blvd Ste 106, Tucson, AZ 85711 USA
+1 520 733 9557
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: Richard Pfisterer, President, richp@photonengr.com; Donata Pfisterer, Sales, donatap@photonengr.com

#232

#225

Exhibition Guide

Photonic Products Group, Inc.

SPIE Corporate Member

181 Legrand Ave, Northvale, NJ 07647 USA
+1 201 767 1910; fax +1 201 767 9644
sales@ppgrpinc.com; http://ppgrpinc.com/

Photonics for a Better World

1000 20th St, Bellingham, WA 98225-6705 USA
+1 360 676 3290; fax +1 360 647 1445
spie@spie.org; www.spie.org

Three areas to visit in 2011! Outreach + Education: Visit with organizations who use photonic technologies for betterment of the global community (One Million Lights, Photonics Explorer, Outreach Olympics, National Student Solar Spectrograph Competition). NanoTech Demo Area: see the end products of nano research. Focus on Astronomy: get one-on-one discussions and workshops (JWST, Astro-Photo Workshop area, Turning Eyes to the Big Sky Project) Contact: Pamela Robertson, Marketing Promotions Manager, pamelar@spie.org

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Photonics Media

SPIE Corporate Member

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

Featured Product: Photonics Spectra magazine: covering everything photonics from optics to lasers and much more!

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: Ken Tyburski, Director of Sales, advertising@photonics.com; Karen Newman, Group Publisher, editorial@photonics.com

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Photonics Online

2591 Wexford-Bayne Rd Ste 305, Bldg II, Sewickley, PA 15143-8676 USA
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www.photonicsonline.com

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Physics Today

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+1 301 209 3040; fax +1 301 209 0842
jbebee@aip.org; www.physicstoday.com

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#728 PI (Physik Instrumente) LP

SPIE Corporate Member

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

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

Leader in nanopositioning, Hexapods, ultra-precision motion control & piezo stage positioning systems for OEM & research. Piezo Stages; Nanopositioning Systems; 6-Axis Hexapod Alignment Systems, Piezo Stages for Microscopy; Lens Positioners; Fast Steering Mirrors/Active Optics; Long- Life Multilayer Piezo Actuators; Ceramic Linear Motors, Piezo Drivers & Digital Controllers; Micropositioning Actuators, Stages & Motion Controllers; MicroMotion Robots for Automated 3D to 6D Photonics Alignment Contact: Sales Department, info@pi-usa.us

Piezosystem Jena, Inc.

SPIE Corporate Member

2B Rosenfeld Dr, Hopedale, MA 01747 USA
+1 508 634 6688; fax +1 508 634 6868
usa@piezोजना.com; www.piezोजना.com

Featured Product: PXY AP stage with 700um x 700um travel. Thin 20mm profile. 100mmx100mm central aperture.

Manufacturer of high precision positioning equipment with nanometer resolution. Flexure piezo technology stages in a variety of configurations for applications in semiconductor inspection, optical and laser alignment, superresolution and confocal microscopy, electrical probing techniques, and AFM. Products include 6 axis stages, microscope objective focussing units, retrofits for micrometer heads, XY stages compatible to commercial microscopes, mirror tilting systems, and high power actuators Contact: Jim Litynski, President, jim@piezोजना.com; Peter Viglas, Sales Engineer, peter@piezोजना.com

#449

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#430

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#236

#639

Hampton Controls, Optics Div.

P.O. Box 187, Wendel Road
Wendel, PA 15691

1-724-861-0150 Phone

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www.hamptoncontrols.com Web

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sales@polaronyx.com; www.polaronyx.com

#326

Qioptiq S.A.S.

SPIE Corporate Member

25 ave Pierre de Coubertin, Paris Cedex 13, France 75647
+33 1 44 16 01 10; fax +33 1 44 16 01 11
photonics@qioptiq.com; www.qioptiq.com

#425

Polymicro Technologies, A subsidiary of Molex Incorporated

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

#810

Quartus Engineering Incorporated

#845

10251 Vista Sorrento Pkwy Ste 250, San Diego, CA 92121-3776 USA
+1 858 373 1201; fax +1 858 373 1208
jeff.frantz@quartus.com; www.quartus.com

Featured Product: PolyClad™ Dual Clad Standard Fibers.

Polymicro manufactures multimode, step-index fused silica optical fibers with polyimide, acrylate, silicone & custom buffers; solarization-resistant optical fibers; broad-spectrum optical fibers; hollow silica waveguides; fiber optic cables & assemblies; high strength, high temperature flexible fused silica capillaries; square capillaries; light guiding capillaries; custom precision silica, quartz rod & tubing pieces; custom shaped rod & tubing; multilumen tubing; ferrules/sleeves.

Precision Asphere Inc.

SPIE Corporate Member

48860 Milmont Dr Unit 105-C, Fremont, CA 94538 USA
+1 510 668 1508; fax +1 510 668 1595
sales@precisionasphere.com; www.precisionasphere.com

#838

Precision Glass & Optics (PG&O)

SPIE Corporate Member

3600 W Moore Ave, Santa Ana, CA 92704 USA
+1 714 540 0126; fax +1 714 540 1482
info@pgo.com; www.pgo.com

#410

PG&O offers precision thin film coatings, glass and optics for standard and custom applications PG&O will showcase a variety of specialized custom optical components for biomedical, imaging, laser, digital cinema, military, aerospace, astronomy, & solar applications. We provide standard and custom components including prisms, windows, mirrors, beamsplitters & light pipes, complete in-house fabrication capabilities, and a wide array of thin film coatings. We carry an extensive inventory of glass and offer expert in-house engineering support. Contact: Thad Sanchez, Sales Manager, info@pgo.com; DK, Sales, info@pgo.com

Pynco, Inc.

SPIE Corporate Member

2605 35th St, Bedford, IN 47421 USA
+1 812 275 0900; fax +1 812 275 1934
marketing@pynco.com; www.pynco.com

#730

Featured Product: Precision Optical and NVIS Filters.

Since 1987, Pynco, Inc. has specialized in the design and manufacture of optical and NVIS filters. Our CNC Machining Centers produce precision filters from silicate, borosilicate, and phosphate glasses. Custom processing, concurrent design, short lead times and quality product, help us meet the specifications and needs of a constantly changing industry. Contact: Stephen Youngquist, Marketing Director, sby@pynco.com; Kevin Lynn, Optical Engineer, lynn.kevin@pynco.com

Radiant ZEMAX, LLC

#511

3001 112th Ave NE Ste 202, Bellevue, WA 98004-8017 USA
+1 425 822 3406; fax +1 425 889 4687
sales@zemax.com; www.zemax.com

Featured Product: New multi-language user-interface, black box lens surface, NSC birefringence and NSC tolerancing.

Radiant ZEMAX, LLC publishes the ZEMAX® Optical Design Program which can be used for both sequential and non-sequential ray tracing. Our software can be used to conceptualize, design, optimize, analyze, tolerance and document virtually any optical system. ZEMAX® also goes beyond the traditional limits of ray tracing software by allowing users to use diffraction calculations to propagate any arbitrary beam through an optical system. Contact: Akash Arora, Optical Engineer, akash@zemax.com; Mark Nicholson, VP, Operations, mark@zemax.com

RPMC Lasers, Inc.

#229

SPIE Corporate Member

203 Joseph St, O'Fallon, MO 63366-2614 USA
+1 636 272 7227; fax +1 636 272 3909
rpmc@rpmclasers.com; www.rpmclasers.com

Since 1996 RPMC has been offering high power single emitters in wavelengths from 622nm - 2.3µm, laser diode bar products including unmounted bars, conductive packages, microchannel cooled stacks, and fiber coupled packages, laser diode modules, and laser diode accessories including laser diode drivers, TEC controllers, and heatsinks. RPMC also offers flashlamp, diode pumped and fiber lasers and fiber amplifiers, including femtosecond lasers, picosecond lasers, nanosecond lasers, millisecond lasers, and CW lasers, with energy from nJ up to 300J, and rep rates from pulse-on-demand to 50 MHz, for scientific R&D; for industrial processes such as cold ablation, semiconductor processing, solar cell manufacturing, stent cutting, laser marking; for medical processes such as ophthalmology and dermatology; and for military uses such as seeding, range finding, SWIR imaging, and lidar/lidar: for scientific process such as LIBS, spectroscopy and PIV.

Sagem

#616

Avenue de la Tour Maury, REOSC Department, Saint Pierre Du PERRY, France 91280
+33 632310889
eric.ruch@sagem.com; www.sagem-ds.com

Featured Product: Optics for Astronomy, Space, Industry, High Power Laser.

Sagem Reosc is recognized as the European leader for Astronomy and Space optics. Sagem Reosc is the High Precision & High Quality Optics division of the Sagem - Safran group. Sagem Reosc has established high level of quality in design / polishing / integration/ tests of optical systems from EUV to IR, from 8mm to 8m. Contact: Eric RUCH, Sales Manager, eric.ruch@sagem.com

SCHOTT North America, Inc.

SPIE Corporate Member

400 York Ave, Duryea, PA 18504 USA
+1 570 457 7485; fax +1 570 457 6960
info.optics@us.schott.com; www.us.schott.com

Sensors Unlimited - Goodrich ISR Systems

SPIE Corporate Member

3490 US Rte 1 - Bldg 12, Princeton, NJ 08540 USA
+1 609 520 0610; fax +1 609 520 0638
sui_info@goodrich.com; www.sensorsinc.com

Featured Product: New 1.3Mpixel, Mil-Rugged 1280x1024 SWIR Camera -Hi Sensitivity, Lightweight and Compact 60Hz Imager.

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: Karen Jeffers, Marketing Communications Specialist, Karen.Jeffers@goodrich.com

Sierra Precision Optics

12830 Earhart Ave, Auburn, CA 95602 USA
+1 530 885 6979; fax +1 530 885 1037
sales@sierraoptics.com; www.sierraoptics.com

Flatwork: Plano optics (Filters, Panels, Windows, Mirrors, Beam Splitters, Wedges and Prisms), Spherical and Cylindrical Lenses Specialties: Cylindrical optics, Excimer laser components, UV/VIS/NIR Resonator optics, Flow Tubes and Custom shaped optics, 1/20th wave optical grade metal polishing of Invar and stainless steel. Contact: Jim Stimpson, V.P. Sales & Marketing, jstimpson@sierraoptics.com; Steve Bennion, Engineering Manager, sbennion@sierraoptics.com

#611

SILIOS Technologies

rue Gaston Imbert prolongée, ZI Peynier-Rousset, Peynier, France 13790
+33 4 42 53 89 60; fax +33 4 42 53 89 59
contact@silios.fr; www.silios.com/

Featured Product: Color Shades compact spectrometer for visible range; Micro-optics for astronomy.

SILIOS Technologies is an SME specialized in design and manufacturing of micro-optics, miniaturized spectrometers and colorimeters, diffractive optics and optical instrumentation. SILIOS core business is micro-optical components and systems for astronomy and lasers as well as instrumentation for the chemical, medical, agro-food, microelectronics and water industries. To this aim SILIOS owns a 600 m² clean room and electronic lab for production of prototypes to small and medium size series. Contact: Thierry BERTHOU, Sales Manager, thierry.berthou@silios.fr; Stéphane TISSERAND, General Manager, stephane.tisserand@silios.fr

#636

Siskiyou Corporation

SPIE Corporate Member

110 SW Booth St, Grants Pass, OR 97526 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: Robert Hodge, President, rshodge@siskiyou.com; Mark Mittelstaedt, Western Regional Sales Manager, mmittelstaedt@siskiyou.com

#523

#847

Spectral Instruments Inc.

420 N Bonita Ave, Tucson, AZ 85745 USA
+1 520 884 8821; fax +1 520 884 8803
info@specinst.com; www.specinst.com

Featured Product: Cooled CCD Cameras.

Spectral Instruments specializes in the development and manufacture of cooled CCD cameras for demanding low-light applications. We provide the finest low noise <3e-, high sensitivity, -110C cooling, 16-bit CCD cameras that current technology can offer. Optical inputs can include windows with custom coatings through fiber optic tapers or faceplates. Readout options are designed to be flexible and customized to the application. Custom CCD designs and OEM camera production are available. Contact: Kevin Toerne, Systems Specialist, ktoerne@specinst.com; Charles Slaughter, Systems Specialist, cdslaughter@specinst.com

#240

Spectrogon US, Inc.

24B Hill Rd, Parsippany, NJ 07054-1001 USA
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sales.us@spectrogon.com; www.spectrogon.com

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Spectroscopy

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#310

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jobsales@spie.org; <http://spie.org/careercenter>

Your source for optics and photonics jobs and talent. Recruit your next hire or find your next job on the SPIE Career Center. Job seekers can search job listings, set up email alerts, and view the 'Advice+Tools' section. Employers may post jobs and gain access to a resume database, create a Resume Alert, and participate in job fairs held at SPIE conferences. Contact: Sara Liebert, Sales, jobsales@spie.org;

#528

Synopsys, Inc.

SPIE Corporate Member

3280 E Foothill Blvd Ste 300, Pasadena, CA 91107 USA
+1 626 795 9101; fax +1 626 795 9102
info@opticalres.com; www.opticalres.com

Featured Product: CODE V 10.3 enhances design optimization and tolerancing for aspheric lens systems

Synopsys' Optical Solutions Group, formerly Optical Research Associates, will exhibit CODE V®, LightTools®, and engineering services. CODE V supports optimization, analysis, and tolerancing of image-forming optical systems and free-space photonic devices. LightTools supports design, analysis, optimization and photorealistic renderings of illumination systems. Contact: Stuart David, Sr. Mngr. Sales, info@opticalres.com; James McGuire, Sr. Mngr. Optical Engineering Services, engr@opticalres.com. Contact: Stuart David, Sr. Manager, World Wide Sales, info@opticalres.com; James McGuire, Sr. Manager, Optical Engineering Services, engr@opticalres.com

#711

SPIE Student Services

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students@spie.org; spie.org/students

#900

Stanford Research Systems, Inc.

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info@thinkrs.com; www.thinkrs.com

#519

Syntec Optics

SPIE Corporate Member

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info@syntecoptics.com; www.syntecoptics.com

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#739

StellarNet, Inc.

SPIE Corporate Member

14390 Carlson Cir, Tampa, FL 33626 USA
+1 813 855 8687; fax +1 813 855 0394

contactus@stellarnet.us; www.stellarnet-inc.com

Featured Product: Our new NIR spectrometer, DWARF-Star, is small & rugged for portable, process, and OEM applications.

Since 1991, StellarNet, Inc. has been a global provider of low cost miniature spectrometers and spectroscopy software for product analysis, research, education, and OEM. StellarNet instrumentation is rugged for any environment- lab, process, or field. We offer complete systems and accessories including integrating spheres, light sources, optical fibers, and probes. Applications include LED/Laser characterization, solar spectral analysis, thin-film metrology, colorimetry, chemistry, and LIBS. Contact: Jason Pierce, Applications Scientist, Jpierce@StellarNet.us; Ryan Flaherty, Sales Manager, Ryan@StellarNet.us

#238

Sutter Instrument Co.

SPIE Corporate Member

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

Featured Product: LAMBDA VF-5: The world's first filter changer to use tunable thin-film optical filters (330-800nm)

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#433

Syntronics - Night Vision Systems Division

3500 Shannon Park Dr, Fredericksburg, VA 22408 USA
+1 540 374 1000; fax +1 540 374 1000
smiller@syntronics.net; www.syntronics.net

Manufacturer of intensified CCD cameras in gated and ungated configurations, local or computer controlled, you can choose the camera and the intensifier. Also available: direct view systems, intensified lens assemblies, gate amps and control boxes. Come to us for electro-optical assemblies, fiberoptic window insertion, CCD window removal, hardware and software design. We manufacture GPS guided control systems, homeland security systems, corona detection devices, forensic products, instrumentatio Contact: Stacey Miller, Director of Business Operations, smiller@syntronics.net; Michael Thorsted, Pres NVS Div, mthorsted@syntronics.net

#643

Taylor Hobson Inc.

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jeff.brown@ametech.com

#719

TDK-Lambda Americas Inc.

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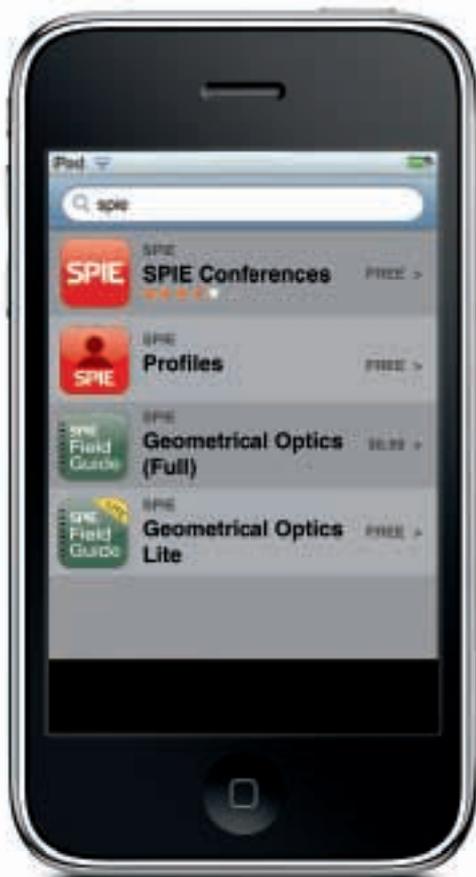
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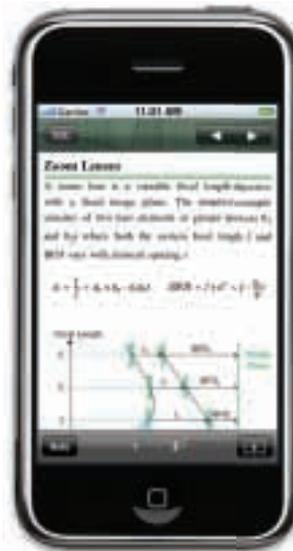
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Optics Manufacturing

ALIO Industries
CoorsTek Technical Ceramics
CVI Melles Griot
Energetiq Technology, Inc.
Entegris, Inc.
FLIR Systems
G-S PLASTIC OPTICS
Hellma USA, Inc.
Infinite Optics Inc.
Iridian Spectral Technologies Ltd.
L-3 Communications, Tinsley Laboratories
Lake Shore Cryotronics, Inc.
LEONI Fiber Optics, Inc.
LightPath Technologies, Inc.
Max Levy Autograph, Inc.
MediVision Optics
Mindrum Precision, Inc.
Newport Corporation
NiPro Optics, Inc.
Ocean Thin Films, Inc.
Omega Optical, Inc.
Optical Support, Inc.
Optimax Systems, Inc.
OptiPro Systems
Optometrics Corp.
OptoSigma Corp.
Sagem
Sierra Precision Optics
Zygo Corporation

Optomechanical Components, Devices

Aerotech, Inc.
CoorsTek Technical Ceramics
Mindrum Precision, Inc.
Optical Support, Inc.
OptoSigma Corp.

Positioning Equipment, Motion Control and Accessories

Aerotech, Inc.
ALIO Industries
CVI Melles Griot
Mad City Labs, Inc.
Newport Corporation

Publishers, Associations, Clusters, Societies

IOP Publishing
Photonics Media
Spectroscopy



Give your input on the National Academies report: Assessing the Impact and Future of Photonics in the United States

Forum open to all SPIE Optics + Photonics attendees

Monday, 22 August 2011 · 5:30 to 7:00 pm · Convention Center, Room 7B

Moderators:

Eugene Arthurs, CEO, SPIE

Erik Svedberg, Senior Program Officer, National Academies of Science

Committee Members present include:

Dr. Charles Maurice Falco,

Dr. Paul McManamon,

Dr. Alan E. Willner, and

Dr. Milton M. Chang

Come voice your opinion about challenges facing innovators today, and help the National Academies begin work on an update to the 1998 landmark Harnessing Light study.

Discuss your thoughts on where the science is going, where the funding is going to be, current and potential market size, current employment and potential for job creation, and many other pressing issues.

Harnessing Minds.

harnessingminds.org



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

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Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
NanoEngineering					
<p>SC496 Fabrication and Processing of Nanostructures (Cao) 8:30 am to 5:30 pm, \$615 / \$730</p> <p>SC497 Nanophotonics (Prasad) 1:30 to 5:30 pm, \$350 / \$405</p>		<p>SC1006 Nanoscale Dimensional Metrology and Physical Characterization (Ukrainsev) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC1003 Optical Scatter Metrology for Industry (Stover) 8:30 am to 12:30 pm, \$350 / \$405</p>		
NanoScience					
<p>SC497 Nanophotonics (Prasad) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC1043 Shaped Light (Dholakia, Spalding) 1:30 to 5:30 pm, \$350 / \$405</p>			<p>SC727 Nanoplasmonics (Stockman) 8:30 am to 5:30 pm, \$575 / \$690</p>	
Optical Design and Systems Engineering					
<p>SC690 Optical System Design: Layout Principles and Practice (Greivenkamp) 8:30 am to 5:30 pm, \$685 / \$800</p>	<p>SC835 Infrared Systems - Technology & Design (Daniels) 8:30 am to 5:30 pm, \$1190 / \$1445</p> <p>SC010 Introduction to Optical Alignment Techniques (Ruda) 8:30 am to 5:30 pm, \$1050 / \$1305</p> <p>SC135 Adaptive Optics (Tyson) 8:30 am to 5:30 pm, \$615 / \$730</p> <p>SC156 Basic Optics for Engineers (Ducharme) 8:30 am to 5:30 pm, \$615 / \$730</p> <p>SC912 Intermediate Lens Design (Bentley) 8:30 am to 5:30 pm, \$690 / \$775</p> <p> SC321 Thin Film Optical Coatings (Macleod) 8:30 am to 5:30 pm, \$575 / \$690</p> <p> SC388 Non-Imaging Optics (Winston) 1:30 to 5:30 pm, \$350 / \$405</p> <p>SC1043 Shaped Light (Dholakia, Spalding) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>WS609 Basic Optics for Non-Optics Personnel (Harding) 8:30 to 11:00 am, \$150 / \$200</p> <p>SC180 Imaging Polarimetry (Dereniak, Miles, Sabatke) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC221 Optomechanics and Tolerancing of Instruments (Hatheway) 8:30 am to 5:30 pm, \$575 / \$690</p> <p> SC915 Radiometry Revealed (Shaw) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC567 Introduction to Optical Remote Sensing Systems (Shaw) 1:30 to 5:30 pm, \$350 / \$405</p> <p> SC792 Polarization in Optical Design (Chipman) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC947 Cost-Conscious Tolerancing of Optical Systems (Youngworth, Contreras) 8:30 am to 5:30 pm, \$575 / \$690</p> <p>SC1003 Optical Scatter Metrology for Industry (Stover) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC206 Polarized Light: A Practical Hands-on Introduction (Fisher) 8:30 am to 5:30 pm, \$575 / \$690</p> <p>SC017 Principles of Fourier Optics and Diffraction (Gaskill) 8:30 am to 5:30 pm, \$680 / \$795</p> <p>SC492 Predicting, Modeling, and Interpreting Light Scattered by Surfaces (Germer) 1:30 to 5:30 pm, \$350 / \$405</p> <p> SC944 The Radiometry Case Files (Grant) 1:30 to 5:30 pm, \$425 / \$480</p>		
<p>Register for Courses onsite at the SPIE Cashier</p>					

Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Optomechanics and Optical Manufacturing					
SC014 Introduction to Optomechanical Design (<i>Vukobratovich</i>) 8:30 am to 5:30 pm, \$1050 / \$1305			WS1004 3D Optical Metrology - Hands-on Workshop (<i>Harding</i>) 8:30 am to 12:30 pm, \$350 / \$405		
SC1019 Mounting of Optical Components (<i>Burge</i>) 8:30 am to 5:30 pm, \$660 / \$775	SC1010 Introduction to Optical Alignment Techniques (<i>Ruda</i>) 8:30 am to 5:30 pm, \$1050 / \$1305		SC947 Cost-Conscious Tolerancing of Optical Systems (<i>Youngworth, Contreras</i>) 8:30 am to 5:30 pm, \$575 / \$690		
SC1041 Computer Generated Holograms for Optical Testing (<i>Zhao</i>) 1:30 to 5:30 pm, \$350 / \$405	SC015 Structural Adhesives for Optical Bonding (<i>Daly</i>) 8:30 am to 12:30 pm, \$350 / \$405	SC218 Advanced Composite Materials for Optomechanical Systems (<i>Zweber</i>) 8:30 am to 5:30 pm, \$575 / \$690	SC211 Practical Interferometry and Fringe Analysis (<i>Creath</i>) 8:30 am to 5:30 pm, \$575 / \$690		
SC213 Introduction to Interferometric Optical Testing (<i>Wyant</i>) 1:30 to 5:30 pm, \$385 / \$440	 SC321 Thin Film Optical Coatings (<i>Macleod</i>) 8:30 am to 5:30 pm, \$575 / \$690	SC221 Optomechanics and Tolerancing of Instruments (<i>Hatheway</i>) 8:30 am to 5:30 pm, \$575 / \$690			
Organic Photonics and Electronics					
		 SC915 Radiometry Revealed (<i>Shaw</i>) 8:30 am to 12:30 pm, \$350 / \$405	 SC1044 Silicon Photovoltaics (<i>Stefancich, Saini</i>), 1:30 to 5:30 pm, \$350 / \$405		
			 SC944 The Radiometry Case Files (<i>Grant</i>) 1:30 to 5:30 pm, \$425 / \$480		
Remote Sensing					
SC194 Multispectral and Hyperspectral Image Sensors (<i>Lomheim</i>) 1:30 to 5:30 pm, \$435 / \$480	SC835 Infrared Systems - Technology & Design (<i>Daniels</i>) 8:30 am to 5:30 pm, \$1190 / \$1445		SC206 Polarized Light: A Practical Hands-on Introduction (<i>Fisher</i>) 8:30 am to 5:30 pm, \$575 / \$690		
	SC156 Basic Optics for Engineers (<i>Ducharme</i>) 8:30 am to 5:30 pm, \$615 / \$730 p. 257	SC916 Digital Camera and Sensor Evaluation Using Photon Transfer (<i>Janesick</i>) 8:30 am to 5:30 pm, \$630 / \$745	 SC944 The Radiometry Case Files (<i>Grant</i>) 1:30 to 5:30 pm, \$425 / \$480		
	SC504 Introduction to CCD and CMOS Imaging Sensors and Applications (<i>Janesick</i>) 8:30 am to 5:30 pm, \$710 / \$825, p. 256	SC180 Imaging Polarimetry (<i>Dereniak, Miles, Sabatke</i>) 8:30 am to 12:30 pm, \$350 / \$405			
		 SC915 Radiometry Revealed (<i>Shaw</i>) 8:30 am to 12:30 pm, \$350 / \$405			
		SC567 Introduction to Optical Remote Sensing Systems (<i>Shaw</i>) 1:30 to 5:30 pm, \$350 / \$405			
		SC906 Introduction to Visible and NIR Spectrograph Design and Development for Astronomy & Remote Sensing (<i>Sheinis</i>) 1:30 to 5:30 pm, \$470 / \$525			
		 SC792 Polarization in Optical Design (<i>Chipman</i>) 1:30 to 5:30 pm, \$350 / \$405			
					Legend for Education Products: Price = SPIE Member / Non-Member SC000 = Course Number WS000 = Workshop Number

Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Advanced Metrology					
<p>SC1041 Computer Generated Holograms for Optical Testing (Zhao) 1:30 to 5:30 pm, \$350 / \$405</p> <p>SC213 Introduction to Interferometric Optical Testing (Wyant) 1:30 to 5:30 pm, \$385 / \$440</p>		<p>SC1006 Nanoscale Dimensional Metrology and Physical Characterization (Ukrainsev) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>WS1004 3D Optical Metrology - Hands-on Workshop (Harding) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC1003 Optical Scatter Metrology for Industry (Stover) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC211 Practical Interferometry and Fringe Analysis (Creath) 8:30 am to 5:30 pm, \$575 / \$690</p> <p>SC017 Principles of Fourier Optics and Diffraction (Gaskill) 8:30 am to 5:30 pm, \$680 / \$795</p> <p>SC492 Predicting, Modeling, and Interpreting Light Scattered by Surfaces (Germer) 1:30 to 5:30 pm, \$350 / \$405</p>		
Astronomical Optics and Instrumentation					
<p>SC213 Introduction to Interferometric Optical Testing (Wyant) 1:30 to 5:30 pm, \$385 / \$440</p>	<p>SC835 Infrared Systems - Technology & Design (Daniels) 8:30 am to 5:30 pm, \$1190 / \$1445</p> <p>SC010 Introduction to Optical Alignment Techniques (Ruda) 8:30 am to 5:30 pm, \$1050 / \$1305</p> <p>SC135 Adaptive Optics (Tyson) 8:30 am to 5:30 pm, \$615 / \$730</p> <p>SC504 Introduction to CCD and CMOS Imaging Sensors and Applications (Janesick) 8:30 am to 5:30 pm, \$710 / \$825</p> <p>SC1043 Shaped Light (Dholakia, Spalding) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC218 Advanced Composite Materials for Optomechanical Systems (Zweben) 8:30 am to 5:30 pm, \$575 / \$690</p> <p>SC916 Digital Camera and Sensor Evaluation Using Photon Transfer (Janesick) 8:30 am to 5:30 pm, \$630 / \$745</p> <p>SC915 Radiometry Revealed (Shaw) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC567 Introduction to Optical Remote Sensing Systems (Shaw) 1:30 to 5:30 pm, \$350 / \$405</p> <p>SC906 Introduction to Visible and NIR Spectrograph Design and Development for Astronomy & Remote Sensing (Sheinis) 1:30 to 5:30 pm, \$470 / \$525</p> <p>SC1006 Nanoscale Dimensional Metrology and Physical Characterization (Ukrainsev) 1:30 to 5:30 pm, \$350 / \$405</p> <p>SC792 Polarization in Optical Design (Chipman) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC211 Practical Interferometry and Fringe Analysis (Creath) 8:30 am to 5:30 pm, \$575 / \$690</p> <p>SC944 The Radiometry Case Files (Grant) 1:30 to 5:30 pm, \$425 / \$480</p>		
			<p>Register for Courses onsite at the SPIE Cashier</p>		

Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Atmospheric and Space Optical Systems					
	<p>SC1043 Shaped Light (<i>Dholakia, Spalding</i>) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC916 Digital Camera and Sensor Evaluation Using Photon Transfer (<i>Janesick</i>) 8:30 am to 5:30 pm, \$630 / \$745</p> <p>SC915 Radiometry Revealed (<i>Shaw</i>) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC567 Introduction to Optical Remote Sensing Systems (<i>Shaw</i>) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC944 The Radiometry Case Files (<i>Grant</i>) 1:30 to 5:30 pm, \$425 / \$480</p>		
Detectors and Imaging Devices					
<p>SC194 Multispectral and Hyperspectral Image Sensors (<i>Lomheim</i>) 1:30 to 5:30 pm, \$435 / \$490</p>	<p>SC504 Introduction to CCD and CMOS Imaging Sensors and Applications (<i>Janesick</i>) 8:30 am to 5:30 pm, \$710 / \$825</p>	<p>SC916 Digital Camera and Sensor Evaluation Using Photon Transfer (<i>Janesick</i>) 8:30 am to 5:30 pm, \$630 / \$745</p> <p>SC915 Radiometry Revealed (<i>Shaw</i>) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC567 Introduction to Optical Remote Sensing Systems (<i>Shaw</i>) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC944 The Radiometry Case Files (<i>Grant</i>) 1:30 to 5:30 pm, \$425 / \$480</p>		
Illumination Engineering					
	<p>SC011 Design of Efficient Illumination Systems (<i>Cassarly</i>) 1:30 to 5:30 pm, \$350 / \$405</p> <p>SC388 Non-Imaging Optics (<i>Winston</i>) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC915 Radiometry Revealed (<i>Shaw</i>) 8:30 am to 12:30 pm, \$350 / \$405</p>	<p>SC944 The Radiometry Case Files (<i>Grant</i>) 1:30 to 5:30 pm, \$425 / \$480</p>		
Image and Signal Processing					
		<p>SC916 Digital Camera and Sensor Evaluation Using Photon Transfer (<i>Janesick</i>) 8:30 am to 5:30 pm, \$630 / \$745</p> <p>SC661 Image Processing and Applications (<i>Iftekharuddin</i>) 8:30 am to 5:30 pm, \$575 / \$690</p>	<p>SC017 Principles of Fourier Optics and Diffraction (<i>Gaskill</i>) 8:30 am to 5:30 pm, \$680 / \$745</p>		
<p>Legend for Education Products: Price = SPIE Member / Non-Member SC000 = Course Number WS000 = Workshop Number</p>					

Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Solar Energy + Technology					
<p> SC321 Thin Film Optical Coatings (Macleod) 8:30 am to 5:30 pm, \$575 / \$690</p> <p> SC388 Non-Imaging Optics (Winston) 1:30 to 5:30 pm, \$350 / \$405</p>	<p> SC910 Design and Reliability of Photovoltaic Modules (Dhere, Wohlgermuth) 8:30 am to 12:30 pm, \$350 / \$405</p> <p> SC915 Radiometry Revealed (Shaw) 8:30 am to 12:30 pm, \$350 / \$405</p> <p> SC792 Polarization in Optical Design (Chipman) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC1003 Optical Scatter Metrology for Industry (Stover) 8:30 am to 12:30 pm, \$350 / \$405</p>	<p> SC1044 Silicon Photovoltaics (Stefancich, Saini), 1:30 to 5:30 pm, \$350 / \$405</p> <p> SC944 The Radiometry Case Files (Grant) 1:30 to 5:30 pm, \$425 / \$480</p>		
Thin Films					
	<p> SC321 Thin Film Optical Coatings (Macleod) 8:30 am to 5:30 pm, \$575 / \$690</p>	<p>SC1006 Nanoscale Dimensional Metrology and Physical Characterization (Ukrantsev) 1:30 to 5:30 pm, \$350 / \$405</p>			
X-Ray, Gamma-Ray, and Particle Technologies					
<p>SC213 Introduction to Interferometric Optical Testing (Wyant) 1:30 to 5:30 pm, \$385 / \$440</p>		<p>SC1006 Nanoscale Dimensional Metrology and Physical Characterization (Ukrantsev) 1:30 to 5:30 pm, \$350 / \$405</p>	<p>SC1003 Optical Scatter Metrology for Industry (Stover) 8:30 am to 12:30 pm, \$350 / \$405</p> <p>SC211 Practical Interferometry and Fringe Analysis (Creath) 8:30 am to 5:30 pm, \$575 / \$690</p> <p>SC492 Predicting, Modeling, and Interpreting Light Scattered by Surfaces (Germer) 1:30 to 5:30 pm, \$350 / \$405</p>		
Business + Professional Development					
	<p>WS897 Effective Technical Presentations (Dumont) 8:30 am to 12:30 pm, \$125 / \$175</p> <p>WS908 Effective Scientific Papers (Dumont) 1:30 to 5:30 pm, \$125 / \$175</p>	<p>WS609 Basic Optics for Non-Optics Personnel (Harding) 8:30 to 11:00 am, \$150 / \$200</p>			
					<p>Register for Courses onsite at the SPIE Cashier</p>

Visit the SPIE Pavilion

Convention Center, Hall A-B1

Exhibition Hours

Tuesday 23 August, 10:00 am to 5:00 pm

Wednesday 24 August, 10:00 am to 5:00 pm

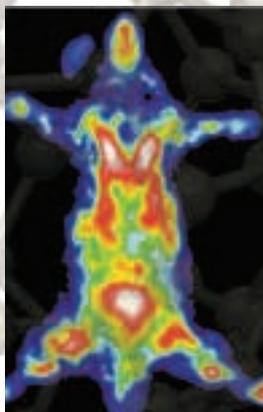
Thursday 25 August, 10:00 am to 2:00 pm

Photonics For a Better World



Visit with organizations who use photonics for betterment of the global community.

- One Million Lights
- Photonics Explorer
- Outreach Olympics
- National Student Solar Spectrograph Competition



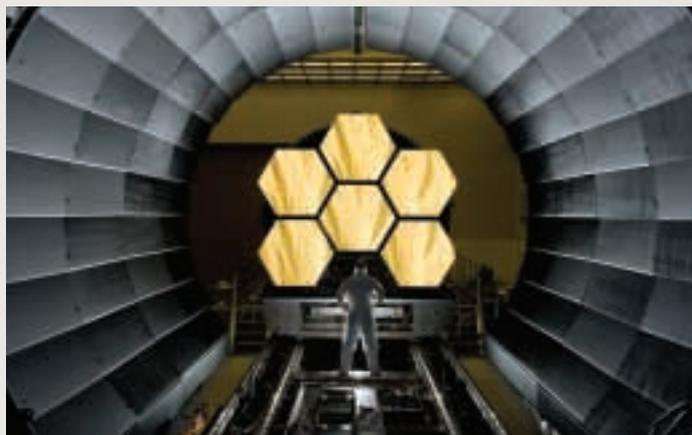
NanoTech Demo Area

See the end products of nano research.

- Synthetic nanomotors for sensing applications
- Sense-act-treat “hospital-on-a-chip” devices for the detection and treatment of trauma/injury in the battlefield
- Nanotube-based photomechanical actuators
- BioPhotonics Workstation

Special Focus on Astronomy

- The James Webb Space Telescope
- Astro-Photo Workshop area
- Turning Eyes to the Big Sky Project



Don't miss the Monday night "Star Party"

Conv. Ctr., Mezzanine Terrace

Monday 22 August 7:30 to 9:00 pm

The Star Party takes place during the Welcome Reception.
(You must have technical registration badge to attend.)

Reception sponsor



Events for Students/Early Career Professionals

Student Chapter Leadership Workshop

Marriott Hotel, Marina Ballroom D/E

Saturday 20 August 8:00 am to 5:00 pm

Open to SPIE Student Chapter Members.



This year's workshop will be co-facilitated by Dr. Sherry Nooravi, Principal of Strategy Meets Performance. With 16 years of experience in organizational development, change management, and leadership development, Sherry has worked with leaders of Fortune 500, small business, and public-sector companies. She leads workshops on a range of topics including leadership, team-building, and presentation skills. Clients describe

her style as dynamic, candid, and inspirational.

Celebrate the 10th annual leadership workshop with 200 students from around the world and network with alumni from the past decade of workshops. Also, learn the basics of SPIE Student Membership Benefits such as Student Chapter funding, scholarships, travel grants, and visiting lecturers.

Optics Outreach Olympics

Marriott Hotel, Marina Ballroom D/E

Sunday 21 August 7:00 to 9:00 pm

Open to students. View optics and photonics demonstrations from student chapters worldwide while enjoying refreshments and networking in a casual atmosphere. Relax and hang out with peers while engaging in friendly competitions and the ever-popular student social.

Sponsored by: 

Professional Skills Workshop

Marriott Hotel, Marina Ballroom D

Sunday 21 August. 10:30 to 12:20 pm

Open to all Students and Early Career Professionals

9:00 to 10:15 am:

- **Career Paths Panel Discussion**

Gain valuable insight into careers in optics/photonics at this panel discussion featuring representatives from academia, industry, and government.

10:30 to 11:20 am:

- **Starting and Running Your Own Company: an entrepreneurial case study of KHET The Laser Game**

Michael Larson, Innovention Toys

- **Publishing a Journal Article**

Akhlesh Lakhtakia, The Pennsylvania State University

11:30 am to 12:20 pm:

- **Job Search 101: strategies to make your job search successful**

Suzanne Krinsky, Daylight Solutions

- **45 Minutes to Impact: an intensive seminar on crafting compelling research proposals**

Damon Diehl, DIEHL Research Grant Services



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Events for Students/Early Career Professionals

Keynote Luncheon

Marriott Hotel, Marina Ballroom G

Sunday 21 August 12:30 to 2:00 pm

Open to all Students and Early Career Professionals



The morning's Professional Skills Workshop concludes with lunch and a talk by Dr. Aydogan Ozcan.

Photonics based Telemedicine Technologies toward Smart Global Health Systems

There are more than 4 billion cell phone users in the world, and the majority of these cell phones are being used in the developing parts of the world. This massive volume of wireless phone communication brings an enormous

cost-reduction to cell phones despite their sophisticated hardware and software capabilities. Most of these existing cell phones are already equipped with advanced digital imaging and sensing platforms that can be utilized for various health monitoring applications. This impressive advancement is one of the central building blocks of the emerging fields of "Telemedicine" and "Wireless Health". The success of these fields could provide breakthrough technological solutions to various Global Health Problems including infectious diseases such as HIV, TB or malaria. Specifically, utilizing this advanced cell phone technology towards point-of-care diagnostics and/or microscopic imaging applications can offer numerous opportunities to improve health care; especially in the developing world where medical facilities and infrastructure are extremely limited or even do not exist.

Dr. Aydogan Ozcan received his Ph.D. degree at Stanford University Electrical Engineering Department in 2005. After a short post-doctoral fellowship at Stanford University, he is appointed as a Research Faculty Member at Harvard Medical School, Wellman Center for Photomedicine in 2006. Dr. Ozcan joined UCLA in the summer of 2007, where he is currently leading the Bio- and Nano-Photonics Laboratory at the Electrical Engineering Department. He holds 14 US patents, 1 UK patent and another 9 pending patent applications for his inventions in nanoscopy, wide-field imaging, nonlinear optics, fiber optics, and optical coherence tomography. Prof. Ozcan has received several major awards including the 2011 SPIE Early Career Achievement Award, and was also selected as one of the top 10 innovators by the U.S. Department of State, USAID, NASA, and NIKE as part of the LAUNCH: Health Forum organized in October 2010.

Lunch with the Experts - A Student Networking Event

Marriott Hotel, Marina Ballroom G

Monday 22 August 12:30 to 1:30 pm

Advance Sign-up Required. Seating Limited.

Enjoy a casual meal with colleagues at this engaging networking opportunity. This event features experts willing to share their experience and wisdom on career paths in optics and photonics and an awards presentation for Newport Spectra-Physics travel grant winners. Lunch is complimentary to all students.

Advance sign-up by 10:00 am Monday at the Course Materials desk is required.

Sponsored by:



Research Excellence Travel Awards

The Newport Spectra-Physics Research Excellence Travel Awards Program provides financial support for university students to attend the two largest SPIE meetings in order to present their research. These travel grants are open to any student who has an accepted paper for presentation at Photonics West or Optics + Photonics. Recipients will be selected based on both the quality of the original research described in the submitted paper(s) and financial need.

For application information for this and other SPIE travel grants visit Scholarships and Grants online at spie.org/scholarships

Forum: Assessing the Impact and Future of Photonics in the United States

Give your input on a new National Academies study

Convention Center, Room 7B - Technical Badge not required.

Monday 22 August 5:30 to 7:00 pm

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

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

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

Student Chapter Exhibits

Tuesday–Thursday 23-25 August Exhibition Hours

Discover the research of some of the SPIE brightest student groups and the programs they have developed to increase science awareness and literacy in their regions.

Panel Discussion: Getting Hired in 2011 and Beyond

Conv. Ctr., Exhibition Hall

Tuesday 23 August 2:30 to 3:30 pm

Learn about the corporate hiring process directly from professionals in the optics and photonics sector.

SPIE Job Fair

Conv. Ctr., Exhibition Hall

Tuesday 23 August 10:00 am to 5:00 pm

Wednesday 24 August 10:00 am to 5:00 pm

Top employers are coming together to interview and hire candidates at SPIE Optics + Photonics. Whether you're looking for a better job, re-entering the workforce or just starting out, plan to visit the Job Fair at SPIE Optics + Photonics. Come prepared to discuss your skills and talents with our industries leaders. SPIE.org/careercenter

- Discuss career options with employers
- Build your network
- Gain visibility with hiring companies
- Post your resume today!

Photonic Devices + Applications Best Student Paper Award

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Professional Development Events

Basic Optics for Non-Optics Personnel

WS609

Introductory · CEU .20 · \$150 / \$200 USD · Tuesday 8:30 to 11:00 am

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, including engineering workshops on machine vision, metrology, NDT, and interferometry used by vendors and system houses to train their own engineers. He has been recognized for his leadership in optics and machine vision by the Society of Manufacturing Engineers, Automated Imaging Association, and Engineering Society of Detroit. Kevin is a Fellow of SPIE and was the 2008 President of the Society.

Effective Scientific Papers

WS908

Introductory · CEU .35 · \$125 / \$175 USD · Monday 1:30 to 5:30 pm

Strong writing skills are a key to success for researchers. This course proposes a methodology that will take you from scratch to an effective scientific or technical document—a question of structure, not style. The approach is applicable across languages and for a wide range of document types beyond scientific papers, too.

INSTRUCTOR

Jean-luc Doumont runs lectures, workshops, and training programs in oral, written, and graphical communication for engineers, scientists, and managers worldwide. He is an engineer from the University of Louvain and a doctor in applied physics from Stanford University. This course is based on his lectures and workshops on scientific and technical writing at universities and research centers around the world (MIT, Shell, Johnson & Johnson, etc.).

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

Effective Technical Presentations

WS897

Introductory · CEU .35 · \$125 / \$175 USD · Monday 8:30 am to 12:30 pm

Oral presentation skills are a key to success for researchers. This course proposes a five-step methodology that will take you from scratch to an effective technical presentation. It also offers tips on how to manage the nervousness associated with speaking in public.

INSTRUCTOR

Jean-luc Doumont runs lectures, workshops, and training programs in oral, written, and graphical communication for engineers, scientists, and managers worldwide. He is an engineer from the University of Louvain and a doctor in applied physics from Stanford University. This course is based on his popular lecture on oral presentations at over 15 top-ranked engineering schools (MIT, Stanford U, UC Berkeley, Caltech, Harvard, etc.).

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

**Registration required for workshops.
Register at the SPIE Cashier.**

Optics Magic - Easy Demonstrations from the PHOTON Projects

WS961

Introductory · CEU .0 · \$10 / \$20 USD · Tuesday 1:30 to 5:30 pm

Make glass disappear! Turn a tomato into a plum! See a “solid” wall vanish before your eyes and more. It’s all done with optics! These magical inquiry-based demonstrations in light and vision may be easily replicated with inexpensive, commonly found supplies. Complete instructions and supplier list will be provided. Based on the PHOTON Explorations, these informative hands-on activities are some of the favorite demonstrations of the teacher participants of the PHOTON professional development projects funded by the Advanced Technology Education program of the National Science Foundation.

INSTRUCTORS

Judith Donnelly is currently Professor of Physics at Three Rivers Community Technical College and the 2003 recipient of the SPIE Educator of the Year award. She is the co-author of Author “Light: Introduction to Optics and Photonics” and the co-creator of “Laser Camp”, a hands-on introduction to optics and careers for High School students.

Nancy Magnani is Science Specialist and Program Facilitator for EASTCONN’s Teaching and Learning Services where her projects include facilitating EASTCONN Science Council; Inter-district grant programs providing authentic science learning opportunities to over 700 students in northeastern Connecticut; and developing science-based professional development for K-12 teachers.

Hit-the-Target Laser Activity Workshop

WS985

Introductory · CEU .0 · \$50 / \$75 USD · Monday 8:30 to 11:00 am

This workshop will train attendees on the use of a Hit-the-Target Laser activity, a hands-on education outreach kit using lasers and mirrors. The activity is intended to engage and enrich the math/science learning experience for students in the middle grades. It was developed as part of Hands-On Optics (HOO), a \$1.7 million dollar grant from the U.S. National Science Foundation (NSF) to design and implement a science enrichment program for children aged 11 to 14 years old.

INSTRUCTOR

Robert Sparks earned an M.S. in Physics from Michigan State University and is a Science Education Specialist at the National Optical Astronomy Observatory (NOAO) in Tucson, AZ. He taught high school physics, math and astronomy for 11 years before joining the NOAO team. He worked on developing the HOO modules as well as planning and delivering HOO professional development workshops.

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

The Galileoscope: Bringing Telescope Optics Down To Earth

WS1002

Introductory · CEU .2 · \$50 / \$75 USD · Monday 1:30 to 4:00 pm

This course is designed for scientists and engineers who want to share astronomy and optics in a fun and engaging manner in schools or in after school settings. You will learn how to teach optics using the Galileoscope, a high quality low-cost telescope designed for educational outreach. The Galileoscope was developed by a team of astronomers, optical engineers, and science educators during the International Year of Astronomy 2009 and was named as a “Gear of the Year” by amateur astronomers and has been nominated for an international education prize. The Galileoscope can be used as an optical bench to explore the optics of lenses as well as showing the wonders of the universe including craters on the Moon, the phases of Venus, the Galilean Moons of Jupiter and the rings of Saturn. Each participant will receive a Galileoscope and standards-based teaching materials. But the main outcome is to have fun building and using a Galileoscope.

INSTRUCTOR

Robert Sparks, NOAO (National Optical Astronomy Observatory)

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



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General Information

Registration

Onsite Registration and Information Hours

Convention Center, Room B1

Saturday 20 August	6:00 pm to 8:00 pm
Sunday 21 August	7:00 am to 5:00 pm
Monday 22 August	7:15 am to 5:00 pm
Tuesday 23 August	7:30 am to 5:00 pm
Wednesday 24 August	7:30 am to 5:00 pm
Thursday 25 August	7:45 am to 4:00 pm

Marriott Marquis Hotel will be used for courses, so please allow yourself enough time to register, pick up your materials and possibly walk to the facility before your course begins.

Course Materials Desk

Located near the SPIE Registration Area, Hall B1

Open during Registration Hours

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

Exhibition Hours

Optics + Photonics Exhibition

Convention Center, Hall A-B1

Tuesday 23 August	10:00 am to 5:00 pm
Wednesday 24 August	10:00 am to 5:00 pm
Thursday 25 August	10:00 am to 2:00 pm

SPIE Receipts, Badge Corrections, Cashier

Convention Center, Room B1

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 course, workshop, or special event requiring payment, or have questions regarding your registration please see the onsite cashier at 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.

SPIE Onsite Services

SPIE Marketplace

Convention Center, Room B1

Open during Registration hours

Visit the Marketplace for:

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

Press Room

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

Internet Access

Convention Center, Room B1

Saturday – Wednesday 7:30 am to 5:00 pm

Thursday 7:30 am to 4:00 pm

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

WiFi

Complimentary WiFi access for attendees with 802.11b wireless enabled laptops and PDAs will be available Saturday through Thursday in the B1 Lobby and in Upper Level Lobbies of Convention Center.

Car Rental

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

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

Parking During Optics + Photonics

For parking information please check the SPIE website www.spie.org/X30574.xml or Information Desk located in Lobby B1.

Business Services

SPIE Copy Center

Convention Center, Room B1 (Exhibit Level)

Sunday through Thursday during Registration Hours, San Diego Copy will provide a copy service during the week for symposium attendees. The rates are 5 cents per copy.

Business Center

Convention Center, Lobby D (Exhibit Level)

FedEx Kinko's provides business services

for your convenience. They provide photocopying, faxing and printing services. Shipping is provided through FedEx.

Office supplies are also available. Phone 619-525-5477. Monday through Thursday.

Messages

SPIE has an urgent message line available during registration hours Saturday through Thursday by calling: 619-525-6200.

Luggage/Package Storage and Coat Check

Convention Center, B1 Lobby (Exhibit Level)

Sunday through Thursday

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

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

Child Care Services

The San Diego Marriott Hotel & Marina does not provide child care services, however, a child sitting service is available in San Diego and recommended by the San Diego Marriott Hotel & Marina:

- Marion's Child Care

Email: amy@hotelchildcare.com

Telephone: (619) 303-4379 or 1-888-891-5029

Visit their website: hotelchildcare.com

SPIE does not imply an endorsement or recommendation of this service. It is provided on an "information only" basis for your further analysis and decision. Other services may be available.

Restaurant Reservations and Information Desk

Convention Center, Hall B2 Lobby

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

Food and Beverage Services

Coffee Breaks

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

Sunday and Monday - *Upper Level Lobby and Mezzanine Level*

Tuesday and Wednesday - *Exhibition Hall A-B1*

Thursday 10:00 to 11:00 am - *Exhibition Hall A-B1*

Thursday 3:00 to 4:00 pm - *Upper Level Lobby and Mezzanine Level*

Desserts

Tuesday and Wednesday

Served in Convention Center, Exhibition Hall A

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

Sunday through Thursday

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

Food Outlets Open in the Exhibition Halls

Tuesday through Thursday. 11:00 am to 2:00 pm

Upper Level Lobby Service Carts

Sunday through Thursday 9:00 am to 3:00 pm

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 surrender their film or recording media. 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 surrender their film and to leave the exhibition hall.

Laser Pointer Safety Information

SPIE supplies tested and safety approved laser pointers for all conference meeting rooms, and for short course rooms if instructors request one. For safety reasons, SPIE requests that presenters use our provided laser pointers available in each meeting room.

If using your own laser pointer, have it tested at your facility to make sure it has <5 mW power output. Laser pointers in Class II and IIIa (<5 mW) are eye safe if power output is correct - but don't automatically trust the labeling. Commercially available laser pointers, red or green (or any color), could be incorrectly labeled as to their wavelength and power output.

Presenters intending to use their own laser pointer for presentations are required to come to the Speakers Check-In Desk onsite and test their pointer on our power meter. If the pointer fails the safe power level you may not use the pointer at the conference. You will be required to sign a waiver releasing SPIE of any liability for use of potentially unsafe laser pointers.

Use of a personal laser pointer at an SPIE event represents user's acceptance of liability for use of a non-SPIE supplied laser pointer device. Misuse of any laser pointer could lead to eye damage. In California, it is a criminal misdemeanor to shine a laser pointer at individuals "who perceive they are at risk."

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 nonexhibiting manufacturer or supplier observed to be soliciting business in the aisles, or in another company's booth, will be asked to leave immediately.

Unsecured Items

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



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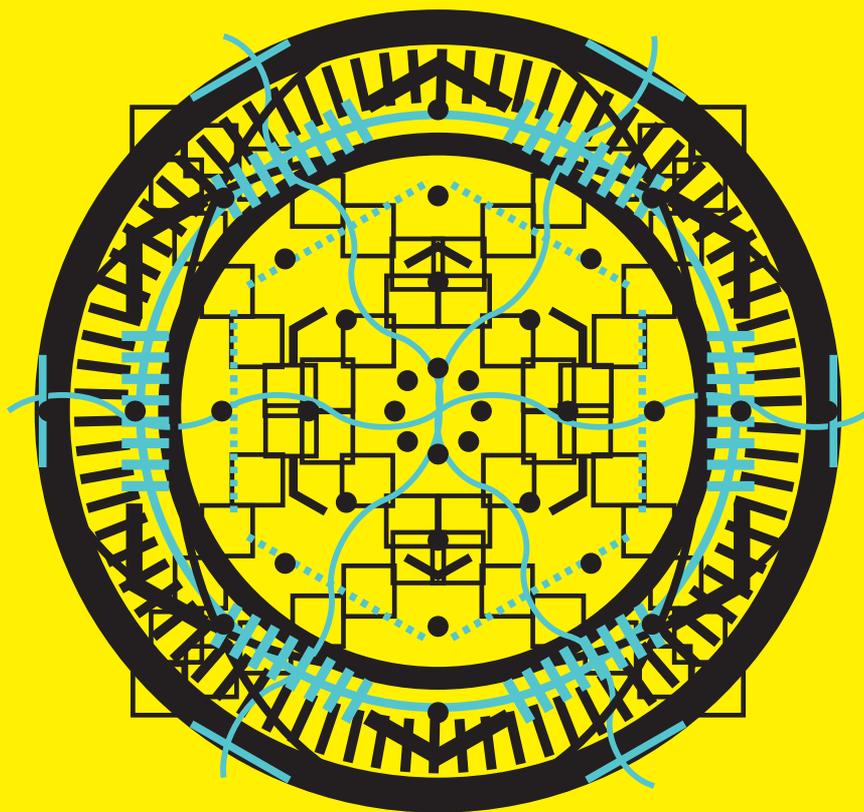
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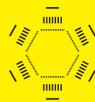
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