Exhibition Guide

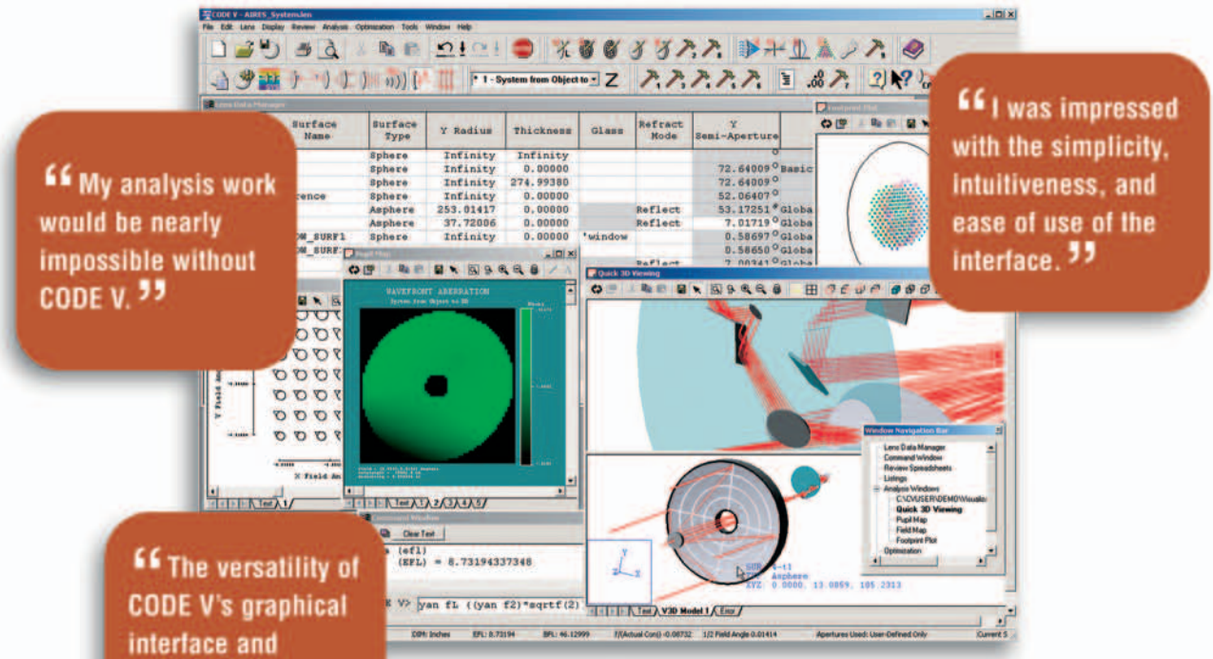
SPIE Optics & Photonics

Exhibition: 15–17 August 2006

Conference: 13–17 August 2006
San Diego Convention Center
San Diego, California USA

The International Society for Optical Engineering

What engineers are saying about CODE V:



Use of the Airborne Infrared Echelle Spectrometer model is courtesy of NASA Ames Research Center.

code V®

Your optical design software must deliver the features and flexibility to solve the most challenging design tasks. But like any software, it must also be easy to use. CODE V® combines superior engineering power with the control and access of an intuitive user interface. The New Lens Wizard simplifies common steps for setting up an optical system. Intelligent defaults and innovative algorithms provide fast, accurate results. OpenGL® 3D renderings help you visualize complex optical systems and provide direct access to lens data. And the integrated command line gives you the flexibility to mix commands and mouse operations at will.

CODE V benefits new, occasional, and power users alike. Ready to find out what optical engineers are raving about? Contact us today and we'll show how CODE V can help you design and build the best optical systems possible.

OPTICAL RESEARCH ASSOCIATES

www.opticalres.com

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

SPIE

Optics & Photonics

Welcome to the Exhibition!

Promotional Partners

Electro Optics
European Physical Journal - Applied Physics
FLC NewsLink
Journal of Modern Optics
Laser Focus World
LED Journal
Materials Engineering News
Materials Today
Micro/Nano Newsletter
Optics & Laser Europe
Optics.org
Optronics
Photonics Online
Photonics Spectra
Photonics.com
Physicsweb.org
Spectroscopy
Waves in Random and Complex Media

Contents

SPIE would like to thank the following sponsors for their generous support of Optics & Photonics 2006

Lanyards

HORIBA JOBIN YVON

Booth #634 • www.jobinyvon.com

Internet Pavilion

Newport Experience | Solutions Spectra-Physics A Division of Newport Corporation

Booth #301 • www.newport.com

Tuesday Morning Coffee Break

HAMAMATSU Photonics

Booth #425 • www.sales.hamamatsu.com

Wednesday Afternoon Dessert/Coffee Break

Springer the language of science

Booth #414 • www.springer.com

Wi-Fi Internet Services

Newport Experience | Solutions Spectra-Physics A Division of Newport Corporation

Booth #301 • www.newport.com

Welcome Reception

Ocean Optics Inc. First in Photonics™

Booth #701 • www.oceanoptics.com

Meter Boards

photonics.com

Booth #316 • www.photonics.com

Springer the language of science

Booth #414 • www.springer.com

General Refreshment Sponsors

Collimated Holes, Inc.
Booth #333

Fiberguide Industries, Inc.
Booth #919

JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems
Booth #627

Micro Photonics Inc.
Booth #525

ESDI

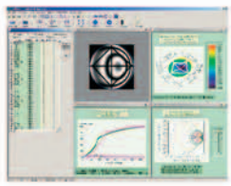
Engineering Tomorrow's Optical Technology Today

CELEBRATING 10 YEARS

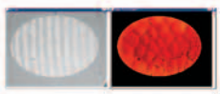
from ideas to products from software to instruments ignited by innovations perfected by solution-driven commitment

Thank you for trusting us for 10 years to deliver high-precision metrology solutions.

Please stop by Booth # 607.



***IntelliWave™* Interferometric Analysis Software**
Works with virtually any interferometer. Our new release, ***IntelliWave™ 2006***, features advanced automatic fringe tracing, new measurement wizards, and ISO standard 10110-5 support. Our ***IntelliWave™ Library***, the ***IntelliWave™*** internal data processing engine, is available as a developer's library that can be called from any programming language. We also provide training courses to help users be more proficient with ***IntelliWave™*** and get an optimum solution for their applications.



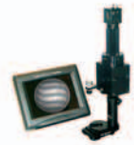
***IntelliPhase™* Vibration-Insensitive Smart Solution**
Embedded in every ***IntelliWave™*** license, including ***IntelliWave™ Library***, ***IntelliPhase™*** works with virtually any interferometer. This is a 'no hardware' solution to obtain many of the benefits of vibration insensitive technology.

Interferometer Upgrade Kit
Make use of your existing interferometer. Get the latest hardware and software, and save up to 75% over the cost of a new system, while obtaining the benefits of vibration-insensitive technology embedded in ***IntelliWave™***. The kit consists of a camera, frame grabber, pzt, analog card, and ***IntelliWave™***.

***Intellium™ Z30* Affordable Super Compact 30mm Fizeau Interferometer for Small Spherical and Flat Optical Testing**
Fast and simple operation for production floor QC. The ***Intellium™ Z30*** has a compact footprint of 80mmx180mmx215mm.

***Intellium™ Z40* and *Intellium™ Z100* Ultra Compact 40mm Fizeau Interferometer and World's Most Compact 100mm Fizeau Interferometer for Flat or Spherical Surfaces**
True HeNe 632.8nm laser, 6x continuous zoom, focus control +/- 1500mm for ***Intellium™ Z40*** and +/- 2000mm for ***Intellium™ Z100***. Compatible with all industry standard reference optics and interferometer accessories. Premium-quality measurements at an affordable price for small optics, precision machined parts, polished ceramics, semiconductors, and wafers. The highest value for performance vs. cost interferometers on the market.

***Intellium™ H2000* Simultaneous Phase-Shifting Fizeau Interferometer for Vibration-Prone Environments**
The highest level phase-shifting performance on the market. Superb 100m coherence length and unshakable reliability. Turn your ordinary interferometer into an extraordinary interferometer with the ***HyperPhase™*** Simultaneous Phase-Shifting Module. Available in OEM quantities for existing interferometers or in completely new systems. ***HyperPhase™*** translates previously impossible measurements into mainstream processing capabilities. Particularly suitable where vibration insensitivity is critical.



***Intellium™ SBSI* Shearing Interferometer**
Visualize collimation and wavefront of 0.12 to 8mm diameter beams in real-time. Ideal for small beam wavefront analysis such as laser diodes, fiber optic systems, optical alignment of holographic storage & disk mastering systems, and OEM integration for real-time monitoring of laser collimation. Also capable of measuring small optical surfaces and performing lens diagnostics.

***Intellium™ PDI* Point Diffraction Interferometer**
The only compact Point DIffraction Interferometer on the market with phase-shifting capability at an affordable price. Incorporating state-of-the-art technology, the interferometer generates its own reference spherical wavefront using a pinhole in a waveplate. The result is a highly stable interferogram that can be phase-shifted using polarization methods. Test beams from 3-25mm diameter can be analyzed.

***Intellium™ HSense* Shack-Hartmann Wavefront Sensors**
Four times the dynamic range of competing systems, up to 1500 waves. Analyze coherent or incoherent light sources in real-time, with instantaneous data refresh rates. The instrument obtains a map of the local slopes of a wavefront using a micro lens array. From slope information, the intensity, phase, aberrations, PSF, MTF, convergence, divergence, beam-waist size/position, M^2, and Strehl ratio can be measured in real-time. These wavefront sensors can be used to analyze lasers, laser diodes, and other coherent or incoherent light sources. Other applications: adaptive optics mea surements, aspheric optics with large wavefront departure, and ophthalmic measurements.

***MiniScatr™* 2D/3D Scatterometer**
For 2D/3D Scattered Light Measurements. A compact motorized optical system for scattering characterization of any kind of material, such as specular, diffuse, etched surfaces, diffraction gratings, powders, liquids, and multilayer films. The instrument allows fast and easy measurement of luminous energy distribution, scattered-light spectral composition, and BRDF/BTDF, in the 3D hemisphere.

***Quantum 5™* 3D Spherical Scatterometer**
Performs hemispherical & spherical light scatter/radiometric measurements in real-time. The highest level of light scatter/radiometric measurement performance on the market. The radiometer measures 3D scattered or radiated light in real-time at 0.2 degrees resolution over the entire hemisphere (or sphere) with a dynamic range of 16000:1. Ideally suited for production and research environments, this instrument offers excellent measurement versatility for biomedical, semiconductor, nanotechnology, and optical applications.

Accessories
We provide a wide range of accessories for interferometers and wavefront sensors.

Measurement Services
We offer measurement services utilizing our product lline.

Engineering Synthesis Design, Inc.
www.engsynthesis.com sales@engsynthesis.com
310 S Williams Blvd Ste 210, Tucson AZ 85711-4483, USA
Tel +1 (520) 296-3068 x121 Fax +1 (520) 296-2897

Singapore, Malaysia, Thailand, Philippines
Satori Technology Pte. Ltd.
www.satoritechnology.com jim.chia@satoritechnology.com
55 Kaki Bukit View
Kaki Bukit Techpark II
Singapore 415976
Tel. +65 6841-6229 Fax. +65 6842-4474

Europe
Light Tec
www.lighttec.fr sales@@lighttec.fr
Espace Alexandra
359 Rue St. Joseph
83400 Hyères, France
Tel. +33 (4) 9412-1848 Fax. +33 (4) 9412-1849

France
SiGaTec
sigatec.free.fr Sigatec@@tiscali.fr
162 Avenue du Bois de Verrières
92160 Antony, France
Tel. +33 (6) 8098-7127 Fax. +33 (1) 4350-0953

Japan
Kiyohara Optics, Inc.
www.koptic.co.jp kmic@koptic.co.jp
Shinjuku 6-23-2, Shinjuku-Ku
Tokyo 160-0022, Japan
Tel. +81 (3) 3352-1919 Fax. +81 (3) 3352-3348

South Korea
Kimsoptec Co., Ltd.
www.kimsoptec.com skim@kimsoptec.com
#1507, Kranz Techno, 5442-1, SangDaeWon-Dong,
JungWon-Gu, SungNam-City,
KyungGi-Do, 462-729, South Korea
Tel: +82 (31) 777-8377 Fax:+82 (31) 777-8375

China
Infotek Information Systems Co. Inc.
www.infotek.com.tw sales@infotek.com.cn
Room F1, 10Fl., No. 1800, Zhongsan Road
(W.) Zhaofeng Universe Building Shanghai, China
Tel. +86 (21) 6440-1131 Fax: +86 (21) 6440-1130

Taiwan
Infotek Information Systems Co. Inc.
www.infotek.com.tw alan@infotek.com.tw
6Fl., No. 112 ,Yi-An Road Junghe City
235 Taipei Taiwan R.O.C.
Tel. +886 (2) 3233-2748 Fax. +886 (2) 3233-275

Exhibitor Product Spotlights

Tuesday

11:30 am

What's New in ZEMAX

Nam Kim, ZEMAX Development Corporation
Overview of recently-introduced features, both in sequential and non-sequential ZEMAX.

2:30 pm

Intelligent Photometric Shutter Design

Michael Carr, Sci-in Tech
The key to low light imaging is equal exposure over the entire aperture. Sci-in Tech will demonstrate their unique photometric shutter and intelligent, application specific design.

Wednesday

10:30 am

Dichroics & LED Light Measurement

Cicely Rathmell, Ocean Optics, Inc.
A demonstration of the capabilities of LED and color measurement using Ocean Optics cross platform Software, SpectraSuite and our next-generation spectrometer the USB4000.

11:30 am

Intellium Z40 with IntelliPhase: The World's Smallest 40mm Fizeau Interferometer

Dr. Mary G. Turner, Engineering Synthesis Design, Inc.
We will demonstrate the versatility of the vibration-insensitive capabilities supported by IntelliPhase, one of many capabilities of IntelliWave — our flagship software program. Z40 features continuous zoom, focus adjustment and intensity control.

12:30 pm

Surface Testing of Thin Glass Disks

Chip Ragan, 4D Technology
4D Technology demonstrates its new short coherence Fizeau instrument to measure thin transparent objects. Using path matching to measure glass disks <1 millimeter thick, data is acquired from both front and back surfaces to reveal thickness uniformity.

1:30 pm

A New Optical Positioning/Rapid Prototyping System

Emmet Anderson, Spectrum Precision Systems
Spectrum Precision's new optical positioning/rapid prototyping system allows you to test out new optical system designs quickly and easily and even use the assembled system directly in your application.

2:30 pm

ASAP Optical Software Overview

Breault Research Organization, Inc.
Come see why the Advanced Systems Analysis Program (ASAP®) is the industry standard in optical engineering software, and get a sneak peek at future enhancements to the program.

Thursday

11:30 AM

High Speed Optical Chopper at 50 and 100 KHZ

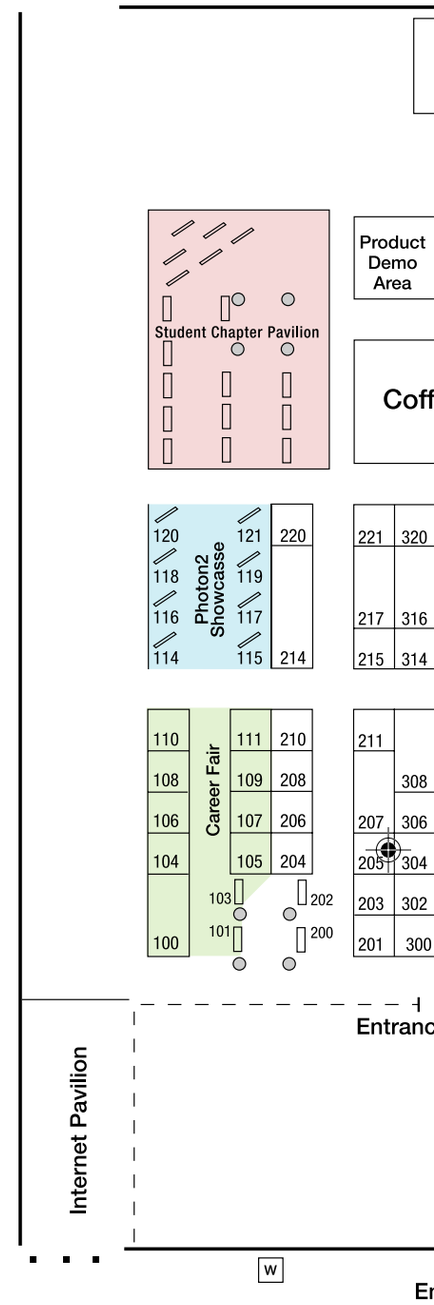
Amanda Bryan, Hinds Instruments
Hinds instruments introduces a high-speed optical chopper operating at 50 KHZ and 100 KHZ, and provides high extinction ratios without generating heat or mechanical instability. For use with high or low powered lasers.

Exhibitor Index

SPIE Student Chapters

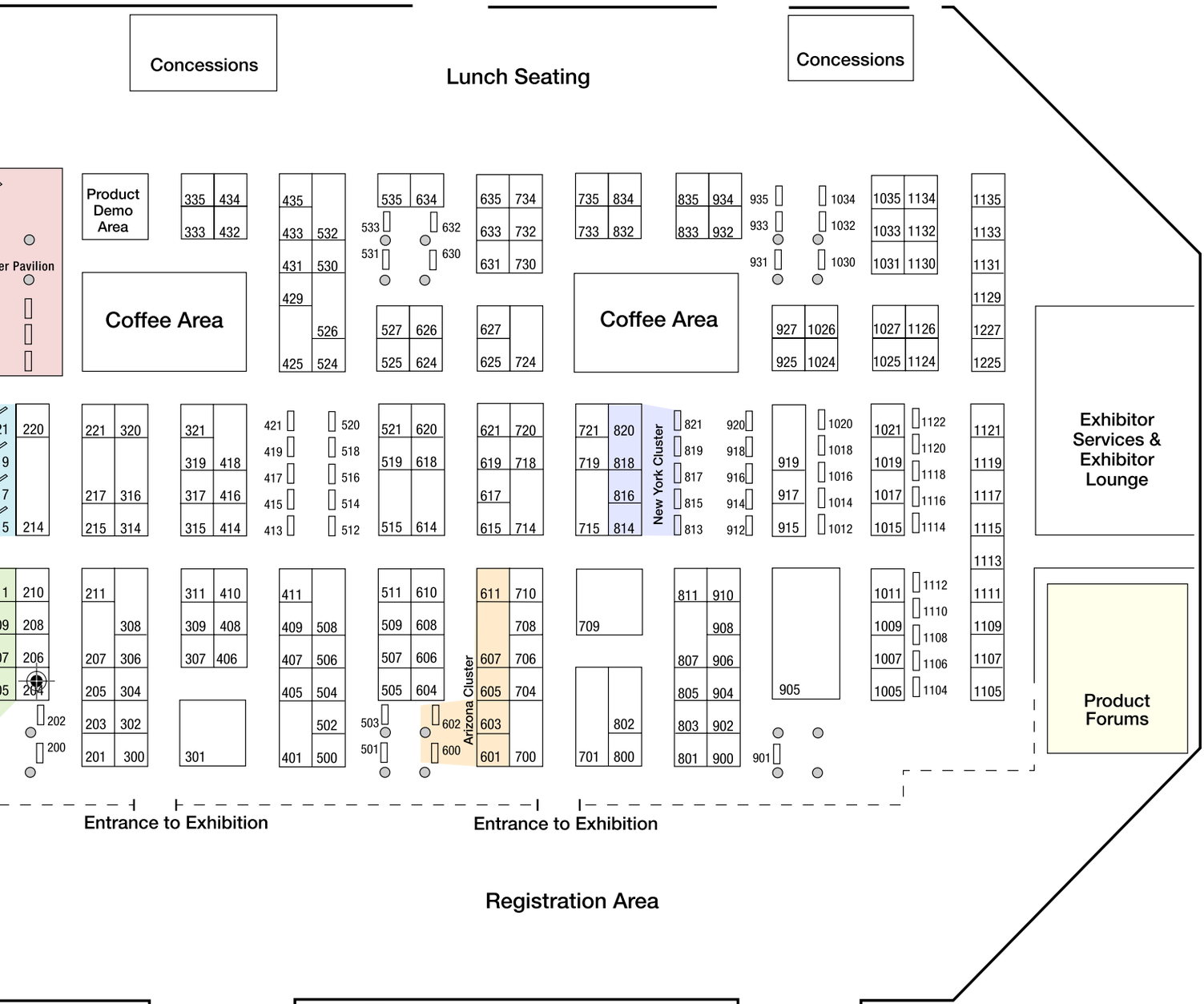
Beijing Institute of Technology
Cochin Univ. of Science & Technology
Instituto Nacional de Astrofisica, Optica y Electronica Chapter
International School of Photonics
Montana State University
Moscow Engineering Physics Institute
National Taiwan University
National Technical Univ. of Ukraine
Nicolaus Copernicus University
Pennsylvania State Univ. SPIE Student Services
Tecnologica de Monterrey
Tsinghua University
Univ. of California Davis
Univ. of Connecticut
Univ. of Dayton
Univ. of Notre Dame

919 4D Technology Corp
908 Abet Technologies
733 ADE Phase Shift
832 Aerotech, Inc.
603 Agilent Technologies, Inc.
1109 AGS Plasma Systems
429 ALIO Industries
210 Alpine Research Optics Corp.
1030 Alson E. Hatheway, Inc.
800 Andor Technology
507 AOA, Inc.
805 AOptix Technologies, Inc.
905 APIC (Advanced Photonics Integrated Circuits) Corp.
814 APPLIED IMAGE Group
514 APS Optics
815 Ariel Optics, Inc.
625 ASML Optics LLC
405 Avantes, Inc.
709 Axsys Technologies, Inc.
620 B&W Tek, Inc.
417 Bach Research Corp.
905 BAE Systems Spectral Solutions LLC
505 Beijing Guojing Infrared Optical Technology Co., Ltd.
317 Berliner Glas/U.S.
519 Boulder Nonlinear Systems, Inc.
605 Breault Research Organization
431 Brush Wellman Inc.
614 CeramOptec Industries, Inc.
509 Chroma Technology Corp
518 CLEO/QELS & PhAST 2007
515 Coastal Optical Systems, Inc.
610 Collimated Holes, Inc.
214 Corning, Inc.
915 CRC Press-Taylor & Francis Group LLC
721 Crystal Systems, Inc.
901 CSIRO Australian Centre for Precision Optics
706 Del Mar Photonics, Inc.
631 Digital Optics Corp.
530 e2v technologies inc.
1104 EADS Astrium GmbH (Dornier)
502 Eastman Kodak Co. - Image Sensor Solutions
714 Edmund Optics
1016 EDP Sciences
1113 Electron Tubes
432 Elliot Scientific Ltd.
531 Elsevier Ltd.
433 EM Photonics Inc.
413 EMF Corp.
607 Engineering Synthesis Design, Inc.
905 Enterprise Honolulu
516 Epner Technology, Inc.
1109 Evac International
200 Evaporated Coatings, Inc.
732 Exotic Electro-Optics
917 Federal Laboratory Consortium for Technology Transfer
201 Fiberguide Industries, Inc.
407 Fibertech Optica
1005 Filmetrics, Inc.
820 Fisba Optik LLC
300 Gamma Scientific, Inc.
527 General Photonics Corp.
606 G-S PLASTIC OPTICS
425 Hamamatsu Corp.
905 Hawaii Island Economic Development Board
1110 Heinz Optical Engineering
421 Hellma International, Inc.
906 Heraeus Quartz America
619 High Energy Laser Joint Technology Office
409 Hinds Instruments, Inc.
435 Hitachi High Technologies America, Inc.
932 HOLOEYE Photonics AG
634 HORIBA Jobin Yvon Inc.
807 Hoya Corp. USA
415 HTA Photomask
927 II-VI Inc.
418 Incom, Inc.
1035 Instrument Systems
1109 Intellevation Ltd.
221 International Radiation Detectors, Inc.
1014 IRphotonics
902 Isuzu Glass Inc.
309 ITT Night Vision
704 J.A. Woollam Co.
308 Janos Technology, Inc.
627 JENOPTIK Laser, Optik, Systeme GmbH
719 JENOPTIK Polymer Systems, Inc.
801 Judson Technologies, LLC
905 Kauai Economic Development Board
224 Kent State University
734 Kigre, Inc.
512 Kreischer Optics, Ltd.
1024 L-3 InfraredVision Technology Corp.
1021 Labsphere, Inc.
1109 Labtec Sales
307 Lambda Research Corp.
900 Lambda Research Optics Inc.
521 LAS-CAD GmbH
715 Laser Focus World
211 Lasertel, Inc.
1108 Lebow Company
918 LED Journal
718 LEISTER Technologies LLC
515 Liebmann Optical Co.
432 Lightspeed Technologies
905 Lockheed Martin
605 Lumerical Solutions, Inc.
1109 Lumetrics, Inc.
533 M3 Measurement Solutions Inc.
927 Marlow Industries, Inc.
916 Materials Engineering News
905 Maui Economic Development Board
321 Max Levy Autograph, Inc.
203 MediVision Optics
811 Melles Griot
217 MEMS Optical Inc.
1121 MICOS USA
306 Micro Laser Systems, Inc.
525 Micro Photonics Inc.
710 Mildex, Inc.
720 Mindrum Precision, Inc.
608 Minus K Technology
910 Molecular Imprints, Inc.
633 Molecular Machines & Industries, Inc.
1109 MPF Products
817 Naked Optics Corp.
506 Nanjing Chunhui Science & Technology Industrial Co., Ltd.
905 Nanopoint, Inc.
205 Naso Corp.
1115 Nerac, Inc.
1015 New Focus, Inc.
301 Newport Corp.
419 Night Vision Systems, Inc.
914 NorPix, Inc.
905 NovaSol
601 NP Photonics
701 Ocean Optics, Inc.
632 OFR, Inc.
511 Ohara Corp.
803 Olympus Micro Imaging
535 Omega Optical, Inc.
208 Omega Optics, Inc.
304 ONTAR Corp.
319 Onyx Optics Inc.
912 Optical Perspectives Group, LLC
700 Optical Research Associates
1009 Optics & Laser Europe
532 OPTICS 1, Inc.
503 Optics Technology, Inc.
408 Opti-Forms, Inc.
411 Optikos Corp.
813 Optimax Systems, Inc.
816 OptiPro Systems
730 OptoSigma Corp.
618 Optronic Laboratories, Inc.
406 PerkinElmer Life & Analytical Sciences
1034 Photek, Ltd.
1007 Photochemical Sciences, Center for
215 Photon Engineering, LLC
920 Photon Inc.
1018 Photonics Online
624 Photonics Spectra
316 Photonics.com/ Photonics Directory
1107 Photonis Industrial & Scientific
315 Photron USA, Inc.
1009 Physics World
925 PI (Physik Instrumente) LP
630 Piezosystem Jena, Inc.
626 Poco Graphite, Inc.
524 Polymicro Technologies LLC
206 Power Technology, Inc.
1106 Precision Asphere, LLC
833 Princeton Instruments/ Acton
410 Rainbow Research Optics, Inc.
833 Redlake
802 Research Electro-Optics, Inc.
621 Reynard Corp.
1017 Rockwell Collins
504 RPMC Lasers, Inc.
835 Rubicon Technology, Inc.
1032 Santec USA Corp.
1011 Satisloh North America Inc.
1027 Schmidt & Bender
401 SCHOTT North America, Inc.
933 Scientific Solutions, Inc. (SSI)
935 Sci-in Tech
204 Sensors Unlimited
1109 Seren IPS

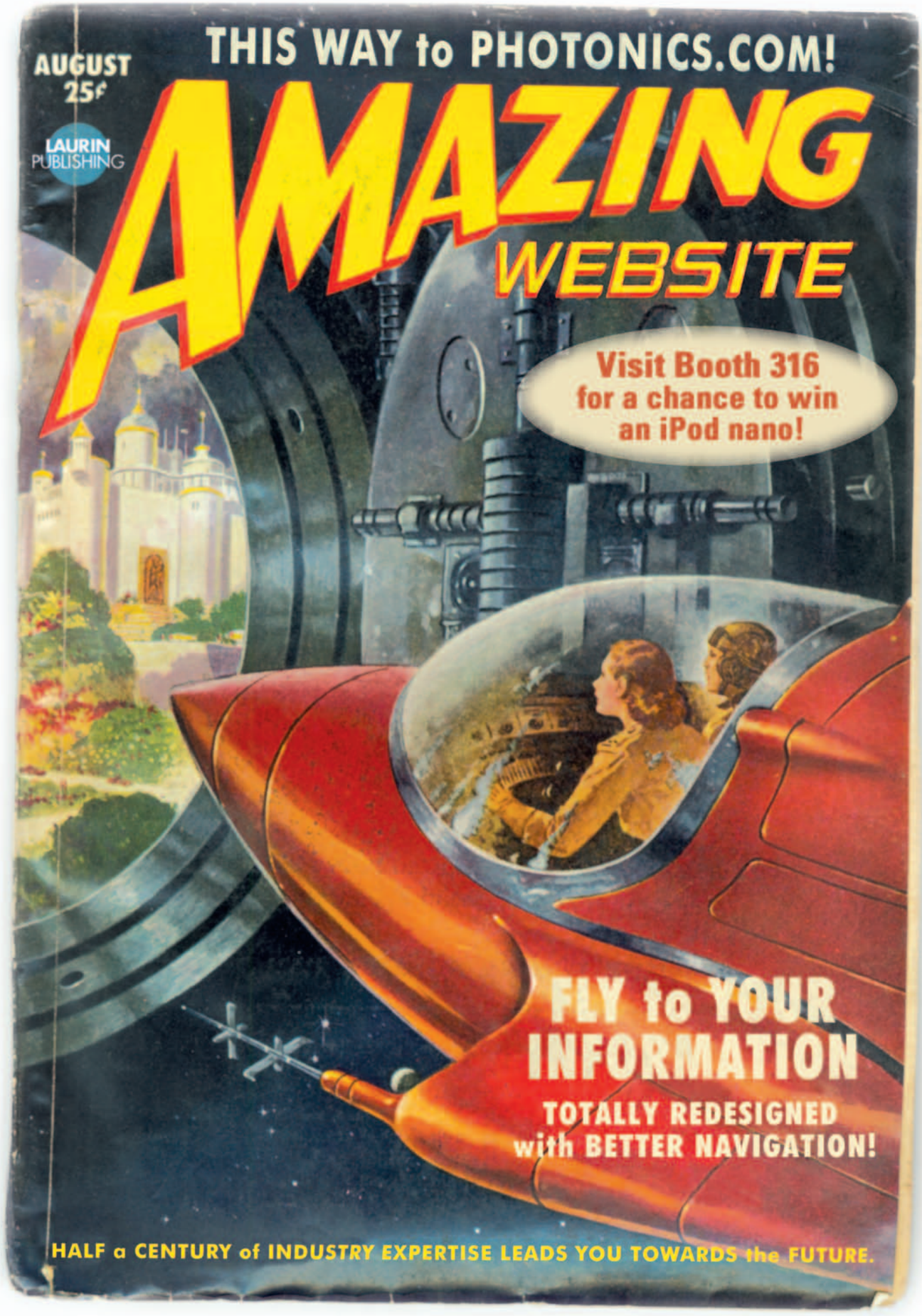


934 Servometer/PMG, LLC
1109 Sigma Instruments
335 Siskiyou Corp.
333 Special Optics, Inc.
1012 Spectrogon US Inc.
1112 Spectroscopy Magazine
931 Spectrum Precision Systems
1020 SphereOptics LLC
604 SPIE Newsroom/SPIE Professional
414 Springer
834 Stanford Photo-Thermal Solutions

San Diego Convention Center Exhibition Floor Plan



311 Stanford Research Systems, Inc.
905 State of Hawaii, Department of Business, Economic Development & Tourism
207 StellarNet, Inc.
617 Surface Finishes
1033 Surface Optics Corp.
735 Sutter Instrument Co.
724 Syntec Technologies, Inc.
202 Taylor & Francis
421 tec5USA, Inc.
1109 Tecport Optics, Inc.
434 Telops Inc.
501 Tempo Clean Room Foam
220 Thermo Electron, CIDTEC
1025 Thorlabs, Inc.
615 Tinsley Labs.
1026 TNO Science & Industry
314 Trex Advanced Materials
734 TwinStar Optics
1031 U.S. Civilian Research & Development Foundation
600 Univ. of Arizona College of Optical Sciences
416 Univ. of Central Florida
905 University of Hawaii, Institute for Astronomy
904 Vacuum Process Technology, Inc.
500 Varian, Inc.
611 Veeco Instruments
1109 Veeco, Ion Source Products
821 Vincent Associates
520 VisiMax Technologies, Inc.
635 Vision Research Inc.
715 Vision Systems Design
602 Wangsness Optics
521 WaveFront Sciences, Inc.
302 Wiley
708 Wordingham Technologies
320 ZEMAX Development Corp.
526 Zeon Chemicals
508 Zygo Corp.


THIS WAY to PHOTONICS.COM!
AUGUST
25¢
LAURIN PUBLISHING
AMAZING
WEBSITE
Visit Booth 316
for a chance to win
an iPod nano!
FLY to YOUR
INFORMATION
TOTALLY REDESIGNED
with BETTER NAVIGATION!
HALF a CENTURY of INDUSTRY EXPERTISE LEADS YOU TOWARDS the FUTURE.

Guest Hospitality Suite

San Diego Marriott Hotel and Marina, SPIE Suite 2573

Monday-Thursday . . . . . 8:30 to 10:00 am

Guests of attendees are invited to meet, relax, and enjoy a cup of coffee and breakfast breads in SPIE's Guest Hospitality Suite. This suite is for guests of attendees only. The hotel concierge will be available during the portion of this time to answer travel, shopping, and tourist questions.

All-Symposium Welcome Reception

Convention Center Terrace Level

Monday 14 August . . . . . 7:00 to 8:30 pm

All attendees are invited to relax, socialize, and enjoy refreshments at San Diego Convention Center Terrace Level with spectacular Bay views.

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

SPIE Women in Optics Presentation and Reception

Marriott Marina E

Thursday 17 August . . . . . 4:00 to 5:30

Wrap up your week with one last opportunity to network with your fellow attendees and colleagues. Take this time to celebrate a week of great activity - join us for drinks, appetizers and a presentation by Kristina Johnson, Professor and Dean for the Pratt School of Engineering, Duke University.

Open to all conference attendees.

Kristina M. Johnson received her B.S., M.S. (with distinction) and Ph.D. in electrical engineering from Stanford University. After a NATO post-doctoral fellowship at Trinity College, Dublin, Ireland, she joined the University of Colorado-Boulder's faculty in 1985 as an Assistant Professor, promoted to full Professor in 1994. Dr. Johnson received the NSF Presidential Young Investigator Award, the IBM Faculty Award, and the Dennis Gabor Prize, for "creativity and innovation in modern optics" in 1993. In 1997 she was awarded the Colorado Technology Transfer Award by the Colorado Advanced Technology Institute, and in 2001, the Council for Entrepreneurial Development Infrastructure Award in North Carolina. In 2003, she was inducted into the Women In Technology International (WITI) Hall of Fame and she received the Society of Women Engineers (SWE) Achievement Award in 2004. From 1994 until 1999 Johnson directed the NSF/ERC for Optoelectronics Computing Systems Center at University of Colorado and Colorado State University. She has published over 140 refereed papers and proceedings, and holds forty-three patents. A fellow of the Optical Society of America, IEEE and a Fulbright Scholar, Dr. Johnson is a director of SPIE, the International Society for Optical Engineering. She has helped start several companies including founder of ColorLink, Inc. and sits on several corporate Board of Directors including Mineral Technologies Inc., Guidant Corporation, and AES Corporation. Dr. Johnson currently serves on the advisory boards of the Colorado School of Mines, the Georgia Institute of Technology School of Engineering, the Duke Childrens' Classic, and the Institute for Emerging Issues. She has previously served as an advisor/director to the NSF Engineering Directorate, Science Foundation Ireland, Dycom Industries, Smith College Pickering School, and Carnegie Mellon University. Dr. Johnson is currently Dean of the Pratt School of Engineering at Duke University.

Sponsored by SPIE Women in Optics

Advertisers Index

FEDERAL LABORATORY CONSORTIUM

FLC

FOR TECHNOLOGY TRANSFER

THE ONLY GOVERNMENT-WIDE FORUM FOR TECHNOLOGY TRANSFER

The Federal Laboratory Consortium for Technology Transfer (FLC), a nationwide network of over 700 federal laboratories, is the only government-wide forum for technology transfer (T^2).

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

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

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

www.federallabs.org

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

Technology Locator

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

FLC NewsLink

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

Education and Training

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

PUBLICATIONS OF THE FLC

Federal Technology Transfer 2005

FLC NewsLink

FLC Technology Transfer Desk Reference

Federal Technology Transfer Legislation and Policy "The Green Book"

950 North Kings Highway Suite 208 Cherry Hill, NJ 08034 856-667-7727 *www.federallabs.org*

Industry Perspectives

Technology reviews and forecasts

Free to all attendees and exhibition visitors.

Solar Energy: Roadblocks and Possibilities for the Future

Tuesday 15 August . . . . . 9:00 to 10:00 am

Moderator: **Steve Eglash,** Principal, Worldview Technology Partners

In this executive panel discussion, visionary leaders representing different aspects of the marketplace share their insight regarding trends and opportunities in solar and alternate energies. With the extraordinary experience and resources these executives bring to the table, you are sure to learn new things about the direction and priorities for the industry.

Executives from the following companies will discuss key issues, strategy and vision of great importance in the business of solar energy and our future:

Panelists:

Teresa Jester, Sr. Director, Engineering and Operations, Shell Solar Industries

Terry Jester has worked in photovoltaics for 26 years in various capacities ranging from leading engineering on thin film equipment development to leading the launch of a consumer product division to heading Silicon Operations. She has worked on a number of array design projects and developed the standard Cz module package in production today using EVA and Tedlar composite backsheets. She currently directs Silicon Operations and Engineering for Shell Solar Industries, a group of over 400 employees developing and producing solar modules at the 60 MW plant in Camarillo, California.

Richard M. Swanson, President and CTO, SunPower Corp.

Dr. Swanson was a professor of Electrical Engineering at Stanford University from 1976 to 1991, when he resigned to devote full time to SunPower, a company which he founded. He is currently President and CTO of SunPower.

Gary D. Conley, CEO, SolFocus

The SolFocus CEO is a seasoned high technology executive who has turned around several companies. Gary D. Conley has extensive business, marketing, and technical skills and experience with a solid reputation in the global business community. A key skill is in building world-class teams, finding it is always cheaper to go with the best. A quality focus and the reliance on Hoshin planning combine in achieving the most aggressive strategic plans and optimal return for all stakeholders.

Chris Eberspacher, Vice President of Engineering, NanoSolar

Dr. Eberspacher was Head of all R&D of the world's largest photovoltaics company, ARCO Solar / Siemens Solar Industries (today Shell Solar) where he led a team in the development of the vacuum-deposited thin-film solar-cell technology that is now one of the leading thin-film technologies in commercial production.

Christoph J. Brabec, Konarka Technologies Austria and Konarka Technologies GmbH Germany

Christoph J. Brabec is director of the polymer photovoltaics programme at Konarka technologies. Before he and his team joined Konarka, he was project leader at SIEMENS Corporate Technology with strong dedication to organic semiconductor devices. During his PhD (1995) he investigated the rheology of polymer melts with respect to molar mass correlations. In 1996 he joined the group of Prof Alan Heeger at the University of Santa Barbara for a sabbatical, and continued to work on the opto-electronic properties of organic semiconductors later on as assistant professor at the Univ.of Linz (Prof. Sariciftci). In 1998 he became senior scientist of a Christian Doppler Laboratory on organic solar cells which he left in 2001 to join SIEMENS research labs. He is author and co-author of more than 100 papers and filed over 30 patents. He finished his habilitation in physical chemistry at the Johannes Kepler Univ. Linz in 2003.

Michael Fulton, President, Ion Beam Optics Inc

Thirty-three years thin-film optical coatings: (1) OCLI: introduced IAD into production. (2) Boeing: UV blocking coating on silicone Fresnel lenses on space solar power (3) ZC&R Coatings for Optics: window coatings for the International Space Station (4) Rockwell Science Center: Mars Reconnaissance Orbiter (CRISM hyper-spectral filter) (5) Ion Beam Optics: Phase II SBIR radiation resistant coatings for space solar cell covers.

Industry Perspectives
continued on next page

Industry Perspectives

Technology reviews and forecasts

Continued from previous page

High-Brightness LEDs

Tuesday 15 August . . . . . 12:30 to 1:15 pm

Solid State Lighting: New Applications Needed to Sustain Growth

Jabdish Rebello, iSuppli

2005 was another marquee year for the solid-state lighting industry as the global market grew by almost 12% over 2004. Driven by continuous improvements in output intensities and packaging technologies, LEDs continued to penetrate new applications while increasing its dominance over competitive technologies in existing markets. During the year High Brightness LEDs rapidly become the lighting source of choice for diverse applications including traffic sig§qls; signs and displays, small LCD backlighting handset keypad lighting and decorative illumination. And the commercialization of Ultra high Brightness LEDs enabled solid state lighting to expand the reach of this lighting technology.

But in 2006 the solid state lighting industry finds itself at a critical crossroads. Over the past three years backlighting of LCDs and keypads has emerged as the single dominant application for LEDs. Now as growth in the mobile handset industry starts to slow down, the solid state lighting industry is actively seeking out new applications that will help it to sustain the growth levels of the past two years.

Large screen LCD backlighting, automotive lighting, LED signage and the general illumination are being touted as the next growth application drivers for the solid state lighting industry. The dynamics of these application markets are very different from each other and from existing markets. For solid state lighting to successfully penetrate these market segments, LED manufacturers must carefully develop product development and marketing strategies that will ensure long term success while managing short term expectations.

Biography: **Jagdish Rebello,** PhD, Principal Analyst, Communications Systems, Optical Components And Emerging Markets

Jagdish is a principal analyst with the iSuppli Market Intelligence team and works within the Application Markets and Application-Specific Devices Practice. His responsibilities include development of research and competitive analysis of various optical and opto-electronic components, wireless infrastructure and applications in optical networking communications. Jagdish Rebello also directs the iSuppli India research initiative and analyses the rapidly growing demand for consumer, automotive and wireless electronics in India as well as the emerging supply of electronic design and integration capabilities in India.

Jagdish has authored several comprehensive marketing studies on the state of the solid state lighting industry and has advised leading LED manufacturers and lighting system developers on evolving strategies targeted towards successfully penetrating the LED market.

Jagdish earned his Ph. D. in mechanical engineering from Ohio State University and his MBA in finance and marketing from Rutgers University. His MS in mechanical engineering is also from Ohio State University while his BS in mechanical engineering was from the University of Bombay.

High-Brightness LED Applications and Market Trends

Wednesday 16 August . . . . . 12:30 to 1:15 pm

Robert V. Steele, Strategies Unlimited

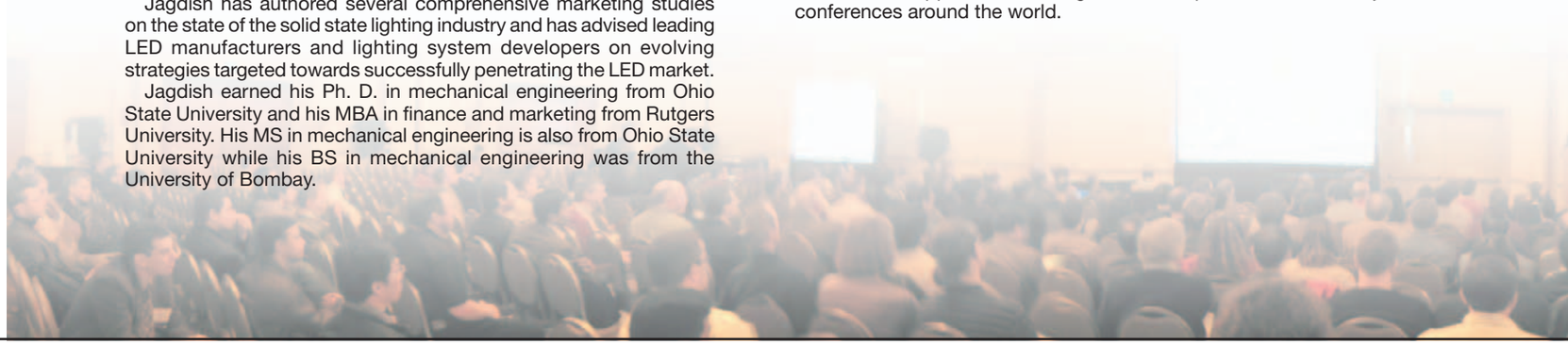
High-brightness LEDs (HB LEDs) have been one of the most successful technologies in the history of compound semiconductors. From modest beginnings in the mid-1990s, when high-brightness InGaAlP (red-orange-yellow) and InGaN (blue, green and white) LEDs were introduced, the worldwide HB LED market has grown to $4 billion in 2005, encompassing a wide variety of applications that were previously inaccessible by conventional LEDs.

The HB LED market is currently undergoing a period of dramatic change. After experiencing an average annual growth rate of 46% from 2001 to 2004, market growth for 2005 was just 8%. This slowdown is largely due to the fact that the mobile appliance market (mobile phones, PDAs, MP3 players, etc), which has been the primary engine of growth in recent years, is maturing, and the future growth potential in this application is limited. Other applications such as signs, automotive lighting and signals continue to provide strong markets, but growth rates are generally in the 10-15% range. Lighting is a high growth market, but it still accounts for just 6% of the overall HB LED market.

In addition to lighting, the most exciting growth prospects for HB LEDs are automobile headlamps and backlights for larger LCD displays. Both of these applications have a multibillion market potential, but they are still in the early stages of development. Thus, the main near term challenge for the HB LED industry is how to manage the transition from the high-growth markets of recent years to the slower growth markets of the next few years, until these newer applications can have a major impact.

This presentation will review the recent market and application growth trends in HB LEDs, discuss the structure of the worldwide HB LED supply chain, and provide an outlook on the application trends that will drive the market in the next five years.

Biography: **Robert V. Steele** is the Director of Optoelectronics Programs at Strategies Unlimited, and is responsible for all of the company's activities in the area of optoelectronic components. Since 1994, Dr. Steele has supervised and co-authored six editions of Strategies Unlimited's biannual report on the visible LED market, and also co-authored the report "Solid-State Lighting: New Growth Opportunities for High-Brightness LEDs." For the past six years, he has been the chair of Strategies Unlimited's annual industry conference on high-brightness LEDs, known as Strategies in Light. Dr. Steele writes regularly for industry publications on high-brightness LED markets and applications, and gives invited presentations at major conferences around the world.



Nanotechnology Marketplace

Convention Center, Exhibition Hall A, Forum Area

Wednesday 16 August . . . . . 9:00 to 9:30 am

Patricia (Patti) Glaza. Vice President, Group Publisher, Small Times / Pennwell Corporation.

Nanotechnology has the potential to transform our lives and the companies we work in. Products utilizing nanotechnology are now hitting the market at a rapid rate. Current applications are evolutionary - improvements on what already exist. Revolutionary, disruptive nanotechnologies are still in the labs. Getting these technologies to market will take patience, resources, sound strategy, and strong relationships.

The road to the future will not be an easy one. When charting new territory, companies will face new regulations, market roadblocks, product development delays and financial woes. Success will come to the companies that can navigate the funding options and build short-term and long-term product pipelines. Build it and they will come is not an option. Leaders must clearly communicate their value proposition - not just to the public, but to corporations that are creating the tomorrow's product plans today.

While still a young technology, there are companies building track records and positioning themselves for long-term growth. Lessons from these early leaders can help guide those that are looking for commercial opportunities in nanotechnology.

Biography: **Ms. Glaza** leads Small Times, the key source of business information on micro and nanotechnologies. Ms. Glaza served as CEO until the acquisition in 2005. Ms. Glaza's experience includes technology start-ups, venture capital, and consulting. She has an MBA from the University of Michigan.

Engineering Public/Private Partnerships

Harvesting the Crops of Innovation from the Federal Laboratories

Convention Center, Exhibition Hall A, Forum Area

Wednesday 16 August . . . . . 9:30 to 10:15 am

J. Susan Sprake, Esq. Vice Chair FLC, New Business Development Executive, Los Alamos National Laboratory

Federal agencies are home to hundreds of laboratories involved in scientific research and development, across many disciplines, with a mandate to transfer technology into the mainstream of the U.S. economy. This provides great opportunities for industry to obtain innovative technologies from these laboratories. In this session, participants will hear from and engage representatives of the U.S. federal laboratory system with specific technology transfer responsibilities. Insights into how best to partner or license such federally developed technologies will be highlighted. The Federal Laboratory Consortium for Technology Transfer (FLC) is the nationwide network of federal laboratories that provides the forum to develop strategies and opportunities for linking the laboratory mission technologies and expertise with the marketplace. This session will provide an overview of the FLC and the interface between the labs and industry; focusing on how that interface works in practice.

Biography: **J. Susan Sprake** is the current Vice Chair of the Federal Laboratory Consortium (FLC). The FLC offers training and education, publication of premier laboratory technologies, and a nationally recognized awards program for outstanding technologies and partnership coming from the federal laboratories.

Ms. Sprake is also the New Business Development Executive for the Technology Transfer Division of Los Alamos National Laboratory (LANL). In this role Susan is tasked with developing long term strategic relationships with global business whose R&D needs match well with the attributes of LANL. She participates in the continued involvement of venture capital firms with the laboratory, spin out opportunities, and promoting Pacific Rim economic involvement. With over 22 years of experience in technology transfer, Ms. Sprake continues to be responsible for advising LANL on policy and legislation considerations affecting technology transfer activities. These roles include liaison duties to DOE agency level Technology Transfer Working Group (TTWG) and the DOE laboratory level Technology Partnership Working Group (TPWG).

Innovation Forum: Opportunities in Optics Instrumentation, Detectors, and Imaging from Eurasia

Conv. Ctr. Exhibit Hall A Forum Area

Wednesday 16 August . . . . . 1:30 to 3:30 pm

Facilitator: **Joanne Neuber,** U.S. Civilian Research & Development Foundation (CRDF)

Connect with companies and researchers with promising technologies from Eurasia. Speakers will present business partnership opportunities and commercially viable innovations developed in the former Soviet countries. Technologies featured will include silicon optical fibers, an x-ray imaging system, a medical device to measure oxygen, a holographic measuring device, and a laser analyzer of biological microparticles. Also, learn about joint U.S.-Eurasia research grant opportunities from the U.S. Civilian R&D Foundation (CRDF).

Panelists:

Detection Unit Prototype based on GaAs Detectors for X-ray Scanning Imaging Systems for Non-Destructive Testing Applications
Dr. Anton V. Tyazhev, Chief Engineer, RID Ltd. (Russia)

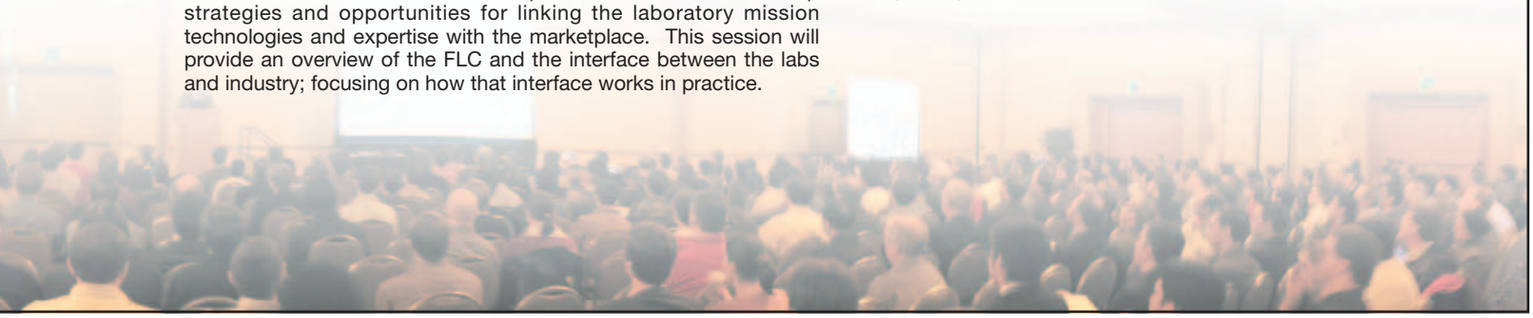
Multi-Channel NIRS System for Blood, Brain, and Other Tissue Oxygenation Monitoring
Dr. Vladimir A. Hovhannisyan, Yerevan Physics Institute (Armenia)

Modern Industrial Holography Systems for Non-Destructive Testing
Dr. Michael Gusev, Director of Research, Algorithm-Opto Ltd. (Russia)

A New Approach to the Detection of Biological Micro-Particles in the Liquid Flow
Mr. Rostyslav Bilyy, Researcher, Institute of Cell Biology - NAS of Ukraine (Ukraine) and Ivan Franko L'viv National Univ. (Ukraine)

Plasma Outside Deposition (POD) Technology for the Production of Optical Fiber Preforms
Mrs. Natalia Andronova, General Director, Fiberus Co. Ltd. (Russia)

Dynamic Aberrometry for Visual Acuity Testing
Dr. Andrey Larichev, Director of Research, VISIONICA Ltd. (Russia)



LASER EXPO 2007

Related event : Technical Seminar

Co-located with

Lens Design and Manufacturing Expo 2007

April 25-27, 2007 Pacifico Yokohama

Sponsored by

The Laser Society of Japan

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

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

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

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

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

For further information

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

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

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

Reserve space now !

Student Exhibit Hall Section

Tuesday to Thursday . . . . . Exhibition hours

Visit the student section of the exhibit, and see what your fellow students have to display as part of the "Eye to the Future" section. Student Services representatives will be available from 10:00 am to 12:00 pm Tuesday and Wednesday to answer questions about SPIE programs.

SPIE Scholarship and Grant Winners Reception

Exhibition Hall A, Forum Area

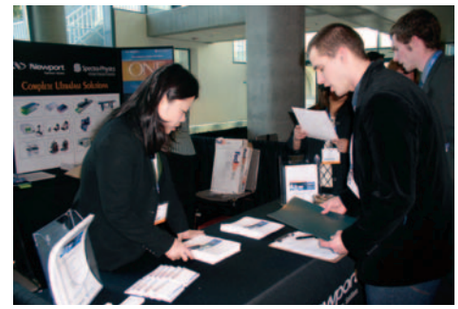
Tuesday 15 August . . . . . 3:30 pm

The SPIE Scholarship Committee and Board of Directors have planned a special program on the exhibit floor to honor the 2006 winners of SPIE scholarships and grants. All students and 2006 Scholarship and Grant recipients are invited.

Newport Spectra-Physics 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 are 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 go to spie.org click on Scholarships and Grants.



spieworks.com
SPIEWORKS
APPLY YOUR MIND.

Special 2-Day Event!

SPIEWorks Career Fair

Tuesday 15 August . . . . . 10:00 am to 5:00 pm

Wednesday 16 August . . . . . 10:00 am to 5:00 pm

Located near registration, front of 100 aisle

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

Membership in SPIE is not required.

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

Post jobs for free. That's right, there's no charge to post jobs to the Optics & Photonics Career Fair. Go to spieworks.com, create an account and sign-in to post jobs online. Your free job(s) will be live 14-20 August.

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

Education and Professional Development Workshops

Please visit the registration desk to register for these workshops.

Information Session

Hands-On Optics: Making an Impact with Light (HOO)

Monday 14 August . . . . . 2:00 to 5:00 pm

This three-year informal science program is designed to bring optics education to tens of thousands of underserved students nationwide. SPIE-The International Society for Optical Engineering and the Optical Society of America (OSA), along with the National Optical Astronomy Observatory (NOAO), were awarded a $1.7 million grant from the U.S. National Science Foundation (NSF) in 2003 to design and implement a science enrichment program intended for children in middle school (ages 11 to 14 years old).

Now in its third year, the HOO project has developed six hands-on activity modules intended to engage and enrich the math/science learning experience for students in the middle grades. Each module offers three to six hours of exploratory science activities that can be grouped into 30- to 90-minute sessions. This informational session will provide an introduction to some of the materials used in the program and give participants information on how they can purchase the modules for use in their regions.

Intended Audience: This informational session is intended for anyone who would like information about the Hands-On Optics Project.

Presenters: **Stephen Pompea** earned his Ph.D. in Astronomy from the University of Arizona and is currently Manager of Science Education and Astronomer at the National Optical Astronomy Observatory in Tucson, AZ. He is responsible for program creation and management in the areas of teacher professional development and teacher leadership, research experiences for teachers, and the creation of curricula and instructional materials. He is a Co-Principal Investigator for Hands-On Optics.

Constance E. Walker earned her Ph.D. in Astronomy from the University of Arizona and is Senior Science Education Specialist and Astronomer at the National Optical Astronomy Observatory in Tucson, AZ. She is part of a team responsible for the development and implementation of programs and workshops that train and partner pre-college teachers and community educators with professional and amateur astronomers. These programs involve students and their families in hands-on, inquiry-based activities in astronomy and science. She works with Stephen Pompea in developing modules for Hands-On Optics.

Robert T. Sparks earned an M.S. in Physics from Michigan State University and is a Science Education Specialist at the National Optical Astronomy Observatory in Tucson, AZ. He taught high school physics, math and astronomy for 11 years before joining the HOO Team. He has been revising the HOO modules, planning and delivering HOO professional development workshops, and working on the development of new modules.

There is no charge to attend.

Optimizing Your Resume

Note: This student-only workshop is free to SPIE Student Members, but you must register to attend.

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

LEARNING OUTCOMES
This course will enable you to:

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

INTENDED AUDIENCE
This material is intended primarily for students, recent graduates, and early-career professionals who want to improve the quality and effectiveness of their job search materials.

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

COURSE LEVEL: Introductory
WS777, CEU:.25 • Wednesday, 1:30 to 4:00 pm

NEW!

Essential Interpersonal Skills for Technical Professionals

This one-day workshop provides a comprehensive overview of essential interpersonal skills and detailed discussion of key skills that apply to most engineering jobs and other technical work. Interpersonal skills - including teamwork, communication, networking, public speaking, negotiation, and leadership - are the techniques you need to effectively work with others. The objective of this course is to accelerate learning by enabling technical professionals to continuously develop the most important interpersonal skills in today's fast-paced and competitive work environment. Participants will leave with tools that will help them excel quickly as engineers and technical leaders, and they will be inspired to apply what they learn to improve their personal productivity and productivity in their respective workgroups.

COURSE PRICE INCLUDES a comprehensive workbook and email/phone follow-up with the instructor after the workshop to assist with implementation.

LEARNING OUTCOMES
This course will enable you to:

- identify the "soft" skills needed to excel as a technical professional
- demonstrate improved ability to lead projects and work with teams
- assess your current abilities in key interpersonal skill areas
- set development goals specific to your individual needs

INSTRUCTOR
Gary C. Hinkle is President and founder of Auxilium, Inc. His experience includes a broad variety of management and staff assignments with small, medium, and large companies involved in the development and manufacturing of high-tech products. His design and management experience spans the electronics, mechanical and software engineering disciplines.

COURSE LEVEL: Intermediate

WS774, $395 / $475 • Wednesday, 8:30 am to 5:30 pm

NEW!

Book Publishing for Engineers and Scientists

Authors are often surprised at just how different book publishing can be from the process of publishing proceedings or journal articles. Writing a book can take months or even years of your time - don't be caught off-guard. This course takes you through the publishing process from the moment the idea strikes you (or the moment an Acquisitions Editor approaches you) to that unforgettable first moment of seeing your book on the shelf.

LEARNING OUTCOMES
This course will enable you to:

- determine the right publisher (and co-publishers) for your book
- write a persuasive query letter
- develop a convincing book proposal
- understand the peer-review process
- navigate the details of a basic contract
- put together a manuscript to publishers' specifications

- request permission to use figures and excerpts from other authors' work
- see the full workflow and timeline of the publishing process and where you fit into it

INTENDED AUDIENCE

This material is intended for all engineers and scientists interested in the book-publishing process. Those who are interested in writing or are currently penning a technical book will find this course valuable.

INSTRUCTOR

Timothy Lamkins earned a Bachelor's degree in Physics from the University of Texas at Dallas and a Master's degree in Optics from the University of Rochester. He has been an optical engineer, mathematics instructor, and novelist, and is currently the Acquisitions Editor for SPIE Press.

COURSE LEVEL: Introductory

WS775 $50 / $100 • Wednesday, 8:30 to 11:00 am

How to Start a Small High Tech Business Almost Anywhere

This course focuses on the elements that can minimize investment capital and the time needed to set up a viable and vibrant small business capable of functioning on its own and of growing. It is possible to set up such an entity within a large company, where one or a handful of individuals can grow new ideas and technology into high tech products. These products can have a significant impact on the competitiveness of the company.

And the individuals can learn skills that in turn can be used to set up small high tech businesses as spin-offs or standalone entities. In fact running a small, high tech business independently within a larger organization will develop and hone these skills. The course provides an overview of the skills necessary to operate a successful high tech business within a large organization and points out how these skills can form the basis for developing a standalone business.

It addresses the steps needed to start a small high tech business, even under less than ideal conditions. Elements to be considered include: motivation; start up planning; types of organizations that can be operated; and the set up of structures that will greatly aid success. Crucial topics such as consulting, small business contracts, subcontracts, intellectual property, licensing, product development, long term planning, and mergers/acquisitions will be reviewed.

These topics are woven into the course structure and are intended to help attendees understand how to smooth out some of the bumps associated with traversing a difficult but often exciting road to a viable small high tech business.

LEARNING OUTCOMES

This course will enable you to:

- Outline certain skills that can have high payoff for individuals establishing high tech operations and discuss ways to hone these skills
- Describe many of the advantages and pitfalls associated with operating a small high tech business
- List the series of steps necessary for starting a small high tech business (decision to leave a job, vision for the new company, funding, the type of organization to be formed, a strategic and tactical plan, an operational plan, marketing)
- Discuss intellectual property and how to minimize the cost of acquiring and developing an effective patent base, and how to offset some costs by licensing/joint ventures
- Show examples of small companies that establish leverage to develop relationships with other organizations
- Outline some of the pitfalls that a small business may face during a merger or acquisition

INSTRUCTOR

Eric Udd is President of Columbia Gorge Research, LLC. He worked at McDonnell Douglas from 1977 to 1993 as an Engineer/Scientist, Unit Chief, Manager and McDonnell Douglas Fellow, building a fiber optic sensor program that grew to a large organization-wide effort. In 1993 he left McDonnell Douglas to found Blue Road Research in Troutdale, Oregon, where he now serves as Vice President of Technology. He founded Columbia Gorge Research, LLC in 2004 as his second company and plans to "retire into it". Eric Udd has taught many courses for SPIE, UCLA Extension, OSA, Sensors Expo and other organizations. He has chaired approximately 30 international conferences, holds over 40 issued patents, has written approximately 150 papers, edited two books on fiber sensors, and is a Fellow of the SPIE. Mr. Udd is currently working on a book titled "How to Start a Small High Tech Business in Troutdale, Oregon!?!"

Course level: Introductory

WS756 CEU .35 $220 / $260 USD • Thursday 8:30 am to 12:30 pm

The Craft of Scientific Presentations: a Workshop on Technical Presentations

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

LEARNING OUTCOMES

This course will enable you to:

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

INSTRUCTOR

Kathryn Krages, AMLS, MA, holds degrees in library science and journalism. Assistant professor of medical informatics & clinical epidemiology at Oregon Health & Science University in Portland, Ms. Krages also serves as editorial manager of the journal Medical Decision Making. Together with Cody Curtis, she teaches a scientific writing and communication course to OHSU graduate students, both on campus and via the Internet.

COURSE PRICE INCLUDES the text *The Craft of Scientific Presentations* by Michael Alley. This workshop is **free** to SPIE Student Members.

Course level: Introductory

WS667 CEU .35 $75 / $125 USD • Wednesday 8:30 am to 12:30 pm

The Craft of Scientific Writing: a Workshop on Technical Writing

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

LEARNING OUTCOMES

This course will enable you to:

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

INSTRUCTOR

Kathryn Krages, AMLS, MA, holds degrees in library science and journalism. Assistant professor of medical informatics & clinical epidemiology at Oregon Health & Science University in Portland, Ms. Krages also serves as editorial manager of the journal Medical Decision Making. Together with Cody Curtis, she teaches a scientific writing and communication course to OHSU graduate students, both on campus and via the Internet.

COURSE PRICE INCLUDES the text *The Craft of Scientific Writing* by Michael Alley. This workshop is **free** to SPIE Student Members.

Course level: Introductory

WS668 CEU .35 $75 / $125 USD • Wednesday 1:30 to 5:30 pm

Please visit the registration desk to register for these workshops.

Exhibition Hours

Convention Center Exhibition Halls A and B1

Tuesday, 15 August . . . . . 10:00 am to 5:00 pm
Wednesday, 16 August . . . . . 10:00 am to 5:00 pm
Thursday, 17 August . . . . . 10:00 am to 2:00 pm

Onsite Registration and Information Hours

Convention Center Exhibition Hall A and B1

Sunday, 13 August . . . . . 7:00 am to 5:00 pm
Monday, 14 August . . . . . 7:15 am to 5:00 pm
Tuesday, 15 August . . . . . 7:30 am to 5:00 pm
Wednesday, 16 August . . . . . 7:30 am to 5:00 pm
Thursday, 17 August . . . . . 7:45 am to 4:00 pm

Coffee Breaks at the Convention Center

Complimentary coffee will be served twice each day of the conference at approximately 10:00 am and 3:00 pm. Please check the individual technical conference listings for exact times and locations.

Cash Refreshment Purchases

For attendee purchase of light refreshments, including continental breakfast, specialty carts will be set up throughout the convention center Sunday through Thursday. These carts will include: Café Express, Starbucks, Pretzel Cart, and Mrs. Fields Cookies, and will be open through the busiest portions of the day each day.

Cash Lunches and Exhibition Concessions

A cash sandwich bar will be available in the convention center at Bayside West Café located on the Mezzanine Level on Sunday and Monday from 11:30 am to 2:00 pm. Visit the Food Court located in the back of the exhibition halls on Tuesday, Wednesday, and Thursday featuring Café Express and International Cuisine. They will serve hot and cold snacks, beverages, deli-type sandwiches, salads, a few hot entrees, and pastries and will be open daily 11:00 am to 2:00 pm.

Luggage/Package Storage and Coat Check

Convention Center Hall A Foyer

Sunday through Thursday, 7:30 am to 6:00 pm

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

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

SPIE Copy Center

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 and $1 per transparency ($2.50 for color). The Copy Center will be located near registration.

Copy and Business Center

Fedex Kinko's is the in-house business center for the San Diego Convention Center. It is located inside Lobby D. The company provides small package Fedex shipping, packing supplies, B & W & color copying services, fax services and office supplies. Phone (619) 525-5450, Fax (619) 525-5477.

SPIE Message Center

The SPIE Message Center telephone number is (619) 525-6200. Messages will be taken during registration hours Sunday through Thursday. Please check the message board at the message center near SPIE registration daily to receive your messages.

Internet Access

Convention Center - Hall A/B Lobby

During registration hours Sunday through Thursday.

Multiple internet access terminals will allow attendees to access their internet e-mail during the conference. There will be a 10-minute time limit per each person's internet session.

Complimentary Internet Wireless Access

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

Coverage locations and connection settings will be posted on-site.

SPIE Marketplace

Two locations in the Convention Center:
Exhibition Hall B1 and Upper Level Foyer in front of Room 6A.

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

Media Center

The on-site Media Center provides press conference facilities, refreshments, and convenient one-stop-shopping for press releases. Credentialed media are invited to communicate news via the provided telephone, and high-speed internet connections. Registration and exhibition fees are waived for working journalists and editors. You are encouraged to pre-register by e-mailing: name, organization, title, address, e-mail, and phone number to media@spie.org. For more information about SPIE media services, see http://spie.org/info/media.

Video/Digital Recording/Photography Policy

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

In the Meeting Rooms: For copyright reasons, video or digital recording of any conference session, short course or poster is strictly prohibited without written prior consent from each specific presenter to be recorded. Individuals not complying with this policy will be asked to leave a given session and to surrender their film or disc. It is the responsibility of the presenter to notify SPIE if consent is given.

Underage Persons on the Show Floor

For safety and insurance reasons, only children over the age of 12, accompanied by an adult, will be allowed on the show floor during open hours. During exhibition set-up, only children over the age of 16 allowed in the Exhibition Hall.

Student Chapters

Beijing Institute of Technology

Department of Optical Engineering 441 Lab, 5 S Zhonguancun St, Beijing, China, 100081

86 10 6891 2569; fax 86 10 6894 3869

New Product: Research, outreach and scholarship activities of the student at BIT.

Beijing Institute of Technology (BIT) was founded in 1940 and situated in Beijing, the capital city of P.R.China. BIT is a national key university, an open, international and research-oriented university of science, engineering and humanities with science and engineering as the focus. BIT has built cooperative relations with 82 universities from 21 countries and conduct joint programs with more than 100 enterprises and institutions worldwide. Contact: Liquan Dong, President of the Chapter, kylind@bit.edu.cn; Bo Gao, Secretary of the Chapter, gaobo@bit.edu.cn.

Cochin Univ. of Science & Technology

Dept of Physics, Kochi Kerala, India, 682 022

91 484 2577 407; fax 91 484 2577 595

cusatspie@gmail.com; www.physics.cusat.ac.in/spie.html

New Product: Research and outreach activities of the students at SPIE CUSAT student chapter.

Cochin Univ. of Science and Technology (CUSAT), is a premier science and technology University in India. SPIE CUSAT student chapter was formally inaugurated on 27th October 2005. Main research activities of the chapter members include the development of optoelectronic devices and conducting polymers. Chapter conducts seminars and special lectures regularly to help students in their research. Chapter also organizes outreach programs at school level to attract students to science and technology.

Instituto Nacional de Astrofisica, Optica y Electronica

Luis Enrique Erro No 1, Tonantzintla Puebla, Mexico, 72840

52 22 266 3700; fax 52 222 247 29 40

spiechap@inaoep.mx; www.inaoep.mx

The SPIE Student Chapter at INAOE is a group of graduate students dedicated to promote Science (Primarily; Opticis, Astrophysics and Microelectronics). All the members are in their Master and PhD studies at Instituto Nacional de Astrofisica, Optica y Electronica (INAOE). We as a Chapter have collaborated in giving talks and experimental demonstrations of optical phenomena to young students and primary school teachers; among other cultural and academic activities.

International School of Photonics

Cochin University of Science and Technology, Cochin Kerala, India, 682022

91 484 2575848

http://photonics.cusat.edu

Montana State University

MSU, Physics Dept, Bozeman, MT, 59715

makarov@physics.montana.edu; www.physics.montanta.edu/spie

New Product: Presentation of new SPIE Student Chapter of Montana State University.

We present Montana State University, optical education in our University, our new Chapter, activities, plans, achievements and goals.

Moscow Engineering Physics Institute

31 Kashirskoe Shosse, Moscow, Russia, 115409

7 495 323 90 19

hsph@mephi.ru; www.spie-mephi.nm.ru

New Product: Compact extended-cavity diode laser for atomic spectroscopy and metrology. Linewidth <1 MHz, tuning 40GHz.

MEPhI student chapter was established in 2006, consists of 42 students, headed by Dr. Vladimir Velichansky - a leading researcher of the LPI frequency standard laboratory. Most of the students are from the Basov's Higher school of physicists based on MEPhI and the Lebedev Physical Institute (OPI). The students do the scientific work in the fields from the laser thermonuclear investigations to the laser cooling and trapping. MEPhI SPIE student chapter's members received (3) 2006 SPIE Scholarships. Contact: Alexander Radnaev, MEPhI SPIE Student Chapter President, radnaev@bk.ru; Nadezda Kotova, MEPhI SPIE Student Chapter Vice-President, nadezda_est@list.ru.

National Taiwan University

1 Roosevelt Rd, Section 4, Taipei, Taiwan, 10617

886 2 3366 5100; fax 886 2 2363 9928

photon@club.ntu.edu.tw; www.ntu.edu.tw

National Technical Univ. of Ukraine

pr. Peremogy 37, Kyiv, Ukraine, 03056

380 44 441 1022; fax 380 44 274 5932

borovytsky@spie.org/ua; www.ntu-kpi.kiev.ua

Nicolaus Copernicus University

Grudziadzka 5, Torun, Poland, 87-100

48 56 611 3214; fax 48 56 622 5397

scspie@phys.uni.torun.pl; www.fizyka.umk.pl/~scspie/

We present research and scholarship activities of students from the Nicolaus Copernicus University SPIE Student Chapter. Our Chapter was established at Faculty of Physics, Astronomy and Informatics at NCU in April 2002.

Pennsylvania State Univ.

121 E.E. East Bldg, University Park, PA, 16802

814/865-4501; fax 707/215-6850

mus115@psu.edu; www.spie.ee.psu.edu

New Product: Academic activities, research, outreach and of the students at Penn State University.

With around 25 members, the SPIE-PSU Student Chapter has become one of the most active academic student groups in Penn State University. Over the past two years, we had more than 10 talks from invited speakers, field trips and outreach initiatives. Our members come from the dept. of Electrical Eng., Material Science, Eng. Science, Physics and Chemistry and conduct research in nonlinear optics, ultrafast optics, biophotonics, liquid crystals, thin films, fibers, photonic crystals & optical eng. Contact: Michael Stinger, President, mvs115@psu.edu; Shaoying Kang, Vice President, skang@psu.edu.

SPIE Student Services

1000 20th St, Bellingham, WA, 98225

360/685-5474

dirkf@spie.org; http://spie.org/students

As a student, joining a professional society is one of the best investments you can make in your future. SPIE Student Services provides a wide range of education, support, and professional development opportunities that you can use today to make informed career choices. Stop by the booth and find out what a network of 17,000 members can do for you!

Tecnologica de Monterrey

2501 Av Eugenio Garpa Sada , Col Tecnologico , Monterrey, NL, Mexico, 64849

52 818 358 2000

raul.aranda@gmail.com; www.spie.mty.itesm.mx

Tsinghua University

Dept of Electrical Engineering, Dept of Physics, Beijing, China, 100084

86 106 278 4784

Tsinghua University is one of the top two universities in China. The campus of Tsinghua University is situated on several former royal gardens of the Qing Dynasty, surrounded by a few historical sites in northwest Beijing. Tsinghua University was established in 1911. The university currently has over 7,100 faculty and staff, with over 900 full professors and 1,200 associate professors, including 32 members of the Chinese Academy of Sciences and 31 members of the Chinese Academy of Engineering. Contact: Sigang Yang, ysg03@mails.tsinghua.edu.cn.

University of California Davis

Optics Club, Dept. of Applied Science, One Shields Ave, Davis, CA, 95616

530/752-0360; fax 530/752-2444

http://opticsclub.engineering.ucdavis.edu

University of Connecticut

371 Fairfield Rd Unit 2157, Storrs, CT, 06040

860/486-1818; fax 860/486-1273

www.spie.uconn.edu

New Product: SPIE student chapter at the University of Connecticut.

SPIE Student Chapters exist to provide personalized and intensive support for students through networking and a variety of assistance programs designed to ensure their academic success and persistence in their careers. Check us out at www.spie.uconn.edu. Contact: Anastasios Maurudis, President, uconnspie@gmail.com.

University of Dayton

300 College Park KL441, Dayton, OH, 45469-0245

937/229-1390; fax 937/229-2097

www.udayton.edu/~SPIE

University of Notre Dame

Notre Dame, IN, 46556

574/631-8835

www.nd.edu/~spie

We are from SPIE student chapter of University of Notre Dame, IN, USA. The purpose of the Chapter shall be to promote the discipline of Optical Science and Engineering through the organized effort of this group in study, research and discussion; to disseminate knowledge of the field of Optical Engineering; and to further the professional development of the students.

Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday
Basic Optics and Photonics				
SC156 **Basic Optics for Engineers** *(Ducharme)* 8:30 am to 5:30 pm, $475 / $555	SC010 **Introduction to Optical Alignment Techniques** *(Ruda)* 8:30 am to 5:30 pm, $845 / $990	WS609 **Basic Optics for Non-Optics Personnel** *(Harding)* 8:30 to 11:00 am, $100 / $150		
SC001 **Optical System Design: Layout Principles and Practice** *(Smith)* 8:30 am to 5:30 pm, $510 / $590	SC793 **Practical Design of Experiments for Scientists and Engineers** *(Uy)* 8:30 am to 5:30 pm, $440 / $520			
SC206 **Polarized Light: A Practical Hands-on Introduction** *(Fisher)* 8:30 am to 5:30 pm, $440 / $520	SC325 **An Introduction to Lasers** *(Fisher)* 8:30 am to 12:30 pm, $270 / $310			
Optical and Infrared Systems				
SC560 **Exploring Optical Aberrations** *(Mahajan)* 8:30 am to 5:30 pm, $590 / $670	SC010 **Introduction to Optical Alignment Techniques** *(Ruda)* 8:30 am to 5:30 pm, $845 / $990			
SC001 **Optical System Design: Layout Principles and Practice** *(Smith)* 8:30 am to 5:30 pm, $510 / $590	SC006 **Modern Lens Design** *(Smith)* 8:30 am to 5:30 pm, 8:30 am to 12:30 pm, $815 / $935			
SC003 **Practical Optical System Design** *(Fischer)* 8:30 am to 5:30 pm, $515 / $595	SC020 **Optical Scattering: Measurement and Analysis** *(Stover)* 8:30 am to 12:30 pm, $320 / $360	SC134 **Optical Design Fundamentals for Infrared Systems** *(Riedl)* 8:30 am to 5:30 pm, $490 / $560		
SC798 **Practical Radiometry** *(Strojnik)* 8:30 am to 5:30 pm, $440 / $520	SC017 **Principles of Fourier Optics and Diffraction** *(Gaskill)* 8:30 am to 5:30 pm, $560 / $640	SC792 **Polarization in Optical Design** *(Chipman)* 1:30 to 5:30 pm, $270 / $310		
	SC659 **Understanding Reflective Optical Design** *(Contreras)* 8:30 am to 12:30 pm, $270 / $310			
	SC492 **Predicting, Modeling, and Interpreting Light Scattered by Surfaces** *(Germer)* 1:30 to 5:30 pm, $270 / $310			
Optical Components				
SC384 **The Design of Plastic Optical Systems** *(Schaub)* 1:30 to 5:30 pm, $270 / $310	SC720 **Cost-Conscious Tolerancing of Optical Systems** *(Youngworth)* 8:30 am to 12:30 pm, $270 / $310	SC552 **Aspheric Optics: Design, Fabrication, and Test** *(Fischer)* 8:30 am to 12:30 pm, $345 / $385		
	SC321 **Thin Film Optical Coatings** *(Macleod)* 8:30 am to 5:30 pm, $440 / $520	SC565 **Introduction to Refractive Laser Beam Shaping Optics** *(Hoffnagle)* 8:30 am to 12:30 pm, $270 / $310		
Optomechanics		SC014 **Introduction to Optomechanical Design** *(Vukobratovich)* 8:30 am to 5:30 pm, $845 / $990		
		SC781 **Optomechanical Analysis** *(Hatheway)* 8:30 am to 5:30 pm, $440 / $520	SC796 **Allowable Stresses in Glass and Engineering Ceramics** *(Pepi)* 8:30 am to 12:30 pm, $270 / $310	SC254 **Integrated Opto-Mechanical Analysis** *(Genberg, Doyle)* 8:30 am to 5:30 pm, $485 / $565
Register for Courses at the Registration Desk!		SC561 **Optomechanics for Space Applications** *(Shipley)* 8:30 am to 5:30 pm, $440 / $520	SC219 **Materials: Properties and Fabrication for Stable Optical Systems** *(Paquin)* 8:30 am to 5:30 pm, $440 / $520	
		SC015 **Structural Adhesives for Optical Bonding** *(Daly)* 8:30 am to 12:30 pm, $270 / $310		
		SC220 **Optical Alignment Mechanisms** *(Guyer)* 1:30 to 5:30 pm, $270 / $310		
Illumination Engineering				
SC798 **Practical Radiometry** *(Strojnik)* 8:30 am to 5:30 pm, $440 / $520	SC770 **Solid State Lighting II** *(Ferguson)* 8:30 am to 12:30 pm, $270 / $310	SC011 **Design of Efficient Illumination Systems** *(Cassarly)* 8:30 am to 12:30 pm, $270 / $310	SC657 **Accurate Measurement of LED Optical Properties** *(Tirpak)* 1:30 to 5:30 pm, $270 / $310	
	SC799 **Solid State Lighting Phosphors** *(Summers)* 1:30 to 5:30 pm, $270 / $310	SC388 **Non-Imaging Optics** *(Winston)* 1:30 to 5:30 pm, $270 / $310		
Image Sensors				
SC153 **Imaging Spectrometry** *(Dereniak, Descour)* 1:30 to 5:30 pm, $270 / $310	SC152 **Infrared Focal Plane Arrays** *(Dereniak, Hubbs)* 1:30 to 5:30 pm, $270 / $310	SC504 **Introduction to CCD and CMOS Imaging Sensors and Applications** *(Janesick)* 8:30 am to 5:30 pm, $510 / $590		
SC068 **Use of CCD and CMOS Sensors in Visible Imaging Applications** *(Lomheim)* 1:30 to 5:30 pm, $270 / $310				

Sunday	Monday	Tuesday	Wednesday	Thursday

Atmospheric and Space Optical Systems

SC188 **Laser Beam Propagation for Applications in Laser Communications, Laser Radar, and Active Imaging** *(Phillips, Andrews)* 8:30 am to 5:30 pm, $530 / $610

SC561 **Optomechanics for Space Applications** *(Shipley)* 8:30 am to 5:30 pm, $440 / $520

SC196 **Imaging Through Turbulence** *(Roggemann)* 8:30 am to 5:30 pm, $550 / $630

SC656 **Fundamentals of Free-Space Laser Communications** *(Majumdar)* 1:30 to 5:30 pm, $270 / $310

Remote and In-Situ Sensing

SC567 **Introduction to Optical Remote Sensing Systems** *(Shaw)* 8:30 am to 12:30 pm, $270 / $310

SC152 **Infrared Focal Plane Arrays** *(Dereniak, Hubbs)* 1:30 to 5:30 pm, $270 / $310

SC504 **Introduction to CCD and CMOS Imaging Sensors and Applications** *(Janesick)* 8:30 am to 5:30 pm, $510 / $590

SC180 **Imaging Polarimetry** *(Dereniak, Miles, Sabatke)* 8:30 am to 12:30 pm, $270 / $310

SC410 **Fourier Transform Spectrometry: Theory, Methods, and New Applications** *(Abrams)* 8:30 am to 12:30 pm, $350 / $390

SC206 **Polarized Light: A Practical Hands-on Introduction** *(Fisher)* 8:30 am to 5:30 pm, $440 / $520

SC194 **Multispectral and Hyperspectral Image Sensors** *(Lomheim)* 1:30 to 5:30 pm, $270 / $310

SC798 **Practical Radiometry** *(Strojnik)* 8:30 am to 5:30 pm, $440 / $520

SC134 **Optical Design Fundamentals for Infrared Systems** *(Riedl)* 8:30 am to 5:30 pm, $490 / $560

SC153 **Imaging Spectrometry** *(Dereniak, Descour)* 1:30 to 5:30 pm, $270 / $310

SC068 **Use of CCD and CMOS Sensors in Visible Imaging Applications** *(Lomheim)* 1:30 to 5:30 pm, $270 / $310

Image and Signal Processing

SC017 **Principles of Fourier Optics and Diffraction** *(Gaskill)* 8:30 am to 5:30 pm, $560 / $640

SC661 **Applied Image Processing** *(Iftekharuddin)* 8:30 am to 5:30 pm, $440 / $520

Interferometry and Metrology

SC213 **Introduction to Interferometric Optical Testing** *(Wyant)* 8:30 am to 12:30 pm, $270 / $310

SC020 **Optical Scattering: Measurement and Analysis** *(Stover)* 8:30 am to 12:30 pm, $320 / $360

SC795 **Interference Microscopy** *(de Groot)* 1:30 to 5:30 pm, $270 / $310

SC211 **Practical Interferometry and Fringe Analysis** *(Creath)* 8:30 am to 12:30 pm, $270 / $310

SC017 **Principles of Fourier Optics and Diffraction** *(Gaskill)* 8:30 am to 5:30 pm, $560 / $640

SC492 **Predicting, Modeling, and Interpreting Light Scattered by Surfaces** *(Germer)* 1:30 to 5:30 pm, $270 / $310

X-Ray Systems and Technologies

SC794 **X-ray microCT (Micro Computed Tomography)** *(Stock)* 1:30 to 5:30 pm, $270 / $310

Organic Photonics and Solar Energy

SC798 **Practical Radiometry** *(Strojnik)* 8:30 am to 5:30 pm, $440 / $520

SC797 **The Science and Technology of Organic Solar Cells** *(McGehee)* 1:30 to 5:30 pm, $270 / $310

SC571 **Organic Photonics and Electronics: New Technologies for Emerging Applications** *(Jabbour)* 8:30 am to 5:30 pm, $440 / $520

Nanotechnology

SC497 **Nanophotonics** *(Prasad)* 1:30 to 5:30 pm, $270 / $310

SC496 **Fabrication and Processing of Nanostructures** *(Cao)* 8:30 am to 5:30 pm, $480 / $560

SC608 **Photonic Crystals: A Crash Course in Designer Electromagnetism** *(Johnson)* 1:30 to 5:30 pm, $270 / $310

SC727 **Nanoplasmonics** *(Stockman)* 8:30 am to 5:30 pm, $440 / $520

SC655 **Introduction to Optical Tweezers and Optical Micro-manipulation** *(Dholakia, Spalding)* 6:00 to 10:00 pm, $270 / $310

Business, Patents and IP

WS775 **Book Publishing for Engineers and Scientists** *(Lamkins)* 8:30 to 11:00 am, $100 / $150

WS756 **How to Start a Small High Tech Business Almost Anywhere** *(Udd)* 8:30 am to 12:30 pm, $270 / $310

WS758 **Intellectual Property: Prior Art Searching** *(Reingand)* 8:30 am to 12:30 pm, $270 / $310

Professional Development

WS609 **Basic Optics for Non-Optics Personnel** *(Harding)* 8:30 to 11:00 am, $100 / $150

WS774 **Essential Interpersonal Skills for Technical Professionals** *(Hinkle)* 8:30 am to 5:30 pm, $445 / $525

WS667 **The Craft of Scientific Presentations: A Workshop on Technical Presentations** *(Krages)* 8:30 am to 12:30 pm, $125 / $175

WS668 **The Craft of Scientific Writing: A Workshop on Technical Writing** *(Krages)* 1:30 to 5:30 pm, $125 / $175

Special 2-Day Event!

The SPIEWorks Career Fair

- Network with technical staff and human resource recruiters
- Interview for positions
- Learn more about career opportunities
- Post your resume to the online Career Fair
- Search for job postings online anytime of day or night

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

Exhibition Hall A
Tuesday 15 August . . . . 10:00 am to 5:00 pm
Wednesday 16 August . 10:00 am to 5:00 pm

ASML

CIBA Vision
A Novartis Company

CYMER

DIGITAL OPTICS CORPORATION

LOCKHEED MARTIN

SolFocus

tinsley

spieworks.com
SPIE·WORKS
APPLY YOUR MIND.

Exhibition Hours:

Tuesday 15 August . . . . . 10:00 am to 5:00 pm
Wednesday 16 August . . . . . 10:00 am to 5:00 pm
Thursday 17 August . . . . . 10:00 am to 2:00 pm

How to use this directory
Companies are listed in alphabetical order, with details about products or services each company offers. Companies are also cross-indexed by technology areas in the Product Category Index on pages 50-53, to allow you to quickly find products for your engineering and business needs.

Booth numbers are provided in each listing and may be cross referenced with the map on page x. The address of each company is listed, making this Exhibition Guide an excellent reference tool to take back to your office and share with your colleagues.

4D Technology Corp #919

SPIE Corporate Member

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

New Product: 4D will be demonstrating products from its line of Fizeau and Twyman Green interferometers.

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

Abet Technologies #908

382 Timberlane Dr, Orange, CT, 06477
203/540-9990; fax 203/799-7623
sales@abet-technologies.com; www.abet-technologies.com

New Product: SUN 2000 Solar Simulator, up to 8x8 inch. For PV AM0, AM1.5G and erythemal UV edge.

Abet Technologies designs and manufactures a light sources and detection systems for spectroscopy. Our products include research grade and OEM arc based light sources and accessories, solar simulators for the Photovoltaic, Cosmetic, and Pharmaceutical industries, single channel detection systems for use from the UV to NIR regions of the spectrum that include USB connectivity and supporting data acquisition and control software. Solid State light emitting/amplifying devices are also offered. Contact: Allen Smith, Sales Manager, asmith@abet-technologies.com; ZB Drozdowicz, Chief Executive Officer, zb@abet-technologies.com.

ADE Phase Shift #733

SPIE Corporate Member

3470 E Universal Way, Tucson, AZ, 85706-5042
520/573-9250; fax 520/573-9355
info1@phase-shift.com; www.phase-shift.com

New Product: New multi-threaded applications for Optical Profiling Interferometer.

ADE Phase Shift manufactures MiniFIZ interferometers for surface measurements and wavefront transmission of optics. New Wavelength Shifting feature measures thin pellicles and plane-parallel transparent glass. Also presented is MicroXAM, an optical profiler, for 3D measurements characterizing and quantifying microstructure, roughness, texture & asperity of precision engineered surfaces. Height sensitivity from angstroms to millimeters, topographical and volume analysis capability. Contact: Nabeel Sufi, Inspection Products Manager, sales1@phase-shift.com.

Aerotech, Inc. #832

SPIE Corporate Member

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

New Product: AMG Series Direct-Drive Gimbal Mounts Maximize Positioning and Velocity Performance.

Aerotech manufactures automated, multiaxis photonics positioning systems for 24/7 industrial applications, including the FiberMax, FiberAlign, FiberCouple, FiberPlane, FiberGrate and FiberGlide. Aerotech also manufactures ANT series nano-translators, air-bearing stages, gantries, linear/rotary/lift stages, goniometers, motorized and manual optical mounts and gimbals, linear and rotary motors, amplifiers/drives and software-based, PC-bus and stand-alone motion controllers. Contact: Tom Markel, Product Manager, Positioning Systems Division, tmarkel@aerotech.com.

Agilent Technologies, Inc. #603

5301 Stevens Creek Blvd, Santa Clara, CA, 95051-7201
408/553-7487; fax 408/553-2372
www.agilent.com

AGS Plasma Systems #1109

2290-G Ringwood Ave, San Jose, CA, 93117
408/264-3222; fax 408/432-9797
frank@labtec-sales.com; www.agsplasma.com

AGS Plasma Systems offers a complete range of plasma processing systems for a variety of etching and deposition applications; including Plasma Etch, RIE, ICP and PECVD in either single or multi chamber configurations. Contact: Frank Lowry, Director of Sales.

Exhibitor Directory

ALIO Industries #429

SPIE Corporate Member

11919 W I-70 Frontage Rd N Unit 119, Wheat Ridge, CO, 80033

303/339-7500; fax 303/339-7501

sales@alioindustries.com; www.alioindustries.com

ALIO Industries designs and manufactures industry leading nano-resolution parallel and serial kinematic robots, including hexapods, tripods, linear, rotary and goniometric stages for clean room applications. ALIO's nano-precision products use advanced ceramic servomotors, high-resolution linear optical encoders, crossed roller bearings or ultra precise air bearings. All products have no servo dither, no hysteresis, low velocity ripple and 5nm resolution standard. Contact: Dan Crews, Vice President, danc@alioindustries.com.

Alpine Research Optics Corp. #210

SPIE Corporate Member

6810 Winchester Cir, Boulder, CO, 80301

303/444-3420; fax 303/444-1686

sales@arocorp.com; www.arocorp.com

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

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

Alson E. Hatheway, Inc. #1030

SPIE Corporate Member

787 W Woodbury Rd, #10, Altadena, CA, 91001

626/795-2243; fax 626/791-2194

aeh@aehinc.com; www.aehinc.com

Andor Technology #800

SPIE Corporate Member

425 Sullivan Ave Ste #3, South Windsor, CT, 06074

860/290-9211; fax 860/290-9566

sales@andor.com; www.andor.com

Andor Technology has been designing and manufacturing world-class digital camera solutions from our headquarters in Belfast, Northern Ireland for over 20 years. Our customers include the scientific research market and Instrumentation/Original Equipment Manufacturers. Contact: Tom Greis, Sales Engineer, t.greis@andor.com; Chris Campillo, Sales Engineer, c.campillo@andor.com.

AOA, Inc. #507

10 Wilson Rd, Cambridge, MA, 02138

617/806-1400; fax 617/806-1899

info@aoainc.com; www.aoainc.com

Adaptive Optics Associates designs, develops and manufactures a wide variety of standard and custom electro-optic and opto-mech products. Since its inception, AOA has steadily expanded its engineering and manufacturing capabilities to provide its customers with the highest quality products, systems and services. AOA has a long history of selling to government, scientific and industrial customers including: NASA, DoD, FedEx®, PPG, Lockheed Martin and the Max Planck Institute for Astronomy. Contact: Sofia Cunha-Vasconcelos, Optical Applications Engineer/Product Manager MLM & Wavescope, scvasconcelos@aoainc.com.

AOptix Technologies, Inc. #805

695 Campbell Technology Pkwy, Campbell, CA, 95008

408/558-3304; fax 408/558-3301

dabelson@aoptix.com; www.aoptix.com

New Product: AOptix is announcing the company's 5th generation Laser Communication Terminal product, the LCT-5.

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

APIC (Advanced Photonics Integrated Circuits) Corp. #905

435 Keawe St Ste I-3, Honolulu, HI, 96813

808/550-0374; fax 808/538-3778

www.apichip.com

New Product: Multi-channel DWDM receivers and transceivers; Biomedical and environmental sensors.

APIC Corp. is a leader in the development and manufacture of Highly Integrated Photonics and Electronics for applications in communications, computing, biomedical and environmental sensors and custom optics. Our proprietary technologies enable improved performance and more compact SoC (System on a Chip) devices with overall lower cost through innovative optical design and cost-efficient CMOS manufacturing processes. APIC is currently developing a broad range of optical devices. Contact: Hubert Kostal, Vice President of Business Development, kostal@apichip.com.

APPLIED IMAGE Group #814

1653 E Main St, Rochester, NY, 14609

585/482-0300; fax 585/288-5989

info@appliedimage.com; www.appliedimage.com

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

APS Optics #514

42257 Troyer Ave, Fremont, CA, 94539

510/656-9295; fax 510/353-1109

apsoptics@usa.net; www.apsoptics.com

Ariel Optics, Inc. #815

SPIE Corporate Member

6935 N Slocum Rd, Ontario, NY, 14519

315/524-8211; fax 315/524-9662

info@arieloptics.com; www.arieloptics.com

Ariel Optics specializes in the manufacture of Ultra precision plano optical components. Products include Prisms, Light Pipes, Beam Splitters, Mirrors and Reference Flats with dimensions ranging from .7mm to 500mm. Quantities from prototype to mid volume production. Average lead times are less than 4 weeks with expedited deliveries on request. Contact: Robb Sawyer, Marketing Manager, robb@arieloptics.com.

ASML Optics LLC #625

3900 Lakeside Dr, Richmond, CA, 92867

510/222-2310; fax 510/222-2357

information@asml.com; www.asml.com

ASML Optics is a manufacturer of extreme precision optical components and systems for a broad range of commercial applications, serving customers worldwide. Provides Design-to-Image™ solutions including optical and mechanical design, optical fabrication and coating, assembly and system qualification and distinct customer benefits with Asphere Advantage™ technology and PerfectWave™ metrology. Contact: Mark Bigelow, mark.bigelow@asml.com; Dan Bajuk, dan.bajuk@asml.com.

Avantes, Inc. #405

SPIE Corporate Member

9769 W 119th Dr, Broomfield, CO, 80021

303/928-2348; fax 303/442-0815

info@avantes.com; www.avantes.com

New Product: AvaSpec-3648 Spectrometer - high resolution, 200-1100 nm range, short integration, wireless & USB2.

Avantes manufactures portable spectrometer systems for UV, VIS, & NIR measurement from 200 to 2200 nm. Systems include choice of 7 detector arrays and communication options including USB, USB2, Bluetooth® and RS232. We also offer light sources, fiberoptic cables & probes and accessories. We welcome your custom engineering questions and OEM inquiries. Avantes has thousands of spectrometers in the field and has experienced Application Engineers to help you find your Solutions in Spectroscopy®. Contact: Greg Neece, President, gregn@avantes.com.

Axetris #718

(See Leister Technologies LLC)

Axsys Technologies, Inc. #709

6717 Alabama Hwy 157 W, Cullman, AL, 35057

256/737-5200; fax 257/739-8298

bkent@axsys.com; www.axsys.com

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

B&W Tek, Inc. #620

19 Shea Way, Newark, DE, 19713

302/368-7824; fax 302/368-7830

info@bwtek.com; www.bwtek.com

New Product: Portable Raman spectrometer with a Handtop computer.

B&W Tek is a high value leader in OED and OEM photonics & spectroscopic products. We offer total solutions in the fields of Life Science, Bio-medical, Chemical, Industrial and analytical instrumentation. We have successfully provided UV/VIS, NIR, Fluorescence, and Raman spectrometers to various integrators and OEM customers. Our expertise in sampling includes diffuse reflectance and transmission sampling devices as well as diode-pumped solid-state and high power diode/fiber lasers. By providing top quality system development and low cost manufacturing in compliance with various governmental and international standards, B&W TEK has become a valued development partner with many of the most successful companies in the marketplace.

Bach Research Corp. #417

2200 Central Ave Ste D3, Boulder, CO, 80301

303/444-3602; fax 303/444-3633

info@bachresearch.com; www.bachresearch.com

Bach Research provides custom manufacturing services for ruled gratings, holographic gratings, diamond turned optics, polished surfaces and optical coatings. Our employees have manufactured optics for programs from the 1973 NASA 'Skylab' mission- to the 2005 ESA 'Venus Express' mission. With over 120 years experience in precision optics, Bach Research carefully works with each customer to achieve their unique specification. Contact: Kirk Bach, Vice President, kbach@bachresearch.com; Erich Bach, President, ebach@bachresearch.com.

BAE Systems Spectral Solutions LLC #905

999 Bishop St Ste 2700, Honolulu, HI, 96813

808/441-2593; fax 808/441-2683

www.na.baesystems.com

BAE Systems is the premier trans-Atlantic defense and aerospace company, delivering a full range of products and services for air, land and naval forces, as well as advanced electronics, information technology solutions and customer support services. We offer Hyperspectral and Multispectral Imaging and Target Detection Systems with a number of applications, including Anti-Submarine Warfare; Mine Countermeasures; Search & Rescue; Intelligence, Surveillance & Reconnaissance. Contact: Alan Hayashi, Acting General Manager, alan.hayashi@baesystems.com.

Beijing Guojing Infrared Optical Technology Co., Ltd. #505

Rm 403 No 2 Xinjiekouwai St, Beijing, China, 100088

86 10 6204 1586; fax 86 10 8224 0025

www.guojing-tech.com

New Product: Germanium crystal, Windows, Lens, Chalcogenide Glasses, standard CVD ZnS, Multi-spectral ZnS.

GUOJING: A subsidiary of Beijing General Research Institute of Non-ferrous Metals (GRINM) has been engaged in the development of infrared materials for 40 years. It's claimed the lead position in China and has been the driving force behind the development and production of Germanium crystal and other infrared materials extracted in China. Contact: Zhou Lin, Sales Executive, guojing3@mail.grinm.com.cn; Wan Jiaxin, Saleswoman, guojing-wan@yahoo.com.

Berliner Glas/U.S. #317

SPIE Corporate Member

117 Underwood Rd, Williamsburg, VA, 23185

757/229-9368; fax 757/229-5213

www.berlinerglas.com

New Product: Holographic Gratings for Spectroscopic Applications, Optical System Solutions.

Berliner Glas US, a company in the BERLINER GLAS GROUP, offers a broad variety of precision thin-film coated optical components, electro-optical assemblies, opto-mechanical modules and complex optical systems from design to production. Incl. clean-room environment and individual measurement set-up. In addition, Berliner Glas Group offers wafer-level packaging of MEMS and high-class technical glass enhancement. Contact: Fred Doss, Sales Manager Precision Optics, fdoss@berlinerglasus.com; Martin Wenzler, Senior Manager, mwenzler@berlinerglasus.com.

Exhibitor Directory

Boulder Nonlinear Systems, Inc. #519

SPIE Corporate Member

450 Courtney Way Unit 107, Lafayette, CO, 80026

303/604-0077; fax 303/604-0066

info@bnonlinear.com; www.bnonlinear.com

Boulder Nonlinear Systems, Inc. (BNS) is an innovative technology company specializing in dynamic liquid crystal polarization control solutions for both laser-based and imaging systems. Company strengths in scientific research and development are leveraged into OEM and standard product offerings targeted for astronomy, biomedical, defense, microscopy, optical computing, optical storage and telecommunications applications. Products include: Optical Shutters, Polarization Rotators, Variable Waveplates, Beam Attenuators and High Resolution Spatial Light Modulators.

Breault Research Organization #605

SPIE Corporate Member

6400 E Grant Rd Ste 350, Tucson, AZ, 85715-3862

520/721-0500; fax 520/721-9630

info@breault.com; www.breault.com

New Product: ASAP lite, ASAP CAD+, ASAP OPTICAL+, ASAP BIO, ASAP ADVANCED, ASAP COMPLETE.

BRO is an optical engineering firm of global reach and reputation. Industries serviced by BRO include: aerospace, automotive, biotechnology, consumer electronics, defense, medical, semiconductor, and telecommunications sectors. BRO's Advanced Systems Analysis Program (ASAP®) is the leading program uniting geometrical and physical optics with optical and mechanical system modeling. BRO offers optics training, technical support, and consulting services that are unsurpassed in the optics industry. Contact: Ken Chvilicek, Software Account Manager, kchvilicek@breault.com; Michael Frate, Engineering Account Manager, mfrate@breault.com.

Brush Wellman Inc. #431

14710 W Portage River S Rd, Elmore, OH, 43416-4173

419/862-4173; fax 419/862-4174

tom_parsonage@brushwellman.com; www.berylliumproducts.com

New Product: AlBeWeld; a new joining technology for aluminum beryllium.

Brush Wellman is the worlds leading producer of beryllium and AlBeMet used in E-O applications. We are the supplier of primary mirror material for the James Webb Space Telescope, with our new O-30 grade of beryllium. Contact: Jason Clune, Manager, SPADE Group, jason_clune@brushwellman.com; Tom Parsonage, Director, Market Development.

CeramOptec Industries, Inc. #614

SPIE Corporate Member

515 A Shaker Rd E, East Longmeadow, MA, 01028

413/525-0600; fax 413/525-0611

salesengineering@ceramoptec.com; www.ceramoptec.com

New Product: Optran Ultra high NA silica fibers for UV-NIR applications.

CeramOptec Industires serves the scientific, medical and industrial markets with optical fiber, bundles, assemblies and spectroscopic fiber accessories. Silica / silica, plastic-clad silica, hard polymer-clad silica, silver halide optical fibers, capillary tubing and low loss bundles and assemblies for UV, VIS and IR transmission. Products for high (+380„aC)temp, low to high NA (0.12 to 0.53). Replacement bundles and assemblies for most spectrometer systems and UV curing systems. Contact: Cheryl Smith, Sales Engineer, cheryl.smith@ceramoptec.com; Kevin Bakhshpour, Manager Industrial and OEM Sales, kevinceramop@earthlink.net.

Chroma Technology Corp #509

SPIE Corporate Member

PO Box 489, 10 Imtec Ln, Rockingham, VT, 05101

802/428-2500; fax 802/428-2525

sales@chroma.com; www.chroma.com

Chroma Technology Corp. is an employee-owned company that specializes in the design and manufacture of precision optical filters and coatings.

The most advanced coating techniques have been developed that provide the greatest accuracy in color separation, optical quality and signal purity economically for your OEM applications. We provide application engineering support, short cycle times and are as comfortable designing and manufacturing custom filters as we are our catalog items.

CLEO/QELS & PhAST 2007 #518

c/o Optical Society of America, Washington, DC, 20036

202/416-1907

custserv@osa.org; www.osa.org

New Product: Technical Conference: May 6-11, 2007. Exhibit: May 8-10, 2007. Baltimore, MD.

The CLEO/QELS and PhAST Conferences are the industry's leading events for optics and photonics research and technologies. CLEO's 300+ exhibiting companies are innovators, whose products span the fastest-growing vertical markets in the industry. The world-renowned research presented at CLEO/QELS and cutting-edge applications showcased at PhAST draw researchers, engineers, scientists and business leaders from top institutions and corporations from around the world. Contact: Melissa Russell, Director, Exhibit Sales, mrusse@osa.org.

Coastal Optical Systems, Inc. #515

SPIE Corporate Member

4480 S Tiffany Dr, West Palm Beach, FL, 33407

561/881-7400; fax 561/881-1947

sales@coastalopt.com; www.coastalopt.com

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

General Refreshment Sponsor

Collimated Holes, Inc. #610

460 Division St, Campbell, CA, 95008-6923

408/374-5080; fax 408/374-0670

chi_2000@pacbell.net; www.collimatedholes.com

CHI produces unusual structures of glass for biotechnology, scientific, industrial and medical applications: Fused fiber structures, drawn lenses (spherical and aspherical cross-sections), single and multichannel capillaries, drawn or etched holes, matrix arrays for coupling and isolation, geometry converters and fused fiberoptic scintillating screens for x-ray detection. Contact: Richard Mead, President; Matt Fate, Sales Engineer.

Corning, Inc. #214

SPIE Corporate Member

60 O'Connor Rd, Fairport, NY, 14450

585/388-3500; fax 585/377-6332

optics_info@corning.com; www.corning.com

Corning Incorporated is a global, diversified technology company. Utilizing its world leading materials science and process expertise, the company provides unique specialty glass and related materials solutions for a broad spectrum of industry applications. At Optics and Photonics 2006, Corning's optical and other component solutions are being highlighted through key innovations from Corning Advanced Optics and Materials, Corning NetOptix and Corning Tropel. Contact: Joanna Hall, Marketing Communications, halljf@corning.com; Larry Sutton, North American Sales Manager, suttonlj@corning.com.

CRC Press-Taylor & Francis Group LLC #915

6000 Broken Sound Pkwy NW Ste 300, Boca Raton, FL, 33487

561/994-0555; fax 561/998-2559

orders@taylorandfrancis.com; www.taylorandfrancis.com

New Product: Books and Journals.

CRC Press/Taylor & Francis is a premier publisher of Optical Science and Engineering books, journals and electronic databases. Stop by our booth to peruse our products and take advantage of convention specials and our meeting discount. Contact: Nadja English, Marketing Manager, nadja.english@taylorandfrancis.com.

Crystal Systems, Inc. #721

27 Congress St, Salem, MA, 01970-5575

978/745-0088; fax 978/744-5059

sales@crystalsystems.com; www.crystalsystems.com

Manufacturer of Sapphire and Ti:Sapphire for use in optics, IR applications, windows, domes, laser rods, lenses, prisms, filters, substrates and other optical and non optical applications. Crystal Systems can provide a wide range of material grades to meet customers' requirements from economical to the highest quality sapphire available for demanding applications in defense, laser technology, electronics, life sciences and research. Contact: William Ripley, Senior Sales Engineer, bill@crystalsystems.com; Scott Cohen, Sales Engineer, scott@crystalsystems.com.

CSIRO Australian Centre for Precision Optics #901

Bradfield Road, West Lindfield, Syndey, NSW, Australia, 2070

61 2 9413 7000; fax 61 2 9413 7200

bob.oreb@csiro.au; http://www.cip.csiro.au/IMP/Optical/index.htm

New Product: Precision Flats.

Supply of precision custom optics in a range of materials, including glass, ceramics, crystals and metals. Facilities include fabrication, precision assembly, metrology and coatings. Products include: Super-flat & super-polished flats and long radii surfaces to lambda/500 precision, spheres to 30nm asphericity, cube corners, beam-splitters, LiNbO3 etalon tuneable narrow band filters, multi-layer dielectric and metal coatings, photonics components. Contact: Bob Oreb; Jan Burke, jan.burke@csiro.au.

Del Mar Photonics, Inc. #706

4119 Twilight Ridge, San Diego, CA, 92130

858/876-3133; fax 858/630-2376

sales@dmphotonics.com; www.dmphotonics.com

Del Mar Photonics product portfolio includes ultrafast laser oscillators and amplifiers based on Ti:Sapphire, Cr:Forsterite, Er- and Yb- doped fibers; measurement tools such as autocorrelators, SPIDER and cross-correlator; Beacon fluorescence up-conversion and Hatteras transient spectroscopy systems. Del Mar Photonics offers integration of femtosecond laser systems for multiphoton imaging, scanning probe microscopy, micromachining, molecular dynamic, X-ray and plasma research.

Digital Optics Corp. #631

SPIE Corporate Member

9815 David Taylor Dr, Charlotte, NC, 28262

704/887-3100; fax 704/887-3101

doc@doc.com; www.doc.com

DOC is a global leader in the technology development, design, and fabrication of wafer-based micro-optical solutions. DOC provides both semi-standard and customized solutions for aerospace/defense, consumer & medical devices, data storage, semiconductor equipment, sensors, vision systems and more. Driven by an unparalleled commitment to quality, customer satisfaction, technological innovation, and continuous improvement, DOC is a leading optical solutions provider. Contact: Jessica Wargats, Sales Engineer, jwargats@doc.com; Allan Bacon, Vice President Sales & Marketing, abacon@doc.com.

e2v technologies inc. #530

SPIE Corporate Member

4 Westchester Plz, Elmsford, NY, 10523

914/592-6050; fax 914/592-5148

enquiries@e2v.com; www.e2vtechnologies.com

e2v technologies is a leader in the design and supply of (EM)CCD image sensing products for remote sensing, X-ray imaging, astronomy, scientific instrumentation, 24-hour surveillance, defense and medical applications. Back-thinning for high QE, very low read noise and refined package design ensure delivery of high performance devices to customers such as NASA and ESA. http://imaging.e2v.com Contact: Peter Fochi, Director of Aerospace and Defense products (US), peter.fochi@e2v.com; Graham Gooday, Business Sector Manager, Aerospace & Defence (UK), graham.gooday@e2v.com.

EADS Astrium GmbH (Dornier) #1104

Friedrichshafen, Germany, 88039

49 7545 8 25 96; fax 49 7545 8 26 93

hugo.betzold@astrium.eads.net; www.space.eads.net

New Product: High speed FERMI neutron choppers with light-weight rotor and active magnetic bearings.

In the product categories 'Neutron Optical Components' and 'Software' EADS Astrium (Dornier) developed mechanical neutron velocity selectors which reach the utmost limit of what is technically feasible today. Based on this technology EADS Astrium is a partner for customer-specific: Neutron velocity selectors (monochromators, harmonic filters), disk choppers, FERMI choppers as well as for software and peripheral instrumentation, such as monitoring and control systems, host interfaces. Contact: Hugo Betzold, Senior Expert - Systems for Industry and Research.

Eastman Kodak Co. - Image Sensor Solutions #502

SPIE Corporate Member

1999 Lake Avenue, Rochester, NY, 14650-2010

585/722-4385; fax 585/477-4947

imagers@kodak.com; www.kodak.com

With over 30 years experience in the design, development and manufacture of high-performance image sensors, Eastman Kodak Company supplies innovative CCD and CMOS Image Sensor products with outstanding dynamic range, sensitivity and performance, making them ideal for demanding imaging applications.

Edmund Optics #714

SPIE Corporate Member

101 E Gloucester Pike, Barrington, NJ, 08007-1380

856/547-3488; fax 856/573-6272

www.edmundoptics.com

New Product: New TECH SPEC™ Precision Aspheric Lenses in stock now!

Edmund Optics (EO) is a leading producer of optics, imaging and photonics technology. EO products are used in a variety of applications ranging from DNA sequencing to retinal eye scanning to high-speed factory 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: Marisa Edmund, Vice President of Marketing, medmund@edmundoptics.com; Wallace Latimer, Senior Director of Sales, wlatimer@edmundoptics.com.

EDP Sciences #1016

17 Ave du Hoggar, Parc d'Activites de Courtaboeu, Les Ulis Cedex, France, F-91944

33 1 69 18 69 86; fax 33 1 69 86 07 65

lecrosnier@edpsciences.org; www.edpsciences.org

EDP Sciences contributes to the communication and the diffusion of Science to specialized and non-specialized audiences with extremely specialized international scientific journals as well as popularized books. The editorial work of the company covers the fields of astrophysics, theoretical and applied physics, materials, life sciences, mathematics as well as cross-disciplinary fields. EDP Sciences therefore offers its authors and readers a specialized editorial platform whose choices and quality are guaranteed by a scientific editorial committee.

Electron Tubes #1113

100 Forge Way Unit F, Rockaway, NJ, 07866

973/586-9594; fax 973/586-9771

sales@electrontubes.com; www.electrontubes.com

New Product: Compact photon counting assembly with RS232 interface.

On display will be a variety of Light Detector Assemblies for photon counting and low light level applications. A number of high voltage supplies will also be featured. Contact: Michael Avery, Sales Manager, mike@electrontubes.com.

Elliot Scientific Ltd. #432

SPIE Corporate Member

3 Allied Business Ctr, Coldharbour Ln, Harpenden Herts, United Kingdom, AL5 4UT

44 1582 766 300; fax 44 1582 766 340

sales@elliotscientific.com; www.elliotscientific.com

Elliot Scientific manufactures automated fiber, v-groove and collimator alignment solutions for telecoms device production and test. Fiber launch and waveguide alignment systems are offered with 3 to 12+ degrees of freedom with manual or piezo actuators. Also on show will be our range of miniature micropositioners, precision mirror mounts, our award winning laser tweezers and our latest 6 axis stages. We also supply custom optomechanical components and OEM assemblies to your specifications. Contact: Colin Freeland, Photonics Product Manager, colin.freeland@elliotscientific.com.

Elsevier Ltd. #531

The Blvd, Langford Ln, Oxford, United Kingdom, OX5 1GB

44 1865 843140; fax 44 1865 843933

www.elsevier.com

EM Photonics Inc. #433

51 E Main St Ste 203, Newark, DE, 19711

302/456-9003; fax 302/456-9004

www.emphotonics.com

New Product: Celerity Board: custom hardware to accelerate scientific computation.

EM Photonics is a full lifecycle provider of electromagnetic and optical devices such as antennas, nano-photonic components, and millimeter-wave imaging systems. These devices are completely designed, built, and characterized in house by EM Photonics engineers. Our experience in developing modeling tools, designing components, fabricating structures, and characterizing devices allows us to take projects from concept to manufacturable device. Contact: Wesley Ford, Sales Representative, ford@emphotonics.com; Eric Kelmelis, Vice President, kelmelis@emphotonics.com.

EMF Corp. #413

SPIE Corporate Member

239 Cherry St, Ithaca, NY, 14850

607/272-3320; fax 607/272-3369

info@emf-corp.com; www.emf-corp.com

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

Engineering Synthesis Design, Inc. #607

SPIE Corporate Member

310 S Williams Blvd Ste 210, Tucson, AZ, 85711

520/296-3068; fax 520/296-2897

info@engsynthesis.com; www.engsynthesis.com

New Product: Intellium H2000, a vibration-insensitive 656nm Fizeau interferometer for max coherence length & stability.

Your complete optical metrology solutions provider. Our products, widely used on shop floors, in R&D labs and in OEM devices, include Fizeau, shearing, Mirau, point diffraction interferometers (classical to vibration-insensitive technology), wavefront sensors and scatterometers. We also provide instrument-independent interferometry software, interferometry accessories, training, interferometer upgrades and measurement services. This year marks our 10th year in the optical metrology industry. Contact: Kristi Helmrich, Sales Account Manager, sales@engsynthesis.com.

Enterprise Honolulu #905

737 Bishop St Ste 2040, Honolulu, HI, 96813

808/521-3611 ext. 17; fax 808/536-2281

www.enterprisehonolulu.com

New Product: Is your company right for Hawaii and beyond in the Pacific? Visit us at www.enterprisehonolulu.com.

Enterprise Honolulu is the private sector economic development group for Oahu, Honolulu and the State of Hawaii. We are focused on the converging technology sectors growing in Hawaii, including: Optics and space sciences, life sciences and biotech, alternative energy, film and digital media, IT and Telephony and diversified ag. Enterprise Honolulu assists companies in these areas grow beyond Hawaii and recruits technology companies to start operations and grow in Hawaii and the Pacific region. Contact: John Strom, Vice President, Director of Business Development & Technology, jstrom@enterprisehonolulu.com.

Epner Technology, Inc. #516

SPIE Corporate Member

78 Kingsland Ave, Brooklyn, NY, 11222-5603

718/782-5948; fax 718/963-2930

epner78@aol.com; www.lasergold.com

Laser Gold®, a Hard, IR reflectivity...greater than 99% and rugged enough to be physically cleaned! The lowest emissivity coating, (low "E") for radiation shielding on space instruments and cryo-optics. IR lightpipes, custom designed with a bore polished to less than 5nm. ra. Laser Gold is a room temperature process; not line of sight dependent. Also Laser Black® a high emissivity, inorganic, non-outgassing, coating that some say, "actually swallows light". Examples of electroforming and general high-tech plating services.

Evac International #1109

1660 Carmen Dr, Elk Grove Village, IL, 60007

630/323-5399; fax 847/806-6941

frank@labtec-sales.com; www.evacvacuum.com

Evac offers quick release chain clamps with precisely defined pressure points that produce guaranteed tightening force. Evac also manufactures flange couplings and bakeable aluminum crush rings. Products work with all KF and ISO flanges. Contact: Frank Lowry, Director of Sales.

Evaporated Coatings, Inc. #200

2365 Maryland Rd, Willow Grove, PA, 19090-1708

215/659-3080; fax 215/659-1275

sales@evapcoat.com; www.evapcoatings.com

ECI is a custom manufacturer of vacuum-deposited thin films including mirrors, anti-reflection, beamsplitters, low reflection attenuation, solderable films, transparent conductive, LWP/SWP and bandpass filters. We are specialists at coating temperature sensitive substrates including plastics, fiberoptic components including fiberends, ferrule assemblies, laser bars, TO caps and ball lenses and semiconductor materials. We offer IAD, IBS and APS deposition methods. Contact: Patrick Wenrich, Sales Engineer; Stephen Schaffer, Vice President.

Exotic Electro-Optics #732

36570 Briggs Rd, Murrieta, CA, 92563-2347

951/926-7645; fax 951/926-1984

EEO is a supplier of high quality infrared optics/optical subassemblies for military IR systems. We offer missile domes/electro-optical windows/subassemblies/imaging lenses & other components. Our precision optical products utilize infrared optical materials such as Sapphire/Zinc Sulfide/Zinc Selenide/Germanium & Silicon. EEO has become the largest producer of Sapphire windows & offers a number of optical coatings (i.e. anti-reflection coatings). Contact: Scot Quartucy, Business Development Manager, squartucy@exotic-eo.com; Evan Lundstedt, Director of Program Management/Business Development, elundstedt@exotic-eo.com.

Federal Laboratory Consortium for Technology Transfer #917

950 N Kings Hwy Ste 208, Cherry Hill, NJ, 08034

856/667-7727; fax 856/667-8009

tgrayson@utrs.com; www.federallabs.org

General Refreshment Sponsor

Fiberguide Industries, Inc. #201

SPIE Corporate Member

1 Bay St, Stirling, NJ, 07980-1529

908/647-6601; fax 908/647-8464

info@fiberguide.com; www.fiberguide.com

New Product: Eduraguide large core fiber w/ Hard Optical Polymer Clad Silica (HOPC) NA .39 & silica/silica NA.22.

Fiber Optic Solutions company to OEM market with line of standard and custom multi-mode, single-mode and graded-index optical fibers from the UV to NIR. Design, prototype and package optical fibers into custom assemblies from single fiber assemblies through multi-furcated input/outputs. Ultra precision 2D and V-Groove arrays, patch cords/jumper cables. Contact: Konrad Lisi, Director Marketing and Sales, klisi@fiberguide.com; Patrick Fung, Technical Sales Manager, pfung@fiberguide.com.

Fibertech Optica #407

SPIE Corporate Member

330 Gage Ave Ste 11, Kitchener, ON, Canada, N2M 5C6

519/745-2763; fax 519/576-0885

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

Designer and manufacturer of specialty multimode all-silica, HCS, PCS, Hard Clad all-Silica fibers. Spectral bands coverage from deep UV to MIR. Core diameters from 25um to 2000um. Also manufacturer of patchcords, bundles, reflectance and dip probes, high power laser assemblies, vacuum feedthrough, v-groove arrays. Capillaries and tapers also available! Contact: Jeff Dupuis, Sales & Marketing Manager, jeffdup@fto.ca.

Exhibitor Directory

Filmetrics, Inc. #1005

9355 Chesapeake Dr, San Diego, CA, 92123

858/573-9300; fax 858/573-9400

info@filmetrics.com; www.filmetrics.com

Measure films from 30 Å to 450 µm with Filmetrics spectral reflectance-based systems. Filmetrics features a full line of affordable UV-NIR spectrometer systems for measuring thickness, refractive index, absorption and deposition rates of thin films. Single-spot and imaging systems are available. Contact: Michael Klayman, Technical Sales Manager, Klayman@filmetrics.com; Scott Chalmers, President, chalmers@filmetrics.com.

Fisba Optik LLC #820

SPIE Corporate Member

Bldg E, 3495 Winton Pl Ste 120, Rochester, NY, 14623

585/427-9155; fax 585/427-9026

sales@fisbaoptik.com; www.fisbaoptik.com

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

Gamma Scientific, Inc. #300

SPIE Corporate Member

8581 Aero Dr, San Diego, CA, 92123-1722

858/279-8034; fax 858/576-9286

info@gamma-sci.com; www.gamma-sci.com

New Product: GS-1290-X High Sensitivity CCD Array Spectroradiometer.

GS-1290-X Series is our advanced, high-speed spectroradiometer family that combines the leading-edge sensitivity of backside-thinned CCD detector technology with Gamma Scientific's industry-renowned RadOMA opto-electrical platform. The GS-1290-X features millisecond measurement speed, exceptional low-light measurement capability and superior blue-light region sensitivity over conventional front-illuminated CCD-based systems. Contact: Quinn Adler, Sales, qadler@gamma-sci.com.

General Photonics Corp. #527

5228 Edison Ave, Chino, CA, 91710

909/590-5473; fax 909/902-5536

info@generalphotonics.com; www.generalphotonics.com

New Product: ERM-101: A polarization extinction ratio meter with dynamic range >50 dB.

General Photonics provides low cost, high performance solutions for polarization measurement/management and timing control. Applications include telecommunications, fiber optic sensors and optical coherence tomography. Major products: Polarization controllers, scramblers, synthesizers, stabilizers, and analysis instruments; PMD emulation and compensation platforms; digital programmable DGDs; variable optical delay lines and other special products. Contact: Bin Feng, Sales Engineer, bfeng@generalphotonics.com; James Fang, Product Coordinator, info@generalphotonics.com.

G-S PLASTIC OPTICS #606

SPIE Corporate Member

408 St Paul St, Rochester, NY, 14605

585/295-0200; fax 585/232-2314

info@gsoptics.com; www.gsoptics.com

G-S PLASTIC OPTICS manufactures optics for a variety of photonics applications, including imaging, scanning and detection, which require injection molded spherical or aspheric lenses, mirrors, Fresnel or diffractive optics in quantities that range from prototypes to high volume production. Whether for optical and mechanical design, injection molding, reflective or anti-reflective coatings or opto-electronic assemblies, G-S PLASTIC OPTICS is a one-stop source for precision polymer optics! Contact: Will Beich, Director of New Business Development, willbeich@gsoptics.com.

Coffee Break Sponsor

Hamamatsu Corp. #425

SPIE Corporate Member

360 Foothill Rd, Bridgewater, NJ, 08807-2932

908/231-0960; fax 908/231-1539

usa@hamamatsu.com; www.sales.hamamatsu.com

For more than 50 years, Hamamatsu has been the proven leader in the photonics industry. Hamamatsu is unsurpassed in innovations and dedication to research and development. Hamamatsu offers a vast range of devices for the generation and detection of light. Hamamatsu is known for quality, reliability, and customization. Contact: Craig Walling, Director of Marketing, cwalling@hamamatsu.com.

Hawaii Island Economic Development Board #905

117 Keawe St Ste 107, Hilo, HI, 96720

808/935-2180; fax 808/935-2187

www.hiedb.org

New Product: Hawaii Island astronomy and natural and life sciences.

The astronomy industry contributes approximately $140 million annually to the Hawaii Island economy, and $210 million annually statewide. Contact: Mark McGuffie, Executive Director, markmcguffie@hiedb.org.

Heinz Optical Engineering #1110

5625 Guicho Ct, San Diego, CA, 92124

858/245-5252

www.heinzoptics.com

Heinz Optical Engineering helps companies develop products that use optics. Most of our clients are biotech companies developing clinical laboratory instruments, often using fluorescence. We have also designed several industrial and medical illumination systems recently. We support all phases of the development process, from conception and feasibility studies to manufacturing engineering. Our main simulation tools are Zemax, TracePro, SolidWorks, and the TracePro-SolidWorks bridge. Contact: Eric Heinz, Owner, eric@heinzoptics.com.

Hellma International, Inc. #421

SPIE Corporate Member

80 Skyline Dr, Plainview, NY, 11803

516/939-0888; fax 516/939-0555

info@hellmausa.com; www.hellmausa.com

New Product: Laser Optics, PGS Nir Spectrometers, OEM gratings.

Manufacturer of Hellma Laser Optics, Spectrophotometer Cells, Fiber Optic Probes and accessories. Supplier of Zeiss Spectrometer modules 190-2200nm (in combination) for a variety of applications; Heraeus UV Light Sources incldiung D2, HCL, PID, Tungsten-Halogen, etc; tec5 electronics for readout of PDA/CCD arrays. Custom designs of all products. Contact: Ed Roth, Sales Engineer, eroth@hellmausa.com.

Heraeus Quartz America #906

SPIE Corporate Member

100 Heraeus Blvd, Buford, GA, 30518

678/714-4350; fax 678/714-4358

www.heraeusoptics.com

Heraeus Quartz America LLC. is a US subsidiary of Heraeus Quarzglas GmbH & Co. KG. Heraeus Quarzglas is one of the world's market and technology leaders in the manufacture of high-purity natural and synthetic fused glass used in the semiconductor, lamp, optics and optical communications markets. Contact: Bambi Everett, Marketing, Advertising & Promotions, bambi.everett@heraeus.com.

High Energy Laser Joint Technology Office #619

901 University Blvd SE Ste 100, Albuquerque, NM, 87106

505/248-8200; fax 505/245-2195

The High-Energy Laser (HEL) Joint Technology Office (JTO) supports basic and applied research to develop DoD HEL force protection systems. The organization supports technologies such as gas lasers, solid-state lasers, beam control, free-electron lasers and advanced lasers. Research is conducted by universities, government laboratories and industry. These types of investigations enhance the potential for making important breakthroughs in HEL-related technologies. Contact: Mark Neice, Director, High Energy Laser Joint Technology Officer, Mark.Neice@jto.hpc.mil.

Hinds Instruments, Inc. #409

3175 NW Aloclek Dr Ste 170, Hillsboro, OR, 97124-7135

503/690-2000; fax 503/690-3000

info@hindsinstruments.com; www.hindsinstruments.com

New Product: High Speed Optical Chopper at frequencies of 100-120 kHz for use with high-powered lasers.

Hinds Instruments manufactures instrumentation for Stokes polarimetry, high speed optical chopping and other polarization modulation applications. Our core technology, the photoelastic modulator (PEM), is an integral part of each instrument. The PEM operates in the vacuum UV to far-IR spectral regions at frequencies of 20-100 kHz. It's the ideal polarization modulation device for high performance applications in ellipsometry, linear & circular dichroism, rheology, spectroscopy and MOKE. Contact: Connie Wimmer, Technical Sales, sales@hindsinstruments.com; Amanda Bryan, Product Manager, sales@hindsinstruments.com.

Hitachi High Technologies America, Inc. #435

3100 N First St, San Jose, CA, 95134

408/548-9001; fax 408/432-0704

sales-ls@hitachi-hta.com; www.hitachi-hta.com

New Product: U-4100 UV-Vis/NIR Spectrophotometer.

The Hitachi U-4100 UV-Vis-NIR Spectrophotometer is a High-Performance, Double-Beam, Double-Monochromator Spectroscopy System. The U-4100 offers enormous flexibility for the evaluation and quality control of a wide variety of optical components over a wavelength range of 175-2600 nm The U-4100 is available with standard (200 x 200 mm) or large sample compartment (430 x 430 mm), a wide range of accessories for specular, absolute and diffuse reflectance and sample holders for various sample sizes. Contact: Luis Moreno, Spectroscopy Product Manager, luis.moreno@hitachi-hta.com; Amanda Natzke, Account Representative, amanda.natzke@hitachi-hta.com.

HOLOEYE Photonics AG #932

SPIE Corporate Member

Albert-Einstein-Str 14, Berlin, Germany, 12489

49 30 6392 3660; fax 49 30 6392 3662

contact@holoeye.de; www.holoeye.de

New Product: Phase Only Spatial Light Modulator - 1920x1080 pixel; 2 Pi phase shift up to 1064 nm.

HOLOEYE Photonics AG and its US-subsidiary, HOLOEYE Corp., are providing services and products in the fields of diffractive optics (DOE), spatial light modulation (SLM) and OEM microdisplay components.

HOLOEYE offers design and production services of diffractive micro-optical elements, Spatial Light Modulators (SLM) which are based on high-resolution translucent or reflective microdisplays and a great variety of microdisplay types and products as OEM solution in higher quantities. Contact: Klaus von Guenner, klaus.von.guenner@holoeye.com.

Lanyard Sponsor

HORIBA Jobin Yvon Inc. #634

SPIE Corporate Member

3880 Park Ave, Edison, NJ , 08820

732/494-8660; fax 732/549-5125

www.jobinyvon.com

Displaying optical spectroscopy instrumentation for research labs and OEM applications. Products include diffraction gratings, spectrometers, imaging spectrographs, CCD's, InGaAs Arrays, Sample Compartments and customized spectroscopy solutions. Contact: Kathy Swartout, Sales Engineer, kathy.swartout@jobinyvon.com; Dave Goodwin, Sales Engineer, dave.goodwin@jobinyvon.com.

Hoya Corp. USA #807

SPIE Corporate Member

3400 Edison Way, Fremont, CA, 94538

800/818-4692; fax 510/490-1988

opticsales@hoyausa.com; www.hoyaoptics.com

HOYA CORPORATION USA is a leading provider of optical materials and components. Our product portfolio includes Molded Aspheric Lenses, LCD Display Glass, CCD Cover Glass, Silicon Wafer Bonding Glass and Color Filter Glass. We also offer a variety of Coatings and Fabrication capabilities.

HTA Photomask #415

1620 Berryessa Rd Ste C, San Jose, CA, 95133-1026

408/259-9595; fax 408/259-4955

sales@htaphotomask.com; www.htaphotomask.com

New Product: Large area Step & Repeat and Pattern Generation up to 15" Glass.

HTA is an Engineering oriented PHOTOMASK COMPANY. We specialize in challenging opportunities for micro-imaging. We manufacture many imaged parts such as linear and rotary scales, photomasks, biomedical and deep channel etched parts. Optical components for use in equipment, TV camera alignment patterns, Micro imaged fresnel lenses, gratings, Laser scales and apertures. We can pattern stock glass, wafers, customer supplied specialty substrates and provide cutting services. Contact: Mykola Kulishov, Marketing & Business Development, MykolaK@htaphotomask.com; Kenneth Caple, Manager, Kenc@htaphotomask.com.

II-VI Inc. #927

375 Saxonburg Blvd, Saxonburg, PA, 16056-9449

724/352-1504; fax 724/352-4980

info@ii-vi.com; www.ii-vi.com

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

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

Incom, Inc. #418

SPIE Corporate Member

294 Southbridge Rd, Charlton, MA, 01550

508/765-9151; fax 508/765-0041

sales@incomusa.com; www.incomusa.com

Manufacturer of fiber optic faceplates for CCD arrays and image intensifiers. Capabilities include large format tapers, faceplates, image conduit, lightguides, microwell plates, capillary arrays and custom assemblies for medical and industrial applications. Contact: Michael Detarando, Vice President, Product Development, mad@incomusa.com; Allan Narris, Sales Engineer, aln@incomusa.com.

Instrument Design & Technology #918

7335 E Orchard Rd Ste 100, Greenwood Village, CO, 80111

720/528-3770; fax 720/528-3771

www.instrumentdesignandtechnology.com

Instrument Design & Technology is a new magazine serving instrument builders. It is focused on the information needs of technical and management professionals who design and manufacture instruments, test, measurement and monitoring equipment. For more information please visit our website or call 800 803 9488. Contact Joan Pauls, Adv Acct Manager, joanp@infowebcom.com.

Instrument Systems #1035

1505 Carling Ave Ste 301, Ottawa, ON, Canada, K1Z 7L9

613/729-0614

info@instrumentsystems.com; www.instrumentsystems.com

Instrument Systems is a supplier of high quality light measurement solutions with an emphasis on display and LED measurements. The CAS140 is a sensitive CCD-array spectroradiometer used for spectral luminance measurements of displays. The Lumicam is an Imaging Colorimeter-delivering luminance and chromaticity measurements over an entire display. The IQCam is an Imaging Photometer providing accurate, calibrated luminance and contrast characterization of displays. Contact: Ken Richardson, Senior Technical Sales Representative, kenr@instrumentsystems.com; Tim Moggridge, North American Manager, Timm@instrumentsytems.com.

Intellevation Ltd. #1109

5 Dalziel Rd, Hillington Park, Glasgow, United Kingdom, G52 4NN

408/264-3222; fax 408/264-3222

frank@labtec-sales.com; www.intellevation.co.uk

Intellevation offers optical monitoring for plasma etch and thin film coating systems. The IL 550 is a dual beam automated turnkey optical monitoring system. The LEP 300/400 laser endpoint detector provides real-time process control solutions for a wide range of etching applications. Contact: Frank Lowry, Director of Sales.

International Radiation Detectors, Inc. #221

SPIE Corporate Member

2527 W 237th St Unit A, Torrance, CA, 90505-5243

310/534-3661; fax 310/534-3665

irdinc@earthlink.net; www.ird-inc.com

New Product: Position sensing amplifier for the quadrant photodiodes.

Manufacturer of UV/VUV/EUV/X-ray photodiode sensors and associated electronics. IRD has radiometric characterization facility spanning in wavelength from 190nm to 2500nm. Contact: Raj Korde, President, rajkorde@ird-inc.com; Dejan Jovanovic, Device Engineer, dejan@ird-inc.com

IRphotonics #1014

627 McCaffrey, Montreal, QC, Canada, H4T 1N3

514/578-5060; fax 514/227-5210

info@irphotonics.com; www.irphotonics.com

IRphotonics is a leading manufacturer of mid infrared (MIR) optical fibers and materials that can be customized for specific wavelengths and applications such as homeland security, aerospace, process analytics, medical and telecommunications. Using enhanced patented ZBLAN (fluoride fiber) manufacturing technology and unique chemical compositions, IRphotonics provides quality glass and fiber at the lower cost. Contact: Jean-Sebastien Tasse, Sales Manager, sales@irphotonics.com.

Isuzu Glass Inc. #902

23505 Crenshaw Blvd Ste 130, Torrance, CA, 90505

310/517-1866; fax 310/517-1869

sales@isuzuglass.com; www.isuzuglass.com

New Product: Molded glass lenses. “Micro Lens Array and High Accuracy Aspheric Lens”.

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

ITT Night Vision #309

7635 Plantation Rd, Roanoke, VA, 24019

540/563-0371; fax 540/366-9015

nvsales@itt.com; www.nightvision.com

ITT Night Vision is the world's leading developer, producer and supplier of Generation 3 image intensifier technology for U.S. and allied military forces as well as Federal, state and local law enforcement. Contact: Harry Montoro, Director, Night Vision West, harry.montoro@itt.com.

J.A. Woollam Co. #704

645 M St Ste 102, Lincoln, NE, 68508-2243

402/477-7501; fax 402/477-8214

sales@jawoollam.com; www.jawoollam.com

Janos Technology, Inc. #308

55 Black Brook Rd, Keene, NH, 05341

603/757-0070; fax 603/757-0069

info@janostech.com; www.janostech.com

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

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

General Refreshment Sponsor

JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems #627

SPIE Corporate Member

Goeschwitzer Strasse 25, Jena, Germany, 07745

49 3641 65 3942; fax 49 3641 65 3494

www.jenoptik-los.com

New Product: Laser-rangefinder modules for long distances and high resolution camera modules for IR and VIS.

The Business Unit Sensor Systems of JENOPTIK Laser, Optik, Systeme GmbH focuses on three special fields: Laser sensors for distance measurement, infrared sensors for thermography and professional digital cameras. We provide smart and cost-effective sensor solutions for high-end applications, including the development, manufacture and sale of components, assemblies and systems. In addition to our own products, we also design and manufacture OEM units and devices to customers' specifications. Contact: Heiko Richter, International Sales Manager Infrared Technology, infraredtechnology@jenoptik.com; Werner Reiland, Manager Sales Laser Sensors, sensor.sales@jenoptik.com.

JENOPTIK Polymer Systems, Inc. #719

330 Clay Rd, Rochester, NY, 14623

585/272-6184; fax 585/272-6177

ldobosz@jenoptik-ps.com; www.jenoptik-ps.com/USA

Jenoptik Polymer Systems designs and manufactures polymer optical components and optoelectronic assemblies to customer specifications. The company is a full process chain supplier with complete in-house capabilities in optical design, diamond turning, injection molding, thin film coating and optoelectronic assembly and packaging. With factories in the USA, Germany and China customers benefit from our global supply chain capabilities. Contact: Lynn Dobosz, Senior Optical Program Engineer, ldobosz@jenoptik-ps.com; Scott Cahall, Chief Optical Scientist, scahall@jenoptik-ps.com.

Judson Technologies, LLC #801

221 Commerce Dr, Montgomeryville, PA, 18936-9641

215/368-6900; fax 215/362-6107

cgallen@judsontechnologies.com; www.judsontechnologies.com

New Product: Thermoelectrically cooled photovoltaic MCT for MWIR applications and large area InGaAs photodiodes for SWIR.

Judson Technologies is a global leader in the manufacture of high performance infrared photodetectors and accessories operating in the 1 to 26 micron spectrum. We are an OEM supplier of photodetector/dewar/preamplifier assemblies for cryogenic operation, and multi-stage thermoelectrically cooled photodetectors for spectroscopy and instrumentation applications. Material groups include Ge, InGaAs, InAs, InSb, PbS(e) along with PCMCT and PVMCT. Judson's technologies and products span single element and multi-element arrays utilized in commercial, space, and military industries. Contact: Mark Sediva, Sales Engineer, msediva@judsontechnologies.com; George Gasparian, Sales/Applications Engineer, ggasparian@judsontechnologies.com.

Kauai Economic Development Board #905

4290 Rice St, Lihue, HI, 96766

808/245-6692; fax 808/246-1089

www.kedb.com

The Kauai Economic Development Board is a 501(c)(3) non-profit organization established in 1984 to explore ways to diversify Kauai's economy and create and strengthen industries that can flourish on Kauai. Our current focus includes science, technology, diversified agriculture, health and wellness and visitor industry support. Contact: Mia Ako, Finance & Business Development Officer, mako@kedb.com.

Kigre, Inc. #734

100 Marshland Rd, Hilton Head Island, SC, 29926

843/681-5800; fax 843/681-4559

kigreinc@cs.com; www.kigre.com

New Product: MK-88 and MK-81 High Efficiency Side Pump, (HESP) Diode Pumped Solid State Lasers (DPSS).

Kigre manufactures solid-state laser transmitters, laser glass and laser components. New compact eye-safe high power diode pumped 1.54um lasers suitable for laser range-finding, range-gated imaging and LIBS. The MK-88 and MK-81 are the first two examples of a new Kigre laser product family based upon conduction cooled High Efficiency Side Pump, (HESP) Diode Pumped Solid State Lasers (DPSS). Contact: Michael Myers, President, kigreinc@cs.com; Jeff Myers, Vice President, jeffmyers@hargray.com.

Exhibitor Directory

Kreischer Optics, Ltd. #512

1729 Oak Dr, McHenry, IL, 60050-0306
815/344-4220; fax 815/344-4221
optics@kreischer.com; www.kreischer.com

New Product: Specializing in aspheres, and now offer in-house coating; produced in the USA.

Kreischer Optics, a world leader in the manufacture of aspheres, has built a reputation for high quality precision flat, spherical and cylindrical optics since 1948. We offer free engineering advice to our customers, specialize in working directly with your designer and now coat in-house. Custom aspheric lenses are competitive with spherical optics in price and lead-time. We produce 10-200mm diameter prototype to hundreds in production. See our website for design guidelines or call. Contact: Cody Kreischer, President, cody@kreischer.com.

L-3 InfraredVision Technology Corp. #1024

140 Industrial Way, PO Box 1727, Buellton, CA, 93427
805/686-8848; fax 805/686-8858
info.itc@l-3com.com; www.l-3com.com/itc

New Product: VOx Thermal Imaging Solutions.

L-3 ITC is a global supplier of core infrared camera components providing cost effective VOx performance solutions. The L-3 ITC products offer unique on-chip, non-uniformity correction and gain control. These features, coupled with impressive performance specifications provide outstanding imaging and radiometry for all market applications. Contact: James Giacobazzi, Division President, jim.giacobazzi@L-3com.com; Dale Van Deusen, Product Manager, dale.vandeusen@L-3com.com.

Labsphere, Inc. #1021

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

Labsphere has provided innovative light measurement technology since 1979. Products include light measurement systems for LEDs, lasers, and traditional light sources; uniform light sources to calibrate imaging devices and camera systems in the visible and IR; and reflectance standards for calibrating spectroscopic measurement systems. Labsphere also provides systems and components to OEMs in industries including spectroscopy, laser diode test and measurement, semiconductor and medical.

Labtec Sales #1109

4501 Heppner Ln, San Jose, CA, 95136
408/264-3222; fax 408/264-3222
frank@labtec-sales.com; www.labtec-sales.com

Labtec Sales proudly represents the leading manufacturers of systems and components for the Photonics Industry. These products represent the industry's best in both process and hardware solutions. We invite you to stop by our booth and take a look at the array of products available through Labtec Sales' key vendors. Contact: Frank Lowry, Director of Sales.

Lambda Research Corp. #307

SPIE Corporate Member

25 Porter Rd, Littleton, MA, 01460-1434
978/486-0766; fax 978/486-0755
sales@lambdares.com; www.lambdares.com

New Product: Demo TracePro 4.0 (beta), optical software that includes photo-realistic rendering and fluorescence.

Lambda Research provides optical engineering solutions by developing world-class optical software programs and providing expert optical engineering consulting. Our software programs include: OSLO, for optical design and analysis of image-forming systems, TracePro, for stray-light analysis and illumination design, and TracePro Bridge™ for SolidWorks, for 3D MCAD interoperability with optical software.

Lambda Research Optics Inc. #900

SPIE Corporate Member

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

New Product: LaseRemap: diffractive beam shaping module, CO_2 Optics, IR coating and 3um-5um coating service.

Lambda Research Optics is a leading manufacturer of precision laser optics for ultraviolet, visible and infrared applications. The company specializes in high damage threshold coatings and high precision polishings. Lambda manufactures catalog optics as well as highly custom optical components and systems. Lambda provides optics in prototype to production quantities. Contact: Jae Oh, Marketing Assistant Manager, joh@lambda.cc; James Choi, Sales Assistant Manager, jchoi@lambda.cc.

LAS-CAD GmbH #521

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

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

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

Laser Focus World #715

SPIE Corporate Member

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

Lasertel, Inc. #211

SPIE Corporate Member

7775 N Casa Grande Hwy, Tucson, AZ, 85743

520/744-5700; fax 520/744-5766

info@lasertel.com; www.lasertel.com

New Product: Lasertel's new array packages are optimized to your specific conditions.

Lasertel is a vertically-integrated semiconductor laser manufacturer. In-house epitaxy, wafer processing and packaging enables consistent delivery of a wide range of standard and customer-specific product solutions. Lasertel's chips, bars and fiber-coupled devices are available with peak wavelengths from 790nm to 1000nm and peak powers from 200mW to 1kW. Contact: Robert Walker, Director of Sales & Marketing, rwalker@lasertel.com; Robin Stroud, Sales & Marketing Representative, rstroud@lasertel.com.

Lebow Company #1108

5960 Mandarin Ave, Goleta, CA, 93117

805/964-7117; fax 805/964-7117

www.lebowcompany.com

LEISTER Technologies LLC #718

SPIE Corporate Member

1253 Hamilton Pkwy, Itasca, IL, 60143

630/760-1000; fax 630/760-1001

info@leisterusa.com; www.axetris.com

New Product: MicroLens Arrays for Fiber Collimation (DWDM, MUX, OADM), Laser Diodes, and Optical Switching.

Leister - Axetris Microsystems develops and manufactures microlens arrays, diffractive optics and infrared sources. Our standard and OEM solutions include optics for Fiber Array Collimation (DWDM, MUX, OADM), Laser Diode Collimation, Shack-Hartmann Sensors, & Optical Switching. ISO 9001:2000 certified, combined with 50 years of manufacturing experience, makes Swiss-based LEISTER a reliable supplier. Contact: John Vrakas, Axetris Microsystems Sales, john.vrakas@leisterusa.com.

Liebmann Optical Co. #515

1 Industrial Pky, Easthampton, MA, 01027-1164

413/527-0079; fax 413/527-5132

sales@liebmann.com; www.liebmann.com

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

Lightspeed Technologies #432

SPIE Corporate Member

90 Hardy Ave, Campbell, CA, 95008

408/761-0062; fax 408/378-3629

randall.wilcox@light-speed-tech.com; www.light-speed-tech.com

New Product: LEDs for scientific applications such as Imaging, daylight simulation and detector testing.

Lightspeed Technologies products include opto-mechanics, precision and automated alignment, long travel piezo stages and fiber launching. Instruments offered are spectrometers, spectroscopic systems, wavefront sensors. Light sources include broadband fiber coupled light sources, high and low intensity LEDs, fiber lasers and lamps. Our engineering services can assist with integrating our products or prototyping new instruments and subsystems. Contact: Randall Wilcox, Sales Manager.

Lockheed Martin #905

3375 Koapaka St Ste I-500, Honolulu, HI, 96819

808/254-1532; fax 808/838-4090

www.lockheedmartin.com

Lockheed Martin is a highly diversified $35.5 billion advanced technology company and strategic leader in the aerospace industry with major positions in information systems, software development, space, launch vehicles, aeronautics, electronics, environmental services and energy programs. The corporation is organized into five core business areas: Aeronautical Systems, Space Systems, Electronic Systems, Information & Technology Services and Integrated Systems & Solutions. Contact: Ty Aldinger, Director - Hawaii Operations, ty.aldinger@lmco.com; Chancy Hopper, Project Engineering Manager, Maui Operations, chancy.hopper@lmco.com.

Lumerical Solutions, Inc. #605

789 W Pender St Ste 660, Vancouver, BC, Canada, V6C 1H2

604/733-9006; fax 604/733-3188

sales@lumerical.com; www.lumerical.com

New Product: FDTD Solutions & MODE Solutions: High-performance single and multi-processor design software.

Lumerical Solutions, Inc. empowers device and component designers with capabilities to create next-generation optical, photonic and electromagnetic technologies correctly the first time. Our customers use our best-in-class software to innovate in the biophotonics, display technology, integrated optics, optical storage, semiconductor manufacturing and solid-state lighting industries. We are the future of optical design. Contact: Paul Paddon, Director of Sales.

Lumetrics, Inc. #1109

150 Lucius Gordon Dr, Rochester, NY, 14586

585/214-2455; fax 585/272-0054

frank@labtec-sales.com; www.lumetrics.com

Lumetrics has created the new standard in thickness gauging for specialty film, flexible packaging and optics. The DI 330 OptiGauge is a revolutionary non-contact, non-destructive, gauging system with the highest guaranteed accuracy. Contact: Frank Lowry, Director of Sales.

Exhibitor Directory

M³ Measurement Solutions Inc. #533

SPIE Corporate Member

31315 Alisa Dr, Valley Center, CA, 92082

760/749-7159; fax 760/749-7152

sales@m3msi.com; www.m3msi.com

We provide measurement of Refractive Index, dN/dT and Dispersion from 350nm to 18um with temperature ranges from -268C to +200C. We also provide custom test-station design, build and automation for unique applications. Contact: Erik Stover, Business Development Manager, estover@m3msi.com; Jim Grimes, Engineering Manager, jgrimes@m3msi.com.

Marlow Industries, Inc. #927

10451 Vista Park Rd, Dallas, TX, 75238

214/340-4900; fax 214/341-5212

www.marlow.com

Marlow Industries, Inc. is the world's largest designer, manufacturer and supplier of Thermoelectric coolers/heaters and provider of thermal solutions that employ the heat pumping modules. High reliability single through six stage coolers have been provided to military, space and laser platforms for over 33 years. Thermal Reference Sources and temperature stabilization for IR detectors and light sources have been provided for more than 50 FLIR and Thermal Imaging Systems. Contact: Bill Kolander, Senior Account Executive, bkolander@marlow.com.

Materials Engineering News #916

7335 E Orchard Rd Ste 100, Greenwood Village, CO, 80111

720/528-3770; fax 720/528-3771

softpub@infowebcom.com; www.infowebcom.com

MATERIALS ENGINEERING NEWS is a magazine for materials scientists and engineers in industry. It covers the latest developments in all aspects of advanced and high-performance materials, engineered materials, new materials products and technologies and business news of the materials industry. For more information visit www.materialsengineeringnews.com. Contact: Debra Hall, Vice President of Sales, debra@infowebcom.com.

Maui Economic Development Board #905

1305 N Holopono St Ste 1, Kihei, HI, 96753

808/875-2340; fax 808/879-0011

www.medb.org

MEDB is a non-profit organization, dedicated to providing leadership and vision in the community for responsible design and development of a strong, diversified and sustainable economy. Contact: Tom Liu, High Tech Maui Program Director, tom@medb.org.

Max Levy Autograph, Inc. #321

SPIE Corporate Member

220 W Roberts Ave, Philadelphia, PA, 19144-4298

215/842-3675; fax 215/842-3637

sales@maxlevy.com; www.maxlevy.com

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

MediVision Optics #203

1440 S State College Blvd #1D, Anaheim, CA, 92806

714/563-2772; fax 714/563-2711

optics@medivisionusa.com; www.medivisionusa.com

MediVision manufactures custom optics ranging from spherical, flat to multi-element systems. Sizes ranging from 0.5mm to 400mm. Additional capabilities include ground and polished aspheric lenses. We work with customers from prototype to production. Contact: Roxanne Johnson, OEM Optics Sales Manager, rjohnson@medivisionusa.com.

Melles Griot #811

SPIE Corporate Member

2051 Palomar Airport Rd, #200, Carlsbad, CA, 92011

760/268-5131; fax 760/804-0049

sales@catalog.mellesgriot.com; www.mellesgriot.com

Melles Griot lasers, instruments & photonic components enable the practical application of light. As your supplier of choice we provide unequalled technical assistance, high quality affordable components for OEM production and a global support team ready to assist you with over 25,000 catalog parts. For lasers: sales@carlsbad.mellesgriot.com, for catalog components: sales@catalog.mellesgriot.com; for custom/OEM optics: sales@rochester.mellesgriot.com. Visit booth 811 for our latest catalog.

MEMS Optical Inc. #217

SPIE Corporate Member

205 Import Cir, Huntsville, AL, 35806

256/859-1886; fax 256/858-0581

info@memsoptical.com; www.memsoptical.com

New Product: IR microoptics using materials like ZnSe, ZnS, Ge, GaP, GaAs, Si and Sapphire.

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

MICOS USA #1121

15375 Barranca Pkwy Ste G-101, Irvine, CA, 92618

949/480-0538; fax 949/480-0538

mschneider@micosusa.com; www.micosusa.com

MICOS serves the high precision motion and optical component market. As a well-established company in that market, MICOS has become a competent, reliable partner and supplier for industry and research specializing in laser and microwave technology, communications, semi-conductor technology and micro-manipulation. MICOS offers a wide range of precision mechanical components and complete system solutions which are used in the field of ultra-precision-positioning.

Micro Laser Systems, Inc. #306

SPIE Corporate Member

12841 Western Ave Ste H, Garden Grove, CA, 92841

714/898-6001; fax 714/897-0979

sales@microlaser.com; www.microlaser.com

New Product: Turnkey Fiber Coupled Lasers and Z polarizer.

Manufacturer of diffraction limited free space & fiber coupled diode lasers. Turnkey and OEM lasers from 375nm-1600nm are highly stable, have narrow linewidths and low noise. Accessories include fiber collimators, couplers, beam expanders, focusing assemblies, polarizers for just the right beam. Excellent for Raman & NIR spectroscopy, ophthalmology, confocal microscopes, fluorescence excitation and interferometry. Custom laser/optical integrated systems are routinely manufactured for OEM users. Contact: Norma Adachi, Marketing, norma@microlaser.com.

General Refreshment Sponsor

Micro Photonics Inc. #525

SPIE Corporate Member

21 Morgan Ste 100, Irvine, CA, 92618

866/333-4674; fax 949/461-9292

info@microphotonics.com; www.microphotonics.com

New Product: Achieve up to 30 different optical pen configurations with new confocal chromatic optical pens.

Micro Photonics is a leading source of advanced instrumentation for scientific and industrial research. Clients rely on us for innovative solutions, technically superior products and comprehensive laboratory contract service for tribology, nano-indentation, adhesion and scratch testing, profilometry, micro-tomography, imaging and other related fields of materials and thin films research Contact: Craig Leising, Sales Engineer, craig@microphotonics.com; Pierre Leroux, General Manager, pierre@microphotonics.com.

Mildex, Inc. #710

SPIE Corporate Member

1388 Crittenden Rd, Rochester, NY, 14623-2308

585/473-6540; fax 585/475-1971

mildex@eznet.net; www.mildex.com

Mildex will display Trioptics OptiSpheric/OptiCentric pc-based optical test station. OptiSpheric is designed to accurately measure optical parameters of lenses and assemblies. OptiSpheric provides fast and reliable test results of EFL, BFL, FFL, MTF, Radius and Centering errors. Also available is Trioptics Ultra-Spherotronic high resolution spherometer for measurement of radius that is directly traceable to NIST. Contact: Harvey Miller, President.

Mindrum Precision, Inc. #720

SPIE Corporate Member

10000 Fourth St, Rancho Cucamonga, CA, 91730

909/989-1728; fax 909/987-3709

sales@mindrum.com; www.mindrum.com

New Product: LaserAce LM150 and LaserAce LM 300. Eye Safe Distance Measuring Lasers.

Now Celebrating our 50th Anniversary in the Industry as a custom manufacturer of glass, quartz, ceramic and exotic material components. 5 axis capabilities in drilling and shaping. Special products include dampers, window assemblies, flow cells and optical filters. Flat, cylindrical and custom lenses including Super Polishing to Sub Angstrom on some materials and shapes. Glass and Quartz Blowing. Prototype to Production. Contact: Todd Van Son, Sales, Sales@mindrum.com.

Minus K Technology #608

SPIE Corporate Member

420 S Hindry Ave Unit E, Inglewood, CA, 90301

310/348-9656; fax 310348-9638

sales@minusk.com; www.minusk.com

New Product: Minus K Low Height BM-10 Isolator.

Minus K Technology manufactures vibration isolation products ideal for SPMs, SEMs, micro-hardness testers, laser and optical systems and other metrology tools. They are easy-to-use, low-cost, passive, vacuum-adaptable and require no air supply. Guaranteed 1/2 Hz natural frequencies make them very effective against low-frequency building vibrations. Isolation performance is typically 10 to 100 times better than high-performance air tables and even better than the higher-priced active systems. Contact: Erik Runge, Director of New Product Development, erik@minusk.com; David Platus, President, david@minusk.com.

Molecular Imprints, Inc. #910

SPIE Corporate Member

1807 W Baker Ln Bldg C-100, Austin, TX, 78758-3605

512/339-7760; fax 512/339-3799

info@molecularimprints.com; www.molecularimprints.com

Molecular Imprints, Inc. (MII) is a global manufacturer of nano-lithography systems for high resolution and 3D pattern replication. MII has commercialized a proprietary imprint lithography technology,S-FIL™, which is a room temperature, low pressure process that has demonstrated sub-20 nm resolution. MII provides enabling lithography systems for patterning of photonic crystal structures and other controlled surface roughening features for high brightness LEDs. Contact: Scott Balaguer, Vice President of Sales, sales@molecularimprints.com.

Molecular Machines & Industries, Inc. #633

PO Box 23991, Knoxville, TN, 37933-1991

865/988-7500; fax 865/988-6666

armstrong@molecular-machines.com; www.molecular-machines.com

New Product: Cellmanipulator: The 10-trap optical tweezer by MMI.

Cellmanipulator is an easy to use, PC controlled optical tweezer which enables the researcher to utilize up to 10 optical traps simultaneously or individually. The system employs a cw Nd:YAG laser and a galvo set for true “click-n-tweeze” operation. The Cellmanipulator is a turn key optical tweezer compatible with Nikon, Olympus, and Zeiss microscope platforms. Contact: Don Armstrong, General Manager - MMI, Inc. (United States), armstrong@molecular-machines.com; Stefan Niehren, Chief Technical Officer - MMI GmbH (Germany), niehren@molecular-machines.com.

MPF Products #1109

3046 Bramlett Church Rd, Grey Court, SC, 29645

864/876-9853; fax 864/876-2465

frank@labtec-sales.com; www.mpfpi.com

MPF Products designs and manufactures ceramic to metal seals for UHV feedthroughs and viewports. In addition to their full line of standard products MPF is able to design and fabricate custom products for any specialty applications. Contact: Frank Lowry, Director of Sales.

Naked Optics Corp. #817

SPIE Corporate Member

8 Heritage Ct, North Branch, NJ, 08876

908/685-0352; fax 908/685-0353

sales@nakedoptics.com; www.nakedoptics.com

New Product: IR Transmitting Glass.

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

Nanjing Chunhui Science & Technology Industrial Co., Ltd. #506

30 Andeli Yuhua W Rd, Nanjing, Jiangsu, China, 210012

86 25 85017569; fax 86 25 52436126

vickywang@hotmail.com; www.china-light-guides.com

New Product: Endoscope, image guide bundle. Glass optic fiber, plastic optic fiber, silica optic fiber.

Contact: Vicky Wang, Salesman, ftm@china-light-guides.com.

Nanopoint, Inc. #905

900 Fort Street Mall Ste A20, Honolulu, HI, 96813

808/457-1145; fax 808/537-4245

www.nanopointimaging.com

New Product: Nanopoint's cellTRAY™ system represents the latest technology in "Lab-on-a-Chip" (LOC) solutions.

Nanopoint, Inc. is a bio-nanotechnology company. The company is commercializing a platform for intracellular imaging. Nanopoint's new product line enables non-destructive continuous imaging of objects and processes within living cells, at resolutions starting at 50 nanometers. Contact: Roger Lay, Vice President Business Development, roger@nanopointimaging.com.

Naso Corp. #205

3007 Bunsen Ave Ste Q, Ventura, CA, 93003

805/650-1231; fax 805/650-0504

scott@persico.net

Nerac, Inc. #1115

One Technology Dr, Tolland, CT, 06084

860/872-7000; fax 860/872-6026

info@nerac.com; www.nerac.com

Scientists, engineers and intellectual property professionals turn to the cross-disciplinary research expertise of Nerac for effective resolution techniques and forward-thinking analyses. Nerac Analysts equip clients with the knowledge to develop or refine a technology, explore market opportunities and evaluate intellectual property strategies. Nerac measures its success by the victories each client achieves, big or small.

New Focus, Inc. #1015

SPIE Corporate Member

2584 Junction Ave, San Jose, CA, 95134-1902

408/919-1500; fax 408/980-8883

contact@newfocus.com; www.newfocus.com

Leading supplier of Simply Better™ photonics tools. Products include tunable lasers, detectors & receivers, modulators, motion-control actuators & solutions, optomechanical components, breadboards & workstations, and optics. New products: high-efficiency modulators, new tiny Picomotor™ actuators, new tunable lasers, avalanche photodiode receivers, quadrant cell receivers, singlet lenses, integrated motion-control solutions, and new optomechanical components.

Internet Pavilion sponsor, Wi-Fi Internet Sponsor

Newport Corp. #301

SPIE Corporate Member

1791 Deere Ave, Irvine, CA, 92606-4814

949/863-3144; fax 949/253-1680

sales@newport.com; www.newport.com

Newport is a premier global resource for customers that need to make, manage and measure light. As a company we have over 40 years of dedication to the research market delivering quality products and complete solutions for the lab environment. Our research customers benefit from innovative single-source solutions ranging from the light source to detection, backed by outstanding customer service, value and applicable expertise to enhance their research efforts. Contact: Jason Eichenholz, Director of Strategic Marketing, jason.eichenholz@newport.com; Ellen McGuirk, Vice President of Corporate Marketing, ellen.mcguirk@newport.com.

Night Vision Systems, Inc. #419

SPIE Corporate Member

4485 Danube Dr Ste 12, King George, VA, 22485

540/644-1025; fax 540/644-1025

nightvision@syntronics.net; www.syntronics.net

New Product: Perimeter Sentry - Surveillance device that alarms when a covert electro-optical beam is broken.

Manufacturer of stock and custom intensified CCD cameras (Gen I, II, III, IV, near-IR and UV) in gated and ungated configurations, local or computer controlled. Direct view systems, intensified lens assemblies, gate amps and control boxes are also available. Services include e-o consulting, CCD window removal, fiberoptic window insertion. GPS guided control systems, homeland security systems, perimeter detection devices, forensic products and systems. Contact: Michael Thorsted, President, NVS Division, mthorsted@syntronics.net; Stacey Miller, Marketing, NVS Products, smiller@syntronics.net.

NorPix, Inc. #914

1751 Richardson St Ste 6117, Montreal, QC, Canada, H3K 1G6

514/846-0009; fax 514/846-0117

sales@norpix.com; www.norpix.com

NovaSol #905

733 Bishop St Ste 2800, Honolulu, HI, 96813

808/441-3600; fax 808/441-3601

marketing@nova-sol.com; www.nova-sol.com

New Product: Hyperspectral imaging sensors, free-space optical communications, data fusion and exploitation.

NovaSol offers leading-edge solutions, technology and engineering to the DoD and industry in ISR, optical communications, bio-agent detection and training range targeting. Core competencies are in sensors, optics, navigation and stabilization, spectral and spatial algorithms, onboard processing systems and data analysis. NovaSol's current efforts are producing advances in Target-Track-Locate (TTL), HSI sensor miniaturization and compact optical communications for special operations. Contact: Sandie Osbourne, Marketing Manager, sandra.osbourne@nova-sol.com.

NP Photonics #601

9030 S Rita Rd Ste 120, Tucson, AZ, 85747

520/799-7400; fax 520/799-7403

info@npphotonics.com; www.npphotonics.com

NP Photonics is producing innovative glass and fiber to design and manufacture a new class of advanced optical light sources. The products are based on proprietary glass, fiber and intelligent controls. NP Photonics single frequency fiber lasers are optimized for low phase & intensity noise, along with broadband ASEs optimized for high power & bandwidth. These products are positioned for sensing applications that utilize optical fiber, R&D/scientific markets and biomedical OCT applications. Contact: Philippe Brak, Vice President of Sales and Marketing, pbrak@npphotonics.com.

Welcome Reception Sponsor

Ocean Optics, Inc. #701

SPIE Corporate Member

830 Douglas Ave, Dunedin, FL, 34698-5761

727/733-2447; fax 727/733-3962

info@oceanoptics.com; www.oceanoptics.com

New Product: The USB4000 spectrometer has enhanced electronics & optical resolution and faster integration times.

Ocean Optics is the leader in optical sensing and spectroscopy solutions. We are expanding the frontiers of optical sensing, making it an innovative foundation where life-changing ideas are built. With diverse applications in chemistry, biological research, environmental monitoring and education, our extensive line of complementary technologies include spectrometers, sampling accessories, sensors and optics. Visit our website for more information.

OFR, Inc. #632

SPIE Corporate Member

PO Box 82, Caldwell, NJ, 07006

973/228-4480; fax 973/228-0915

shows@ofr.com; www.ofr.com

New Product: OFR offers several new fiber isolators for the fiber laser market with 10W models for SM & PM fiber.

OFR manufactures Classical Optics, Fiber Optics and Isolators. Products include: Optical isolators, precision optical components, lenses, prisms, beam expanders, polarizing optics, fiber optic products for semiconductor diode lasers, fiber isolators, fiber circulators, fiber collimators and FiberBench fiber coupling systems. Custom design, optical engineering, OEM and prototype development are also available. Contact: Geetha Abraham, Sales Manager, info@ofr.com.

Ohara Corp. #511

23141 Arroyo Vista Ste 200, Rancho St Marg, CA, 92688-2613

949/858-5700; fax 949/858-5455

info@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, ultralow expansion glass, negative expansion, and glass ceramic substrates. Supplier of double-sided polished substrates (low surface roughness/excellent flatness). Estab: 1981. Execs: Brion Hoffman, President; Robert Lee, Sales Engineer; Janet Cole, Sales Coordinator. Contact: Brion Hoffman, President, brionhoffman@oharacorp.com; Robert Lee, Sales Engineer, robertlee@oharacorp.com.

Olympus Micro Imaging #803

One Corporate Dr, Orangeburg, NY, 10962

866/642-4725; fax 800/233-0697

info@olympusmicroimaging.com; www.olympusmicroimaging.com

New Product: Olympus is displaying its latest tools providing both imaging and measurement.

A leading manufacturer of professional Industrial Micro-Imaging products. Olympus pioneers key technologies in the fields of Manufacturing, Quality Assurance, Quality Control and Research and Development. Contact: Matt Smith, Director of Micro-Imaging Business, matt.smith@olympusindustrial.com; Yasumitsu Uehara, Product Manager, yasumitsu.uehara@olympusindustrial.com.

Omega Optical, Inc. #535

Delta Campus, Omega Drive, Brattleboro, VT, 05301

802/254-2690; fax 802/254-3937

sales@omegafilters.com; www.omegafilters.com

Omega Optical services the world's leading OEMs & has developed one of the largest ranges of capabilities & product lines in the thin-film industry. We manufacture filters from UV to the near IR, including bandpass, longpass, shortpass, rejection band, neutral density, laser line, analytical, astronomy & fluorescence filters. Our filters are being used in the next generation of life science & industrial optical instruments. Contact: Pamela Roberts, Office Manager.

Omega Optics, Inc. #208

SPIE Corporate Member

10435 Burnet Rd Ste 108, Austin, TX, 78758

512/996-8833; fax 512/873-7744

info@omegaoptics.com; www.omegaoptics.com

New Product: Optical active components-transceivers and EDFA amplifiers and optical passive components.

Omega Optics, Inc. was founded in 2001 to design and fabricate optical components based on the planar integrated polymer waveguide technology. The critical optical components such as optical switch, true-time-delay and backplane bus are under development with number of DoD SBIR funded projects. The current commercialized products include full-line optical active components and optical passive components Contact: Wilson Zhong, Marketing Engineer, wilson.zhong@omegaoptics.com.

Exhibitor Directory

ONTAR Corp. #304

SPIE Corporate Member

9 Village Way, North Andover, MA, 01845-2000

978/689-9622; fax 978/681-4585

info@ontar.com; www.ontar.com

New Product: New PcNvMod software provides an interface for the full version of PcModWin (MODTRAN) and NVThermIP.

Ontar Corporation is a research and development company dedicated to helping companies worldwide to develop, deploy and integrate software applications. We offer solutions to enterprises of all sizes, providing service to over 3500 government, universities and commercial facilities. Ontar specializes in atmospheric sciences, technical software development, electronic publishing, advanced distributive learning and web applications. Ontar also provides custom online, onsite and offsite workshops. Contact: Michelle Folaron, Director, Sales and Marketing, mfolaron@ontar.com; John Schroeder, President, jschroeder@ontar.com.

Onyx Optics Inc. #319

6551 Sierra Ln, Dublin, CA, 94568

925/833-1969; fax 925/833-1759

sales@onyxoptics.com; www.onyxoptics.com

Onyx Optics' product capabilities include Adhesive-Free Bonded (AFB) crystal and glass laser components such as laser rods, slabs, preforms, and waveguiding structures with doped and undoped YAG, YLF, YVO_4, sapphire, CVD diamond and other crystals and glasses. Our composites enable higher efficiency, more compact, and higher power solid state laser and photonic devices. Contact: Lesley Reo, Sales & Marketing Manager, lreo@onyxoptics.com.

Optical Perspectives Group, LLC #912

5130 N Calle La Cima, Tucson, AZ, 85718

520/529-2950

reparks@optiper.com; www.optiper.com

New Product: CaliBall - A device for calibrating interferometer divergers and transmission spheres.

An optical engineering consultancy specializing in the hardware aspects of prototype optical fabrication, testing, assembly and alignment. Optical and opto-mechanical design of practical tests and alignment methods for off-axis optical components and systems including folded systems are representative examples of our work. Contact: Robert Parks, President, reparks@optiper.com.

Optical Research Associates #700

SPIE Corporate Member

3280 E Foothill Blvd Ste 300, Pasadena, CA, 91107

626/795-9101; fax 626/795-9102

info@opticalres.com; www.opticalres.com

Optical Research Associates will exhibit two optical design software products. LightTools® provides virtual prototyping, simulation, optimization and photorealistic renderings of precision illumination systems. CODE V® has state-of-the-art capabilities for lens optimization, analysis, tolerancing, beam propagation and coupling efficiency. Engineering services will also be exhibited. Contact: Stuart David, North American Sales Manager; John Tamkin, Director of Engineering, engr@opticalres.com.

Optics & Laser Europe #1009

IOP Publishing Ltd., Dirac House Temple Back, Bristol, United Kingdom, BSI 6BE

44 117 929 7481; fax 44 117 930 1178

fiona.walker@iop.org; www.iop.org

Optics & Laser Europe is the leading European magazine for the photonics industry. Covering the global photonics industry, including opinion and analysis on the latest research and technologies, it provides its readers with news, R&D, features, Product Guides, extensive show previews and the quarterly EOS newsletter. To subscribe free of charge to *Optics & Laser Europe* complete the online form at http://optics.org/subscribe/ole. Contact: Robert Fisher, Group Ad Sales Manager, robert.fisher@iop.org; Meghan Cavanaugh, Sales Executive, cavanaugh@ioppubusa.com.

OPTICS 1, Inc. #532

SPIE Corporate Member

3050 Hillcrest Dr Ste 100, Westlake Village, CA, 91362

805/373-9340; fax 805/373-8966

info@optics1.com; www.optics1.com

Optics 1, Inc.'s uniquely experienced staff has the broad background to design, develop, prototype, and manufacture precision electro-optical systems for commercial and government applications. We leverage our expertise in end-to-end system design within the disciplines of optics, electronics, mechanics, and software to deliver state-of-the-art integrated systems. Contact: Drew Osterman Director, Business Development, dosterman@optics1.com.

Optics Technology, Inc. #503

3800 Monroe Ave Ste 6, Pittsford, NY, 14534

585/586-0950; fax 585/248-2371

info@opticstechnology.com; www.opticstechnology.com

Opti-Forms, Inc. #408

42310 Winchester Rd, Temecula, CA, 92590

951/296-1300; fax 951/296-1178

info@optiforms.com; www.optiforms.com

Opti-Forms is a designer, manufacturer and international supplier of: Stock and custom electroformed reflective optics including ellipsoids, paraboloids, spherical and aconic reflectors; off-axis and two-axis linear reflectors; coldshields; reflector assemblies; plus thin-film optical coatings including high reflectance metallic, dielectric, antireflective, dichroic cold mirror and UV enhancements. Contact: Richard Robinson, Vice President Sales, Marketing & Business Management, drobinson@optiforms.com; Robert Brunson, Director, Sales and Customer Support, rbrunson@optiforms.com.

Optikos Corp. #411

SPIE Corporate Member

286 Cardinal Medeiros Ave, Cambridge, MA, 02140

617/354-7557; fax 617/354-5946

info@optikos.com; www.optikos.com

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

Optimax Systems, Inc. #813

SPIE Corporate Member

6367 Dean Pky, Ontario, NY, 14519-8939

585/265-1020; fax 585/265-0793

sales@optimaxsi.com; www.optimaxsi.com

Prototype optics in 1 week. Optimax provides rapid prototyping of precision optical components in sizes from 3 to 300mm and quantities of 1 to 100. Specializing in Asphere, Cylinder, Sphere and Plano/Flat optics. All parts are manufactured to customer supplied specifications and final inspection data is included with the optics. www.optimaxsi.com. Contact: Rick Plympton, Vice President.

OptiPro Systems #816

SPIE Corporate Member

6368 Dean Pky, Ontario, NY, 14519

585/265-0160; fax 585/265-9416

lynda@optipro.com; www.optipro.com

New Product: OptiPro ePX 150 UltraForm - Spherical, Aspherical and Conformal 5-axis CNC Polishing machine.

Fabrication products include CNC Optical Machining Centers and Cad/Cam software for 4/5 axis grinding & polishing of spherical, aspherical and conformal optics. Popular low-cost "eSX 150" is quickly becoming the industry standard for manufacturing complex optical components. Manufacturer and distributor of optical/surface metrology equipment - Electronic Spherometers, TSK Accretech Surface Profilometers and STIL MicroMeasure non-contact surface measurement systems with resolution to 1 nm. Contact: Mike Bechtold, President, Mike@optipro.com.

OptoSigma Corp. #730

SPIE Corporate Member

2001 Deere Ave, Santa Ana, CA, 92705

949/851-5881; fax 949/851-5058

sales@optosigma.com; www.optosigma.com

OptoSigma Corporation manufactures precision optics, custom optical coatings, manual and motor positioners. Contact: Dan Denison, Western Regional Sales Manager, dan@optosigma.com; Michelle Young, National Sales Manager.

Optronic Laboratories, Inc. #618

4632 36th St, Orlando, FL, 32811

407/422-3171; fax 407/648-5412

info@olinet.com; www.olinet.com

New Product: OL 770-NVS Test & Measurement System for Complete Characterization of NVG-Compatible Displays.

For over 30 years, Optronic Laboratories, Inc. has designed and manufactured industrial and research-grade light measurement instrumentation for science, industry and the military. We specialize in Spectroradiometers, LED Test & Measurement Systems, Radiometer/Photometers, Integrating Sphere Systems, Traceable Standards and Calibration and Measurement Services. Contact: Alex Fong, Vice President, Sales & Marketing, afong@olinet.com; Chris Rapp, Senior Applications Engineer, chris@olinet.com.

PerkinElmer Life & Analytical Sciences #406

710 Bridgeport Ave, Shelton, CT, 06484

800/762-4000; fax 203/944-4914

info@perkinelmer.com; www.las.perkinelmer.com

PerkinElmer, Inc. is focused in the following businesses - Life and Analytical Sciences and Optoelectronics. Combining operational excellence and technology expertise with an intimate understanding of its customers' needs, PerkinElmer provides products and services in Health Sciences and Photonics markets that require innovation, precision and reliability. The Company is a leading provider of scientific instruments, consumables and services to the pharmaceutical, biomedical, environmental testing and general industrial markets.

Photek, Ltd. #1034

26 Castleham Rd, St Leonards-on-Sea, United Kingdom, TN38 9NS

44 1424 850 555; fax 44 1424 850 051

sales@photek.co.uk; www.photek.co.uk

Photek manufactures advanced photo-emissive devices, with an emphasis on detectors, image intensifiers and camera systems. To compliment their extensive range, Photek produces a wide variety of custom designed electronic equipment such as power supplies, fast gating units and amplifiers. Customers are drawn from a variety of industries within the Medical, Industrial, Military, Research and Space exploration sectors. Contact: Ian Ferguson, if@photek.co.uk; Paul Roehrenbeck, paulr@sydorinstruments.com.

Photochemical Sciences, Center for #1007

Bowling Green State University, 132 Overman Hall, Bowling Green, OH, 43403

419/372-6008; fax 419/372-0366

ncassidy@bgsu.edu; www.bgsu.edu/departments/photochem

Ctr. for Photochemical Sciences is dedicated solely to the study of light interacting with matter. Research focuses on molecular change—from the initial absorption of light to the final reaction product. Emphasis is on practical applications of this knowledge. Photoscientists make the hardware for the communications revolution—a Ph.D. is offered that provides training in this new area of research. Graduates find continuing opportunities in Fortune 500 companies as well as new businesses. Contact: Nora Cassidy, Graduate Program Coordinator; Douglas Neckers, Executive Director, neckers@photo.bgsu.edu.

Photon Engineering, LLC #215

SPIE Corporate Member

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

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

info@photonengr.com; www.photonengr.com

New Product: Our new FRED Turbo edition features multi-threading algorithms to raytrace faster on multiple CPUs.

FRED 5.100 is the premier proven optical engineering software to visualize and solve today's leading edge optical engineering problems. FRED is an easy to use 3D virtual prototyping CAD environment that reduces time and costs to develop and prototype new products, and find problems and revise older products. Import or create any CAD model directly in FRED and then propagate incoherent rays or coherent beams reflecting, refracting, scattering, diffracting or absorbing light at any surface. Contact: Donna Hart, Sales Manager, donnah@photonengr.com; Carolyn Johnson, Sales Manager, carolynj@photonengr.com.

Photon Inc. #920

6878 Santa Teresa Blvd, San Jose, CA, 95119-1205

408/226-1000; fax 408/226-1025

beam@photon-inc.com; www.photon-inc.com

Photon manufactures beam profilers to measure light sources such as lasers, LDs, LEDs and VCSELs on several parameters. NanoScan slit profilers provide fast, precise optical alignment with nanometer accuracy and some profilers allow for direct measurement of focused lasers used in industrial applications. We also manufacture far-field profilers for divergent sources and a variety of camera-based profilers. Contact: Derrick Peterman, Sales Engineer, dpeterman@photon-inc.com; Bill Hammer, Sales Engineer, bhammer@photon-inc.com.

Photonics Online #1018

5 Walnut Grove Ste 320, Horsham, PA, 19044

215/675-1800; fax 215/675-4880

erupp@vertmarkets.com; www.photonicsonline.com

The most effective information destination for the photonics professional Contact: Ed Rupp, Publisher.

Photonics Spectra #624

Berkshire Common, 2 South St, Pittsfield, MA, 01201-6109

413/499-0514; fax 413/442-3180

photonics@laurin.com; www.photonics.com

Photonics Spectra is the leading photonics magazine serving industries that use photonic technology: Lasers, imaging, fiber optics, optics, electro-optics and photonic component manufacturing. It presents the latest news articles and in-depth reports on photonics technology. It is distributed free to those who use or apply photonics. Contact: Ron Sherwood, Regional Manager, advertising@photonicsgroup.com; Breck Hitz, Senior Technical Editor, pseditorial@laurin.com.

Meter Board Sponsor

Photonics.com/Photonics Directory #316

Laurin Publishing Co., Inc., Berkshire Common 2 South St, Pittsfield, MA, 01202-4949

413/499-0514; fax 413/442-3180

pr@laurin.com; www.photonics.com

Photonics.com is the only complete on-line source of photonics information developed by the leading photonics publisher for over 50 years. This Web site, which averages over 175,000 user sessions each month, includes daily news, new products and feature articles. Fully searchable, it provides access to the contents of the award-winning Photonics Spectra and The Photonics Directory. Additional features are the Photonics Dictionary, an industry employment center and event calendar. Contact: Jeff Nichols, Regional Sales Manager, jeff.nichols@laurin.com.

Photonis Industrial & Scientific #1107

1000 New Holland Ave, Lancaster, PA, 17601-5688

717/295-6888; fax 717/290-1268

burlesls@burle.com; www.photonis.com

PHOTONIS Group a leader in design, development, production & marketing of photo sensor technology. Products incl. Image Intensifier Tubes for night vision & low-light level imaging for industrial & scientific sys.; medical imaging PMT Tubes, homeland security, high energy physics & life sciences; E-O Products for analytical, scientific & space detectors; & Power Tubes for high-energy research, industrial heating & communications. The PHOTONIS Group consists of PHOTONIS, DEP & BURLE INDUSTRIES. Contact: Kimberly Harrison, Customer Service Rep PMT, harrisonk@burle.com.

Photron USA, Inc. #315

SPIE Corporate Member

9520 Padgett St Ste 110, San Diego, CA, 92126-4446

858/684-3555; fax 858/684-3558

image@photron.com; www.photron.com

New Product: MH4 - 2000 frame per second High-G high speed video system with up to four miniature camera heads.

Photron manufactures high speed video cameras for slow motion analysis of ultra high-speed events and detecting problems that occur too fast for the eye to see. Cameras include: Low cost CCD solution for use in the PC; Long record time RAID systems; Intensified systems for flame and combustion studies; Sub-compact multi-head systems; The world's fastest mega pixel camera: the APX-RS providing 3,000 fps (frames per second) at full resolution and reduced resolution to 250,000 fps. Contact: Andrew Bridges, Manager, Sales & Marketing, abridges@photron.com; Tak Takimizu, President, takimizu@photron.com.

Physics World #1009

IOP Publishing, Dirac House Temple Back, Bristol, United Kingdom, BS1 6BE

44 1179 297481; fax 44 1179 301178

info@physicsweb.org; www.physicsweb.org

PI (Physik Instrumente) LP #925

SPIE Corporate Member

16 Albert St, Auburn, MA, 01501

508/832-3456; fax 508/832-0506

info@pi-usa.us; www.pi-usa.us

New Product: Sub-nm Precision High-Load Piezo Linearmotor Drives.

Global leader in sub-nanometer precision motion control & piezoelectric actuation systems for OEM & research. Products: Piezo Nanopositioning Stages; Scanning Stages for Microscopy; Ultrafast Steering Mirrors/Active Optics; PICMA® Piezo Actuators; Ceramic Linear Motors, Piezo Drivers & Digital Controllers, Six-Axis Hexapod Alignment Systems; Micropositioning Actuators, Stages & Motion Controllers; MicroMotion Robots for automated 3D to 6D photonics alignment; ISO 9001, 30+Years Experience. Contact: Jim Gareau, Director of Sales East Region, jimg@pi-usa.us; David Steinberg, Director of Sales West Region, davids@pi-usa.us.

Piezosystem Jena, Inc. #630

SPIE Corporate Member

54 Hopedale St, Hopedale, MA, 01747

508/634-6688; fax 508/634-6868

usa@piezojena.com; www.piezojena.com

New Product: NanoSXY 400 - 400um xy stage with < 3 urad of tilt error.

World leading company in the development, design and engineering of piezo, piezo electrical actuator based positioning systems for micro- and nanopositioning and nanoautomatisation. All piezo stages and ceramic systems are designed by FEA and measured using special interferometric metrology equipment. Contact: Peter Viglas, Sales Engineer, peter@piezojena.com.

Poco Graphite, Inc. #626

SPIE Corporate Member

300 Old Greenwood Rd, Decatur, TX, 76234

940/627-2121; fax 940/393-8366

info@poco.com; www.poco.com

New Product: New CVC Silicon Carbide Grades from Poco Graphite.

Poco Graphite, a manufacturer of graphite & silicon carbide materials, specializes in custom manufacturing that includes mirror substrates & optical structures. POCO's unique CVC silicon carbide process allows design flexibility & intricate machining to produce substrates with high stiffness, flatness, thermal conductivity & purity with exceptional polishability. POCO produces graphite rods, plates, thin sheets blocks & machined components (graphite crucible liners & sputtering targets). Contact: Wayne Hambek, whambek@poco.com; Chris Duston, cduston@poco.com.

Polymicro Technologies LLC #524

SPIE Corporate Member

18019 N 25th Ave, Phoenix, AZ, 85023-1200

602/375-4100; fax 602/375-4110

sales@polymicro.com; www.polymicro.com

New Product: Explore The Capabilities.

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

Power Technology, Inc. #206

SPIE Corporate Member

PO Box 191117, Little Rock, AR, 72219-1117

501/407-0712; fax 501/407-0036

sales@powertechnology.com; www.powertechnology.com

New Product: IQμ is our new microprocessor controlled unit. Stable IQ with the control of a microprocessor.

Power Technology is an OEM manufacturer of laser products for industrial and scientific applications. PTI designs and manufacturers custom designed diode laser products as well as standard diode laser modules. PTI also manufactures power supplies for Helium-Neon gas lasers, fusion splicers for fiber optics and pulsed diode laser drivers. As one of the oldest companies in the Photonics industry PTI can utilize its long standing industry relationships to directly benefit you - our customers. Contact: Glenn Sullivan, Sales Engineer, gsullivan@powertechnology.com; Steve Throne, West Coast Sales Engineer, sthrone@powertechnology.com.

Precision Asphere, LLC #1106

SPIE Corporate Member

48860 Milmont Dr Unit 105-C, Fremont, CA, 94538

510/668-1508; fax 510/668-1595

sales@precisionasphere.com; www.precisionasphere.com

Exhibitor Directory

Princeton Instruments/Acton #833

SPIE Corporate Member

3660 Quakerbridge Rd, Trenton, NJ, 08619-1208

609/587-9797; fax 609/587-1970

moreinfo@piacton.com; www.piacton.com

PI/Acton designs and manufactures high-performance, camera, spectrograph and optics based solutions for the imaging, x-ray, spectroscopy and surveillance markets. We cater to the scientific research community and Original Equipment Manufacturers. Our commitment to continuous innovation in R&D and manufacturing process, coupled with a proven “Voice of Customer” program ensures that our customers are always at the forefront of technology and reliability while pushing the boundaries of discovery.

Rainbow Research Optics, Inc. #410

SPIE Corporate Member

4880 Ironton St Unit K, Denver, CO, 80239

303/371-3000; fax 303/371-1333

sales@rroptics.com; www.rainbowoptics.com

New Product: New 5" Diameter Waveplate.

Rainbow Research Optics Inc (RROI) has been providing high quality optics to defense, medical, laser and industrial markets for over 10 years. Specializing in custom optics from prototypes to production quantities, RROI has been providing optics with high damage threshold optical coatings. In addition to general optics like spherical lenses, mirrors, windows and prisms, RROI also specializes in other optical products such as Waveplates, PBS cubes and thin film polarizers. Contact: Tim Kish, Director of Sales and Marketing; Adam Skaggs, Sales Engineer.

Redlake #833

3440 E Britannia Rd, Tucson, AZ, 85706

800/462-4307; fax 520/574-2773

info@redlake.com; www.redlake.com

Redlake is the leading provider of camera based solutions for slow motion and industrial inspection applications. Whether your imaging requirements involve VIT, aerospace, range & ballistics, high speed motion analysis or machine vision, we design cameras to meet your needs. Our solutions are tailored to meet the highest demands of the industrial user and life and physical science researchers. Redlake’s investment in technological innovation is our commitment to your success.

Research Electro-Optics, Inc. #802

SPIE Corporate Member

5505 Airport Blvd, Boulder, CO, 80301

303/938-1960; fax 303/447-3279

sales@reoinc.com; www.reoinc.com

Research Electro-Optics, Inc. (REO) manufactures precision optical components, optical sub-assemblies, thin film coatings and Helium-Neon lasers. REO is an industry leader in superpolishing and high quality ion beam sputtered thin-film coatings. The company manufactures products for the semiconductor, telecommunications, defense, aerospace, medical and scientific industries. Contact: Mark Damery, Vice President of Sales, markd@reoinc.com.

Reynard Corp. #621

SPIE Corporate Member

1020 Calle Sombra, San Clemente, CA, 92673-6227

949/366-8866; fax 949/498-9528

sales@reynardcorp.com; www.reynardcorp.com

New Product: New Product: APODIZING FILTERS eliminate undesirable intensity variations in optical systems.

We are a world leader in supplying advanced optical solutions to a global customer base including Military, Defense, Industrial, Aerospace, Telecommunications, Medical, Commercial and Research & Development. With over 30 years of design experience we are able to meet coatings requirements of most specifications. Our optics are found in high performance systems that operate under extreme conditions. We continue to be innovators in the advancement of thin film coatings through R&D and SBIR’s. Contact: Beth Kinchyk, Sales, beth@reynardcorp.com; Ed McCartney, Sales, ed.mccartney@reynardcorp.com.

Rockwell Collins #1017

2752 Loker Ave W, Carlsbad, CA, 92010

760/438-9255; fax 760/431-2867

www.rockwellcollins.com

New Product: SIM EYE SR100-the see-through Head Mounted Display features SXGA resolution and wide field of view.

Rockwell Collins is a world leader in advanced display technology and diversified supplier of high-quality electro-optical display systems. Its Optronics group creates optical systems for military and space applications including Head Up Displays, Head Mounted Displays, reconnaissance, countermeasures, and space. It also produces advanced displays used for soldier systems and virtual information systems. These products integrate high performance, small format displays into turnkey products. Contact: Ben Mall, Director, Optronics Marketing, bjmall@rockwellcollins.com.

RPMC Lasers, Inc. #504

SPIE Corporate Member

203 Joseph St, O’Fallon, MO, 63366

636/272-7227; fax 636/272-3909

www.rpmclasers.com

RPMC offers high power multimode and single mode laser diodes from 622nm through >2300nm. We also offer collimated modules, high brightness and high power fiber coupled modules. RPMC also offers 500kHz picosecond micromachining lasers, custom nanosecond lasers from 213nm - 10μm and 2 and 5 nanosecond air cooled industrial lasers. Contact: Janson Ayer, Laser Diode Sales Manager, janson@rpmclasers.com; Joe Redding, DPSS Sales Manager, joe@rpmclasers.com.

Rubicon Technology, Inc. #835

SPIE Corporate Member

9931 Franklin Ave, Franklin Park, IL, 60131

847/295-7000; fax 847/295-7555

sales@rubicon-es2.com; www.rubicon-es2.com

Rubicon Technology is a leading material science solutions provider in the production and distribution of sapphire substrates, wafer carriers and other advanced technology materials. Our Chicago-based manufacturing facilities house our proprietary ES2 technologies for crystal growth, epi-polishing and optical polishing. Rubicon serves the opto-electronic, compound semiconductor and semiconductor fabrication markets. Contact: Hap Hewes, Senior Vice President of Sales and Marketing; Gerhard Hoog, Vice President of Sales and Marketing.

Santec USA Corp. #1032

433 Hackensack Ave 8F, Hackensack, NJ, 07666

201/488-5505; fax 201/488-7702

info@santec.com; www.santec.com

New Product: NEW! OCT Light Source - high resolution!

Santec is a leading manufacturer of Optical Components, Tunable Lasers and Optical Light Sources, and Optical Test and Measurement Products. Optical Components include Variable Attenuators, Tap Photodetectors, Wavelength Lockers, WDM filters, Mux/Demux products, etc. Test and Measurement Products include Benchtop Tunable Lasers, Tunable Filters, Ultra-Wide Band Sources and more. Contact: Max Chang, Sales Engineer for Eastern USA, max@santec.com; Jonathan Evans, Sales Engineer for Western USA, jonathan@santec.com.

Satisloh North America Inc. #1011

SPIE Corporate Member

N116 W18111 Morse Dr, Germantown, WI, 53022

262/255-6001; fax 262/255-6002

www.satisloh.com

The Satisloh line includes generators, polishers, laser centering and coating machines (with a PDS option) for all applications. A supplier of diamond wheels and pellets, spherometer rings and spare parts, we offer a complete range of consumable products - including distribution of Mueller Diamonds, Desmopan and Desmoflex polishing pads and Borer Chemical ultrasonic cleaning products. Contact: Lynn Stigler, Sales Engineer, lynn.stigler@satisloh.com; Tom Godin, Sales Engineer, tom.godin@satisloh.com.

Schmidt & Bender #1027

Fehér út 10 3 épület, Budapest, Hungary, 1106

36 1 4342 100; fax 36 1 263 2937

info@schmidt-bender.hu; www.schmidt-bender.hu

SCHOTT North America, Inc. #401

SPIE Corporate Member

400 York Ave, Duryea, PA, 18642-2036

570/457-7485; fax 570/457-6960

info.optics@us.schott.com; www.us.schott.com

Optical components, optical glasses & pressings for industrial & consumer optics; glass & interference filters for environmental protection, lighting, measurement & control, analytics & automotive; ZERODUR glass-ceramics or LCD-lithography & astronomical telescopes; laser glasses & passive laser components; sapphire, DWDM-substrates & GRIN-lenses, core glasses for light-guide fibers & fused fiber optics. Contact: Marlene Deily, Promotions Manager, marlene.deily@us.schott.com; Steve Sokach, Sales Director, steve.sokach@us.schott.com.

Scientific Solutions, Inc. (SSI) #933

SPIE Corporate Member

55 Middlesex St Unit 210, North Chelmsford, MA, 01863-1561

978/251-4554; fax 978/251-8822

info@sci-sol.com; www.sci-sol.com

New Product: Fabry-Perot Interferometers.

SSI specializes in the design and fabrication of both classic Air-Gap Fabry-Perot Interferometers and next-generation Liquid Crystal Fabry-Perot (LCFP) tunable optical filters. The award-winning LCFPs are available with stock or custom specifications and provide simple, rapid, solid-state wavelength selection with only 0-10V. SSI also provides a range of services including optical system and coating design, spectroscopic consulting and distribution of Avantes products to the Northeast. Contact: Michael Dorin, Applications Engineer/Sales and Marketing, dorin@sci-sol.com.

Sci-in Tech #935

SPIE Corporate Member

PO Box 1437, Princeton, NJ, 08542-1437

609/466-0639; fax 609/466-0639

info@sciin.com; www.sciin.com

New Product: Photometric Shutter Model PS-750 with 7.5-inch aperture.

Sci-in Tech is a provider of CCD camera systems and other scientific instruments which are unique in design, adaptability and reparability for superior performance in specialized imaging and vacuum applications. All customers receive extraordinary support for products and services provided. Contact: Gary Cohen, Engineered Solutions, gc@sciin.com; Michael Carr, President and Instrument Concepts, mc@sciin.com.

Sensors Unlimited, Goodrich Corporation #204

SPIE Corporate Member

Bldg 12, 3490 US Rte 1, Princeton, NJ, 08540

609/520-0610; fax 609/520-0638

su_info@goodrich.com; www.oss.goodrich.com

Sensors Unlimited, Goodrich Corporation manufactures the most complete line of shortwave infrared (SWIR) imaging and detection products available for defense and commercial applications. Based on our proprietary indium gallium arsenide (InGaAs) platform, innovative product offerings include fast framing and high resolution cameras, linescan imagers, focal plane arrays, and high speed APDs. Consult Sensors Unlimited for custom InGaAs design and devices in the rapidly emerging SWIR spectrum. Contact: Bob Struthers, Director, Sales & Marketing, robert.struthers@goodrich.com; Bob Jones, Account Manager, robert.jones@goodrich.com.

Seren IPS #1109

1670 Gallagher Dr, Vineland, NJ, 08360

856/205-1131; fax 856/205-1141

frank@labtec-sales.com; www.serenips.com

Seren IPS manufactures a range of low and high frequency generators operating at 100-460KHz & 13.56-60MHz. Seren's RF power supplies from 100W - 10KW used in conjunction with the AT series automatic match networks provide a cost effective power delivery system. Contact: Frank Lowry, Director of Sales.

Servometer/PMG, LLC #934

SPIE Corporate Member

501 Little Falls Rd, Cedar Grove, NJ, 07009

973/785-4630; fax 973/785-0756

info@servometer.com; www.servometer.com

New Product: Electroformed Baffled Coldshields.

Servometer designs and manufactures custom miniature metal bellows and bellows assemblies, flexible shaft couplings, gold plated bellows contacts and lightweight electroformed components. Servometer has been providing innovative solutions through imaginative engineering for fifty years. Servometer's precision products can be found serving a variety of needs in the aerospace, defense, medical, semiconductor, instrumentation and other critical application markets worldwide. Contact: Paul Hazlitt, Director of Engineering Services, paulh@servometer.com; Jim Barkand, Technical Support Manager, jimb@servometer.com.

Sigma Instruments #1109

120 Commerce Dr, Fort Collins, CO, 80524

720/350-2662; fax 970/416-9330

frank@labtec-sales.com; www.sig-inst.com

Sigma Instruments is a leading manufacturer of instrumentation for measurement and control of thin film processing. Sigma's quartz crystal microbalance monitors and controllers are known for their easy-to-use setup and operation.

Siskiyou Corp. #335

SPIE Corporate Member

110 SW Booth St, Grants Pass, OR, 97526

541/479-8697; fax 541/479-3314

sales@siskiyou.com; www.siskiyou.com

Special Optics, Inc. #333

SPIE Corporate Member

315 Richard Mine Rd, Wharton, NJ, 07885-1659

973/366-7289; fax 973/366-7407

sales@specialoptics.com; www.specialoptics.com

Special Optics designs, develops and manufactures custom, OEM and catalog diffraction-limited Beam Expanders, Scanning, Imaging and Objective Lenses and Polarization optics. Our customers manufacture systems for vision correction, military reconnaissance, semiconductor inspection and laser writing. Visit our website to order a free catalog and call to discuss your optical requirement. Contact: Steven Morales, Sales Manager; Brian Weinberg, Director of Sales and Marketing, bweinberg@specialoptics.com.

Spectrogon US Inc. #1012

SPIE Corporate Member

24B Hill Rd, Parsippany, NJ, 07054

973/331-1191; fax 973/331-1373

sales@spectrogonus.com; www.spectrogon.com

New Product: Uncoated Infrared Stock Windows.

SPECTROGON specializes in the design and manufacture of optical filters, components & coatings in the UV, VIS & IR spectral regions for: Laser, analytical, medical, & scientific instruments. Spectrogon is the world leader in the manufacture of Holographic Diffractions Gratings for: Laser Pulse Compression/Stretching, laser tuning & spectroscopic instrumentation. Spectrogon offers a large inventory of optical filters that can be delivered from stock. See our website. Contact: Sam Ponzo, Vice President/Sales.

Spectroscopy Magazine #1112

Bldg F 1st Fl , 485 Route 1 South, Iselin, NJ, 08830

732/596-0276; fax 732/596-0003

www.spectroscopyonline.com

Spectroscopy is the only publication dedicated to delivering a complete information solution to the largest circulation of spectroscopists in North America. By providing peer-reviewed, technical and applications-oriented information in every issue, Spectroscopy enables substantial productivity improvement in the laboratories of the spectroscopists leading the way in all areas of spectroscopy. Contact: Ed Fantuzzi, Publisher, efantuzzi@advanstar.com; Mike Tessalone, Group Publisher, mtessalone@advanstar.com.

Exhibitor Directory

Spectrum Precision Systems #931

6140 N Tarragon Ave, Tucson, AZ, 85741

520/820-7804; fax 520/229-1204

New Product: Spectrum Precision introduces its new optics positioning/rapid prototyping system at SPIE San Diego.

Spectrum Precision Systems is a young vital company in the field of optical measurements backed by technologists with over 20 years of experience in optical measurements and testing. Contact: Emmet Anderson, Director of Research & Development, eanderson@spectrumprecisionsystems.com.

SphereOptics LLC #1020

SPIE Corporate Member

881 Main St, Contoocook, NH, 03229

603/746-2000; fax 603/746-3007

sales@sphereoptics.com; www.sphereoptics.com

New Product: LCS Characterization System for measurement of the optical and spectral characteristics of LEDs.

SphereOptics designs, produces and sells precision standard and custom radiometric and photometric products addressing the specific needs of the aerospace, automotive, electronic imaging, laser diode, LED, lighting, medical imaging and optics industries. The company offers a broad line of integrating spheres and diffuse reflectance materials and standards specializing in custom design and manufacturing services. SphereOptics has sales offices located in the United States, France and Germany. Contact: Chris Durell, Vice President of Sales, cdurell@sphereoptics.com; Justin Jacobs, Sales Engineer, jjacobs@sphereoptics.com.

SPIE Newsroom/SPIE Professional #604

PO Box 10, Bellingham, WA, 98227

360/676-3290; fax 360/647-1445

spie@spie.org; http://spie.org

New Product: *SPIE Newsroom* - online news *SPIE Professional* - SPIE Member Magazine.

SPIE offers two exciting new SPIE publications. *SPIE Newsroom,* a dynamic news website covers the latest technical developments in optics and photonics, while *SPIE Professional,* a quarterly magazine published exclusively for Society members, will feature career trends and insights associated with the optics and photonics profession. Contact: Todd Elsworth, Marketing Manager, SPIE Newsroom, todde@spie.org.

Coffee Break sponsor, Meter Board Sponsor

Springer #414

233 Spring St, New York, NY, 10013

212/460-1600; fax 201/348-4505

service@springer.com; www.springer.com

Visit Springer in Booth 414 to enter to win an iPod, find out how to get a FREE copy of The Little Book of Bees, and how to save 20% (or more!) on world-leading books on lasers, optics, photonics, and more! Contact: Scott Epstein, Product Manager, scott.epstein@springer.com; Virginia Lipscy, Associate Editor, virginia.lipscy@springer.com.

Stanford Photo-Thermal Solutions #834

305 Old Turnpike Rd, Los Gatos, CA, 95033

408/353-3943; fax 408/353-8397

aa@stan-pts.com; www.stan-pts.com

New Product: Reflection attachment to photothermal instruments. Test high reflectors with opaque substrates!

SPTS designs and manufactures photo-thermal instruments that test absorption in solids and liquids with high sensitivity. Detection limit is about 0.1 uW of absorbed power. 3D mapping of tested objects is available with the resolution defined by pump/probe overlap area. Any laser, CW or pulsed, can be used as a pump. The wavelength range for standard design is 200 nm - 8000 nm. SPTS provides consulting on various issues associated with optical materials. Contact: Alex Alexandrovski, Chief Technical Officer, aa@stan-pts.com; Alexey Shevchuk, Sales Manager, as@stan-pts.com.

Stanford Research Systems, Inc. #311

1290-D Reamwood Ave, Sunnyvale, CA, 94089

408/744-9040; fax 408/744-9049

info@thinksrs.com; www.thinksrs.com

Stanford Research Systems manufactures a full line of scientific and engineering test instruments including lock-in amplifiers, delay generators, photon counters, preamplifiers, FFT analyzers, boxcar averagers, optical choppers, function generators, counters, high voltage power supplies, filters, LCR meters, thermocouple monitors, small instrumentation modules, residual gas analyzers, ion gauge controller, etc. Contact: Dave Ames, Sales & Marketing Manager, davea@thinksrs.com; Janie Du, Sales & Marketing Engineer, janied@thinksrs.com.

State of Hawaii, Department of Business, Economic Development & Tourism #905

5th Fl, 250 S Hotel St, Honolulu, HI, 96813

808/587-2750; fax 808/586-2589

service@dbedt.hawaii.gov; www.hawaii.gov/dbet

The Department of Business Economic Development and Tourism (DBEDT) is the State of Hawaii's primary economic development agency responsible for expanding and diversifying Hawaii's economic base. We work to attract new business and investments to the islands, support our existing business community and provide leadership, incentives and persuasive reasoning to move business activities toward market segments critical to our future. Contact: Maurice Kaya, Chief Technology Officer, mkaya@dbedt.hawaii.gov; Jim Crisafulli, Research & Development Coordinator, jcrisafu@dbedt.hawaii.gov.

StellarNet, Inc. #207

SPIE Corporate Member

14390 Carlson Cir, Tampa, FL, 33626

813/855-8687; fax 813/855-0394

contactus@stellarnet.us; www.stellarnet.us

New Product: 1)Portable Dual DSR spectrometer for 200-1700nm 2)Portable NIRX-SR spectrometer for 0.9-2.2um.

StellarNet manufactures ruggedized high performance, low cost, fiber optic spectrometers for the UV-VIS & NIR ranges. Detector arrays include CCD, PDA and NIR-InGaAs for 190-2200nm. The SpectraWiz software is included free to enable measurements for SpectroChemistry, SpectroRadiometry, SpectroColorimetry, OES and LIBS spectroscopy, right on your desktop or portable PC via USB-2.0 interface. Customizable LabVIEW and VBA+Excel programs also included on CDROM with software training videos. Contact: Ryan Flaherty, Principal Scientist, Ryan@StellarNet.us; Ava Grubman, Sales Manager, aGrubman@StellarNet.us.

Surface Finishes #617

SPIE Corporate Member

39 Official Rd, Addison, IL, 60101

630/543-6682; fax 630/543-4013

surf-fin@att.net; www.surfacefinishes.com

New Product: Super polished aluminum mirrors; optical flats.

Fabrication services including optical polishing, diamond machining and lapping. Glass, ceramic or metal optical components to 1/20 wave. Surface roughness to less than 20 angstroms. Typical applications include optical components for laser scanning and imaging, airborne or spaceborne sensors, optical flats and molds for optical surfaces includig audio CD, CD-ROM and DVD production. Contact: Roman Salij, Market Development Specialist, roman_salij@cabotcmp.com; Roland Sevilla, Applications Development Specialist, roland_sevilla@cabotcmp.com.

Surface Optics Corp. #1033

11555 Rancho Bernardo Rd, San Diego, CA, 92127-1441

858/675-7404; fax 858/675-2028

soc@surfaceoptics.com; www.surfaceoptics.com

New Product: Hand Held Reflectometer for field measurements of emissivity, the SOC 410.

SOC is a manufacturer of instrumentation for the measurement of optical properties such as DHR, BRDF, and Emissivity. A full suite of systems is offered for lab and in-the-field measurements. SOC is the leader in the development of hyperspectral imaging cameras. We are the only company which offers a commercial hyperspectral camera, the SOC 700, and the first one to manufacture a real time (15 Hz) MID IR hyperspectral camera. Contact: Martin Szczesniak, Division Manager, martinsz@surfaceoptics.com.

Sutter Instrument Co. #735

51 Digital Dr, Novato, CA, 94949

415/883-0128; fax 408/883-0572

info@sutter.com; www.sutter.com

Sutter Instrument is a leading manufacturer of precision electromechanical instrumentation for science and industry. Imaging products include optical filter wheels, high-speed filter switchers, xenon light source, stepper-motor controlled *Smart* Shutter, and a motorized XY translator. Our P-2000 is the premier NSOM fiber tip puller. With over 30 years of motor control and CNC machining experience, we are able to design and deliver versatile, robust optical products at affordable prices. Contact: Jack Belgum, Senior Vice President, Research & Development, jack@sutter.com; Alex Cooper, Director, Marketing & Sales, alex@sutter.com.

Exhibitor Directory

Syntec Technologies, Inc. #724

SPIE Corporate Member

7100 Junction Rd, Pavilion, NY, 14534

585/768-2513; fax 585/768-6099

www.syntectechnologies.com

Manufacturer of polymer optics and turnkey systems including: mold tool manufacturing; optical insert manufacturing; molding; coating; design and assembly. Capabilities: precision optical, opaque and insert molding, diamond turning, planetary polishing, complete mold building. Full design and thin film coating available. Optical metrology. Full opto-electronic and mechanical assembly department. Contact: Paul Tolley, Vice President/General Manager, ptolley@syntectechnologies.com.

Taylor & Francis #202

2 Park Sq, Milton Park, Abingdon Oxfordshire, United Kingdom, OX14 4RN

44 20 701 76265

www.taylorandfrancis.com

As a leading global academic publisher Taylor & Francis has served the international scientific community with high quality peer-reviewed scientific articles in the subject of Physics since 1798. For further information about our journals and books program, please see our website.

tec5USA, Inc. #421

SPIE Corporate Member

80 Skyline Dr, Plainview, NY, 11803

516/653-2000; fax 516/939-0555

info@tec5USA.com; www.tec5USA.com

New Product: Fast InGaAs Photodiode Array Electronics for Higher Efficiency.

High-quality products for spectroscopy, light sources, light guides, immersion probes, spectrometer modules, operating electronics. Spectrometer systems for multiple applications in lab or process, e.g. concentration, filter transmission, color, thin film thickness. Optical instrumentation as remote control biomass detection systems. Various software support. Custom designed components and systems. Detector array electronics, CCD electronics, spectrometer, light guides, spectrometer systems. Contact: Gert Noll, General Manager, gert.noll@tec5usa.com; Arek Betlej, Technical Support Assistant, arek.betlej@tec5usa.com.

Tecport Optics, Inc. #1109

6901 TPC Dr Ste 450, Orlando, FL, 32822

407/855-1212; fax 407/855-1213

frank@labtec-sales.com; www.tecportoptics.com

Tecport Optics manufactures a variety of PVD Systems. The Symphony offers flexible evaporation techniques and incorporates sophisticated software that is user friendly and compatible with complex recipes. The Flexlab is a versatile sputtering system that can be configured for RF and DC sputtering. Contact: Frank Lowry, Director of Sales.

Exhibitor Directory

Telops Inc. #434

100 - 2600 ave St-Jean-Baptiste, Québec, QC, Canada, G2E 6J5

418/864-7808; fax 418/864-7843

contact@telops.com; www.telops.com

New Product: FIRST is a hyperspectral imaging FT-IR for field. Rugged, high performance and simple to use.

Telops specializes in the development of sophisticated opto-electronics solutions for its international clients based in the defense and aerospace markets. We thrive on high expectations and great challenges. Our technical experts understand your business: Their diverse backgrounds represent a powerful source of innovation. Whether you are looking to us for equipment, expertise or outsourcing, we will turn your high expectations into success. Contact: Jeff Legault, Technical Business Development, jeff.legault@telops.com; Martin Chamberland, Vice President, martin.chamberland@telops.com.

Tempo Clean Room Foam #501

SPIE Corporate Member

1227 N Miller Park Ct, Visalia, CA, 93291

559/651-7711; fax 559/651-0123

tempo@tempo-foam.com; www.tempo-foam.com

New Product: V-groove edge protectors for display rectangular glass. Fiber coil management trays.

Over 130 stock protective packages for round and square substrates. Clean room compatibility test reports posted on website. Low cost custom packages available using modular mold inserts. Fiber coil stack packs available. Contact: Doug Rogers.

Thermo Electron, CIDTEC #220

SPIE Corporate Member

101 Commerce Blvd, Liverpool, NY, 13088-4507

315/451-9410; fax 315/451-9421

sales.cidtec@thermo.com; www.thermo.com

New Product: SpectraCAM XDR camera for high dynamic range and ColorRAD for color imaging within radiation.

Thermo Electron, CIDTEC Cameras and Imagers, www.thermo.com/cidtec manufactures high performance Charge Injection Device (CID) cameras for demanding imaging applications. Features include Extremely Wide Dynamic Range, Anti-Blooming, UV - NIR response and Radiation Hardened. Formats include Scientific, RS-170, Progressive, CCIR, and intensified cameras for low light imaging or high speed gating. Coating services for Deep UV and X-Ray scintillation deposition services available. Contact: Tony Chapman, Sales and Marketing Director, tony.chapman@thermo.com.

Thorlabs, Inc. #1025

435 Rt 206, Newton, NJ, 07860

973/300-3000; fax 973/300-3600

feedback@thorlabs.com; www.thorlabs.com

Tinsley Labs. #615

SPIE Corporate Member

4040 Lakeside Dr, Richmond, CA, 94806

510/222-8110; fax 510/223-4534

sales@asphere.com; www.asphere.com

Manufacturer of custom precision optical components including complex aspheric surfaces for reflective and refractive systems from 50mm to 1.5 meters in size and a wide variety of materials, including glass, beryllium and silicon carbide. Founded in 1926 and also known in the industry as the “Asphere Company”, Tinsley has many years of experience fabricating precision optics in such areas as Space and Astronomy, Laser Fusion, Surveillance and Tactical. Contact: Clay Sylvester, Director of Sales and Marketing, csylvester@ssginc.com; Teri Bordeau, Sales Support Administrator, tbordeau@ssginc.com.

TNO Science & Industry #1026

Stieltjesweg 1, Delft, The Netherlands, NL-2600 AD

31 15 269 2100; fax 31 15 409 404

ben.braam@tno.nl; www.tno.nl

TNO Science and Industry is part of the Netherlands Organization for Applied Scientific Research TNO. TNO is organized in five core areas and employs some 5,000 people. As of January 2005, TNO’s institute TPD merged into the newly formed Core Area “Science and Industry”, which currently employs about 1,100 people organized in eight different Business Units. The Business Unit Opto-Mechanical Instrumentation that can be found at the exhibition is some 120 people in size. Contact: Ben Braam, ben.braam@tno.nl; Johan Leijtens, johan.leijtens@tno.nl.

Trex Advanced Materials #314

SPIE Corporate Member

3038 Aukele St, Lihue, HI, 96766

808/245-6465; fax 808/245-7246

www.trexenterprises.com

Trex’s Advanced Materials Group manufactures high performance CVC SiC mirrors. Trex’s patented CVC process allows for the rapid manufacture of large aperture, lightweight mirrors and blanks that fulfill the material advantages of silicon carbide with a robust, high yield manufacturing process, capable of producing near net shape, high purity and density CVD derived SiC. Current optical performance is better than 1/35 wave P-V surface figure and surface roughness less than 2 angstroms rms. Contact: Riki Maeda, Director of Optical Programs, rmaeda@trexhawaii.com; dkane@trexhawaii.com, President, Kauai Operations.

TwinStar Optics #734

6741 Commerce Ave, Port Richey, FL, 34668

727/847-2300; fax 727/847-2304

sales@starstar.com; www.starstar.com

New Product: Ceramic YAG, Composite YAG Materials, Large Sapphire fabrication/coatings, 3 - 5um coatings.

Twin Star is a global leader of precision laser components including waveplates, etalons, lens ducts, prisms and high power IR lenses producing high damage, IAD coatings for the UV-VIS-IR and polish a full range of linear and non-linear laser crystals including Nd:YAG slabs, YAG rods, Er:Glass rods, Ceramic YAG and Ceramic composite materials. New proprietary methods of fabricating/coating Sapphire windows has established us in the industry along with the development of Sapphire domes. Contact: Peter Thomas, General Manager, PeterT@starstar.com.

U.S. Civilian Research & Development Foundation #1031

1530 Wilson Blvd 3rd Fl, Arlington, VA, 22209

703/526-9720; fax 703/526-9721

www.crdf.org

The U.S. Civilian Research & Development Foundation (CRDF) promotes international collaboration, primarily between the United States and Eurasia. A private, nonprofit organization, the Foundation has provided grants, technical assistance and training to scientists and engineers in the former Soviet Union for ten years. CRDF offers services including identification of R&D partners, project management, import assistance, tax-free funds transfer and logistical support. Contact: Lyn Stout, lstout@crdf.org.

Univ. of Arizona College of Optical Sciences #600

SPIE Corporate Member

PO Box 210094, Tucson, AZ, 85721-0094

520/621-4111; fax 520/626-1480

academic@optics.arizona.edu; www.optics.arizona.edu

New Product: The College of Optical Sciences offers a premiere teaching and research program in optics.

The College of Optical Sciences offers one of the world's foremost teaching and research programs in optics. The College's 55 professors teach over 100 graduate and undergraduate optics courses. The College's 400 students have the opportunity to participate in a variety of pioneering research programs. The College of Optical Sciences also offers distance learning opportunities, including programs leading to a Master of Science or a Professional Graduate Certificate in Optical Sciences. Contact: Richard Shoemaker, Associate Dean, shoemaker@optics.arizona.edu.

Univ. of Central Florida #416

PO Box 162700, Orlando, FL, 32816

407/823-6800; fax 407/823-6880

info@creol.ucf.edu; www.optics.ucf.edu

The College of Optics & Photonics has grown to an internationally recognized institute with 28 faculty members, 11 faculty with joint appointments, 6 faculty with courtesy appointments and 2 emeritus professors, 58 research scientists and 162 graduate students with research activities covering all aspects of optics, photonics and lasers. UCF is a partnership university and seeks available opportunities to work with industry. Contact: Courtney Lewis, Assistant Director, Academic Services & Marketing Communications, clewis@creol.ucf.edu; James Pearson, Director, Research and Administration, jpearson@creol.ucf.edu.

University of Hawaii, Institute for Astronomy #905

2680 Woodlawn Dr, Honolulu, HI, 96822-1897

808/876-7600 ext. 107; fax 808/876-7603

www.ifa.hawaii.edu

Haleakala and Mauna Kea are two of the five best sites in the world to undertake astronomical and space surveillance research. As steward of these two important sites, the University of Hawaii, Institute for Astronomy endeavors to provide Hawaii with scientific, educational, technological and cultural partnerships with the goal of attracting high-tech business in electronics, optics, precision mechanics, information technology and, thus, to help diversify the Hawaii economy. Contact: Contact: Michael Maberry, Assistant Director, maberry@hawaii.edu.

Vacuum Process Technology, Inc. #904

70 Industrial Park Rd, Plymouth, MA, 02360

508/732-7200; fax 508/732-0317

sales@vptec.com; www.vptec.com

Vacuum Process Technology, Inc (VPT) designs and manufactures precision thin film deposition systems for a wide range of applications. VPT provides physical vapor deposition systems using ion-beam, sputtering, electron-beam, and plasma assisted thin film deposition technologies. Our applications laboratory is available for development and verification of coating processes. Contact: Steven Chiavaroli, VP - Sales and Marketing, schiavaroli@vptec.com.

Varian, Inc. #500

SPIE Corporate Member

3120 Hansen Way, Palo Alto, CA, 94304

800/926-3000

custcare@varianinc.com; www.varianinc.com

Varian, Inc. will be displaying recent advances in UV-Vis NIR through Mid Infrared Spectroscopy products. The Cary 6000i is unmatched in performance, accessories and software for the most demanding researcher. A performance FT-IR with relectrance and transmission accessories will also be on display. Visit with our applications specialist to discuss your measurement needs. Contact: Jim Steensrud, UV Product Specialist, jim.steensrud@varianinc.com.

Veeco Instruments #611

SPIE Corporate Member

2650 E Elvira Rd, Tucson, AZ, 85706-7123

520/741-1044; fax 520/294-1799

info@veeco.com; www.veeco.com/optical

Veeco's Wyko optical profilers offer non-contact, 3D measurement of surface topography from nanometer-scale roughness through millimeter-scale steps. Wyko profilers enable rapid R&D and production metrology in applications including optics/optical systems, materials, MEMS, biomedical devices, printed electronics, displays and more. Veeco Instruments provides solutions for nanoscale applications in worldwide data storage, HB-LED/wireless, semiconductor and scientific research markets. Contact: Geoffrey Anderson, Product Manager, ganderson@veeco.com.

Veeco, Ion Source Products #1109

2330 E Prospect Rd, Fort Collins, CO, 80525

970/221-1807; fax 970/493-4302

frank@labtec-sales.com; www.veeco.com

Veeco supplies the widest range of ion sources for the broadest variety of applications. Including RF and DC gridded and gridless end hall configurations. The Mark II + source and power supply provide lower maintenance and greater performance than other end hall sources.

Vincent Associates #821

803 Linden Ave, Rochester, NY, 14625

585/385-5930; fax 585/385-6004

vincentassociates@uniblitz.com; www.uniblitz.com

Vincent Associates is the manufacturer of UNIBLITZ electronically programmed shutters and shutter drive systems, with standard devices (including the CS and the VS series of high reliability shutter systems) and custom configurations available. Standard aperture sizes ranging from 1mm - 90mm with many types of microscope and video mounting systems offered for specific shutter mounting applications. OEM systems are also available. Contact: Stephen Pasquarella, Senior Vice President, spasq@uniblitz.com; Adam Lamb, Vice President of Manufacturing, alamb@uniblitz.com.

Exhibitor Directory

VisiMax Technologies, Inc. #520

9177 Dutton Dr, Twinsburg, OH, 44087

330/405-8330; fax 330/405-8332

mclark@visimaxtechnologies.com; www.visimaxtechnologies.com

Provider of precision optical coatings for both glass and polymer optics. VisiMax offers an extensive range of coating types including anti-reflection, beamsplitters, hot and cold mirrors, protective hardcoatings, ND filters, bandpass filters, metal and dielectric reflectors, as well as custom coating needs. Cleanroom coating facility with state-of-the art coating systems and automation. Prototype volumes to full scale production. Contact: Dane Clark, President, dclark@visimaxtechnologies.com.

Vision Research Inc. #635

100 Dey Rd, Wayne , NJ, 07470

973/696-4500; fax 973/696-0560

phantom@visionresearch.com; www.visionresearch.com

Vision Research, Inc. designs and builds high-speed digital imaging systems used in measurement and entertainment applications. Their broad line of cameras, marketed under the “Phantom” trademark, span a variety of application domains including Defense, Aerospace, Automotive, Engineering, Scientific and Medical Research, Industrial, Digital Broadcast, Digital Cinema, Sports and Academia. Contact: Al DeMarcken, North American Sales Manager, al.demarcken@visionresearch.com; Paul Laureano, International Sales Manager, paul.laureano@visionresearch.com.

Vision Systems Design #715

98 Spit Brook Rd, Nashua, NH, 03062-2810

603/891-0123; fax 603/891-0587

www.vision-systems.com

Wangsness Optics #602

620 E 19th St, #110, Tucson, AZ, 85719

520/623-1312

wangsnessoptics1@qwest.net; www.wangsnessoptics.com

Design and manufacture of economical lightweight glass (primarily borosilicate) mirror substrates from 20mm to 2,000mm in diameter. Unusual shapes and dimensions are possible. Applications include Telescopes, Lidar, Scanners and structures. Low mass and high stiffness complement low inertia and rapid thermalizing. Quantities range from single prototype to OEM. Areal densities as low as 9kg/m^2 have been designed and made. Contact: Peter Wangsness, Owner.

WaveFront Sciences, Inc. #521

SPIE Corporate Member

14820 Central Ave SE, Albuquerque, NM, 87123-3905

505/275-4747; fax 505/275-4749

info@wavefrontsciences.com; www.wavefrontsciences.com

WaveFront Sciences provides full-service design and manufacturing capabilities for micro-optics and wavefront sensor based instrumentation for lasers, optics, ophthalmology, and semiconductor metrology. The CLAS-2D™ system provides a complete line of products for the analysis of visible, infra-red, continuous, and pulsed lasers. CLAS-2D™ also provides advantages to most optical test requirements traditionally addressed by interferometry. Contact: Harry Skolnik, Sales Representative, hskolnik@hotmail.com.

Wiley #302

111 River St, Hoboken, NJ, 07030

201/748-6000; fax 201/748-6088

info@wiley.com; www.wiley.com

John Wiley & Sons, is a global publisher of print and electronic products world wide, providing leading books, journals and subscription services in many scientific and technical areas including geophysics, geology, hydrology and atmospheric sciences. Contact: Kristen Kowalski, KKowalsk@wiley.com.

Wordingham Technologies #708

SPIE Corporate Member

580 Fisher Station Dr, Victor, NY, 14564

585/924-2294; fax 585/924-7660

sales@wordingham.com; www.wordingham.com

Wordingham Technologies, produces precision custom machined components exclusively for the optical, photonics, precision instrumentation markets. Our reputation of zero defects and absolute on time delivery is well known in the industry. We provide components for products such as, optical devices/lenses, laser devices, machine vision/illumination, micro/nano positioning, and medical instrumentation. See why we are considered “The Mechanical Partner to the Optical World”.

ZEMAX Development Corp. #320

3001 112th Ave NE Ste 202, Bellevue, WA, 98004-8017

425/822-3406; fax 425/889-4687

www.zemax.com

ZEMAX Development Corporation publishes the ZEMAX Optical Design Program which can be used for both sequential and non-sequential ray tracing. Our software can be used to conceptualize, design, optimize, analyze, tolerance and document virtually any optical system. ZEMAX also goes beyond the traditional limits of ray tracing software by allowing users to use diffraction calculations to propagate any arbitrary beam through an optical system. Contact: Sales Department, sales@zemax.com; Technical Support, support@zemax.com.

Zeon Chemicals #526

4111 Bells Ln, Louisville, KY, 40228

502/775-2036; fax 502/775-2055

askzeon@zeonchemicals.com; www.zeonchemicals.com

New Product: Products that utilize ZEON's technologies, and Optes' optical, chemical and electronic expertise.

ZEON CORPORATION produces ZEONEX® and ZEONOR® Cyclo Olefin Polymer, optical polymer resins with high clarity, purity and dimensional stability. With superb transparency, low birefringence and water absorption, uses include digital camera, optical and laser technology. Zeon is the sole U.S. distributor of Optes®) end-use components. Optes Inc. offers tool design and custom injection-molding of optical parts, and extrusion of ZeonorFilm®, including base and stretched film for optical display. Contact: John Klingman, Marketing Development Specialist, zeonex@zeonchemicals.com; Aaron Grau, Senior Sales Representative, zeonex@zeonchemicals.com.

Zygo Corp. #508

SPIE Corporate Member

21 Laurel Brook Rd, Middlefield, CT, 06455-0448

860/347-8506; fax 860/347-8372

inquire@zygo.com; www.zygo.com

Zygo Corporation is a worldwide developer and supplier of high-performance metrology instruments and systems, high-precision optics, optical assemblies and automation for the semiconductor and industrial markets. ZYGO's products raise production yields and productivity for our customers, thereby increasing their profits and enabling their success. Our status as an industry leader is due to continuous innovation, technology implementation, and a close working relationship with our customers.

The International Society for Optical Engineering

SPIE—The International Society for Optical Engineering is dedicated to advancing scientific research and engineering applications of optical, photonic, imaging, and optoelectronic technologies through its meetings, education programs, and publications.

SPIE International Headquarters
P.O. Box 10, Bellingham, WA 98227-0010 USA • Tel: +1 360 676 3290
Fax: +1 360 647 1445 • spie@spie.org • www.spie.org

Shipping Address
1000 20th St., Bellingham, WA 98225-6705 USA

SPIE in Europe
2 Alexandra Gate, Ffordd Pengam, Cardiff, CF24 2SA
Tel: +44 29 20 89 4747 • Fax: +44 29 20 89 4750
spieeurope@spieeurope.org • www.spieeurope.org

SPIE in Russia/FSU Office
53, Leninsky prospect, 119991, Moscow, Russia
Tel/Fax: +7 495 135 7824 * edmund.spierus@relcom.ru

Astronomy

4D Technology Corp
Aerotech, Inc.
Andor Technology
Ariel Optics, Inc.
Axsys Technologies, Inc.
Bach Research Corp.
Berliner Glas/U.S.
CeramOptec Industries, Inc.
Corning, Inc.
CSIRO Australian Centre for Precision Optics
e2v technologies inc.
Evaporated Coatings, Inc.
HTA Photomask
Isuzu Glass Inc.
Janos Technology, Inc.
Labtec Sales
Lightspeed Technologies
M3 Measurement Solutions Inc.
Mildex, Inc.
Mindrum Precision, Inc.
Naked Optics Corp.
Night Vision Systems, Inc.
Omega Optical, Inc.
Optical Perspectives Group, LLC
Optical Research Associates
Photon Engineering, LLC
Photonics Online
Polymicro Technologies LLC
Princeton Instruments/Acton
Redlake
Sci-in Tech
Servometer/PMG, LLC
Spectrogon US Inc.
Spectrum Precision Systems
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
Sutter Instrument Co.
Thermo Electron, CIDTEC
Tinsley Labs.
TNO Science & Industry
University of Hawaii, Institute for Astronomy
Veeco, Ion Source Products
Vincent Associates
Wangsness Optics

Cameras and CCD Components

ALIO Industries
Andor Technology
Axsys Technologies, Inc.
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
Collimated Holes, Inc.
Del Mar Photonics, Inc.
Digital Optics Corp.
e2v technologies inc.
Edmund Optics
Evaporated Coatings, Inc.
Hamamatsu Corp.
Hellma International, Inc.
HORIBA Jobin Yvon Inc.
Hoya Corp. USA
HTA Photomask
Instrument Systems
Isuzu Glass Inc.
ITT Night Vision
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems
JENOPTIK Polymer Systems, Inc.
Kreischer Optics, Ltd.
L-3 InfraredVision Technology Corp.
Labtec Sales
LEISTER Technologies LLC
M3 Measurement Solutions Inc.
MEMS Optical Inc.
Mindrum Precision, Inc.
Naked Optics Corp.
Night Vision Systems, Inc.
Olympus Micro Imaging
Photon Inc.
Photonics Online
Photron USA, Inc.
Princeton Instruments/Acton
Redlake
Sci-in Tech
Servometer/PMG, LLC
Spectrogon US Inc.
Spectrum Precision Systems
SPIE Newsroom/SPIE Professional
Surface Optics Corp.
tec5USA, Inc.
Thermo Electron, CIDTEC
Vincent Associates
Vision Research Inc.

Chemical & Biological Sensing

APIC (Advanced Photonics Integrated Circuits) Corp.
Avantes, Inc.
B&W Tek, Inc.
Bach Research Corp.
BAE Systems Spectral Solutions LLC
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
CeramOptec Industries, Inc.
Del Mar Photonics, Inc.
Digital Optics Corp.
Evaporated Coatings, Inc.
Fiberguide Industries, Inc.
Hellma International, Inc.
HTA Photomask
JENOPTIK Polymer Systems, Inc.
Labtec Sales
Lightspeed Technologies
MEMS Optical Inc.
Micro Laser Systems, Inc.
Mindrum Precision, Inc.
Moscow Engineering Physics Institute Student Chapter
NovaSol
NP Photonics
Ocean Optics, Inc.
Olympus Micro Imaging
Photochemical Sciences, Center for
Photon Engineering, LLC
Photonics Online
Polymicro Technologies LLC
Power Technology, Inc.
Scientific Solutions, Inc. (SSI)
Sci-in Tech
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
StellarNet, Inc.
Telops Inc.

Clinical, Chemical and Biological Instrumentation

Avantes, Inc.
B&W Tek, Inc.
Berliner Glas/U.S.
CeramOptec Industries, Inc.
Evaporated Coatings, Inc.
Fiberguide Industries, Inc.
Hellma International, Inc.
Hitachi High Technologies America, Inc.
HTA Photomask
Isuzu Glass Inc.
JENOPTIK Polymer Systems, Inc.
Labtec Sales
Mindrum Precision, Inc.
Molecular Machines & Industries, Inc.
NP Photonics
Ocean Optics, Inc.
Olympus Micro Imaging
Photochemical Sciences, Center for
Photonics Online
Princeton Instruments/Acton
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
Sutter Instrument Co.
tec5USA, Inc.
Thermo Electron, CIDTEC

Communications

AOptix Technologies, Inc.
APIC (Advanced Photonics Integrated Circuits) Corp.
B&W Tek, Inc.
Bach Research Corp.
BAE Systems Spectral Solutions LLC
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
Digital Optics Corp.
Fiberguide Industries, Inc.
HTA Photomask
Isuzu Glass Inc.
JENOPTIK Polymer Systems, Inc.
Lockheed Martin
Mindrum Precision, Inc.
NovaSol
NP Photonics
Olympus Micro Imaging
Omega Optics, Inc.
Photochemical Sciences, Center for
Photon Engineering, LLC
Photonics Online
Polymicro Technologies LLC
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
Univ. of Central Florida

Displays

B&W Tek, Inc.
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
Corning, Inc.
Digital Optics Corp.
Evaporated Coatings, Inc.
Fiberguide Industries, Inc.
HOLOEYE Photonics AG
HTA Photomask
Isuzu Glass Inc.
JENOPTIK Polymer Systems, Inc.
Labtec Sales
Photochemical Sciences, Center for
Photon Engineering, LLC
Photonics Online
Power Technology, Inc.
Rockwell Collins
SPIE Newsroom/SPIE Professional
Univ. of Central Florida
Veeco, Ion Source Products

Electron-Beam Lithography

Aerotech, Inc.
HTA Photomask
International Radiation Detectors, Inc.
Minus K Technology
Photonics Online
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
TNO Science & Industry
Zeon Chemicals

Electronic Imaging Components, Equipment, Systems

Aerotech, Inc.
APPLIED IMAGE Group
Axsys Technologies, Inc.
B&W Tek, Inc.
BAE Systems Spectral Solutions LLC
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
e2v technologies inc.
Edmund Optics
HOLOEYE Photonics AG
HTA Photomask
Isuzu Glass Inc.
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems
JENOPTIK Polymer Systems, Inc.
L-3 InfraredVision Technology Corp.
Labtec Sales
Lightspeed Technologies
Lockheed Martin
Melles Griot

Product Categories

Minus K Technology
Nanjing Chunhui Science & Technology Industrial Co., Ltd.
NovaSol
NP Photonics
OFR, Inc.
Olympus Micro Imaging
OPTICS 1, Inc.
Photonics Online
Princeton Instruments/Acton
Scientific Solutions, Inc. (SSI)
Sci-in Tech
Spectrogon US Inc.
Spectrum Precision Systems
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
Thermo Electron, CIDTEC
Vincent Associates

Electronics, Signal Analysis Equipment

Abet Technologies
ALIO Industries
B&W Tek, Inc.
BAE Systems Spectral Solutions LLC
Beijing Institute of Technology SPIE Student Chapter
Lightspeed Technologies
Lockheed Martin
Night Vision Systems, Inc.
Ocean Optics, Inc.
Olympus Micro Imaging
Photonics Online
SPIE Newsroom/SPIE Professional
Stanford Research Systems, Inc.
tec5USA, Inc.
Univ. of Central Florida

EUV Lithography

Aerotech, Inc.
ASML Optics LLC
B&W Tek, Inc.
Berliner Glas/U.S.
Del Mar Photonics, Inc.
HTA Photomask
International Radiation Detectors, Inc.
Newport Corp.
Photonics Online
Princeton Instruments/Acton
SPIE Newsroom/SPIE Professional
Tinsley Labs.
TNO Science & Industry
Univ. of Central Florida

Fiber Optic Components, Equipment, Systems

Aerotech, Inc.
Avantes, Inc.
B&W Tek, Inc.
Beijing Institute of Technology SPIE Student Chapter
CeramOptec Industries, Inc.
Collimated Holes, Inc.
Del Mar Photonics, Inc.
Evaporated Coatings, Inc.
Fiberguide Industries, Inc.
Fibertech Optica
General Photonics Corp.
Hamamatsu Corp.
Hellma International, Inc.
High Energy Laser Joint Technology Office
Hinds Instruments, Inc.
HTA Photomask
Incom, Inc.
IRphotonics
JENOPTIK Polymer Systems, Inc.
LEISTER Technologies LLC
Lightspeed Technologies
MEMS Optical Inc.
Micro Laser Systems, Inc.
Mindrum Precision, Inc.
Newport Corp.
NP Photonics
Ocean Optics, Inc.
OFR, Inc.
Olympus Micro Imaging
Omega Optics, Inc.
Photonics Online
Polymicro Technologies LLC
Scientific Solutions, Inc. (SSI)
Sensors Unlimited, Goodrich Corporation
Servometer/PMG, LLC
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
StellarNet, Inc.
tec5USA, Inc.
Thermo Electron, CIDTEC
TNO Science & Industry
Univ. of Central Florida

Finished Optics, Filters, & Coatings, Optical Fabrication Equipment

Abet Technologies
ADE Phase Shift
Aerotech, Inc.
APPLIED IMAGE Group
Avantes, Inc.
Axsys Technologies, Inc.
B&W Tek, Inc.
Bach Research Corp.
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
Corning, Inc.
CSIRO Australian Centre for Precision Optics
Del Mar Photonics, Inc.
Digital Optics Corp.
Edmund Optics
Evaporated Coatings, Inc.
Exotic Electro-Optics
G-S PLASTIC OPTICS
Hellma International, Inc.
Heraeus Quartz America
High Energy Laser Joint Technology Office
HTA Photomask
II-VI Inc.
IRphotonics
Isuzu Glass Inc.
JENOPTIK Polymer Systems, Inc.
Kreischer Optics, Ltd.
Labtec Sales
Lambda Research Optics Inc.
LEISTER Technologies LLC
MediVision Optics
Melles Griot
Micro Laser Systems, Inc.
Mildex, Inc.
Mindrum Precision, Inc.
Naked Optics Corp.
Newport Corp.
Ocean Optics, Inc.
OFR, Inc.
Omega Optical, Inc.
OPTICS 1, Inc.
Opti-Forms, Inc.
OptiPro Systems
Photochemical Sciences, Center for
Photonics Online
Princeton Instruments/Acton
Rainbow Research Optics, Inc.
Research Electro-Optics, Inc.
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
Tecport Optics, Inc.
TNO Science & Industry
TwinStar Optics
VisiMax Technologies, Inc.
Zygo Corp.

High Speed Imaging and Sensing

Andor Technology
AOA, Inc.
AOptix Technologies, Inc.
Avantes, Inc.
Axsys Technologies, Inc.
BAE Systems Spectral Solutions LLC
Beijing Institute of Technology SPIE Student Chapter
Del Mar Photonics, Inc.
Edmund Optics
Filmetrics, Inc.
Isuzu Glass Inc.
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems
JENOPTIK Polymer Systems, Inc.
Lockheed Martin
Mindrum Precision, Inc.
Night Vision Systems, Inc.
NovaSol
NP Photonics
Ocean Optics, Inc.
Optical Research Associates
Photon Engineering, LLC
Photonics Online
Photron USA, Inc.
Princeton Instruments/Acton
Redlake
Sensors Unlimited, Goodrich Corporation
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
Surface Optics Corp.
Sutter Instrument Co.
tec5USA, Inc.
Telops Inc.
Thermo Electron, CIDTEC
TNO Science & Industry
Vision Research Inc.

Illumination Engineering

Avantes, Inc.
Beijing Institute of Technology SPIE Student Chapter
Collimated Holes, Inc.
Digital Optics Corp.
Fiberguide Industries, Inc.
Isuzu Glass Inc.
JENOPTIK Polymer Systems, Inc.
Lambda Research Corp.
LEISTER Technologies LLC
Lightspeed Technologies
Optical Research Associates
Photon Engineering, LLC
Photonics Online
SPIE Newsroom/SPIE Professional

Infrared Sources, Detectors, Systems

Abet Technologies
Avantes, Inc.
B&W Tek, Inc.
BAE Systems Spectral Solutions LLC
Beijing Institute of Technology SPIE Student Chapter
Corning, Inc.
Del Mar Photonics, Inc.
Digital Optics Corp.
Hamamatsu Corp.
HORIBA Jobin Yvon Inc.
Isuzu Glass Inc.
ITT Night Vision
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems
JENOPTIK Polymer Systems, Inc.
L-3 InfraredVision Technology Corp.
LEISTER Technologies LLC
Lightspeed Technologies
Lockheed Martin
M3 Measurement Solutions Inc.
Melles Griot
MEMS Optical Inc.
Naked Optics Corp.
NovaSol
NP Photonics
Ocean Optics, Inc.
Olympus Micro Imaging
Optical Research Associates
Photonics Online
Princeton Instruments/Acton
Sensors Unlimited, Goodrich Corporation
Servometer/PMG, LLC
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
StellarNet, Inc.
Telops Inc.

Ion-Beam Lithography

Aerotech, Inc.
International Radiation Detectors, Inc.
Labtec Sales
Photonics Online
SPIE Newsroom/SPIE Professional
TNO Science & Industry

Lasers and Other Light Sources, Laser Accessories, Laser Systems

Abet Technologies
Aerotech, Inc.
B&W Tek, Inc.
Beijing Institute of Technology SPIE Student Chapter
CeramOptec Industries, Inc.
Del Mar Photonics, Inc.
Fiberguide Industries, Inc.
General Photonics Corp.
Hellma International, Inc.
Heraeus Quartz America
High Energy Laser Joint Technology Office
HTA Photomask
II-VI Inc.
JENOPTIK Polymer Systems, Inc.
Kigre, Inc.
LAS-CAD GmbH
Lasertel, Inc.
Lightspeed Technologies
Lockheed Martin
M3 Measurement Solutions Inc.
Melles Griot
Micro Laser Systems, Inc.
Mindrum Precision, Inc.
Molecular Machines & Industries, Inc.
Moscow Engineering Physics Institute Student Chapter
Newport Corp.
NP Photonics
Ocean Optics, Inc.
Olympus Micro Imaging
Optical Research Associates
Photonics Online
Power Technology, Inc.
Research Electro-Optics, Inc.
RPMC Lasers, Inc.
Servometer/PMG, LLC
Spectrogon US Inc.
Spectrum Precision Systems
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
StellarNet, Inc.
Sutter Instrument Co.
Univ. of Central Florida
Vincent Associates

Law Enforcement Technologies

APPLIED IMAGE Group
Avantes, Inc.
BAE Systems Spectral Solutions LLC
ITT Night Vision
JENOPTIK Polymer Systems, Inc.
L-3 InfraredVision Technology Corp.
Lockheed Martin
Melles Griot
Night Vision Systems, Inc.
Ocean Optics, Inc.
Olympus Micro Imaging
Photochemical Sciences, Center for
Photonics Online
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional

Life Sciences

Andor Technology
APPLIED IMAGE Group
Avantes, Inc.
B&W Tek, Inc.
Berliner Glas/U.S.
CeramOptec Industries, Inc.
Collimated Holes, Inc.
Del Mar Photonics, Inc.
e2v technologies inc.
Elliot Scientific Ltd.
Hellma International, Inc.
Hitachi High Technologies America, Inc.
Incom, Inc.
JENOPTIK Polymer Systems, Inc.
Labtec Sales
LEISTER Technologies LLC
Lightspeed Technologies
Molecular Machines & Industries, Inc.
Nanopoint, Inc.
Newport Corp.
Night Vision Systems, Inc.
Ocean Optics, Inc.
Olympus Micro Imaging
Photonics Online
Princeton Instruments/Acton
Redlake
Sci-in Tech
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
Sutter Instrument Co.

Metrology, Inspection and Process Control

4D Technology Corp
ADE Phase Shift
Aerotech, Inc.
APPLIED IMAGE Group
Avantes, Inc.
B&W Tek, Inc.
CeramOptec Industries, Inc.
Corning, Inc.
CSIRO Australian Centre for Precision Optics
Digital Optics Corp.
Edmund Optics
Engineering Synthesis Design, Inc.
Fiberguide Industries, Inc.
Filmetrics, Inc.
Heraeus Quartz America
HTA Photomask
Intellevation Ltd.
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems
JENOPTIK Polymer Systems, Inc.
Labtec Sales
Lightspeed Technologies
Lumetrics, Inc.
M3 Measurement Solutions Inc.
MEMS Optical Inc.
Micro Laser Systems, Inc.
Mildex, Inc.
Minus K Technology
Moscow Engineering Physics Institute Student Chapter
NP Photonics
Ocean Optics, Inc.
Optical Perspectives Group, LLC
OptiPro Systems
Photon Engineering, LLC
Photonics Online
Piezosystem Jena, Inc.
Power Technology, Inc.
Sigma Instruments
Spectrogon US Inc.
Spectrum Precision Systems
SPIE Newsroom/SPIE Professional
Stanford Photo-Thermal Solutions
StellarNet, Inc.
tec5USA, Inc.
Thermo Electron, CIDTEC
TNO Science & Industry
Vision Research Inc.
Zygo Corp.

Nanotechnology

Aerotech, Inc.
ALIO Industries
APPLIED IMAGE Group
Avantes, Inc.
B&W Tek, Inc.
Del Mar Photonics, Inc.
Heraeus Quartz America
Hitachi High Technologies America, Inc.
HTA Photomask
Isuzu Glass Inc.
Labtec Sales
LEISTER Technologies LLC
Lightspeed Technologies
Marlow Industries, Inc.
MEMS Optical Inc.
Mindrum Precision, Inc.
Minus K Technology
Molecular Machines & Industries, Inc.
Nanopoint, Inc.
Ocean Optics, Inc.
Olympus Micro Imaging
Omega Optics, Inc.
Photochemical Sciences, Center for
Photonics Online
PI (Physik Instrumente) LP
Piezosystem Jena, Inc.
Polymicro Technologies LLC
Princeton Instruments/Acton
Redlake
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
TNO Science & Industry

Optical Components

4D Technology Corp
Abet Technologies
Alpine Research Optics Corp.
AOptix Technologies, Inc.
APIC (Advanced Photonics Integrated Circuits) Corp.
APPLIED IMAGE Group
Ariel Optics, Inc.
Avantes, Inc.
Axsys Technologies, Inc.
B&W Tek, Inc.
Bach Research Corp.
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
Corning, Inc.
CSIRO Australian Centre for Precision Optics
Del Mar Photonics, Inc.
Digital Optics Corp.
EADS Astrium GmbH (Dornier)
Edmund Optics
EMF Corp.
Evaporated Coatings, Inc.
Exotic Electro-Optics
Fiberguide Industries, Inc.
G-S PLASTIC OPTICS
Hellma International, Inc.
Heraeus Quartz America
High Energy Laser Joint Technology Office
Hinds Instruments, Inc.
HOLOEYE Photonics AG
Hoya Corp. USA
HTA Photomask
Isuzu Glass Inc.
Janos Technology, Inc.
JENOPTIK Polymer Systems, Inc.
Kreischer Optics, Ltd.
L-3 InfraredVision Technology Corp.
Labtec Sales
Lambda Research Optics Inc.
LAS-CAD GmbH
LEISTER Technologies LLC
Lockheed Martin
MediVision Optics
Melles Griot
MEMS Optical Inc.
Micro Laser Systems, Inc.
Mindrum Precision, Inc.
Minus K Technology
Naked Optics Corp.
Newport Corp.
NP Photonics
Ocean Optics, Inc.
OFR, Inc.
Olympus Micro Imaging
Omega Optics, Inc.
Onyx Optics Inc.
Opti-Forms, Inc.
Optimax Systems, Inc.
Photonics Online
Polymicro Technologies LLC
Power Technology, Inc.
Princeton Instruments/Acton
Rainbow Research Optics, Inc.
Research Electro-Optics, Inc.
Rockwell Collins
Scientific Solutions, Inc. (SSI)
Sensors Unlimited, Goodrich Corporation
Special Optics, Inc.
Spectrogon US Inc.
Spectrum Precision Systems
SPIE Newsroom/SPIE Professional
StellarNet, Inc.
Sutter Instrument Co.
tec5USA, Inc.
Thermo Electron, CIDTEC
Tinsley Labs.
TNO Science & Industry
Trex Advanced Materials

Product Categories

TwinStar Optics
Univ. of Central Florida
Vincent Associates
Wangsness Optics
Zeon Chemicals

Optical Detectors

Abet Technologies
APIC (Advanced Photonics Integrated Circuits) Corp.
B&W Tek, Inc.
BAE Systems Spectral Solutions LLC
Beijing Institute of Technology SPIE Student Chapter
Corning, Inc.
Del Mar Photonics, Inc.
e2v technologies inc.
Edmund Optics
Electron Tubes
Hamamatsu Corp.
Hellma International, Inc.
HTA Photomask
International Radiation Detectors, Inc.
Isuzu Glass Inc.
L-3 InfraredVision Technology Corp.
Labtec Sales
Lockheed Martin
Newport Corp.
Night Vision Systems, Inc.
NovaSol
Ocean Optics, Inc.
Olympus Micro Imaging
Photon Inc.
Photonics Online
Princeton Instruments/Acton
Spectrum Precision Systems
SPIE Newsroom/SPIE Professional
StellarNet, Inc.
tec5USA, Inc.
Thermo Electron, CIDTEC
Univ. of Central Florida

Optical Fibers

Avantes, Inc.
B&W Tek, Inc.
Beijing Institute of Technology SPIE Student Chapter
CeramOptec Industries, Inc.
Collimated Holes, Inc.
Corning, Inc.
Fiberguide Industries, Inc.
Fibertech Optica
Hellma International, Inc.
High Energy Laser Joint Technology Office
IRphotonics
LEISTER Technologies LLC
Lightspeed Technologies
Melles Griot
Micro Laser Systems, Inc.
Nanjing Chunhui Science & Technology Industrial Co., Ltd.
NP Photonics
Ocean Optics, Inc.
OFR, Inc.
Olympus Micro Imaging
Photonics Online
Polymicro Technologies LLC
Power Technology, Inc.
SPIE Newsroom/SPIE Professional
StellarNet, Inc.
tec5USA, Inc.
TNO Science & Industry
Univ. of Central Florida

Optical Materials and Substrates

APIC (Advanced Photonics Integrated Circuits) Corp.
Beijing Guojing Infrared Optical Technology Co., Ltd.
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
Brush Wellman Inc.
Crystal Systems, Inc.
CSIRO Australian Centre for Precision Optics
Edmund Optics
Evaporated Coatings, Inc.
Exotic Electro-Optics
Heraeus Quartz America
High Energy Laser Joint Technology Office
Hoya Corp. USA
HTA Photomask
IRphotonics
Isuzu Glass Inc.
Labtec Sales
Lambda Research Optics Inc.
M3 Measurement Solutions Inc.
MediVision Optics
Melles Griot
Naked Optics Corp.
Ocean Optics, Inc.
Ohara Corp.
Olympus Micro Imaging
Photochemical Sciences, Center for
Photonics Online
Poco Graphite, Inc.
Rubicon Technology, Inc.
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional
Stanford Photo-Thermal Solutions
TNO Science & Industry
Trex Advanced Materials
TwinStar Optics
Univ. of Central Florida
Wangsness Optics
Zeon Chemicals

Optical Test and Measurement Equipment, Interferometer

4D Technology Corp
ADE Phase Shift
Aerotech, Inc.
Andor Technology
ASML Optics LLC
Avantes, Inc.
B&W Tek, Inc.
Beijing Institute of Technology SPIE Student Chapter
Corning, Inc.
Edmund Optics
Engineering Synthesis Design, Inc.
Filmetrics, Inc.
Gamma Scientific, Inc.
General Photonics Corp.
Hinds Instruments, Inc.
Hitachi High Technologies America, Inc.
Instrument Systems
Intellevation Ltd.
Kreischer Optics, Ltd.
Labtec Sales
Lightspeed Technologies
Lumetrics, Inc.
M3 Measurement Solutions Inc.
Mildex, Inc.
Newport Corp.
NP Photonics
Ocean Optics, Inc.
Olympus Micro Imaging
Optical Perspectives Group, LLC
Optikos Corp.
OptiPro Systems
Optronic Laboratories, Inc.
Photon Inc.
Photonics Online
PI (Physik Instrumente) LP
Piezosystem Jena, Inc.
Scientific Solutions, Inc. (SSI)
Seren IPS
Sigma Instruments
Spectrum Precision Systems
SphereOptics LLC
SPIE Newsroom/SPIE Professional
Stanford Photo-Thermal Solutions
tec5USA, Inc.
Telops Inc.
Thermo Electron, CIDTEC
TNO Science & Industry
Veeco Instruments
Zygo Corp.

Optical/Laser Microlithography

Aerotech, Inc.
APPLIED IMAGE Group
ASML Optics LLC
Beijing Institute of Technology SPIE Student Chapter
Corning, Inc.
Del Mar Photonics, Inc.
Digital Optics Corp.
Heraeus Quartz America
HTA Photomask
Melles Griot
Olympus Micro Imaging
Photonics Online
Power Technology, Inc.
Princeton Instruments/Acton
SPIE Newsroom/SPIE Professional
Thermo Electron, CIDTEC

Optics Manufacturing

Aerotech, Inc.
Alpine Research Optics Corp.
AOA, Inc.
AOptix Technologies, Inc.
Ariel Optics, Inc.
ASML Optics LLC
Axsys Technologies, Inc.
Bach Research Corp.
Beijing Institute of Technology SPIE Student Chapter
Berliner Glas/U.S.
Corning, Inc.
CSIRO Australian Centre for Precision Optics
Del Mar Photonics, Inc.
Digital Optics Corp.
Edmund Optics
Exotic Electro-Optics
G-S PLASTIC OPTICS
Hellma International, Inc.
Heraeus Quartz America
High Energy Laser Joint Technology Office
HOLOEYE Photonics AG
Hoya Corp. USA
HTA Photomask
Isuzu Glass Inc.
Janos Technology, Inc.
Kreischer Optics, Ltd.
Labsphere, Inc.
Labtec Sales
Lambda Research Optics Inc.
LEISTER Technologies LLC
MediVision Optics
Melles Griot
MEMS Optical Inc.
Mildex, Inc.
Moscow Engineering Physics Institute Student Chapter
Newport Corp.
Ocean Optics, Inc.
OFR, Inc.
Ohara Corp.
Olympus Micro Imaging
Omega Optical, Inc.
Onyx Optics Inc.
Opti-Forms, Inc.
Optimax Systems, Inc.
Phenix Optics Instrument Co., Ltd.
Photonics Online
Polymicro Technologies LLC
Princeton Instruments/Acton
Research Electro-Optics, Inc.
Rockwell Collins
Special Optics, Inc.
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional
Tecport Optics, Inc.
TNO Science & Industry
TwinStar Optics
Veeco, Ion Source Products
Wangsness Optics
Zygo Corp.

Photonics Equipment Manufacturer

ADE Phase Shift
Aerotech, Inc.
AGS Plasma Systems
ALIO Industries
APIC (Advanced Photonics Integrated Circuits) Corp.
Avantes, Inc.
B&W Tek, Inc.
Berliner Glas/U.S.
Del Mar Photonics, Inc.
Edmund Optics
Electron Tubes
Elliot Scientific Ltd.
Fiberguide Industries, Inc.
Gamma Scientific, Inc.
General Photonics Corp.
Heraeus Quartz America
ITT Night Vision

JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems
Labsphere, Inc.
Labtec Sales
Lightspeed Technologies
Melles Griot
Micro Laser Systems, Inc.
Moscow Engineering Physics Institute Student Chapter
Ocean Optics, Inc.
Olympus Micro Imaging
Photonics Online
Satisloh North America Inc.
Sci-in Tech
Seren IPS
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
StellarNet, Inc.
tec5USA, Inc.
Tecport Optics, Inc.
Telops Inc.
Thermo Electron, CIDTEC
Veeco, Ion Source Products

Resist Technology and Processing

Evaporated Coatings, Inc.
Filmetrics, Inc.
HTA Photomask
Labtec Sales
Photonics Online
SPIE Newsroom/SPIE Professional
Zeon Chemicals

Sensor & Sensor Systems

AOA, Inc.
APIC (Advanced Photonics Integrated Circuits) Corp.
Avantes, Inc.
Axsys Technologies, Inc.
B&W Tek, Inc.
Bach Research Corp.
BAE Systems Spectral Solutions LLC
Beijing Institute of Technology SPIE Student Chapter
CeramOptec Industries, Inc.
Digital Optics Corp.
e2v technologies inc.
Electron Tubes
Fiberguide Industries, Inc.
Hamamatsu Corp.
Hellma International, Inc.
HTA Photomask
International Radiation Detectors, Inc.
Isuzu Glass Inc.
ITT Night Vision
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Sensor Systems
JENOPTIK Polymer Systems, Inc.
L-3 InfraredVision Technology Corp.
Lightspeed Technologies
Lockheed Martin
Mindrum Precision, Inc.
Night Vision Systems, Inc.
NovaSol
NP Photonics
Ocean Optics, Inc.
Olympus Micro Imaging
OPTICS 1, Inc.
Photochemical Sciences, Center for
Photonics Online
Sensors Unlimited, Goodrich Corporation
Servometer/PMG, LLC
Spectrogon US Inc.
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
tec5USA, Inc.
Telops Inc.
Thermo Electron, CIDTEC
TNO Science & Industry

Services and Publications (Including Professional Societies)

Beijing Institute of Technology SPIE Student Chapter
Breault Research Organization
CLEO/QELS & PhAST 2007
CRC Press-Taylor & Francis Group LLC
Kreischer Optics, Ltd.
Optics & Laser Europe
Photochemical Sciences, Center for
Photon Engineering, LLC
Photonics Online
Photonics Spectra
Photonics.com/Photonics Directory
Spectroscopy Magazine
SPIE Newsroom/SPIE Professional
Taylor & Francis
U.S. Civilian Research & Development Foundation

Software

4D Technology Corp
AOA, Inc.
AOptix Technologies, Inc.
Beijing Institute of Technology SPIE Student Chapter
Breault Research Organization
EADS Astrium GmbH (Dornier)
Lambda Research Corp.
LAS-CAD GmbH
Lumerical Solutions, Inc.
M3 Measurement Solutions Inc.
Night Vision Systems, Inc.
NovaSol
Ocean Optics, Inc.
Optical Research Associates
Photon Engineering, LLC
Photonics Online
Princeton Instruments/Acton
SPIE Newsroom/SPIE Professional
StellarNet, Inc.
tec5USA, Inc.
ZEMAX Development Corp.

Solar and Alternative Energy

Abet Technologies
Avantes, Inc.
HTA Photomask
Isuzu Glass Inc.
Labtec Sales
Lightspeed Technologies
Newport Corp.
Photon Engineering, LLC
Photonics Online
SPIE Newsroom/SPIE Professional
State of Hawaii, Department of Business, Economic Development & Tourism
Veeco, Ion Source Products

Vacuum, Cooling, Gas Handling Equipment

ALIO Industries
Andor Technology
Del Mar Photonics, Inc.
Evac International
M3 Measurement Solutions Inc.
Marlow Industries, Inc.
MPF Products
Photonics Online
Sci-in Tech
SPIE Newsroom/SPIE Professional

X-Ray Lithography

Aerotech, Inc.
Del Mar Photonics, Inc.
International Radiation Detectors, Inc.
Photonics Online
Princeton Instruments/Acton
SPIE Newsroom/SPIE Professional
Thermo Electron, CIDTEC
Tinsley Labs.

Corporate Sustaining Members

Companies, large and small, play a critical role in supporting the growth and vitality of optics and photonics. Through collaboration, they steer the latest innovations toward practical relevance in the global marketplace.

SPIE Corporate Member

SPIE Corporate Membership enhances your organization by providing significant discounts on:

- **SPIE exhibitions***
- **SPIE publications**
- **SPIE Digital Library subscriptions**
- **Advertising rates**
- **Mailing lists**
- **And recruitment services.**

** Corporate Members receive a 15% discount on exhibit space at events solely owned by SPIE.*

Get complete details at
spie.org/membership

4AD Enterprises, Inc./EKSMA, Ltd.
4D Technology Corp.
A&I Ltd.
Access Laser Co.
Aculight Corp.
ADE Phase Shift
Advanced Microoptic Systems GmbH
Aerotech, Inc./World Headquarters
AF Optical Inc.
Agiltron, Inc.
Alfalight, Inc.
ALIO Industries
Alpha
Alpine Research Optics Corp./ Headquarters
Alson E. Hatheway, Inc.
Altos Photonics, Inc.
Ampex Data Systems Corp.
Analytical Spectral Devices, Inc.
Anda Optec, SIA/biolitec Div/ Latvia
Andor Technology Ltd./North American Office
Andover Corp.
Apollo Instruments, Inc.
Apollo Optical Systems, LLC
Aprio Technologies, Inc./ Marketing & Sales
Archer OpTx, Inc.
Argyle International, Inc.
Ariel Optics, Inc.
Asahi Spectra USA Inc.
ASELSAN MGEO Div/ Microelectronics, Guidance and Electro-optics Div
ASML US, Inc.
asphericon GmbH
Avo Photonics
Axsys Technologies, Inc./ Imaging Systems
Ayase America Inc.
AZ Electronic Materials USA Corp./USA Corp.
Azure Photonics Co.
Barr Associates, Inc.
Beamtech Optronics Co. Ltd.
Berliner Glas U.S.
Bioptigen, Inc.
Blue Hill Optical Technologies LLC
Boston Electronics Corp.
Boston Micromachines Corp.
Boulder Nonlinear Systems, Inc.
Brandstrom Instruments, Inc.
Brandywine Optics, Inc.
Breault Research Organization, Inc.
Brewer Science, Inc./North America Headquarters
Brighten Optics Ltd.
Brion Technologies, Inc./ Corporate Headquarters
Bristol Instruments, Inc.
Calmar Optcom Inc.
Cambridge Research & Instrumentation, Inc./ Headquarters
Cambridge Technology, Inc.
Cascade Technologies Ltd.
Central Astronomical Observatory at Pulkovo
Central Electronics Engineering Research Institute/CEERI Ctr
Central R&D Institute for Robotics and Technical Cybernetics
Central Research Institute Cyclone
CeramOptec Industries, Inc./ biolitec Div/USA
Chernyshevsky Saratov State Univ.
China Daheng Group, Inc.
Chroma Technology Corp.
Chung Shan Institute of Science and Technology
CI Systems, Inc./California Office/Simi Valley
Clear Shape Technologies, Inc.
Cleveland Crystals, Inc./A Gooch & Housego PLC
Coastal Optical Systems Inc./ Production/Shop
Cobolt AB
Coherent, Inc./Corporate Headquarters
Communication Automation Mounting Ltd.
Continuum, Inc.
CorActive High-Tech Inc.
Corning Inc.
Corning Tropel Corp.
Creative Display Systems, LLC
Creatv MicroTech, Inc.
Cristal Laser SA
Crystal Fibre A/S
CrystaLaser LC
Crystaltechno Ltd.
CRYSTECH Inc.
Crytur Ltd.
Ctr. of New Technologies OPTRON
CVI Laser LLC
Cyantek Corp.
Daugavpils Univ.
Davidson Optronics Inc.
Diamond Wire Technology/Div. of Laser Technology West
Digital Optics Corp.
Docter Optics Inc.
Dongjin Semichem Co., Ltd./ Electronic Materials Div
DRS Technologies, Inc.
e2v technologies ltd.
Edmund Optics Inc./Main Office
ELCAN Optical Technologies
Electro-Optical Imaging, Inc.
Electro-Optical Systems Inc.
Elliot Scientific Ltd.
EM4, Inc.
Engineering Synthesis Design, Inc.
Epner Technology Inc.
Evaporated Metal Films Corp.
Exalos AG
Exitech Inc.
F&K Delvotec, Inc.
Fairchild Imaging
Far Eastern State Technical Univ.
Federal Scientific and Production Ctr.
Federal State Unitary Enterprise RPC ISTOK
Femtochrome Research, Inc.
FemtoLasers, Inc.
Fiberguide Industries, Inc.
Fibertech Optica, Inc.
Firebird Technologies Inc.
FISBA OPTIK LLC/Rochester NY
FJW Optical Systems, Inc.
FLIR Systems, Inc./Boston Division
Foreal Spectrum, Inc.
Frankfurt Laser Co.
Fresnel Technologies Inc.
Gamma Scientific
General Physics Institute/ Russian Academy of Sciences
Glass Fab, Inc.
Goodrich Corp./Optical & Space Systems Div
Graphic Security Systems Corp.
Grintech GmbH
G-S PLASTIC OPTICS/A Germanow-Simon Co.
GSI Group Inc./Corporate Office-Mfg. Ctr.
Halbo Optics
Hamamatsu Corp.
Hamatech USA Inc.
HC Photonics Corp.
Headwall Photonics Inc.
Heidelberg Instruments Inc./ Service USA
Hellma International, Inc.
Heraeus Optics LLC
Hextek Corp.
High Plains Optics
HoloEye Photonics AG
Hong Kong Polytechnic Univ./ Advanced Optics Manufacturing
Hong Kong Productivity Council/ Manufacturing Technology Div
HORIBA Jobin Yvon Inc./OSD Div
House of Optics Scientific Ctr.
Hoya Corp.
Imperx Inc.
IMRA America, Inc./ Headquarters & Research Facility
Incom Inc.
Infrared Fiber Systems, Inc.
Infrared Systems Development Corp.
Ingeneric GmbH
Institut für Mikrotechnik Mainz GmbH
Institute for Applied Physics/ Russian Academy of Sciences
Institute for Automation and Control Processes
Institute for Infocomm Research, Agency for Space, Technology and Research
Institute for Laser Physics
Institute for Roentgen Optics
Institute of Atmospheric Optics/ Siberian Branch of RAS
Institute of Atmospheric Physics/ Russian Academy of Sciences
Institute of Fine Mechanics and Optics
Institute of Laser and Information Technologies/Russian Academy of Sciences
Institute of Microstructure Physics/Russian Academy of Sciences
Institute of Physics and Technology/Russian Academy of Sciences
Institute of Radioengineering and Electronics/Russian Academy of Sciences
Institute of Semiconductor Physics
Institute of Spectroscopy/ Russian Academy of Sciences
International Radiation Detectors, Inc.

Corporate Sustaining Members

International Union of Instrument Engineers
Intevac, Inc.
IO Industries, Inc.
Ioffe Physical Technical Institute
IPG Photonics Corp.
Isomet Corp.
JDS Uniphase/Commercial and Consumer Prod
JENOPTIK Laser, Optik, Systeme GmbH/Business Unit Optics
Jenoptik Polymer Systems, Inc.
JEOL USA Inc.
JMAR Technologies, Inc./ Corporate Headquarters
Joint Stock Co. Lytkarino Optical Glass Factory
JSR Micro, Inc.
JT Ingram
Jupiter
Kapteyn-Murnane Labs., Inc.
Kazan Optic-Mechanic Plant Production Corp.
Kazan Physical-Technical Institute/Russian Academy of Sciences
KBTEM-OMO State Research & Production Association
KEOS Optoelectronics, Inc.
KLA-Tencor Corp.
Kreischer Optics, Ltd.
Kuban State Univ.
Kursk State Technical Univ.
L-3 Communications Cincinnati Electronics
LaCroix Optical Co.
Laflin Ltd.
Lambda Research Corp.
Lambda Research Optics, Inc./ Lasers Optics & Coatings
Land Engineering Agency
Las Cumbres Observatory
Laser Compact Co. Ltd.
Laser Components IG, Inc.
Laser Focus World
Laser Physics Scientific Research Institute
Laserline Inc.
Lasertec USA Inc.
Lasertel, Inc.
LASOS GmbH
Lattice Electro Optics, Inc.
Latvijas Univ./Institute of Solid State Physics
Leica Instruments (Singapore) Pte Ltd.
LEISTER Technologies LLC
Leybold Optics USA, Inc.
Light Age, Inc.
LightPath Technologies, Inc./ Corporate Office
Lightspeed Technologies
LightWorks Optics, Inc.
Lincoln Laser Co.
LINOS Photonics, Inc.
LOMO plc
Louis Rudzinsky Associates, Inc./OPTemps Div.
Lumera Corp.
Luxel Corp.
M.V. Lomonosov Moscow State Univ.
M3 Measurement Solutions Inc
Mad City Labs, Inc.
Market Tech, Inc.
Matrix Technology Corporation
Max Levy Autograph Inc.
Melles Griot
MEMS Optical, Inc.
Mentor Graphics Corp./Design to Silicon
Metavac, Inc.
MetroLux Analytics, Inc.
Metrosol, Inc.
Micro Laser Systems, Inc.
Micro Photonics, Inc.
Microelectronic Technologies Joint stock Institute
Micromotion GmbH
Micronic Laser Systems AB
Mildex Inc.
MilSys Technologies LLC
Mindrum Precision Inc.
Minsk Physics Institute/Belarus Academy of Sciences
Minus K Technology Inc.
MLD Technologies, LLC
Model Optics, Inc.
Molecular Imprints, Inc./ Headquarters
Moscow Engineering Physics Institute
Moscow Institute of Physics and Technology
Moscow Mining Institute
Moscow Power Engineering Institute Technical Univ.
Moscow Scientific Techn. Soc. of Instr. & Meas Eng
Moscow State Inst. of Electronics and Mathematics
Moscow State Univ. of Geodesy and Cartography
MPA Crystal Corp
MPB Communications Inc.
mso jena Mikroschichtoptik GmbH
N.E. Bauman Moscow State Technical Univ.
Naked Optics Corp.
NASA Marshall Space Flight Ctr./Space Optics Manufacturing Tech Ctr
New England Photoconductor Corp.
New Focus, Inc.
New Mexico Optics Industry Association
New Scale Technologies, Inc./ Main Office
New Source Technology, LLC
Newport Corp.
NexTech Solutions, Inc.
Nikon Precision Inc.
nLight Corp.
North Crystals
Northrop Grumman Corp./ Cutting Edge Optronics
Nozomi Photonics Co., Ltd.
NPO Geofizika-Cosmos Scientific & Production Enter
Nufern
Nutfield Technology, Inc.
Observatorio Astronomico Nacional
Ocean Optics, Inc.
Octec Ltd./The Western Ctr.
OFS
Ohara Corp.
Omega Optical, Inc./Corporate Office
Ondax, Inc.
ONTAR Corp.
Ophir Optics, Inc.
Opnext, Inc.
Optical Research Associates
Optical Support, Inc.
Optics 1, Inc.
OPTICS 1, Inc./Commericial Systems Div.
Optics For Hire
Optics for Research, Inc.
Optikos Corp.
Optikron GmbH
Optilab LLC
Optimax Systems, Inc.
OptiPro Systems
OptiSource, LLC
Opto Diode Corp.
OptoSigma Corp.
OPTWARE Corp.
Orion Research and Production Association
OZ Optics Ltd.
P.N. Lebedev Physical Institute/ Russian Academy of Sciences
PDF Solutions, Inc.
PerfectWave Technologies LLC
Perm Scientific-Industrial Instrument-Making Co.
Petrozavodsk State Univ./ Information Measurment Systems
PFG Optics
PhotoMed Technologies
Photon Design
Photon Engineering, LLC
Photon Etc. Inc.
Photonic Cleaning Technologies
Photonic Products Ltd.
Photonics Industries International, Inc.
Photonis-DEP B.V.
Photooptics Ltd.
Photop Technologies, Inc.
Photron USA, Inc.
Phytron Inc.
PI (Physik Instrumente) L.P.
Picarro
Piezosystem Jena Inc.
PLX Inc.
Poco Graphite, Inc.
Point Source Ltd.
PolarOnyx, Inc.
Polymer Assembly Technology, Inc.
Polymicro Technologies, LLC
POLYUS Research & Development Institute
Power Technology, Inc.
Precision Asphere LLC
Precision Optics Corp.
Precitech, Inc.
Princeton Instruments/Acton
Princeton Lightwave Corp.
Prism Books Private Ltd.
Process Materials Inc.
PULSAR Science Research Institute/RC Kremniy Div.
PVP Advanced EO Systems, Inc.
QED Technologies Inc./ Corporate Headquarters
QIOPTIQ
Quantronix Corp.
Quintessence Photonics Corp.
Ramenskoye Design Co.
RAVE LLC
Raydiance, Inc.
Raytheon Co./Vision Systems
REAGENT Scientific Technical Ctr. Ltd.
RedShift Systems Corp.
Research Electro-Optics, Inc.
Research Institute of GOZNAK
Research Institute of Pulse Techniques
Reynard Corp.
Riga Technical Univ./Institute of Technical Physics
Rockwell Laser Industries, Inc.
Rocky Mountain Instrument Co./Laser Div
Rolyn Optics Co.
RoMack, Inc.
RPC Photonics, Inc.
RPMC
RSoft Design Group, Inc.
Rubicon Technology Inc.
Russian Chapter of Society for Info Display Div
Russian Federal Nuclear Ctr.
Russian Social Fund TOPEC Solid State Optoelectron
Sacher Lasertechnik GmbH
Saint Gobain Crystals
Salem Distributing Co./ Precision Div.
Samara Institute of Image Processing Systems/ Russian Academy of Sciences
Satisloh North America Inc./ Precision Optics
SCANLAB America, Inc.
SCD-Semi Conductor Devices
Schneider Optics, Inc./OEM
SCHOTT North America, Inc./ Optics for Devices
Scientific and Technological Ctr. for Unique Instrumentation
Scientific Research Association/Astrophysics
Scientific Research Inst. of Precise Instruments
Scientific Research Institute of Aviation Equipmen
Scientific Solutions, Inc.
Sci-in Tech
SciMeasure Analytical Systems, Inc.
SensL Technologies Ltd.
Sensors Unlimited, Inc.
Sensovation AG
Senspex, Inc.
Servometer - PMG LLC
SGS Slicing Solutions Inc.
Shanghai Optics
Silicon Canvas Inc.
Sill Optics GmbH & Co., KG
Siskiyou Corp.
Sonoma Photonics Inc.
Sparkle Optics Corp.
Special Optics Manufacture and Design, Inc.
Specim Spectral Imaging Ltd.
Spectralus Corp.
Spectrogon AB/Headquarters - Sweden
Spectrum Scientific, Inc.
Spectrum Thin Films Corp.
SphereOptics, LLC
Spica Technologies, Inc.
Spiricon, Inc.
SRC SMC Technological Ctr. MSIEE
SRICO Inc.
SRIPDE-Science Research Institute for Precision De
St. Petersburg Institute of Fine Mechanics and Optics
Standards Productivity and Innovation Board/National Metrology Ctr.
Stanford Computer Optics Inc.
Star Tech Instruments
State Scientific-Manufacturing Assoc.
State Univ. of Control Systems & Radioelectronics
StellarNet, Inc.
StockerYale, Inc.
Super Optronics
Surface Finishes
Swiss Jewel Co.
Synopsys, Inc.
Syntec Technologies Inc.
TAC/Tour Andover Controls/ Precision Instruments
TDISIE Siberian Branch/ Russian Academy of Sciences
Techmetals, Inc./Optics Div.
Technical Manufacturing Corp.
Technomedica Research & Manufacturing Co.
TecOptics, Inc.
Tempo Plastic Co./Foam Boxes for Optics Div.
TFI Telemark
The Cooke Corp.
The Univ. of Arizona
Thermo Electron, CIDTEC/ CIDTEC Cameras & Imagers
Tinsley Labs.
TLC International
TopGaN Ltd.
Toppan Photomasks, Inc./ Headquarters for Toppan Photomasks, Inc.
Toptica Photonics, Inc.
Tower Optical Corp.
Toyota Central Research and Development Labs., Inc.
Trex Advanced Materials/ Materials
TRUMPF Inc.
Tydex JS Co.
U.S. Photonics Inc
Umicore Thin Film Products
Unaxis Optics
UNIQUE ICs LLC
Univ. of Arizona/Optical Sciences Ctr.
Univ. of Colorado/Boulder/ Boulder
Univ. of Iowa Libraries
Univ. of North Carolina/ Charlotte/Atkins Library
Universal Photonics Inc.
Ural Optical and Mechanical Plant
V.I. Ulyanov (Lenin) State Electrical Engineering
Vavilov State Optical Institute/ All-Russian Research Ctr.
Veeco Instruments
Veeco Metrology LLC/AFMs
Veeco Tucson Inc.
Virtual Industries, Inc.
Visotek Inc.
Volga State Academy of Telecommunications and Info
Volga Technology Ltd.
WaveFront Sciences, Inc.
Westchester Technologies, Inc.
Western Photonics Technology
Wordingham Technologies
Yield Engineering Systems Inc.
YUCO Optics Corp.
Zygo Corp.

Innovation at Work

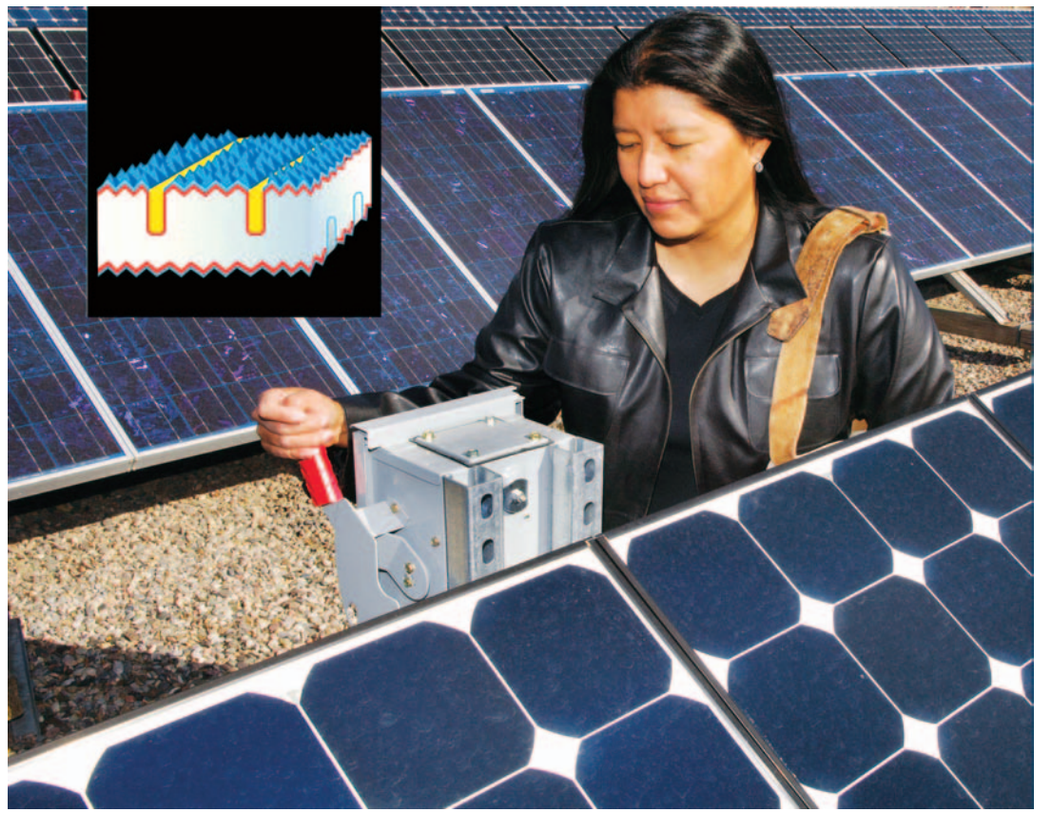


Image courtesy of Sandia National Laboratories: Debby Tewa with photovoltaic units for Native Americans in remote areas.

SPIE Optics & Photonics

26-31 August 2007

San Diego Convention Center San Diego, California USA

Be among the first to get access to the world's largest collection of pre-published research on emerging appplications like nanotechnology, illumination engineering and alternative energy.

Participate and meet others in the international scientific community who seek to learn, make discoveries and innovate.

- Nanotechnology
- Solar and Alternative Energy
- Illumination Engineering
- Organic Materials
- Optical Engineering and Instrumentation

The International Society for Optical Engineering

spie.org/events/op

Building a Better Future with Light

A Reflection of Quality

Trex Enterprises' Chemical Vapor Composite SiC Mirrors

Large Aperture Mirrors

- Near net shape manufacturing
- Lightweighted structures
- High specific stiffness
- Low thermal expansion-coefficient
- Surface figure better than 1/35 λ
- Surface finish <2Å

The *Lightweight* Advantage for all Your Weight Budget Challenges

Visit us at booth Number 314

Sponsored by:

HAWAII TOURISM AUTHORITY

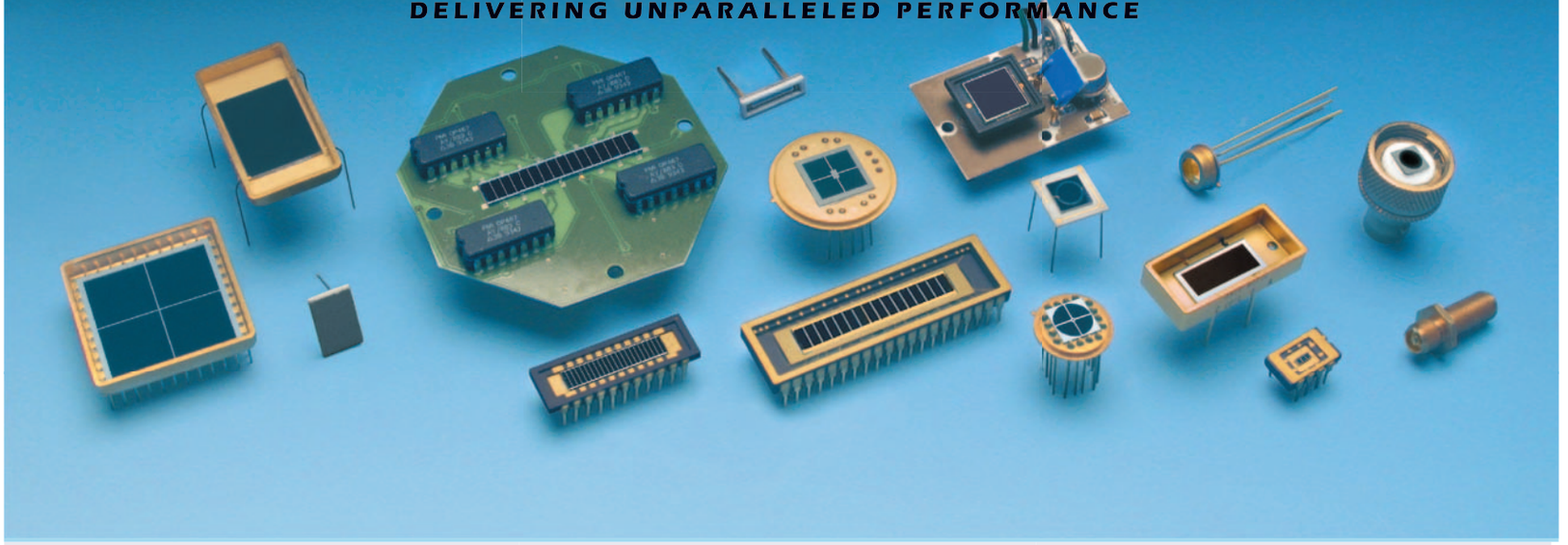
KEDB KAUAI ECONOMIC DEVELOPMENT BOARD

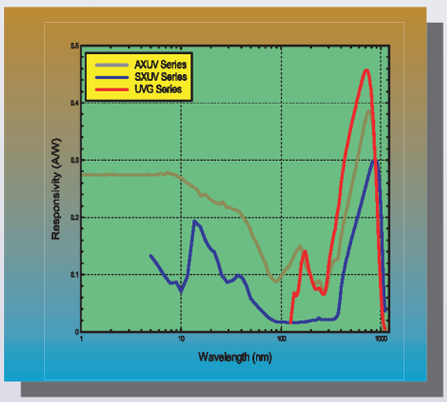
TREX ENTERPRISES CORPORATION

3038 Aukele Street • Lihue, Kauai, HI 96766 • (808) 245-6465 • (808) 245-7246 fax • www.trexenterprises.com

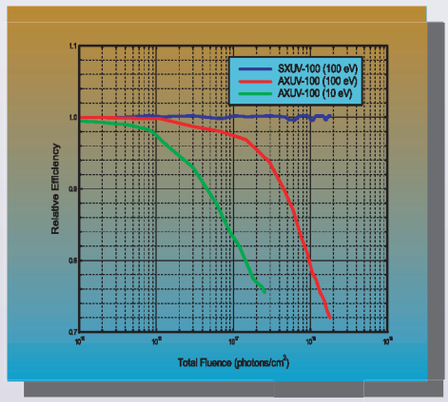
AXUV/UVG/SXUV PHOTODIODES

DELIVERING UNPARALLELED PERFORMANCE

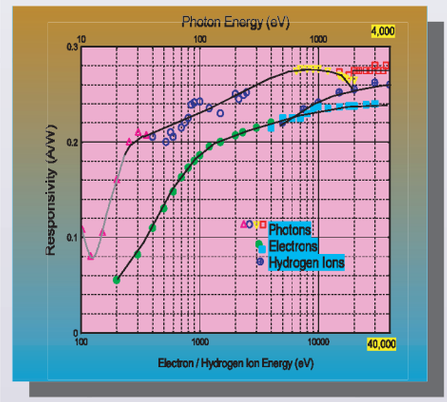




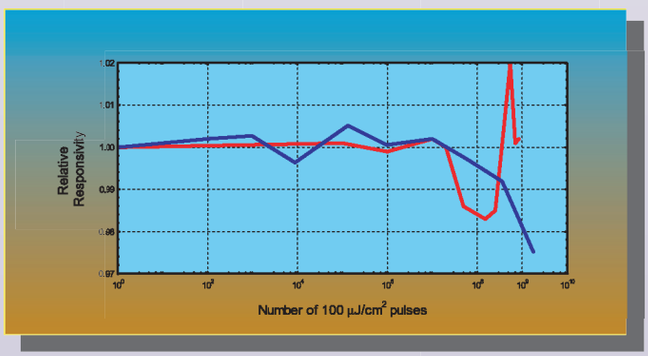
Responsivity of IRD Photodiodes in 1 nm to 1100 nm Range.



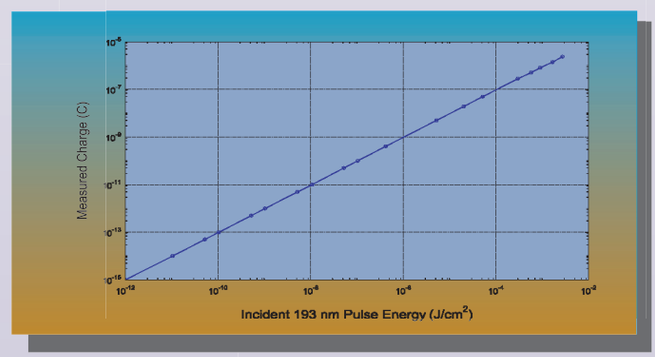
Stability of AXUV and SXUV photodiodes after exposure to CW Radiation.



Responsivity of AXUV Photodiode to Photons, Electrons, and Ions.



Responsivity Stability of SXUV Series Photodiodes After Exposure to 193nm and 157nm Excimer Laser. -193nm -157nm.



Transfer Function of SXUV100RPD Diode with PA100 Amplifier.

Windowless Operation ⋆ **UHV AND Cryogenically Compatible** ⋆ **1pJ to 1mJ pulse energy measurement**

For More Information Call : 1-800-683-9693

INTERNATIONAL RADIATION DETECTORS INC.

2527 West 237 th Street, Unit A ◆ Torrance, California 90505-5243

(310) 534-3661 ◆ FAX (310) 534-3665 ◆ http://www.ird-inc.com

IRD

DEVELOPED IN COLLABORATION WITH NIST, NIH, LANL, NOAA, LLNL