

SPIE

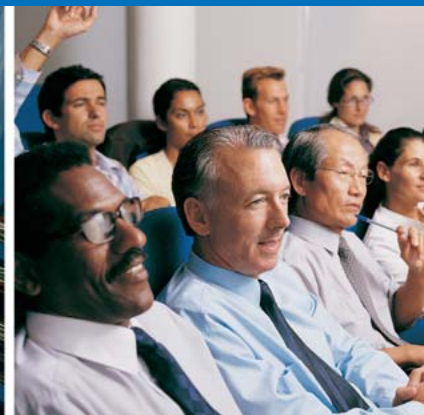
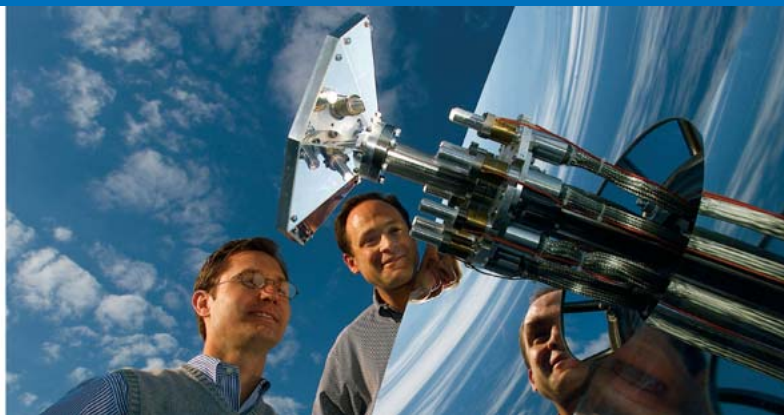
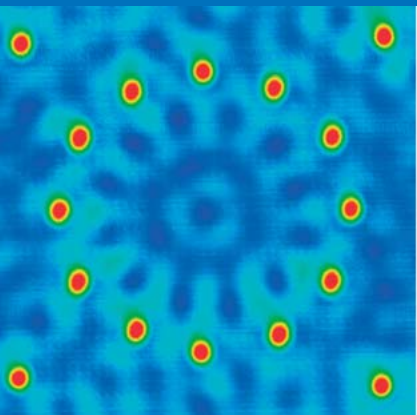


Optics+Photonics

Exhibition Guide

Exhibition: 28–30 August 2007
Conferences + Courses: 26–30 August 2007

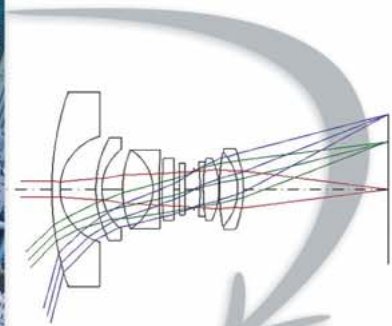
San Diego Convention Center
San Diego California USA



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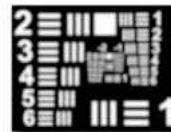
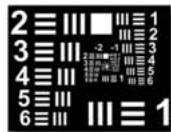
Connecting minds. Advancing light.

What you get is what you see



- Obtain fast, accurate visual assessments of system image quality, including diffraction
- Communicate optical concepts and trade-offs to non-optical engineers during design evaluations and product presentations
- Improve qualitative understanding of traditional performance measures such as MTF and spot diagrams
- Determine image orientation issues for complicated folded systems

Visualize and communicate optical system performance with CODE V[®] Image Simulation



A picture is worth a thousand words. CODE V's image simulation feature lets you visualize the performance of your optical designs directly, as an alternative to traditional charts and tables. It is the ideal tool for communicating optical performance to non-optical engineers.

Image simulation is a diffraction-based computation that includes the effects of geometrical aberrations, diffraction, relative illumination variations, and distortion. Blurring due to a finite-sized detector can also be included. The algorithm uses the power of the Fast Fourier Transform (FFT) calculation, and is much more efficient and accurate than geometrical ray-blasting techniques.

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Exhibition

Exhibition Halls D & E

Tuesday, 28 August 10 am to 5 pm
 Wednesday, 29 August 10 am to 5 pm
 Thursday, 30 August 10 am to 2 pm

**Optics + Photonics 2007
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Welcome to the Exhibition!

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Left cover photo: Courtesy of National Institute of Standards and Technology. Quantum Daisy. Twelve cobalt atoms arranged in a circle on a surface of copper produce a daisy-like pattern from the interference of electron waves. This image was made with a one-of-a-kind instrument that, acting autonomously, picks up and places individual atoms anywhere on a surface. NIST scientists are studying the quantum properties of different atom arrangements to help improve the design and fabrication of nanoscale devices.

Center cover photo: Courtesy of Oak Ridge National Laboratory. LIGHTING THE WAY — From left, Alex Fischer, head of ORNL's Technology Transfer program, is shown with Jeff Muhs of ORNL's Engineering Science and Technology Division, who developed the hybrid solar lighting technology, April 10, 2003. It allows the sun's ray to light a room directly by using optical fibers to bring sunlight inside, and, in the future, indirectly by harnessing the remaining portion of sunlight (mainly infrared energy) to generate electricity that can power the room's light bulbs.

SPIE would like to express its deepest appreciation to the program chairs, conference chairs, cochairs, program committees, and session chairs who have so generously given of their time and advice to make this symposium possible. The symposium, like our other conferences and activities, would not be possible without the dedicated contribution of our participants and members.

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

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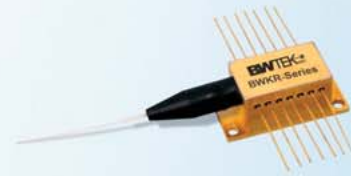
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Exhibitor Product Demonstrations

Demo Area, Exhibition Hall

Tuesday

10:30 am

Sputter Target Bonding Technology

J. R. Gaines, Kurt J. Lesker Company

We will demonstrate the superior target bonding technique of LeskerBond™ Services, using the patented NanoBond® process technology and patented NanoFoil® under license from RNT.

11:30 am

MiniRam II

Dr. Sean Wang, B&W Tek, Inc.

Low cost, light weight, battery operated Raman system with a 10 cm-1 spectral resolution through the Raman shift range of 175 - 3100 cm-1, with an integrated stabilized 785 nm excitation laser.

1:30 pm

What's New in ZEMAX

Dr. Mark Nicholson, ZEMAX Development Corp.

Demonstrating the latest new features in the analysis, optimization and tolerancing of imaging and illumination systems using the ZEMAX optical design program.

2:30 pm

Aspheric Measurement in 2 Seconds

Piotr Szwaykowski, Engineering Synthesis Design, Inc.

The Intellium Asphere is a 100mm Fizeau interferometer which incorporates advanced sub-Nyquist sampling technologies to accurately characterize, in seconds not minutes, aspheric optical elements.

Wednesday

11:30 am

Vision Research's New Phantom Miro High-Speed Digital Camera

Larry Vladic, Vision Research

Vision Research will unveil its new Phantom® Miro™ family of compact, high-speed digital cameras. Miro cameras are ideal for a variety of applications including engineering and scientific research.

12:30 pm

Optical Alignment and Test Tools

Bob Parks, Optical Perspectives Group, LLC

Using the Point Source Microscope for alignment, centering, autocollimation and in-coming optical component inspection. Use of the CaliBall for interferometer transmission sphere calibration.

1:30 pm

Calculating Atmospheric Effects

Alyssa Douglass, ONTAR Corp.

PcModWin provides an environment to allow MODTRAN calculations to operate effectively. MODTRAN is a complex program. PCModWin lets you focus on the problem you are trying to solve.

2:30 pm

New Developments in High Performance Infrared Imaging

Chris Alicandro, Electrophysics Corp.

Electrophysics will be demonstrating their Titanium family of high performance infrared imaging systems. Featuring high sensitivity and fast frame rates, the Titanium is the best in its class.

3:30 pm

A New Instrument for Real Time M-squared Measurements

Derrick Peterman, Photon, Inc.

We present a new instrument that measures a laser's M2 parameter in real time, and include a live demonstration. This instrument produces results in excellent agreement with traditional techniques.

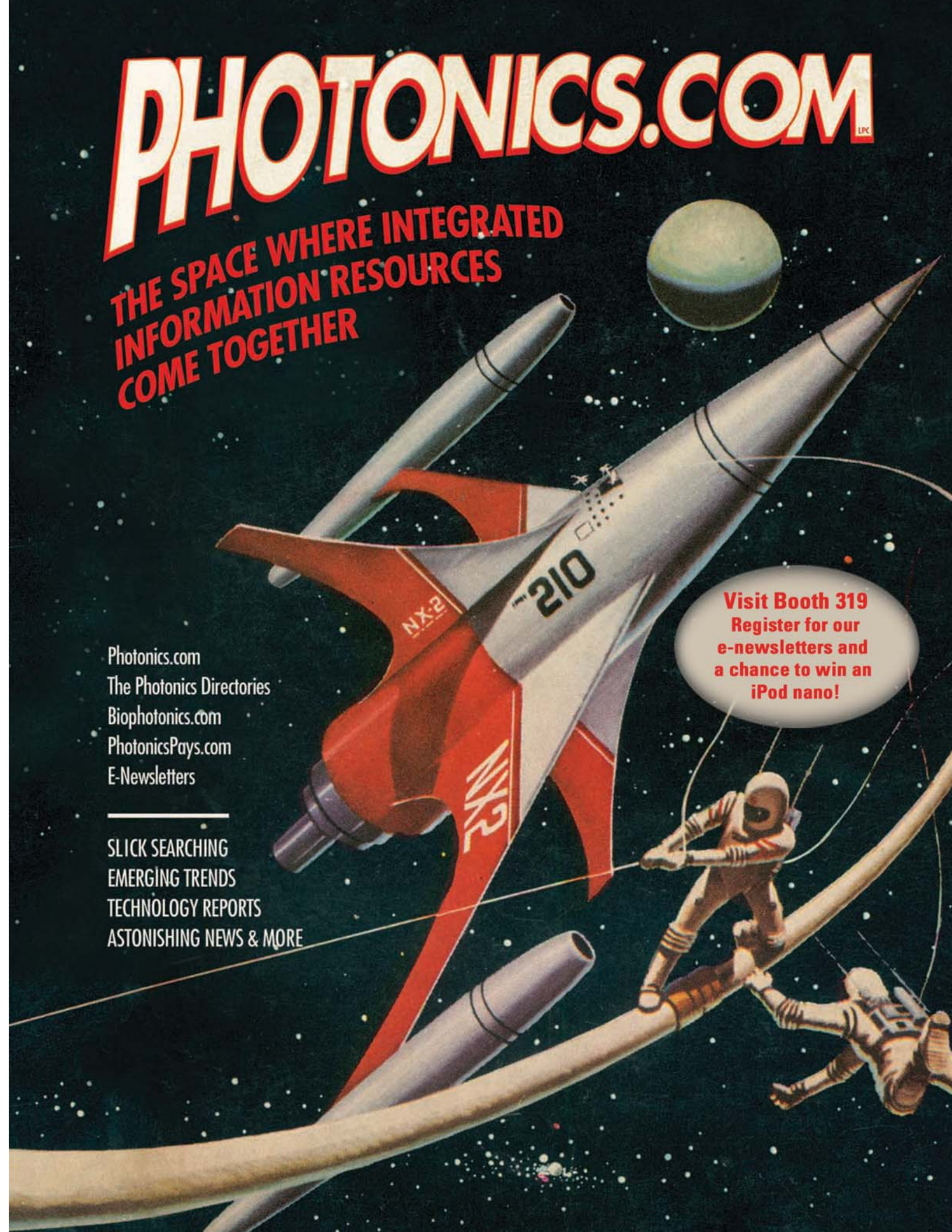
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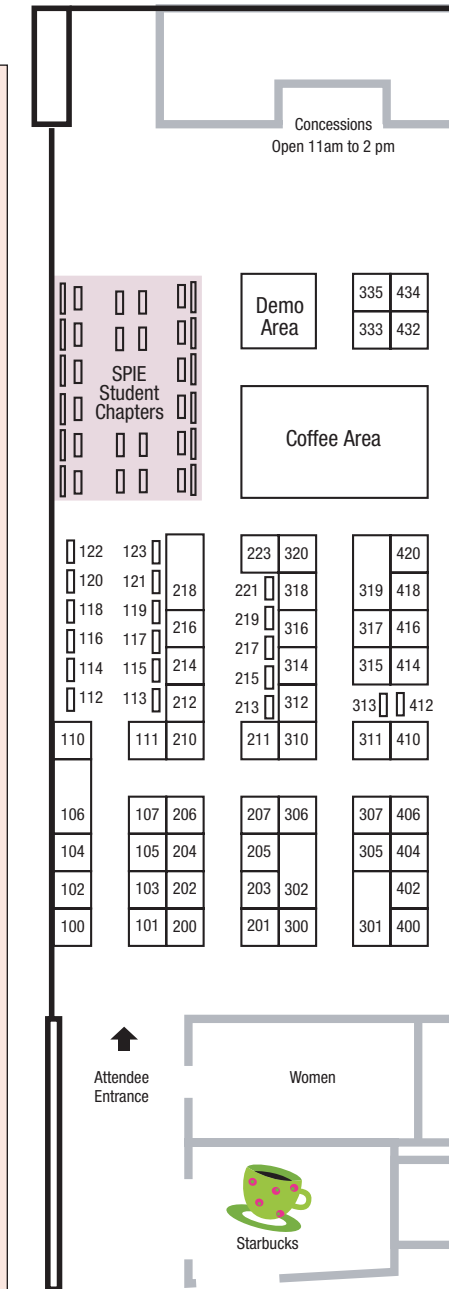
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Events for Early Career Professionals

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

WS852 • Course Level: Introductory
CEU: .20 \$20/\$25 USD • Register at the SPIE Cashier

Monday 27 August 2:00 to 5:00 pm

This workshop will train attendees on the use of Terrific Telescopes, a hands-on activity kit intended to engage and enrich the math/science learning experience for students in the middle grades. It was developed as part of HOO, a four year program funded by a \$1.7 million dollar grant from the U.S. National Science Foundation (NSF) to design and implement a science enrichment program for children ages 11 to 14 years old.

Intended Audience

Optics professionals, university students, and pre-college teachers.

Instructor

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.

Free to Student Members

The Craft of Scientific Presentations: A Workshop on Technical Presentations

WS667 • Course level: Introductory
CEU .35 \$75/\$125 USD • Register at the SPIE Cashier

Wednesday 29 August 8:30 am to 12:30 pm

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.

Intended Audience

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

Instructor

Kathryn Pyle Krages, AMLS, MA, is assistant professor of medical informatics & clinical epidemiology at Oregon Health & Science University in Portland, where she teaches a scientific writing and communication course to OHSU graduate students, both on campus and via the Internet.

Free to Student Members

The Craft of Scientific Writing: A Workshop on Technical Writing

WS668 • Course level: Introductory
CEU .35 \$75/\$125 USD • Register at the SPIE Cashier

Wednesday 29 August 1:30 to 5:30 pm

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

Intended Audience

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

Instructor

Kathryn Pyle Krages, AMLS, MA, is assistant professor of medical informatics & clinical epidemiology at Oregon Health & Science University in Portland, where she teaches a scientific writing and communication course to OHSU graduate students, both on campus and via the Internet.

Free to Student Members

Optimizing Your Resume

WS777 • Course level: Introductory
CEU .20 \$50/\$100 USD • Register at the SPIE Cashier

Monday 27 August 1:30 to 3:30 pm

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.

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.

Free to Student Members

Early Career Networking Social

Marriott Hotel - Poolside

Sunday 26 August 5:30 to 7:00 pm

Enjoy a casual outdoor networking opportunity with distinguished SPIE contributors.

Attendees include:

- **Dr. Yoseph Bar-Cohen**, Jet Propulsion Lab
- **Prof. Ian Ferguson**, Georgia Institute of Technology
- **Dr. Ralph James**, Brookhaven National Lab
- **Dr. Zakya Kafafi**, Naval Research Lab
- **Dr. Ali Khounsary**, Argonne National Lab
- **Prof. Zhenan Bao**, Stanford Univ.
- And other distinguished guests!

Essential Skills for Engineering Project Leaders

WS846 • Course level: Introductory
CEU .35 \$95/\$115 USD • Register at the SPIE Cashier

Wednesday 29 August 1:30 to 5:30 pm

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

Intended Audience

This material is intended for early-career technical professionals who can benefit from improving leadership skills.

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. Gary led several high-profile projects including the development of a U.S. Army vehicle maintenance system, and he directed the development of 9-1-1 systems used in the majority of Public Safety Answering Points in the U.S. He also served as engineering manager for the world's best selling oscilloscope product line at Tektronix. His design and management experience spans the electronics, mechanical and software engineering disciplines.

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At Raytheon, an inclusive culture is one of the things we believe gives us a competitive advantage. By recognizing the uniqueness of individuals, empowering employees and truly valuing their input, our company consistently performs beyond all expectations. It's a philosophy we'll always embrace. It's right for people, and it's right for business.

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General Information

Exhibition Hours

Exhibition Halls D & E

Tuesday, 28 August	10 am to 5 pm
Wednesday, 29 August	10 am to 5 pm
Thursday, 30 August	10 am to 2 pm

Onsite Registration and Information Hours

Exhibition Hall D Lobby

Sunday, 26 August	7 am to 5 pm
Monday, 27 August	7:15 am to 5 pm
Tuesday, 28 August	7:30 am to 5 pm
Wednesday, 29 August	7:30 am to 5 pm
Thursday, 30 August	7:45 am to 4 pm

Coffee Breaks in the Exhibition Hall

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.

Exhibit Hall Concessions

Visit the Café Express located in the back of the exhibition halls on Tuesday, Wednesday, and Thursday featuring Domestic and International Cuisine. They will serve hot and cold snacks, beverages, deli-type sandwiches, salads, hot entrees, and pastries and will be open 11:00 am to 2:00 pm.

Luggage/Package Storage and Coat Check

San Diego Convention Center - Near Registration

Sunday through Thursday

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

Please note hours of operation posted onsite. If you intend to stay later than closing time, you will need to claim your checked items before 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, color copying services, fax services and office supplies. Phone (619)-525-5450, Fax (619) 525-5477. Email usa1324@fedexkindos.com.

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 Pavilion

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SPIE will have a complimentary Internet Pavilion near Registration, Sunday through Thursday where attendees can use provided workstations or hook up their laptop to an Ethernet connection to access the internet.

Media Center

The on-site Media Center provides media representatives with conference space, refreshments, convenient one-stop-shopping for press releases, and allows news to be communicated via phone, and high-speed internet connections. Credentialed members of the press can pre-register by emailing: name, organization, and contact information to meda@spie.org. Registration and exhibition fees are waived for media representatives. For more information about SPIE media services, see spie.org/resources.

Student Exhibit Hall Section

Tuesday to Thursday Exhibition Hours

Visit the student section of the exhibit, and see what our Student Chapters have accomplished in research, outreach, and more this year.

SPIEWorks Career Fair

Exhibition Hall D

Tuesday 28 August 11:00 am to 3:00 pm

Wednesday 29 August 11:00 am to 3:00 pm

Whether you're an experienced professional or a student just starting out, the SPIEWorks Career Fair provides you with an ideal opportunity to launch or advance your career. Meet directly with recruiters from top employers, learn more about employment opportunities, and interview for positions. Remember to post your resume online at SPIEWorks.com!

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Lens Design and Manufacturing Expo 2008

23-25 April 2008
Pacifico Yokohama



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Total Projected Participation - Exhibitors 250
- Attendees 10,000

co-located with
LASER EXPO 2008
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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>

General Information

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

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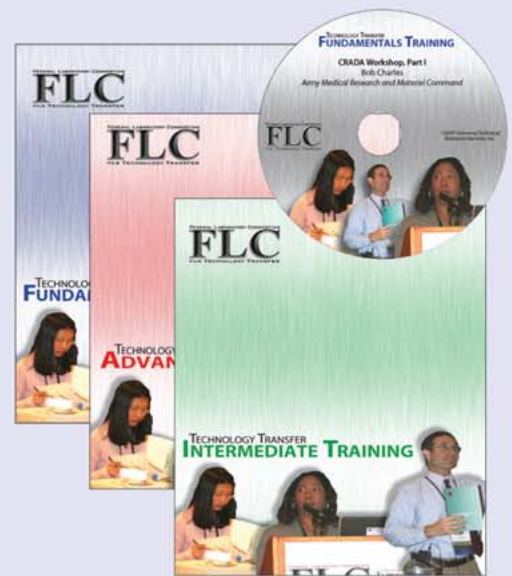
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New Product: We have organized the Fascination of Light exhibition in Brussels, visited by 1000 school children.

The SPIE Brussels Student Chapter was founded in April 2006 and counts more than 20 members. The board members are Nathalie Vermeulen (President), Sara Van Overmeire (Vice-President), Inigo Artundo (Secretary), Virginia Gomez (Treasurer), Jurgen Van Erps (Past President), and Hugo Thienpont (Advisor). Contact: Nathalie Vermeulen.

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National Taiwan University Chapter

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We are the SPIE Student Chapter of National Taiwan University, the most famous University in Taiwan. As of the 2004 academic year, the University has a total of eleven colleges, 54 departments, 96 graduate institutes. Our chapter runs quite well with the fact that more than ten lectures were held and we maintained more than 20 members last year. In addition, with the outstanding performance, our chapter is awarded the "Excellence Award" from the clubs evaluation of NTU in 2007. Contact: Kuei-Fu Lai, Vice-President.

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Our chapter was founded in 2000. All the members in our chapter are
graduate students in Tsinghua University, the best university in China.
We all have the same goal: to catch the advancement of optics.

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Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
NanoEngineering					
SC496 Fabrication and Processing of Nanostructures (Cao) 8:30 am to 5:30 pm, \$450 / \$535 SC497 Nanophotonics (Prasad) 1:30 to 5:30 pm, \$230 / \$275 		SC655 Introduction to Optical Tweezers and Optical Micromanipulation (Dholakia, Spalding) 6:00 to 10:00 pm, \$230 / \$275	WS851 Nanotechnology: Science & Applications (Brahmbatt) 8:30 am to 5:30 pm, \$410 / \$495		
NanoScience					
		SC608 Photonic Crystals: A Crash Course, from Bandgaps to Fibers (Johnson) 1:30 to 5:30 pm, \$230 / \$275		SC727 Nanoplasmonics (Stockman) 8:30 am to 5:30 pm, \$410 / \$495	
Solar Energy & Its Applications					
SC798 Practical Radiometry (Strojnik-Scholl) 8:30 am to 5:30 pm, \$410 / \$495	SC388 Non-Imaging Optics (Winston) 8:30 am to 12:30 pm, \$230 / \$275	SC797 The Science and Technology of Organic Solar Cells (Peumans) 1:30 to 5:30 pm, \$230 / \$275			
Organic Photonics and Electronics					
SC798 Practical Radiometry (Strojnik-Scholl) 8:30 am to 5:30 pm, \$410 / \$495 SC799 Solid State Lighting Phosphors (Summers) 8:30 am to 12:30 pm, \$230 / \$275 SC490 Solid State Lighting I (Ferguson) 1:30 to 5:30 pm, \$230 / \$275		SC797 The Science and Technology of Organic Solar Cells (Peumans) 1:30 to 5:30 pm, \$230 / \$275			

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SPIE Foundation Courses are ideal for:

- Technical sales professionals looking to increase their knowledge to better work with customers
- Early career professionals who need an in-depth background in their specialization
- Mid-career professionals interested in changing focus to a new field
- Companies looking for training for their entry-level engineers
- Professionals seeking to broaden their skills with interdisciplinary training
- Anyone looking to gain a fundamental understanding of the subject

Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Illumination Engineering					
<p>SC798 Practical Radiometry (<i>Strojnik-Scholl</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC799 Solid State Lighting Phosphors (<i>Summers</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC490 Solid State Lighting I (<i>Ferguson</i>) 1:30 to 5:30 pm, \$230 / \$275</p>	<p>SC388 Non-Imaging Optics (<i>Winston</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC011 Design of Efficient Illumination Systems (<i>Cassarly</i>) 1:30 to 5:30 pm, \$230 / \$275</p>	<p>SC657 Accurate Measurement of LED Optical Properties (<i>Tirpak</i>) 8:30 am to 12:30 pm, \$230 / \$275</p>			
Astronomical Optics and Instrumentation					
<p>SC134 Optical Design Fundamentals for Infrared Systems (<i>Riedl</i>) 8:30 am to 5:30 pm, \$450 / \$535</p> <p>SC798 Practical Radiometry (<i>Strojnik</i>) 8:30 am to 5:30 pm, \$410 / \$495</p>	<p>SC504 Introduction to CCD and CMOS Imaging Sensors and Applications (<i>Janesick</i>) 8:30 am to 5:30 pm, \$530 / \$615</p>	<p>SC135 Adaptive Optics (<i>Tyson</i>) 8:30 am to 5:30 pm, \$445 / \$530</p> <p>SC218 Advanced Composite Materials for Optomechanical Systems (<i>Zweben</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC561 Optomechanics for Space Applications (<i>Shiple</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC017 Principles of Fourier Optics and Diffraction (<i>Gaskill</i>) 8:30 am to 5:30 pm, \$515 / \$600</p>	<p>SC219 Materials: Properties and Fabrication for Stable Optical Systems (<i>Paquin</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC068 Use of CCD and CMOS Sensors in Visible Imaging Applications (<i>Lomheim</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC194 Multispectral and Hyperspectral Image Sensors (<i>Lomheim</i>) 1:30 to 5:30 pm, \$230 / \$275</p>		
Atmospheric and Space Optical Systems					
		<p>SC135 Adaptive Optics (<i>Tyson</i>) 8:30 am to 5:30 pm, \$445 / \$530</p> <p>SC561 Optomechanics for Space Applications (<i>Shiple</i>) 8:30 am to 5:30 pm, \$410 / \$495</p>			
Remote Sensing Instrumentation					
<p>SC134 Optical Design Fundamentals for Infrared Systems (<i>Riedl</i>) 8:30 am to 5:30 pm, \$450 / \$535</p> <p>SC798 Practical Radiometry (<i>Strojnik</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC152 Infrared Focal Plane Arrays (<i>Dereniak, Hubbs</i>) 1:30 to 5:30 pm, \$230 / \$275</p>	<p>SC504 Introduction to CCD and CMOS Imaging Sensors and Applications (<i>Janesick</i>) 8:30 am to 5:30 pm, \$530 / \$615</p>	<p>SC835 Infrared Systems - Technology & Design (<i>Daniels</i>) 8:30 am to 5:30 pm/8:30 am to 12:30 pm, \$840 / \$965</p> <p>SC561 Optomechanics for Space Applications (<i>Shiple</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC206 Polarized Light: A Practical Hands-on Introduction (<i>Fisher</i>) 8:30 am to 5:30 pm, \$410 / \$495</p>	<p>SC068 Use of CCD and CMOS Sensors in Visible Imaging Applications (<i>Lomheim</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC194 Multispectral and Hyperspectral Image Sensors (<i>Lomheim</i>) 1:30 to 5:30 pm, \$230 / \$275</p>		

Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Image and Signal Processing					
	<p>SC661 Advanced Image Processing and Applications (<i>Itekharruddin</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC728 Network Centric Target Tracking and Classification (<i>Drummond</i>) 8:30 am to 5:30 pm, \$410 / \$495</p>	<p>SC017 Principles of Fourier Optics and Diffraction (<i>Gaskill</i>) 8:30 am to 5:30 pm, \$515 / \$600</p>			
Detectors and Imaging Devices					
<p>SC152 Infrared Focal Plane Arrays (<i>Dereniak, Hubbs</i>) 1:30 to 5:30 pm, \$230 / \$275</p>	<p>SC504 Introduction to CCD and CMOS Imaging Sensors and Applications (<i>Janesick</i>) 8:30 am to 5:30 pm, \$530 / \$615</p>		<p>SC068 Use of CCD and CMOS Sensors in Visible Imaging Applications (<i>Lornheim</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC194 Multispectral and Hyperspectral Image Sensors (<i>Lornheim</i>) 1:30 to 5:30 pm, \$230 / \$275</p>		
Optomechanics					
<p>SC014 Introduction to Optomechanical Design (<i>Vukobratovich</i>) 8:30 am to 5:30 pm, \$780 / \$985</p>		<p>SC218 Advanced Composite Materials for Optomechanical Systems (<i>Zweiben</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC220 Optical Alignment Mechanisms (<i>Guyer</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC781 Optomechanical Analysis (<i>Hatheway</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC561 Optomechanics for Space Applications (<i>Shipley</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC447 Principles for Mounting Optical Components (<i>Yoder, Jr.</i>) 8:30 am to 5:30 pm, \$850 / \$1055</p>	<p>SC254 Integrated Opto-Mechanical Analysis (<i>Doyle, Michels</i>) 8:30 am to 5:30 pm, \$455 / \$540,</p> <p>SC219 Materials: Properties and Fabrication for Stable Optical Systems (<i>Paquin</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC015 Structural Adhesives for Optical Bonding (<i>Daly</i>) 8:30 am to 12:30 pm, \$230 / \$275</p>		
Optical Design					
<p>SC156 Basic Optics for Engineers (<i>Ducharme</i>) 8:30 am to 5:30 pm, \$445 / \$530</p> <p>SC134 Optical Design Fundamentals for Infrared Systems (<i>Riedl</i>) 8:30 am to 5:30 pm, \$450 / \$535</p> <p>SC001 Optical System Design: Layout Principles and Practice (<i>Smith</i>) 8:30 am to 5:30 pm, \$480 / \$565</p> <p>SC792 Polarization in Optical Design (<i>Chipman</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC003 Practical Optical System Design - EXPANDED 2 Day Format (<i>Fischer</i>) 8:30 am to 5:30 pm, \$855 / \$1060</p> <p>SC020 Optical Scattering: Measurement and Analysis (<i>Stover</i>) 1:30 to 5:30 pm, \$285 / \$330</p>	<p>SC010 Introduction to Optical Alignment Techniques (<i>Ruda</i>) 8:30 am to 5:30 pm, \$780 / \$985</p> <p>SC492 Predicting, Modeling, and Interpreting Light Scattered by Surfaces (<i>Germer</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC659 Understanding Reflective Optical Design (<i>Contreras</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC384 The Design of Plastic Optical Systems (<i>Schaub</i>) 1:30 to 5:30 pm, \$230 / \$275</p>	<p>SC206 Polarized Light: A Practical Hands-on Introduction (<i>Fisher</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC017 Principles of Fourier Optics and Diffraction (<i>Gaskill</i>) 8:30 am to 5:30 pm, \$515 / \$600</p>	<p>WS609 Basic Optics for Non-Optics Personnel (<i>Harding</i>) 8:30 to 11:00 am, \$50 / \$100</p> <p>SC552 Aspheric Optics: Design, Fabrication, and Test (<i>Fischer</i>) 1:30 to 5:30 pm, \$305 / \$350</p>		

Course Daily Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Optical Systems Engineering					
<p>SC560 Exploring Optical Aberrations (<i>Mahajan</i>) 8:30 am to 5:30 pm, \$560 / \$640</p> <p>SC134 Optical Design Fundamentals for Infrared Systems (<i>Fiedl</i>) 8:30 am to 5:30 pm, \$450 / \$535</p> <p>SC001 Optical System Design: Layout Principles and Practice (<i>Smith</i>) 8:30 am to 5:30 pm, \$480 / \$565</p> <p>SC792 Polarization in Optical Design (<i>Chipman</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC003 Practical Optical System Design - EXPANDED 2 Day Format (<i>Fischer</i>) 8:30 am to 5:30 pm, \$855 / \$1060</p> <p>SC798 Practical Radiometry (<i>Strojnik-Scholl</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC849 Introduction to Wave Optics (<i>Ghatak</i>) 1:30 to 5:30 pm, \$250 / \$295</p> <p>SC020 Optical Scattering: Measurement and Analysis (<i>Stover</i>) 1:30 to 5:30 pm, \$285 / \$330</p>	<p>SC010 Introduction to Optical Alignment Techniques (<i>Ruda</i>) 8:30 am to 5:30 pm, \$780 / \$985</p> <p>SC492 Predicting, Modeling, and Interpreting Light Scattered by Surfaces (<i>Germer</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC659 Understanding Reflective Optical Design (<i>Contreras</i>) 8:30 am to 5:30 pm, \$410 / \$495</p> <p>SC384 The Design of Plastic Optical Systems (<i>Schaub</i>) 1:30 to 5:30 pm, \$230 / \$275</p>	<p>SC835 Infrared Systems - Technology & Design (<i>Daniels</i>) 8:30 am to 5:30 pm/8:30 am to 12:30 pm, \$840 / \$965</p> <p>SC017 Principles of Fourier Optics and Diffraction (<i>Gaskill</i>) 8:30 am to 5:30 pm, \$515 / \$600</p>	<p>SC325 An Introduction to Lasers (<i>Fisher</i>) 1:30 to 5:30 pm, \$230 / \$275</p>		

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Optical Manufacturing and Testing					
	<p>SC850 Metrology for Modern Optical Manufacturing (<i>Murphy</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC720 Cost-Conscious Tolerancing of Optical Systems (<i>Youngworth</i>) 1:30 to 5:30 pm, \$230 / \$275</p> <p>SC848 Fundamentals of Single Point Diamond Turning (<i>Schaefer</i>) 1:30 to 5:30 pm, \$230 / \$275</p> <p>SC384 The Design of Plastic Optical Systems (<i>Schaub</i>) 1:30 to 5:30 pm, \$230 / \$275</p>	<p>SC321 Thin Film Optical Coatings (<i>Macleod</i>) 8:30 am to 5:30 pm, \$410 / \$495</p>	<p>SC552 Aspheric Optics: Design, Fabrication, and Test (<i>Fischer</i>) 1:30 to 5:30 pm, \$305 / \$350</p>		
Advanced Metrology					
<p>SC020 Optical Scattering: Measurement and Analysis (<i>Stover</i>) 1:30 to 5:30 pm, \$285 / \$330</p>	<p>SC213 Introduction to Interferometric Optical Testing (<i>Wyant</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC850 Metrology for Modern Optical Manufacturing (<i>Murphy</i>) 8:30 am to 12:30 pm, \$230 / \$275</p> <p>SC492 Predicting, Modeling, and Interpreting Light Scattered by Surfaces (<i>Germer</i>) 8:30 am to 12:30 pm, \$230 / \$275</p>	<p>SC017 Principles of Fourier Optics and Diffraction (<i>Gaskill</i>) 8:30 am to 5:30 pm, \$515 / \$600</p>	<p>SC211 Practical Interferometry and Fringe Analysis (<i>Creath</i>) 8:30 am to 12:30 pm, \$230 / \$275</p>		
Thin Films					
		<p>SC321 Thin Film Optical Coatings (<i>Macleod</i>) 8:30 am to 5:30 pm, \$410 / \$495</p>			
Applications					
			<p>SC325 An Introduction to Lasers (<i>Fisher</i>) 1:30 to 5:30 pm, \$230 / \$275</p> <p>SC552 Aspheric Optics: Design, Fabrication, and Test (<i>Fischer</i>) 1:30 to 5:30 pm, \$305 / \$350</p>		
The Business Side					
				<p>WS756 How to Start a Small High Tech Business Almost Anywhere (<i>Udd</i>) 8:30 am to 12:30 pm, \$230 / \$275</p>	
Professional Development					
	<p>WS777 Optimizing Your Resume (<i>Cain</i>) 1:30 to 3:30 pm, \$50 / \$100</p> <p>WS852 Hands-On Optics: Making an Impact with Light (HOO): Terrific Telescopes Work (<i>Walker, Sparks</i>) 2:00 to 5:00 pm, \$20 / \$25</p>	<p>WS827 Off the Beaten Path: Career Opportunities for Engineers in the Patent Boom (Law Degree Not Required) (<i>Honeyman</i>) 1:30 to 5:30 pm, \$230 / \$275</p>	<p>WS609 Basic Optics for Non-Optics Personnel (<i>Harding</i>) 8:30 to 11:00 am, \$50 / \$100</p> <p>WS667 The Craft of Scientific Presentations: A Workshop on Technical Presentations (<i>Krages</i>) 8:30 am to 12:30 pm, \$75 / \$125</p> <p>WS668 The Craft of Scientific Writing: A Workshop on Technical Writing (<i>Krages</i>) 1:30 to 5:30 pm, \$75 / \$125</p> <p>WS846 Essential Skills for Engineering Project Leaders (<i>Hinkle</i>) 1:30 to 5:30 pm, \$90/\$115</p>		



SPIE Works 

Career Fair

Special 2-Day Event!

Meet face-to-face with
leading industry employers.

As of 27 July:

Exhibition Hall D

Tuesday 28 August
11:00 am to 3:00 pm

Wednesday 29 August
11:00 am to 3:00 pm

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

SPIEWorks.com



Exhibition Hours

Tuesday 28 August 10:00 am to 5:00 pm
 Wednesday 29 August 10:00 am to 5:00 pm
 Thursday 30 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 54-57, 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 7. 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

#826

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

New Product: PhaseCam interferometers measure IR optics despite vibration/turbulence. 1.05-3.39 um wavelengths.

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 1 microsecond. 4D combines 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 North American sales, chip.ragan@4dtechnology.com.

Abet Technologies

#515

SPIE Corporate Member

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

New Product: Small area uniform illumination solar simulators for research with field sizes from 25 mm.

Abet Technologies manufactures a wide range of ASTM and IEC compliant solar simulators with uniform illuminated areas from 1 cm to 25 cm for photovoltaic, pharmaceutical and erythral edge applications, custom stock and OEM arc lamp based light sources, a range of advanced FPGA based single channel detection systems for UV, VIS and IR, with built in lock-in amplifier and TE cooled models available. Available detectors include Silicon, InGaAs, Pyroelectric and sandwich Si-InGaAs. Contact: Allen Smith, asmith@abet-technologies.com.

Aerotech, Inc.

#300

SPIE Corporate Member

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

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



General Refreshment Sponsor

Agilent Technologies, Inc.

#307

5301 Stevens Creek Blvd, Santa Clara, CA, 95051-7204
 877/481-8497
 optics-info@agilent.com; www.agilent.com

New Product: Agilent offers optical components, optomechanical assemblies and complex monolithic optics (CMOs).

Agilent is a leading manufacturer of high-precision optical components, optomechanical assemblies and complex monolithic optics (CMOs) for demanding optical applications in laser interferometry, nanotechnology measurement, aerospace/defense, vision systems, HLS and biotech instrumentation markets. Experienced craftsmanship and deterministic manufacturing process control allow us to deliver cutting-edge design plus fabrication and thin-film coatings in volume from a vertically integrated factory. Contact: Bruce Gallay, Sales Manager, optics-info@agilent.com; Wayne Pantley, Sales Manager, optics-info@agilent.com.

ALIO Industries

#314

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

New Product: ALIO Industries Patented, 5nm Resolution TRIPOD Robotic Systems (Tip/Tilt/Z).

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, HV & UHV. ALIO's nano-precision products use ceramic servomotors, DC linear motors, high-resolution optical encoders (Invar scales), precision crossed roller bearings or ultra precise air bearings. Products have no servo dither, no hysteresis, low velocity ripple and 5nm resolution standard. Contact: Dan Crews, Photonics General Manager.

Alpine Research Optics Corp.

#311

SPIE Corporate Member

6810 Winchester Cir, Boulder, CO, 80301
 303/444-3420; fax 303/444-1686
 www.arocorp.com

Alpine Research Optics, now offering on-line mirrors & polarizers, supplies high performance laser optics and 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: Katie White, Inside Sales Manager, kwhite@arocorp.com; Rod Schuster, Sales Manager, Western Region, rschuster@arocorp.com.

Andor Technology

#711

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

New Product: LucaEM R, new EMCCD camera; 1 Megapixel sensor; 8 x 8im pixels; high res over large field of view.

Andor provides digital camera and microscopy imaging solutions including TE cooled, hard vacuum sealed CCD, ICCD & Electron Multiplying CCD digital cameras with USB 2.0 connectivity and dedicated software; spectroscopy systems, accessories and spinning disk confocal imaging microscopy systems and software to the world's leading academic and research establishments. Contact: Emma McClintock, Marketing Specialist, e.mcclintock@andor.com; Jennifer Drezek, Sales Office Manager, j.drezek@andor.com.

Andover Corp

#902

4 Commercial Dr, Salem, NH, 03079-2800
603/893-6888; fax 603/893-6508
sales@andovercorp.com; www.andovercorp.com

New Product: Broadband A/R coating on Germanium in the 8-12µm band.

Andover manufactures high-quality optical filters and coatings in the UV to Mid IR range. We specialize in narrowband, image-quality and space-qualified filters. We have over 1000 standard items in stock and can provide custom parts in as little as one week. We are ITAR and ISO 9001:2000 registered. Contact: Phil Clark, Technical Sales, info@andovercorp.com; Rob Pursel, Thin Film Engineer, rpursel@andovercorp.com.

AOptix Technologies Inc.

#805

695 Campbell Technology Pkwy, Campbell, CA, 95008
408/558-3304
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 Corp.

#917

5800 Uplander Way, Los Angeles, CA, 90230
310/642-7975; fax 310/642-7829
www.apichip.com

APIC Corporation provides custom photonic IC design and foundry service in our Hawaii cleanroom. We also sell V-groove fiber blocks, lasers, detectors and agile tunable WDMA receiver. APIC has also developed various sensors/systems for chemical, explosive and bio-agents detection. Contact: James Chan, President and Chief Technology Officer, Chan@apichip.com; Denise Lortie, Vice President, Lortie@apichip.com.

APS Optics

#623

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

ASML Optics

#505

3900 Lakeside Dr, Richmond, CA, 94806
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, Vice President Sales, Mark.bigelow@asml.com.

asphericon GmbH

#713

SPIE Corporate Member

Wildenbruchstr 15, Jena, Germany, 07745
49 3641 675 600; fax 49 3641 675 606
info@asphericon.com; www.asphericon.de

asphericon is one of the leading technology companies manufacturing challenging aspheric components using CNC equipment. In 2001, asphericon was founded as a spin-off from the Friedrich Schiller University in Jena. Today it supplies more than 160 companies worldwide as an independent and approved expert for small and large diameter aspheres, free forms, axicons, acylinders, on-/off-axis reflectors. Contact: Sven Kiontke, Managing, info@asphericon.com.

Astrium GmbH (Dornier)

#635

Claude-Dornier-Str, Friedrichshafen, Germany, 88039
49 7545 8 25 96; fax 49 7545 8 26 93
hugo.betzold@astrium.eads.net; www.astrium.eads.net

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

In the product categories 'Neutron Optical Components' and 'Software' Astrium GmbH (Dornier) developed mechanical neutron velocity selectors which reach the utmost limit of what is technically feasible today. Based on this technology Astrium GmbH 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.

Avantes, Inc.

#703

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

New Product: AvaSpec-2048x14 Hi Sensitivity Spectrometer-Using a back-thinned CCD array-low cost/high performance.

Avantes manufactures portable spectrometer systems, light sources, fiberoptic cables & probes and accessories for UV/VIS/NIR measurement from 200-2500 nm. Systems include choice various detector arrays and communication options including USB, USB2, Wireless and RS232. Avantes welcomes custom engineering questions and OEM inquiries. Avantes has thousands of spectrometers in the field and experienced specialists to help find your Solutions in Spectroscopy®.

Exhibitor Directory

Axsys Technologies IR Systems #302

SPIE Corporate Member

24 Simon St, Nashua, NH, 03079
603/864-6300; fax 603/864-6450
pkornik@axsys.com; www.axsys.com

Axsys offers a complete line of interchangeable lens assemblies for use in infrared imaging applications. Designed with years of engineering experience, these thermal lens assemblies employ Axsys' proprietary diamond hard protective and anti-reflection coatings. Most models offer bayonet or quick mount mounting systems. Contact: Peter Kornik, Business Development Manager.

Axsys Technologies, Inc. #302

SPIE Corporate Member

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

New Product: High speed gimbal delivering ultra fast point-to-point movement (<20ms) with milliradian accuracy.

Axsys Technologies manufactures high performance optical systems including telescopes, gimbals and fast steering mirrors used in aerospace applications ranging from weather satellites and airborne reconnaissance to missile defense and homeland security. Capabilities include diamond point turning, polishing, electro-mechanical assembly and environmental testing. Axsys' highly sophisticated test and metrology labs verify performance under extreme conditions. Contact: George Murray, West Region Sales Manager, gmurray@axsys.com; John Brower, East Region Sales Manager, jbrower@axsys.com.

B&W Tek, Inc. #620

SPIE Corporate Member

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

New Product: MiniRam™ II: Lightweight and portable Raman Spectrometer System.

B&W Tek is a leader in developing and manufacturing biophotonic instrumentation. As a total solution provider it serves Life Science and Biomedical communities by providing OED and OEM services. Products include high power and broadband SLD/SLED sources, diode-pumped solid-state lasers and high power diode/fiber lasers, V/VIS/NIR/ fluorescence/Raman spectrometers. ISO 9001 and ISO 13485 certified. For more information visit: www.bwtek.com Contact: Meghana Kakade, Marketing Coordinator, megk@bwtek.com; Mie Mie Joe Strickler, Business Development, mie@bwtek.com.

Bach Research Corp. #730

2200 Central Ave Ste D, Boulder, CO, 80301
303/444-3602; fax 303/444-3633
info@bachresearch.com; www.bachresearch.com

New Product: Classically ruled and diamond machined Convex Gratings for hyperspectral sensors and systems.

Manufactures precision custom optics and diffraction gratings. Bach Research works carefully with the customer to achieve their unique specifications, whatever the application. Collectively Bach Research has over 120 years experience in optical fabrication, optical coatings, diffraction gratings, replicated gratings and optical testing. Contact: Erich Bach, President, ebach@bachresearch.com; Kirk Bach, Vice President Grating lab, kbach@bachresearch.com.

Bandwidth Semiconductor, LLC #818

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

Bandwidth Semiconductor provides III-V, II-VI and GaAs on Silicon epitaxial growth services, as well as device foundry services. Bandwidth operates out of a state of the art facility located in Hudson NH. The facility is equipped with the most advanced MOCVD reactors and process fabrication tools. Contact: Paul Lamarche, Product Manager, plamarche@bandwidthsemi.com.

Beijing Guojing Infrared Optical Technology Co., Ltd. #1029

2 Xin Jie Kou Wai St, Beijing, China, 100088
86 10 6204 1586; fax 86 10 8224 0025
guojing@grinm.com; www.guojing-tech.com

New Product: Standard ZnS, CVD ZnS, Standard ZnSe, CVD ZnSe.

Our company was established in 2000. It's a subordinate limited company of General Research Institute for Nonferrous Metals (GRINM) and a high-tech enterprise of Beijing Zhongguancun Science Park. The main products of Guojing include Ge crystal, Zinc Sulfide(ZnS)/Zinc Selenide(ZnSe), Sapphire, Chalcogenide Glass, Germanium Tetrachloride(GeCl₄) for optical fiber, high purity Germanium Dioxide(GeO₂) and Organic Germanium(Ge-132), etc. Contact: Lin Zhou, Vice Manager of Marketing; Jiaxin Wan, Director of Marketing.

Boulder Nonlinear Systems, Inc. #705

SPIE Corporate Member

450 Courtney Way, Lafayette, CO, 80026
303/604-0077; fax 303/604-0066
sales@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 #535

SPIE Corporate Member

6400 E Grant Rd Ste 350, Tucson, AZ, 85715-3862
800/882-5085; fax 520/721-9630
info@breault.com; www.breault.com

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

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: Donna Hart, Global Sales Manager, dhart@breault.com; Robert Breault, Chairman of the Board, rbreault@breault.com.

Brush Wellman Inc.

#431

14710 W Portage River S Rd, Elmore, OH, 43416-4173
419/862-4173; fax 419/862-4174
www.berylliumproducts.com

New Product: AlBeWeld, a new cost effective fabrication approach for AlBeMet materials; AlBeMet 140.

Brush Wellman is the world leader in developing and producing engineered materials containing beryllium. These materials are used in everyone's daily life, from automotive applications, to cell phones, to the aerospace community. Contact: Tom Parsonage, Director, Market Development, Tom.Parsonage@brushwellman.com; Larry Ryczek, Vice President, Sales & Marketing, lawrence_ryczek@brushwellman.com.

Carl Hanser Verlag GmbH & Co KG #412

Kolbergerstr 22, Muenchen, Germany, 81679
49 89 99830 0; fax 49 89 984 809
info@hanser.de; www.hanser.de

New Product: Laser + Photonics (Journal).

CeramOptec Industries

#429

SPIE Corporate Member

515 A Shaker Rd, East Longmeadow, MA, 01028
413/525-0600; fax 413/525-0611
salesengineering@ceramoptec.com; www.ceramoptec.com

New Product: SMA based high power connectors for laser delivery.

CeramOptec Industries serves the scientific, medical and industrial markets with optical fiber, fiber bundles, assemblies. CeramOptec produces stock and custom silica / silica, PCS, HPCS, silver halide optical fibers, capillary tubing and bundles and assemblies for UV, VIS and IR transmission. Products for use from -190 to 400 C temperatures, low to high NA (0.06 to 0.53). Custom assemblies/bundles for use from 190-2500nm. Contact: Cheryl Provost, Scientific/Industrial Sales Engineer, cheryl.provost@ceramoptec.com; Kevin Bakhshpour, Director of Sales, kevinceramop@earthlink.net.

Chemat Technology Inc.

#217

9036 Winnetka Ave, Northridge, CA, 91324
818/727-9786; fax 818/727-9477
marketing@chemat.com; www.chemat.com

New Product: Spin Coating Equipment and Chemicals for Thin Films & Coatings.

Chemat offers "total sol-gel solution" to R&D community which includes equipment, chemical precursors, process & product development. We specialize in spin-coating systems - spin coater, hot plate, UV curing, liquid dispenser; dip-coater. We supply precursors for nanomaterials - chemicals, nanosize powders, colloidal solutions. Please visit us at www.chemat.com. Contact: Henry Zheng, President, hzheng@chemat.com; Tami Barrett, Sales Associate, tbarrett@chemat.com.

Chroma Technology Corp

#512

PO Box 489, 10 Imtec Ln, Rockingham, VT, 05101
802/428-2580; fax 802/428-2525
sales@chroma.com; www.chroma.com

Chroma is an employee-owned company specializing in design and manufacture of precision optical filters and coatings. Our filters have been designed for applications with wavelengths from ultraviolet to infrared. For each of these we provide the greatest accuracy in color separation, optical quality and signal purity. We provide application engineering support, many different coating techniques and are as comfortable designing and manufacturing custom filters as we are with our catalog items. Contact: Mark Kfoury, OEM Sales, mkfoury@chroma.com; Bill Chambers, OEM Sales, bchambers@chroma.com.

CMPC Surface Finishes

#404

39 W Official Rd, Addison, IL, 60101
630/543-6682; fax 630/543-4013
engineering@ensurfin.com; www.ensurfin.com

SmartShutter™ Stepper-Motor Driven Shutter

- As fast as 8msec from trigger to open or close
- Choose between fast or "soft" speeds
- Programmable control of exposure time delay
- Free running or timed interval operation
- Variable aperture settings for neutral density
- Life tested to over 100 million cycles
- 25mm, 35mm or 50mm shutters available
- Modular repairable design
- USB or TTL control



SUTTER INSTRUMENT

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

Exhibitor Directory

Coastal Optical Systems, Inc. #918

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



General Refreshment Sponsor

Collimated Holes, Inc. #824

460 Division St, Campbell, CA, 95008
408/374-5080; fax 408/374-0670
chi_2000@pacbell.net; www.collimatedholes.com

Collimated Holes, Inc. produces unusual structures of glass for biotechnology, telecom, scientific, industrial and medical applications: fused fiber structures, single and multi-channel capillaries, drawn or etched holes, matrix arrays for coupling and isolation, geometry converters and fused fiber optic scintillating screens for x-ray detection.

Colorado Photonics Industry Association #312

1625 Broadway Ste 950, Denver, CO, 80202
303/592-4064; fax 303/592-4061
cpia@coloradophotonics.org; www.coloradophotonics.org

Control Optics Corp. #515

1445 Brooks St Ste H, Ontario, CA, 91762
909/983-0788; fax 909/983-0791
jason@controloptics.com; www.controloptics.com

CoorsTek Technical Ceramics #1033

16000 Table Mtn Pky, Golden, CO, 80403
303/271-7000; fax 303/271-7009
info@coorstek.com; www.coorstek.com

CoorsTek, the largest technical ceramics manufacturer in North America, supplies advanced optical components from specialized Silicon Carbides, Aluminas and other materials. CoorsTek removes technological barriers using advanced materials and best-practice manufacturing methods. CoorsTek designs, manufactures, assembles and delivers critical components for technology-leading OEMs worldwide. For expert engineering and design-for-manufacturability assistance, contact CoorsTek at 303.271.7000; John Cook, jcook@coorstek.com.

CRC Press-Taylor & Francis Group LLC #721

6000 Broken Sound Pkwy NW Ste 300, Boca Raton, FL, 33487
561/994-0555; fax 561/361-6018
orders@crcpress.com; www.crcpress.com

CRC Press - Taylor & Francis is a premier publisher of optical engineering books, journals and electronic databases. Stop by to see what is new. Take advantage of our convention discount offer of 15-25% off our list prices or to pick up a free journal sample.

CVI Melles Griot #607

SPIE Corporate Member

2051 Palomar Airport Rd #200, Carlsbad, CA, 92011
760/438-2131; fax 760/804-0049
sales@catalog.mellesgriot.com; www.mellesgriot.com

CVI 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. Visit booth 607 for our latest catalog. Contact: Sherie Motakef, Marketing Manager, smotakef@cvmellesgriot.com.

Del Mar Photonics, Inc. #717

4119 Twilight Ridge, San Diego, CA, 92130
858/876-3133; fax 858/630-2376
sales@dmphotonics.com; www.dmphotonics.com

Deposition Sciences, Inc #618

SPIE Corporate Member

4563 Coffey Ln, Santa Rosa, CA, 95403
707/573-6700; fax 707/573-6748
sales@depSci.com; www.depSci.com

Contact: Teri Barrett, Inside Sales Manager, barrettm@depSci.com; Yvonne Fernandez, Security Manager, FSO.

Diamond Wire Technology #315

1605 S Murray Blvd, Colorado Springs, CO, 80916
719/570-1150; fax 719/570-1176

info@diamondwiretech.com; www.diamondwiretech.com

New Product: 6400 and 6800 Multi-Wire Saws with orientation capability made exclusively for Photonics Industry.

Diamond Wire Technology is the world's oldest and largest producer of Diamond Wire and Diamond Wire Saws. Over 30 years of experience, an extensive engineering/process staff that allows our customers the best process available. Diamond Wire Technology allows for smallest kerf and highest quality of cut available in the world. Contact: Cynthia Christensen, Vice President Sales/Marketing, cynthiac@diamondwiretech.com; Carly Greenfield, Inside Sales, carlyg@diamondwiretech.com.

DxO Labs #619

3 Rue Nationale, Boulogne, France, 92100
33 1 5520 5599; fax 33 1 5520 5598
www.dxo.com

New Product: DxO Analyzer v3.1 the leading solution for testing quality performances of any image capture device.

DxO Labs offers products and solutions ensuring excellence in digital imaging. DxO Labs serves the entire digital imaging chain with: image quality measurement tools and methodologies; licensing of optics and silicon architectures for embedded still and video image processing; image quality enhancement software for consumers. DxO Labs' product portfolio is steadily finding a place at the heart of world-class industry imaging systems where "Image Science by DxO" becomes a reference for quality. Contact: Segolene Brouet, Sales Manager, sbrouet@dxo.com; Nicolas Touchard, Vice President Marketing Image Quality Evaluation, ntouchard@dxo.com.

e2v #402

106 Waterhouse Ln, Chelmsford, United Kingdom, CM1 2QU
44 1245 493 493; fax 44 1245 492 492
enquiries@e2v.com; www.e2v.com

e2v is a world leading designer and manufacturer of image sensing products for space, astronomy, scientific, industrial, medical, dental and defense, applications. e2v has outstanding space flight experience with all of the world's major space agencies and can offer custom designs with full confidence and a range of qualification options. e2v technology provides an optimisation for any energy to which silicon is sensitive; from X-rays near-IR.

Ealing Catalog Inc. #213

3845 Atherton Rd Ste 1, Rocklin, CA, 95765
916/435-4230; fax 916/435-4234
www.ealingcatalog.com

New Product: Reflecting objectives, lenses, mirrors, filters, rails, stages, mounts, positioning equipment.

Ealing is your source for high-quality optics and opto-mechanics. We are proud to introduce a new line of premium microscopes for your next application. Ealing was the first to provide a comprehensive catalog of photonics products and has been serving the industry for over 50 years. Call 1-800-295-3220; it is our privilege to serve you. Contact: Mike Fischer, Product Manager, mfischer@ealingcatalog.com; Shelly Lee, Service Manager, slee@ealingcatalog.com.

Edmund Optics #419

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

New Product: EDGE-BLACKENED OPTICS, control stray light and maximize contrast.

Edmund Optics (EO) has been a leading supplier of optics and optical components to the industry since 1942, designing and manufacturing a wide array of multi-element lenses, lens coatings, imaging systems and opto-mechanical equipment. EO is application-focused and pursues new ways to implement optical technology, enabling advancements in semiconductor manufacturing, industrial metrology and medical instrumentation. Our staff and facilities span the US, Europe, Japan, Singapore and China. Contact: Marisa Edmund, Vice President of Marketing, medmund@edmundoptics.com; Gregg Fales, Product Line Manager, gfales@edmundoptics.com.

EDP Sciences #215

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

EDP Sciences, Partner of the Scientific Communities, works closely with the scientific world. It produces and publishes international journals, books and Internet sites with a predominantly scientific or technical content. Contact: Lecrosnier Nathalie, lecrosnier@edpsciences.org.

Exhibitor Directory

Electrophysics Corp.

#410

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

New Product: Electrophysics will be introducing the Titanium 560M high performance infrared camera.

Electrophysics will be introducing the Titanium 560M high performance infrared camera. The Titanium, a compact thermography system designed for demanding R&D applications, incorporates a 640x512 InSb infrared FPA featuring class-leading 15 micron pixels that delivers longer range over larger pixel cameras. The first IR camera to feature Hypercal™ and CNUC™, our new automatic radiometric calibration and non-uniformity calibration techniques that end user-performed field blackbody calibrations. Contact: Chris Alicandro, Director of Sales - Infrared Products, calicandro@electrophysics.com.

Elite Engineering Corp.

#513

651 Via Alondra Ste 709, Camarillo, CA, 91312
805/987-6217; fax 805/987-8485
e-info@eliteeng.com; www.eliteeng.com
New Product: Electronic Preamps, Signal Processors, Video Processors.

Contract engineering & prototyping. Providing custom & semi-custom instrumentation, test equipment and control platforms. Specializing in analog and digital electronics, software & mechanical engineering. Nearly instant prototyping with a module controller/analog system that provides off the shelf hardware with easily customizable firmware & FPGA functions. Also providing a line of electronic modules for detector & general sensor signal processing & interfacing. Celebrating 20 years in business! Contact: Robert L. Kay, President.

Elliot Scientific Ltd.

#906

SPIE Corporate Member

3 Allied Business Ctr, Coldharbour La, Harpenden Herts, United Kingdom, AL5 4UT
44 1582 766 300; fax 44 1582 766 340
sales@elliotscientific.com; www.elliotscientific.com

New Product: Unique lockable mirror mounts for 1/2 or 1 inch optics.

Elliot Scientific manufactures fiber launch and waveguide alignment systems with manual or piezo actuators, miniature micropositioners, precision mirror mounts and optomechanical components. Also in the range are the Timewarp autocorrelator for femtosecond lasers and our award winning laser tweezers. We can also supply custom components and OEM assemblies to your specifications. Contact: Colin Freeland, Photonics Product Manager, colin.freeland@elliotscientific.com; David Welsh, Sales Director, david.welsh@elliotscientific.com.

Engineering Synthesis Design, Inc. #501

SPIE Corporate Member

310 S Williams Blvd Ste 210, Tucson, AZ, 85711
520/296-3068; fax 520/296-2897
sales@engsynthesis.com; www.engsynthesis.com

New Product: The Intellium Asphere is a 100mm Fizeau interferometer for aspherical optics metrology in seconds.

Engineering Synthesis Design is a complete surface and wavefront metrology solutions provider. Our products include 'IntelliWave' instrument-independent interferometric acquisition and analysis software; Fizeau, shearing, point diffraction interferometers (classical to vibration-insensitive technology); wavefront sensors and scatterometers. We also provide interferometry accessories, training, interferometer upgrades, measurement services and custom metrology solutions. Contact: Don Pearson, Sales & Marketing Director, Don.P@engsynthesis.com.

Enterprise Honolulu

#917

737 Bishop St Ste 2040, Honolulu, HI, 96813
808/521-3611 x11; fax 808/536-2281
www.enterprisehonolulu.com

Enterprise Honolulu is a private sector economic development organization, which assists technology companies to grow in Hawaii and develop global markets. We are also a one stop resource for mainland and international companies exploring investment locations for technology projects. Contact: Mark Ritchie, Managing Director, Targeted Business Development, mritchie@enterprisehonolulu.com.

Epner Technology, Inc.

#112

SPIE Corporate Member

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

New Product: Laser Gold®.IR Laser Cavities. Assorted IR optics, Thermal coating, Electroforming, Laser Black®.

Specification, engineering plating company serving the Medical, Aerospace, Electronics and Optics Industries. Contact: David Epner, President, david@epner.com; Paul Brancato, General Manager, paul@epner.com.

Evaporated Coatings, Inc.

#912

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

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

Exotic Electro-Optics

#835

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

Manufacture of IR optical windows, lenses, components and coatings. Contact: Scot Quartucy, Business Dev Mgr, squartucy@exotic-eo.com; Katherine St. John, Business Dev Mgr, kstjohn@exotic-eo.com.

Federal Laboratory Consortium for Technology Transfer (FLC)

#105

950 N Kings Hwy Ste 208, Cherry Hill, NJ, 08034
856/667-7727; fax 856/667-8009
tgrayson@utrs.com; www.federallabs.org

The Federal Laboratory Consortium is the only government-wide forum for technology transfer. The FLC is a nationwide network of federal laboratories that provides the forum to develop strategies & opportunities for linking laboratory mission technologies & expertise with the marketplace. More than 250 federal labs, centers & their parent departments & agencies are FLC members. The mission of the FLC is to add value to the federal agencies, laboratories & their partners to accomplish the rapid integration of research & development resources in the mainstream of the United States economy. Contact: Frank Koos, FLC Locator Service, fkoos@utrs.com; Thomas Brown, Management Support Office, tbrown@utrs.com.

Fiberguide Industries, Inc. #725

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

New Product: SERCOS (SErial Realtime COmmunication System) patchcords made with ESKA Premier® plastic fiber.

Fiber Optic Solutions company to OEM with comprehensive line of multimode, single mode and graded index optical fibers from the UV to IR, N.A.'s 0.12 to 0.40 and temperature ranges from -269°C to +700°C. Design, prototype and manufacture single fiber assemblies through multifurcated input/outputs. Design and manufacture 2D and V-Groove arrays, plastic optical fiber assemblies, patch cords, backscattering/reflection probes. FDA registered as Custom Device Manufacturer. Contact: Ron Atanesian, Eastern Regional Sales Manager, ratanesian@fiberguide.com; Patrick Fung, Technical Sales Manager, pfung@fiberguide.com.

Fibertech Optica #517

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

New Product: LED ILLUMINATORS: Available in all Luxeon III Star colors. Collection efficiency about 80%.

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

Fotofab #524

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

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

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

Greyhawk Optics #717

48 Weston St Ste 5, Waltham, MA, 02453
858/755-6771
sales@greyhawkoptics.com; www.greyhawkoptics.com

New Product: Axicon is used to create non-diffractive Bessel beam and focus into a ring or into long focus depth.

Supplier of optical components and instruments, crystals, sensors and detectors. Online store features windows, prisms, lenses, attenuators, etalons, crystals and wafers. Axicons, barium fluoride windows, germanium etalons, rutile coupling prisms, microchannel plates and detectors, saturable absorber mirrors, photoconductive THz antennas, lithium niobate wafers and crystals and other high quality affordable components for scientific research and OEM production are delivered globally from stock. Contact: Alexandra Egorov; Sergey Egorov.

G-S PLASTIC OPTICS #407

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

New Product: G-S PLASTIC OPTICS announces the completion of an in-house coating facility.

G-S PLASTIC OPTICS specializes in the custom manufacture of precision polymer optics for use in imaging, scanning and detection applications worldwide. The company has in-house capability to provide diamond turned and injection molded prototypes, production injection molding, thin film and reflective coatings and integrated optical solutions to meet a wide range of military, medical, commercial and consumer markets. Contact: Will Beich, Director of New Product Development, wbeich@gsoptics.com.



Coffee Break Sponsor

Hamamatsu Corp. #425

SPiE Corporate Member

360 Foothill Rd, Bridgewater, NJ, 08807
908/231-0960; fax 908/231-1218
usa@hamamatsu.com; www.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.

Harris International #202

35 W 45th St 7th Fl, New York, NY, 10036
617/682-3675; fax 617/225-4490
sales@harrisinternational.com; www.harrisinternational.com

Harris International distributes precision industrial diamond products manufactured by Element Six. Products are produced from engineered synthetic single crystal, polycrystalline and selected natural diamond. Technologies incorporating diamond include; laser optics (output couplers, exit windows, yag crystal coolers), thermal management, particle detection and general scientific investigation. Standard and custom engineered solutions are provided to meet your requirements. Contact: Peter Santini, pjs@harrisinternational.com; Bill Yost, bill.yost@harrisinternational.com.

Hawaii Island Economic Development Board #917

117 Keawe St, Hilo, HI, 96720
808/935-2180; fax 808/935-2187
www.hiedb.org

A networking business organization that specializes in facilitating federal resource program and implementation of economic development projects. The Board provides information and assistance for businesses and industries and serves as key liaison to federal, state, county and private sector resources in financing, business planning, permitting, legal advice and other business services. Contact: Mark McGuffie, Executive Director, markmcguffie@hiedb.org.

Exhibitor Directory

Heidelberg Instruments Inc. #414

SPIE Corporate Member

2807 Oregon Ct Unit E-2, Torrance, CA, 90503
310/212-5071; fax 310/212-5254
sales@heidelberg-instruments.com; www.heidelberg-instruments.com

New Product: The upg101 is a table top laser lithography system capable of photomask or direct write Applications.

Heidelberg Instruments, a world leader in design, development and manufacturing of Laser Lithography systems, for photomask making and direct writing. Applications include: Micro and Nano technology, MEMS, Flat Panel Displays, BGA, ASICs, TFT, Plasma Displays, Micro Optics and many other related fields. Contact: Matt Price, Manager of Marketing and Technical Sales-North America, matt.price@heidelberg-instruments.com; Janette Labella, Sales Associate, jlb@heidelberg-instruments.com.

Hellma International, Inc. #718

SPIE Corporate Member

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

New Product: Achromats, Aspherical Cylindrical Lenses

Manufacturer of Optics including Cylindrical Concave, Convex, Crossed, Achromats. Toroidal Radii from 10mm-5m in Glass, Quartz, many other materials. Plane: Wedges, Prisms, Windows, Mirrors, Retarders, Beam Splitters, Axicons, Cones. Standard & Custom Cuvettes made from. We offer Zeiss gratings and miniature Spectrometers as well as tec5 Operating Electronics. Contact: Eugene Friedmann, Sales, efriedmann@hellmausa.com; Ed Roth, Sales, eroth@hellmausa.com.

Heraeus Quartz America, LLC #812

SPIE Corporate Member

Optics & Lamp Materials Division, 100 Heraeus Blvd, Buford, GA, 30518
678/714-4350; fax 678/714-4358
www.heraeusoptics.com

New Product: Heraeus is constantly developing new and exciting products. Stop by to see what we have now!

Heraeus, the technology leader in manufacturing of high purity fused quartz materials and advanced quartz components. Heraeus produces various types of high purity fused silica for use in optical, chemical, lamps and variety of other advanced applications. Contact: Bambi Everett, Marketing, Advertising & Promotions, bambi.everett@heraeus.com.

Hinds Instruments, Inc. #604

SPIE Corporate Member

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

New Product: New photoelastic modulators for terahertz and DUV regions, APD modules and compact optical choppers.

Hinds Instruments provides complete polarization measurement solutions. Our product line includes high speed optical choppers (20-100 kHz), Stokes polarimeters (for fiber, free space, astronomical light sources), photoelastic modulators (for MOKE, ellipsometry, rheology and other spectroscopy applications), Excior® birefringence measurement tools and a complete line of accessories. Hinds products are designed for custom and OEM applications. Contact: Connie Wimmer, Technical Sales; Andy Kaplan, Sales Manager, sales@excior.com.

Hitachi High Technologies America #107

3100 N First St, San Jose, CA, 95134
800/548-9001; fax 408/432-0704
sales-ls@hitachi-hita.com; www.hitachi-hita.com/lshome

HOLOEYE Photonics AG #525

SPIE Corporate Member

Albert-Einstein-Str 14, Berlin, Germany, 12489
49 30 6392 3660; fax 49 30 6392 3662
contact@holoeYE.com; www.holoeYE.com

HOLOEYE Photonics AG and its US-subsiidiary, HOLOEYE Corp., are providing services and products in the fields of diffractive optics (DOE), spatial light modulation (SLM) and LCOS microdisplay components. HOLOEYE offers design- and production services of diffractive micro-optical elements, Spatial Light Modulators (SLM) which are based on high-resolution translucent or reflective microdisplays and a great variety of high resolution LCOS microdisplay types and products.



Lanyard Sponsor

HORIBA Jobin Yvon Inc. #310

SPIE Corporate Member

3880 Park Ave, Edison, NJ, 08820
732/494-8660; fax 732/549-5125
connie.bottone@jobinyvon.com; www.jobinyvon.com

Displaying Optical Spectroscopy Products for Photoluminescence, Fluorescence, Raman and all products include: spectrometers, imaging spectrograph, diffraction gratings, CCD's InGaAs arrays, detectors, samples compartments and customized spectroscopy solutions. Contact: Daniel Meyer, OSD Sales Manager, daniel.meyer@jobinyvon.com; Susan Maher, OEM Sales Manager, susan.maher@jobinyvon.com.

Hoya Corp. USA #218

SPIE Corporate Member

101 Metro Dr Ste 500, San Jose, CA, 95110
408/441-3300; fax 408/451-9524
www.hoyaoptics.com

HOYA Corporation USA is a leading provider of optical material and components. Our product portfolio includes optical glasses, color filter glasses, lens blanks, molded lenses, glass circuit boards, LCD glass, CCD cover glass, polarizers, silicon wafer bonding glass, display cover glass. Hoya offers a variety of coating and fabrication capabilities through our US and international manufacturing networks. Contact: Bruce Au, Sales Manager, opticsales@hoyausa.com; Sushama Apte, Gener Gatmaitan.

HTA Photomask #712

1605 Remuda Ln, San Jose, CA, 95112
408/259-9595; fax 408/259-4955
sales@htaphotomask.com; www.htaphotomask.com

New Product: Photomasks and micro-imaging of optical components. Imaged products for use reflect and TRANSMIT.

HTA is an engineering oriented photoimaging company established in 1982. We produce small R&D as well as production quantities of masks and optical parts. We can pattern down to sub-micron levels. We work with chrome, iron oxide, aluminum and other metals on different glass substrates or film. Contact: Mykola Kulishov, Sales Manager; Ted Caple, Customer Service.

II-VI Infrared

#507

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

II-VI INFRARED is the world leader in CO₂ laser optics for industrial applications, thermal imaging, medical applications and more. Conventional and diamond-turned products include lenses, mirrors, nozzles, windows, partial reflectors, beam splitters, phase retarders, rhombs, beam expanders, polarizers, wave plates and modulators. Infrared materials include ZnSe, ZnS and ZnS MultiSpectral. Contact: Tom Neff, Sales Manager, tneff@ii-vi.com.

IMT Masken und Teilungen AG

#317

Im Langacher, Greifensee, Switzerland, CH-8606
41 1 943 1900; fax 41 1 943 1901
rtrottini@imtmask.com; www.imtag.ch

New Product: IMT's new plasma etching equipment is capable of producing feature sizes as small as 0.25 micron.

IMT specializes in the manufacture of customized reticles of all sizes, optical calibration plates and pulse discs for rotary encoders. All coatings, including anti-reflex, dielectric coatings such as BBAR and optical protective coatings are done in-house. All processes are NIST Traceable. Contact: Robert Trottini, Sales Manager.

Incom, Inc.

#1019

SPIE Corporate Member

294 Southbridge Rd, Charlton, MA, 01507
508/765-9151; fax 508/765-0041
sales@incomusa.com; www.incomusa.com

Manufacturer of fused fiberoptic faceplates, tapers and light conduits. These products have made critical contributions to the genetic, medical, dental, drug research, military and homeland security markets. Participated in the design and development of large format tapers for X-ray crystallography, microwell arrays for genome sequencing, tapers and faceplates for medical and dental X-ray, microcapillary arrays for homeland security filtration systems and inverters for military night vision. Contact: Allan Narris, Sales Engineer, aln@incomusa.com; Jeffrey Solari, Product Development Manager, jbs@incomusa.com.

International Radiation Detectors, Inc.

#932

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: Multi-element filtered photodiodes for EUV.

Manufacturer of stable UV, VUV, EUV and soft x-ray photon and electron detectors and associated electronics. Contact: Raj Korde, President, rajkorde@ird-inc.com; Jacob Sprunck, Device Physicist, jsprunck@ird-inc.com.

IOP Publishing

#1031

Dirac House, Temple Back, Bristol, United Kingdom, BS1 6BE
44 1179 297481; fax 44 1179 301178
www.optics.org

IOP Publishing, a not for profit company wholly owned by the Institute of Physics, is one of the largest and most dynamic publishers of physics information in the world. Our publishing activity, which dates back to 1874, includes a wide range of journals, magazines and community websites. We partner more than a dozen international organizations and have a global network of offices located in Bristol, Philadelphia, Washington DC, Munich, St Petersburg, Moscow, Beijing and Tokyo. Contact: Cadi Jones, Ad Sales Manager, Optics & Laser Europe, cadi.jones@iop.org; Edward Jost, Ad Sales Manager, Physics World, edward.jost@iop.org.

Isuzu Glass Inc.

#704

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

New Product: CPC, Aspheric mirror for Solar system (CPV).

Let us mold your idea! We mold Infrared Optics, B270, Pyrex, F2 etc. We supply our lens array and Aspheric to the majority of projector manufactures, making us the No. 1 supplier in the world. We welcome new market!!! Contact: Hiro Yokoi, Sales Manager, hiro@isuzuglass.com; Robbi Tanimoto, Vice President, tanimoto@isuzuglass.com.

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sales@incomusa.com

Exhibitor Directory

J.A. Woollam Co.

#403

645 M St Ste 102, Lincoln, NE, 68503
402/477-7501; fax 402/477-8214
sales@jawoollam.com; www.jawoollam.com

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

Janos Technology, Inc.

#807

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

Janos Technology Inc. is a world leader in advanced infrared optical components and assemblies. We combine opto-mechanical design, automated equipment in fabrication, coating and extensive metrology capabilities. Janos provides high performance optical solutions across a broad IR spectrum. Certified to MIL-STD specifications, Janos provides thermal imaging lens assemblies in MWIR and LWIR, complex collimators, missile seeker heads, optical components and assemblies. Contact: Karl Martinson, Director of Business Development, kmartinson@janostech.com; Anita Foss, Product Manager.

JCD Publishing

#800

2932 Cove Trl, Winter Park, FL, 32789
407/629-5370; fax 407/629-5370
jerry@jcdpublishing.com; www.jcdpublishing.com

JCD Publishing provides books and software for the imaging system professional working with infrared or CCD cameras. We provide short courses and consultation on imaging system analysis, design, testing, and evaluation. Contact: Gerald Host, President.

JENOPTIK Laser, Optik, Systeme GmbH - Business Unit Microoptics

#916

Göschwitzer Str 25, Jena, Germany, 07745
49 3641 65 8448; fax 49 3641 65 2443
microoptics@jenoptik.com; www.jenoptik-los.com

JENOPTIK Microoptics Business Unit develops and manufactures customized assemblies and optical modules for a variety of applications in industry, semiconductor fabrication, ophthalmology and the security & defense sector. Flexibility of design, manufacturing know-how and a special base of in-house technologies are the assets to warrant our product offering to be consistently extended by new solutions which are even smarter and more complex. Contact: Nadine Dietmann, Inside Sales.

JENOPTIK Polymer Systems, Inc.

#914

2217 Buffalo Rd #222, Rochester, NY, 14624
585/272-6184; fax 585/424-6436
www.jenoptik-ps.com/USA

JENOPTIK Polymer Systems designs and manufactures polymer based optical components, systems 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; Scott Cahall, Chief Optical Scientist, scahall@jenoptik-ps.com.

John Wiley & Sons, Inc.

#519

111 River St MS 4-02, Hoboken, NJ, 07030-5774
201/748-6518; fax 201/748-6142
www.wiley.com

JPL Navigator Program

#830

MS 301-486, 4800 Oak Grove Dr, Pasadena, CA, 91109-8099
818/393-2845; fax 818/393-2412
planetquest.jpl.nasa.gov
Exoplanet exploration: NASA's Navigator Program.

Judson Technologies, LLC

#400

SPIE Corporate Member

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

New Product: Judson announces its InGaAs 2D Focal Plane Array for SWIR imaging applications.

Judson Technologies, a global leader in the manufacture of high performance infrared photodetectors and accessories, has introduced its 2D FPA product suite encompassing the IR spectrum. We are an OEM supplier of photodetector/dewar/preamplifier assemblies for spectroscopy and instrumentation applications. Our products include Ge, InGaAs, InAs, InSb, PbS(e) and HgCdTe photodetectors. Judson has expanded its product to include 2D FPAs utilized in commercial, space and military industries. Contact: Mark Sediva, Sales Engineer, msediva@judtech.com; George Gasparian, Sales/Applications Engineer, ggasparian@judtech.com.

Kauai Economic Development Board

#917

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: Merrilee Ako, Finance & Business Development Officer, mako@kedb.com.

Kigre, Inc.

#432

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

New Product: MK-81 & MK-88 compact eye-safe 1.54um lasers suitable for laser range-finding, imaging and LIBS. MK-88 & 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; Jeffrey Myers, Vice President, jeffmyers@hargray.com.

KLA-Tencor Corp.

#616

SPIE Corporate Member

160 Rio Robles, San Jose, CA, 95161
408/875-3000; fax 408/875-3030
info@kla-tencor.com; www.kla-tencor.com

At KLA-Tencor's Surface Metrology product group, our market segments span from semiconductor and data storage manufacturing, to MEMS, optoelectronics, material science and general scientific research - a range of industries that measure surface topography to either control their process or research new material characteristics. Our products range from benchtop stylus and optical profilers used in research environments to automated high resolution profilers. Contact: Fabio Consentino, fabio.consentino@kla-tencor.com.

Kurt J. Lesker Co.

#1015

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

New Product: LeskerBond Services offering NanoBond and NanoFoil Technologies from RNT.

We offer four major products for optical, photovoltaic, & nanomaterials films. The outstanding Nanobond technology which bonds, at ambient temperatures, oxide, fluoride, etc., sputter targets firmly to backing plates with greatly enhanced thermal contact. A full range of pure materials for evaporation & sputter sources. Thermal evap sources for organic materials & high vapor pressure inorganic materials. Atomic layer deposition equipment: reactors, delivery systems, & complete research systems. Contact: Al Demetrius, Exec VP, ald@lesker.com.

Kyosemi Opto America Corp.

#726

3003 Bunker Hill Ln Ste 102, Santa Clara, CA, 95054
408/492-1486; fax 408/492-9843
siwashita@kyosemi-opto.com; www.kyosemi-opto.com

New Product: Multiple wavelength custom designed UV, Visible, IR and NIR Photo-Diodes and LEDs.

Kyosemi has over 25 years experience designing and manufacturing components for Optical Sensing and Control, Optical Communication and Photo-voltaic Energy using silicon and compound semiconductor materials. Product line-up includes: UV LED and Photo-Detectors, InGaAs NIR PD, SiAPD, InGaAs APD, PD Arrays (Si, GaAs, InGaAs), Mini-Can (World smallest hermetic TOCAN package), VCSEL, Parallel Beam LED, Pin-Point LED, Multi-wavelength LED, SMD Package options. Contact: Steve Iwashita, Vice President Sales and Marketing.

L-3 Communications, Tinsley Laboratories, Inc.

#900

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

Labsphere, Inc.

#510

231 Shaker St, PO Box 70, 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. Contact: Ed Cammarota, Western Regional Sales, ecammarota@labsphere.com; Brian Lai, Eastern Regional and Canadian Sales, blai@labsphere.com.

Lambda Research Corp.

#707

SPIE Corporate Member

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

New Product: Stop by to demo latest releases of TracePro, OSLO and TracePro Bridge for SolidWorks.

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. Contact: Patrick Le Houillier, Application Engineer, patrick@lambdare.com; Jim Zambuto, Principal Application Engineer, jzambuto@lambdare.com.

LAS-CAD GmbH

#1025

Brunhildenstr 9, Munich, Germany, 80639
49 89173607; fax 49 89172594
info@las-cad.com; www.las-cad.com

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

Laser Focus World

#504

98 Spit Brook Rd, Nashua, NH, 03062-5737
603/891-0123; fax 603/891-0574
www.laserfocusworld.com

For over 40 years, *Laser Focus World* has been the international resource for technology & applications in the global photonics industry. Each month, the magazine analyzes the latest developments & significant trends in both technology and business and provides this information to engineers, researchers, scientists and technical professionals worldwide. Contact: Christine Shaw, Senior Vice President/Publisher Director, cshaw@pennwell.com; Stephen Anderson, Associate Publisher/Editor-in-Chief, stevega@pennwell.com.

Exhibitor Directory

LEISTER Technologies LLC

#333

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, optical switching and laser diode collimation.

Axetris Microsystems (a division of LEISTER Technologies) develops and manufactures microlens arrays, diffractive optics and infrared sources. Our standard and OEM solutions include optics for Fiber Array Collimation & Coupling (DWDM, MUX, OADM, OXC), Laser Diode Collimation (SAC, FAC & Silicon lenses), Shack-Hartmann Sensors & Optical Switching applications. An ISO 9001:2000 certified process, combined with 50 years of manufacturing experience, makes Swiss-based LEISTER a reliable supplier. Contact: John Vrakas, Optical Engineer, Sales.

Liebmann Optical Co.

#918

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. 19 CNC machines, full conventional optics shop, 8 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.

Luxel Corp.

#200

SPIE Corporate Member

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

New Product: Spectral Purity Filters for EUV Lithography.

Luxel is the preeminent supplier of X-ray filters used in Laboratory and space research. We fabricate bandpass filters for extreme ultraviolet (EUV) and soft X-ray wavelengths. Remarkable strong large area windows are available supported by ultra-thin polyimide. Our specialties are custom X-ray filters, photocathodes, pressure and proportional counter-windows. Contact Forbes Powell, President, forbes.powell@luxel.com; Heidi Lopez, Laboratory Manager, heidi.lopez@luxel.com.

Materials Today

#633

Elsevier Ltd., The Boulevard Langford Ln, Kidlington Oxford, United Kingdom, OX5 1GB
44 1865 843140
materialstoday@elsevier.com; www.materialstoday.com

Maui Economic Development Board

#917

1305 N Holopono St Ste 1, Kihei, HI, 96753
808/875-2340; fax 808/879-0011
www.medb.org

A non profit organization dedicated to provide leadership in our community for the responsible design and development of a strong, sustainable and diversified economy for Maui County. Contact: Tom Liu, Program Director, tom@medb.org; Steve Perkins, Program Director, steve@medb.org.

Max Levy Autograph, Inc.

#500

SPIE Corporate Member

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

Max Levy Autograph specializes in precise patterned components and metrology standards for the photonic, machine vision, mil-aerospace and semiconductor industries. Major capabilities include photolithography, electroforming and diamond turning. Product breath ranges from submicron features on exotic materials to 3' x 10' NIST traceable calibration grids. Contact: Thomas Cinque, Sales Manager, tom@maxlevy.com; David Metzger, Senior Engineer, dmetzger@maxlevy.com.

McGraw-Hill

#203

2 Penn Plaza, New York, NY, 10121
212/904-5964; fax 21/904-4255
www.mhprofessional.com

If information is the gateway to success in today's global economy, McGraw-Hill is the gatekeeper. McGraw-Hill Professional enables technical and trade professionals to succeed in complex global industries by structuring the most current information into concise and authoritative resources. Enjoy a 20% discount on our vast collection of Optics, Photonics, and Nanotechnology titles, including the soon-to-be published Modern Optical Engineering by Warren J. Smith. Contact: Nicole LeBlanc, Marketing Manager, NICOLE_LEBLANC@MCGRAW-HILL.COM; Judith Reiss, Marketing Asst., JUDITH_REISS@MCGRAW-HILL.COM.

Melles Griot

See listing under **CVI Melles Griot**.

MediVision Optics

#102

1210 N Jefferson St Ste D, Anaheim, CA, 92807
714/563-2772; fax 714/563-2711
rjohnson@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, Optics Sales Manager; Alex Vayser, President, avayser@medivisionusa.com.

MEMS Optical Inc.

#916

205 Import Cir, Huntsville, AL, 35806
256/859-1886; fax 256/858-0581
info@memsoptical.com; www.memsoptical.com

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.

Exhibitor Directory

Michigan Aerospace Corp.

#716

1777 Highland Dr Ste B, Ann Arbor, MI, 48108
734/975-8777; fax 734/975-0239

sales@michiganaerospace.com; www.michiganaero.com

New Product: LIDAR (ground and airborne) for wind, density, temperature and atmospheric constituents.

Michigan Aerospace Corporation (MAC) provides innovative optical, opto-mechanical and mechanical systems, as well as image processing, pattern recognition and machine learning software, from conceptual design through production and implementation in the field, including: LIDAR Systems to measure atmospheric winds from the ground, air and space; Data Exploitation of images, video and volumetric data and Optical Diagnostics for CBRN and Improvised Explosive Device (IED) detection systems. Contact: John Dodds, Business Development Coordinator, jdodds@michiganaero.com.

MICOS USA

#1012

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. We offer a wide range of precision mechanical components and complete system solutions which are used in the field of ultra-precision-positioning. MICOS also specializes in vacuum, clean room and extreme temperature requirements. Our primary markets include industry and research with an emphasis on laser and micro-wave technology, communications, semi-conductor technology and micro-manipulation. Contact: Manfred Schneider.

Micro Laser Systems, Inc.

#706

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: Fiber Coupled Lasers from 405nm to 1550nm.

Manufacturer of free space Diffraction Limited Diode Lasers and Fiber Coupled Laser Systems. Singlemode and DFB lasers from 375nm to 1600nm have narrow linewidths and high stability. Accessories include beam expanders and focusing optics for free space beams. Fiber collimators, singlemode and PM splitters and wavelength combiners complement the Fiber Laser Systems. OEM version or complete turnkey systems available. Contact: Norma Adachi, Marketing, norma@microlaser.com.

Micro Photonics Inc.

#518

SPIE Corporate Member

21 Morgan Ste 200, Irvine, CA, 92618
949/461-9292; fax 949/461-9232

www.microphotonics.com

Contact: Craig Leising, Product Manager, craig@microphotonics.com;
Ben Mell, Sales Engineer, ben.mell@microphotonics.com.

WaveMaster[®] PRO

Fast and accurate Aspherical Lens Tester

WaveMaster[®] PRO is a new instrument providing real time wave front measurement and analysis of spherical and aspherical optics.

The WaveMaster[®] PRO features high spatial resolution and accuracy, can be simply set up in finite or infinity conjugates configuration and incorporates the state of the art wave front sensing technology. A high precision 5 axis sample holder allows for easy and fast alignment of the sample. Further features include:

- Tilt dynamic range: $> \pm 3^\circ$ (1500 λ)
- Focus dynamic range: ± 0.03 m to $\pm \infty$ (1800 λ)
- Repeatability (RMS): $< \lambda/200$
- Wave front measurement accuracy: RMS: $\lambda/20$
- Live display of measured, fitted and residual wave front
- Live Zernike analysis
- Complete measurement report, etc.

Applications include measurement of mobile phone and digital camera lenses, lenses for automotive sensors or any other spherical or highly aspherical optics.

The image shows the WaveMaster PRO instrument, a blue and white optical testing device, positioned on a desk. A computer monitor to the right displays a 3D wavefront plot with a color gradient from blue to red. A lens is mounted on the instrument's sample holder. A keyboard and mouse are also visible on the desk. A red 'NEW!' sticker is placed over the bottom left of the image. Below the main image, there are several smaller inset images showing different views of wavefront analysis results, including 3D surface plots and 2D line graphs.

**WaveMaster[®] PRO
WAFER** for ultra fast
measurement of
lenses on wafers



TRIOPTICS

Hafenstrasse 35-39 · D-22880 Wedel / Germany
Phone: +49-4103-18006-0 · Fax: +49-4103-18006-20
E-mail: info@trioptics.com · www.trioptics.com

Exhibitor Directory

Mildex, Inc.

#514

SPIE Corporate Member

1388 Crittenden Rd, Rochester, NY, 14623-2308
585/473-6540; fax 585/475-1971
mildex@eznet.net; www.mildex.com

New Product: Trioptics OptiSpheric/OptiCentric PC-controlled lens bench measures optical parameters of lenses.

Mildex is a US distributor of optical manufacturing and testing systems serving the US optical industry since 1975. Products offered include autocollimators, collimators, diopter telescopes, electronic autocollimators, lens benches, spherometers, lens centering machines and precision surface grinding and polishing machines. Contact: Harvey Miller, President, hmiller@mildex.com.

Mindrum Precision, Inc.

#420

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

Specializing in precision machining of glass, quartz, ceramic and exotic materials, prototype and production quantities, super-polishing of sub-angstrom finishes on specific materials, engineering services available, precision polishing, lapping (including double-sided), grinding, redrawing, I.D./O.D., small diameter drilling of holes, laser engraving, class 1000 clean room, chemical etching, manufacturer of flow cells, dampers, switch patterns, hermetically sealed window, dash pots, substrates, prisms, insulators, spacers and complex shapes. Visit us at our web site, www.mindrum.com. Contact: Todd Van Son, Technical Sales; Howard Gregory, Technical Sales.

Minus K Technology

#614

SPIE Corporate Member

420 S Hindry Ave Unit E, Inglewood, CA, 90301
310/348-9656; fax 310348-9638
sales@minusk.com; www.minusk.com

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, erik@minusk.com; Brian Crowley, Operations Manager, brian@minusk.com.

MOXTEK

#532

452 W 1260 N, Orem, UT, 84057
801/225-0930; fax 801/221-1121
www.moxtek.com

New Product: NEW Inorganic Absorptive Polarizers! Used in HTPS front projection or problems w/reflection & heat.

MOXTEK specializes in wire-grid polarizers up to 8-inches in diameter for use in consumer displays, scientific instruments, industrial and military applications. MOXTEK provides polarizers ranging from the UV to LWIR. MOXTEK expertise is in high volume and custom applications of wire-grid polarizers and other nano-photonics devices. Contact: Jim Meyer, Marketing, jmeyer@moxtek.com; Tyler Campbell, Marketing, tcampbell@moxtek.com.

MRC a PPGI Company

#734

6455 Parkland Dr, Sarasota, FL, 34243
941/753-8707; fax 941/751-4249
sales@mrcoptics.com; www.mrcoptics.com

Manufacturer and designer of precision metal and infrared optical components, systems and sub-assemblies. Full in-house aspheric diamond machining, plating, polishing and testing capability. Materials include all non-ferrous metals, crystal, beryllium, albetmet and composites. Products include polygons, aspheric components, off-axis parabolics, large flat mirrors and multi-mirror systems. Contact: Tom Crafts, Dir. of Sales and Marketing, tcrafts@mrcoptics.com; Francis Marshall, Inside Sales Administrator, fmarshall@mrcoptics.com.

National Reconnaissance Office

#305

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

New Product: R&D Funding - Director's Innovation Initiative.

R&D Funding - The National Reconnaissance Office's Director's Innovation Initiative invests in advanced technologies, fosters innovation and provides seed funding to push the boundaries of technology to improve our overhead reconnaissance capabilities. It presents an opportunity for developers not traditionally associated with the NRO to participate in building the NRO of the 21st century. Contact: Brain Oelrich, United States Air Force, Program Manager, dii@nro.mil.

New Focus, a Division of Bookham #810

SPIE Corporate Member

2584 Junction Ave, San Jose, CA, 95134
408/919-1500; fax 408/919-6083
contact@newfocus.com; www.newfocus.com

Products include tunable lasers, detectors & receivers, modulators, motion-control actuators & solutions, vacuum & ultraclean solutions, optomechanical components, breadboards & workstations and optics. New products: high-efficiency modulators, vacuum Tiny Picomotor™ actuators, new single-wavelength lasers, position-sensitive detectors, avalanche photodiode receivers, closed-loop rotary stages and new optomechanical components. Contact: sales@newfocus.com.



Internet Pavilion and WiFi Sponsor

Newport Corp.

#700

1791 Deere Ave, Irvine, CA, 92606
949/863-3144; fax 949/253-1680
info@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: Ellen McGuirk, Vice President Corporate Marketing, ellen.mcguirk@newport.com.

Nidec Copal Electronics, Inc. #103

367 Van Ness Way Ste 621, Torrance, CA, 90501
310/618-0225; fax 310/618-9984
info@nidec-copal-electronics.com; www.nidec-copal-electronics.com

Nidec Copal Electronics, headquartered in Tokyo, Japan, is a leader, for over 25 years, in the design and manufacture of an extensive range of polygon motors. We provide solutions for both the competitive high volume market as well as the technically demanding low volume high end market. We offer a complete line of polygon mirrors, controllers and laser scanning modules. We specialize in products that are utilized in laser printing, medical devices, bar code scanning and inspection machine. Contact: Osamu Yoshida, Sales&Marketing Manager, info@nidec-copal-electronics.us; Thomas Franck, Senior Sales Engineer, tfranck@tcengineering.com.

Night Vision Systems, Inc. #720

A Division of Syntronics, 3500 Shannon Park Dr, Fredericksburg, VA, 22408
540/374-1000; fax 540/374-1000
nightvision@syntronics.net; www.syntronics.net

New Product: Coronafinder-Direct view system that allows you to detect high voltage before it starts to arc.

Manufacturer of stock and custom intensified CCD cameras (Gen I, II, III, IV 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, circuit design, software design, 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 Division, smiller@syntronics.net.

NIL Technology ApS #629

Bldg 347, Oerstedes Plads, Kongens Lyngby, Denmark, 2800
45 4525 5828; fax 45 3927 2722
contact@nilt.com; www.nilt.com

NIL Technology sells stamps for nanoimprint lithography (NIL), provides imprint service, production by NIL, consultancy and enters into joint development of novel applications benefiting from nano-scale structures. Stamp structure sizes below 20 nm; Up to 150 mm round and square stamps; Stamp materials: Silicon, Quartz and Nickel; Stamps for all NIL tool formats; Nickel NIL standard stamp. Contact: Lars Hansen, Director of Sales, lars.hansen@nilt.com; Theodor Nielsen, Chief Executive Officer, theodor.nielsen@nilt.com.

Norland Products Inc. #727

Bldg 100, 2540 Rte 130, Cranbury, NJ, 08512
609/395-1966; fax 609/395-9006
tnorland@norlandproducts.com; www.norlandproducts.com

New Product: NBA 107 cold blocking UV adhesive used for polishing lenses can be dissolved with warm soapy water.

Manufacturer of high quality optical and electronic UV and heat curing adhesives. These one component, solventless adhesives cure quickly when exposed to UV light and are designed for precision bonding applications. Our Optical adhesives are designed for bonding components where low strain, optical clarity or low outgassing are required in military, aerospace, fiber optics and commercial optics applications. Contact: Tim Norland, General Manager.

NovaSol #917

733 Bishop St Ste 2800, Honolulu, HI, 96813
808/441-3623; fax 808/599-3632
www.nova-sol.com

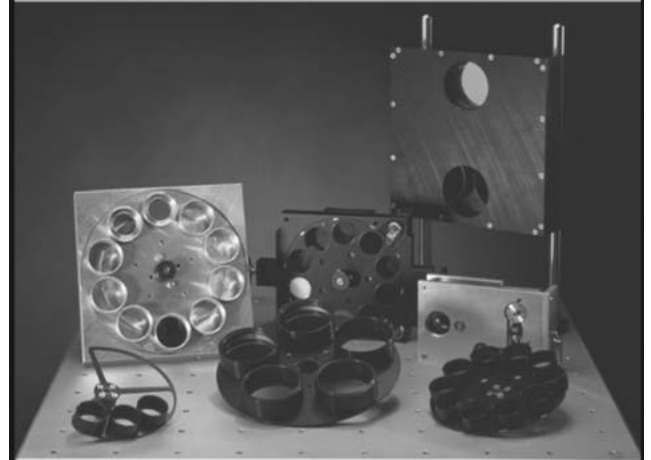
Strategic decisions in commerce, military & environmental monitoring are most effective when supported by timely and accurate information. NOVASOL's engineering & scientific solutions deliver more than meets the eye with our optical systems that reveal the information hidden in light. We apply our expertise in sensors, optics, navigation, stabilization, spectral/spatial algorithms and data analysis expanding our clients' vision to better plan/execute their strategies. Contact: Barry Swartz, Chief Technical Officer/Vice President Special Programs, barry@nova-sol.com; Bill Pfister, Director, Technology Development, bill.pfister@nova-sol.com.

nPoint, Inc. #206

1617 Sherman Ave, Madison, WI, 53704
608/310-8770; fax 608/310-8774
sales@npoint.com; www.npoint.com

nPoint, Inc. manufactures ultra-precision motion and control devices for nano-scale research and manufacturing. Our products include a series of nanopositioning systems that consist of stages and control electronics. The positioning products enable rapid, precise, and repeatable motion and are used in applications ranging from life science to semiconductor industry.

**Standard & Custom
Filterwheels
Light Sources
Shutters**



SUTTER INSTRUMENT

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

Exhibitor Directory

Ocean Optics, Inc.

#911

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

New Product: Ocean Optics is proud to debut the next-generation Jaz Family of ethernet-based Instrumentation.

Ocean Optics is the leader in optical sensing with nearly 100,000 spectrometers sold. We've expanded the frontiers of optical sensing and photonics, 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, OceanOptics.com for more information. Contact: Application Scientist, Info@OceanOptics.com; Sales Department, Application Scientist, Sales@OceanOptics.com.

Ohara Corp.

#806

23141 Arroyo Vista Ste 200, Rancho Santa Margarita, CA, 92688
949/858-5700; fax 949/858-5455
info@oharacorp.com; www.oharacorp.com

Manufacturer of precision optical glasses available as strip/slab, cut or molded blanks, high-homogeneity blanks, fine gobs and polished ball lenses, near-UV transmitting i-Line glasses, IR materials, ultralow expansion glass, negative expansion and glass ceramic substrates. Supplier of double-sided polished substrates offering low surface roughness (Ra less than 0.2nm) and excellent flatness (less than 2 microns). Contact: Brion Hoffman, President, sales@oharacorp.com.

Olympus Industrial America

#811

One Corporate Dr, Orangeburg, NY, 10962
866/642-4725
sales@olympusindustrial.com; www.olympusindustrial.com

Ontar Corp.

#800

SPIE Corporate Member

9 Village Way, North Andover, MA, 01845
978/689-9622; fax 978/681-4585
sales@ontar.com; www.ontar.com

New Product: PcWrf combining WRF and MODTRAN and PCModWin the GUI for the most recent version of AFRL's MODTRAN.

Ontar has products for atmospheric remote sensing. Our software calculates atmospheric transmission and radiance and evaluates sensor performance. PcModWin using the most recent version of MODTRAN PcLnWin using FASCODE PcNvMod combining MODTRAN and NVTherm IP LIDARPC and ALTM make your calculations easy. Application areas include smart weapons for defense applications, EO sensors development, ground and satellite image correction, hyperspectral imaging laser communications, LIDAR applications. Contact: Alyssa Douglass, adouglass@ontar.com.

Optical Perspectives Group, LLC #907

5130 N Calle La Cima, Tucson, AZ, 85718
520/529-2950
www.optiper.com

New Product: CaliBall MarkII mounts in a Zygo type 4" bayonet stage and requires no additional hardware.

Optical Perspectives Group is an opto-mechanical engineering consulting company with expertise in the practical, hardware side of optics. OPG helps with test and inspection of components as well as alignment and assembly of optical systems. In addition to consulting, OPG markets the Point Source Microscope (PSM), an autostigmatic microscope, that aids in optical system alignment and CaliBall, an interferometer calibration artifact that is easier to use than other methods of calibration. Contact: Bob Parks, President, reparks@optiper.com.

Optical Research Associates #301

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

New Product: LightTools 6.0 delivers enhanced illumination design modeling and optimization capabilities.

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.

Optical Society of America #714

2010 Massachusetts Ave NW, Washington, DC, 20036-1023
202/223-8130; fax 202/223-1096
info@osa.org; www.osa.org

New Product: Technical Conference: May 4-9, 2008. Exhibit: May 6-8, 2008. San Jose, California, USA.

The Conference on Lasers and Electro-Optics (CLEO), The Quantum Electronics and Laser Science Conference (QELS) and The Conference on Photonics Applications, Systems and Technologies (PhAST) are the industry's leading events for optics and photonics research and technologies. The 2008 event will feature world renowned keynote speakers, technical programming, short courses, business sessions and over 300 exhibiting companies. Contact: Melissa Russell, Director of Sales, cleosales@osa.org.

Optical Support, Inc. #615

SPIE Corporate Member

11751 E Timrod St, Tucson, AZ, 85748
520/546-0642; fax 520/203-0228
www.opticalsupport.biz

Optical Support provides opto-mechanical engineering services. We work with teams of optical engineers to place hardware around their optics. We provide designs and documentation packages to facilitate manufacturing of mechanical and optical components. Contact: Michael Savard, President, msavard@opticalsupport.biz.

OPTICS 1, Inc.

#610

SPIE Corporate Member

3050 Hillcrest Dr Ste 100, Westlake Village, CA, 91362
603/296-0469; fax 603/296-0473
info@optics1.com; www.optics1.com

New Product: SOLUS 1000CT - Optical Metrology System
Accurate, automated solution for measuring lenses.

We are considered by many to be the premier independent company dedicated to optics designs and optical developments. Our team of optics experts design, produce and support precision optical assemblies, subsystems and integrated systems for leading global medical device manufacturers. We transform your concepts into market leading products. Contact: Drew Osterman, Director, Business Development, dosterman@optics1.com; Bill McGuigan, Director, Engineering, wmcguigan@optics1.com.

Optics for Research, Inc.

#313

PO Box 82, Caldwell, NJ, 07006
973/228-4480; fax 973/228-0915
shows@ofr.com; www.ofr.com

New Product: OFR now manufactures 10W fiber isolators @ 1064nm & LMA fiber isolators.

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.

Optics Technology, Inc.

#813

3800 Monroe Ave, Pittsford, NY, 14534
716/586-0950; fax 716/248-2371
sales@opticstechnology.com; www.opticstechnology.com

Optics Technology, Inc. is a designer and manufacturer of precision miniature and sub-miniature optical and mechanical assemblies and systems. Our optical design capabilities are based on 20 years experience designing and fabricating the optical components and systems for medical, industrial and defense applications. Contact: Dominick Polizzi, Sales & Marketing Manager.

Optikos Corp

#406

SPIE Corporate Member

107 Audubon Road, Bldg. 3, Wakefield, MA, 01880
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: Jamie Hutchins, Vice President Sales and Marketing, jhutchins@optikos.com; Ryan McDonough, Senior Sales Executive, rmcdonough@optikos.com.

Optimax Systems, Inc.

#611

SPIE Corporate Member

6367 Dean Pky, Ontario, NY, 14519
585/265-1020; fax 585/265-0793
sales@optimaxsi.com; www.optimaxsi.com

Optimax is dedicated to small volume, high quality and quick delivery of precision optical components. Specializing in aspheres, cylinders, plano-optics and spheres, manufactured to customer-supplied specifications. Final inspection data is provided with the optics. We enjoy a good challenge, call us! Contact: Rick Plympton, Vice President; Joe Pinto, Sales Engineer.

OptiPro Systems

#602

SPIE Corporate Member

6368 Dean Pky, Ontario, NY, 14519
585/265-0160; fax 585/265-9416
sales@optipro.com; www.optipro.com

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

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

OptoSigma Corp.

#606

2001 Deere Ave, Santa Ana, CA, 92705
949/851-5881; fax 949/851-5058
sales@optosigma.com; www.optosigma.com

Pacific Coast Optics

#724

1361 E Edinger Ave, Santa Ana, CA, 92705
714/835-1888; fax 714/835-6510
www.pcoptics.com

New Product: Large cylinders Flats, spheres and cylinders of Alon and Spinel substrate material.

Pacific Coast Optics is a Southern California company manufacturing precision optical components and sub-assemblies. We are able to provide optical components from as small as 5 mm and up to as large as 18". Our thin film coating department can provide single and multilayer, broadband and v-coat AR coatings. Also aluminum, enhanced aluminum, silver, gold and ITO coating. Contact: Steven DiAnda, President, skdianada@pcoptics.com; Peter Moyes, Manufacturing Manager, pmoyes@pcoptics.com.

PerkinElmer Inc.

#201

940 Winter St, Waltham, MA, 02451
800/762-4000; fax 203/944-4904
customerservice@perkinelmer.com; www.perkinelmer.com

PerkinElmer Inc. serves a number of growing industries and markets including the environmental, pharmaceutical, chemical, petrochemical, semiconductor, academic research, biotechnology and clinical screening segments. Our total application-driven laboratory solutions help our customers speed drug discovery, enhance research productivity, meet strict regulatory requirements, improve time-to-market and increase manufacturing efficiencies.

Exhibitor Directory

Photon Engineering, LLC

#111

SPIE Corporate Member

440 S Williams Blvd Ste 106, Tucson, AZ, 85711
520/733-5220; fax 520/733-9609
info@photonengr.com; www.photonengr.com

New Product: Our latest version of FRED features unlimited raysets and new coherent source creation.

Photon Engineering, LLC is a consulting and software development firm based in Tucson, AZ specializing in all phases of optical engineering: design, analysis and implementation.

Photon sells FRED, the premier proven optical engineering software, to visualize and solve today's leading edge optical engineering problems. FRED uses today's latest software tools and multi-threaded algorithms to design and analyze optical and illumination systems faster. Contact: Carolyn Johnson, Sales Manager, sales@photonengr.com.

Photon Inc.

#625

6878 Santa Teresa Blvd, San Jose, CA, 95119-1205
408/226-1000; fax 408/226-1025
beam@photon-inc.com; www.photon-inc.com

New Product: ModeScan 1780 - Real-time M2 measurements for pulsed, CW or single-shot lasers, from 360 - 1700nm.

Photon beam profilers measure light sources-lasers, LDs, and LEDs-on several parameters. NanoScan slit profilers provide fast, precise optical alignment with nanometer accuracy; FireWire BeamPro and USBBeamPro, CCD and CMOS cameras respectively, top our line of camera-based profilers. We also offer far-field profilers for characterizing divergent sources. Photon's newest profiler is ModeScan 1780, a real-time M2 instrument system for pulsed, CW, and single-shot lasers with 250-1100nm wavelengths. Contact: Derrick Peterman, Sales Engineer, dpeterman@photon-inc.com; Kelly Child, Sales Engineer, kchild@photon-inc.com.

Photonics Spectra - Laurin Publishing

#910

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 Sales Manager, advertising@photonicsgroup.com; Breck Hitz, Senior Technical Editor, pseditorial@laurin.com.

Photonics.com/Photonics Directory

#319

2 South St, PO Box 4949, Pittsfield, MA, 01202-4949
413/499-0514; fax 413/442-3180
Directory@laurin.com; www.photonics.com

Photonics.com is the only complete on-line source of photonics information developed by the leading photonics publisher for over 50 years. This Web site 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; Sue Rogers, Regional Sales Manager, sue.rogers@laurin.com.

Photonis

#603

1000 New Holland Ave, Lancaster, PA, 17601-5688
717/295-6888; fax 717/290-1268
burlels@burle.com; www.photonis.com

Photonis, a leader in design, development, production & marketing of photo sensor technology. Products include 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; EO products for analytical, scientific & space detectors; Power tubes for high-energy research, industrial heating & communications. Contact: Kimberly Harrison, Customer Service Representative PMT, harrisonk@burle.com.

Photo-Sonics, Inc./IMC

#405

Instrumentation Marketing Corp, 820 S Mariposa St, Burbank, CA, 91506
818/842-2141; fax 818/842-2610
www.photosonics.com

Photo-Sonics is a full line manufacturer and supplier of High Speed and Ultra High Speed Imaging Systems, Streak Cameras, 2D and 3D Image Analysis software, Tracking System, Film Systems and associated accessories. Ultra High Speed Camera with framing rates to 2 Billion FPS, HS Video camera with improved sensitivity to ISO 32000 and Streak Cameras with time resolution to 2 picosec, are just a few advantages of our systems. Contact: Frank Kosel, Sales and Applications, fkosel@photosonics.com; Graham Jones, Sales Manager, gjones@photosonics.com.

Photron USA, Inc.

#511

SPIE Corporate Member

9520 Padgett St Ste 110, San Diego, CA, 92126
858/684-3555; fax 858/684-3558
image@photron.com; www.photron.com

New Product: Fastcam SA1: Mega pixel @ 5K fps with superb sensitivity. Fastcam MH4: 2K fps tiny hi-G camera heads.

Photron offers the widest and most innovative range of high speed cameras available. Systems include: Fastcam SA1: Superb sensitivity and 12-bit image quality, with mega pixel resolution to over 5K fps (frames per second). Fastcam MH4: Four sub-compact CMOS camera heads connect to a single processor 10m away, with battery backup built in. FocusScope SV-200i: Uses a Gen III ii to image biofluorescence at speeds as high as 2,000 fps. A wide range of PC based and stand alone slow motion systems. Contact: Andrew Bridges, Director Sales/Marketing, image@photron.com.

Physics Today

#219

One Physics Ellipse, College Park, MD, 20740-3843
301/209-3043; fax 301/209-3692
alcoleman@aip.org; www.physicstoday.org

Stop by and pick up your free copy of *Physics Today* - the world's premier physics magazine, and *The Physics Today*. Form Lucent Technologies, IBM, Ford and GM to product - specific start-ups, *TIP* features articles from key innovators driving today's technology.

PI (Physik Instrumente) LP

#820

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-Nanometer Precision Piezo Linearmotor Drives.

Global leader in ultra-precision motion control & piezoelectric positioning systems for OEM and research. Products: Piezo Nanopositioning Stages; Six-Axis Hexapod Alignment Systems, Scanning Stages for Microscopy; Fast Steering Mirrors/Active Optics; Multilayer Piezo Actuators; Fast Piezo Linear Motors, Piezo Drivers & Digital Controllers; Micropositioning Actuators, Stages & Motion Controllers; MicroMotion Robots for Automated 3D to 6D Photonics Alignment. 30+ years experience. Contact: David Steinberg, Director of Sales - Western Region; James Gareau, Director of Sales - Eastern Region.

Piezosystem Jena, Inc.

#613

54 Hopedale St, Hopedale, MA, 01747
508/634-6688; fax 508/634-6868
usa@piezोजना.com; www.piezोजना.com

We are a world leading company in the development, design and engineering of piezo actuator based positioning systems for micro- and nanopositioning and nanoautomation. Piezosystem Jena is the exclusive United States representative for SIOS interferometric equipment. We also manufacture multimode fiberoptic switches for fluorescence and spectrographic studies. Contact: Peter Viglas, Sales Engineer, pviglas@piezोजना.com.

PolarOnyx, Inc.

#306

SPIE Corporate Member

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

New Product: 1 um High Power (up to 10W) femtosecond PM fiber lasers.

World leading company in high energy/power fs, ps and ns fiber lasers with features of all fiber coupling and delivery, compactness and maintenance free operation. Applications include material processing, micromachining, spectroscopy, microscopy and optical sensing applications. OEM and instrument version are available for commercial system integrators, scientific research and industrial R&D. Wavelength ranges cover from VIS to IR. Contact: Jian Liu, President, jianliu@polaronyx.com; LihMei Yang, Manager, Product Sales & Support, lihmeiyang@polaronyx.com.

Polymicro Technologies LLC

#320

18019 N 25th Ave, Phoenix, AZ, 85023-1200
602/375-4100; fax 602/375-4110
sales@polymicro.com; www.polymicro.com

Polymicro manufactures multimode, step-index fused silica fibers with polyimide, acrylate, silicone and custom buffers; solarization-resistant optical fibers; hollow silica waveguides; f/o cables and assemblies; high strength/ temperature flexible fused silica capillaries; square capillaries; light guiding capillaries; precision silica and quartz rod/ tubing pieces; custom shaped rod and tubing; multilumen tubing; telecom ferrules/sleeves. Contact: Gary Edwards, North American Sales Manager.

Power Technology, Inc.

#502

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: Photonic Component Group now available for orders for medium to large OEM component quantities.

We at Power Technology, Inc. have been a driving force in the laser industry for almost 40 years. Since 1969, we have been designing, developing, and manufacturing a comprehensive range of laser products for scientific, biomedical, and industrial applications. In fact, our modules are ideal for any number of OEM and research-based applications, including semiconductor inspection, display, spectroscopy, holography, laser-induced fluorescence, flow cytometry, and high-resolution printing. Contact: James Jackson, Sales Engineer, jjackson@powertechnology.com; Daren Ford, Sales Engineer, dford@powertechnology.com.

Precision Asphere, LLC

#901

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

Precision Glass & Optics

#205

3600 W Moore Ave, Santa Ana, CA, 92704
714/540-0126; fax 714/540-1482
www.pgo.com

New Product: PG&O now offers Laser Engraving and Waterjet cutting.

PG & O combines the high volume, low cost manufacturing of the commercial glass industry with the technical precision of optical and thin film coating. This single facility approach makes us uniquely qualified to satisfy today's optical component needs. We focus on both technical needs and the cost controls so vital to customer satisfaction. Consistent product quality is assured by an engineering staff boasting well over 100 years of combined experience in the optical industry. Contact: Richard Ortega, Sales, Richard@pgo.com; Demessow Kebede, Sales, DK@pgo.com.

Princeton Instruments

#221

SPIE Corporate Member

3660 Quakerbridge Rd, Trenton, NJ, 08619-1208
609/587-9797; fax 609/587-1970
moreinfo@piacton.com; www.piacton.com

Princeton Instruments designs and manufactures high-performance camera, spectrograph and optics solutions for the scientific research, industrial imaging and OEM markets. Continuous innovation in R&D and manufacturing process, coupled with a customer driven paradigm ensures our customers are always at the forefront of technology and reliability while pushing their boundaries of discovery. Contact: moreinfo@piacton.com.

Exhibitor Directory

Product Design Labs LLC #905

2375 Zankee Rd Ste 215, San Jose, CA, 95131
408/827-0063; fax 510/792-0638
www.productdesignlabs.com

New Product: Mechanical, Electrical and Optical Engineering for BioTech, Medical, Military & Consumer Products.

Our degreed engineer's backgrounds include human genome, instruments, high resolution medical cameras, MRI machines and we have a variety of computer programs with prototype building capabilities. Other areas of optical expertise include Geometric, diffractive, waveguide, photonics, fiberoptics, infrared, optical networks, optical counting/intensified systems, gratings, multilayer dielectrics, cavities & etalons, optoelectronics, optical materials and laser physics. Contact: Gary Bordenkircher, Chief Executive Officer, Principal Engineer, Gary@productdesignlabs.com; Sandra Bordenkircher, Marketing, Partner, Sandra@productdesignlabs.com.

Pulse Instruments #1027

1234 Francisco St, Torrance, CA, 90502
310/515-5330; fax 310/515-0068
sales@pulseinstruments.com; www.pulseinstruments.com

New Product: 14bit/10MHz or 16bit/2MHz data acquisition up to 32 chs w/real-time image correction and reassembly.

Leading manufacturer of automated systems and equipment for characterizing and production test of IR FPA, CCD and CMOS sensors. Products include pattern generators, clock drivers, DC bias supplies, high-speed/low-noise data acquisition, automated test and imaging software. Our systems are used for testing visible and infrared imagers for defense, earth-resource, weather, biomedical, commercial, industrial automation, security and consumer applications. Contact: Steven Kan, Vice President Sales, steven@pulseinstruments.com; Scott Williams, Director of Engineering, scott@pulseinstruments.com.

Radiant Imaging, Inc. #1017

15321 Main St NE Ste 310, Duvall, WA, 98019
425/844-0152; fax 425/844-0153
sales@radiantimaging.com; www.radiantimaging.com

Rainbow Research Optics, Inc. #418

4880 Ironton St Unit K, Denver, CO, 80239
303/371-3000; fax 303/371-1333
sales@rroptics.com; www.rainbowoptics.com

New Product: Waveplates- Zero Order and Multi Order - 160mm.

Rainbow Research Optics is an optics manufacturing and coating company in Denver, Colorado. We offer high precision custom optics and custom coating design with fast delivery and competitive pricing. Optic sizes range from 5mm to 430mm; coatings range from 193nm to 16microns. We deliver prototype to production quantities and also provide in house assemblies. RROI - Your only Optics Solution. Contact: Hollie Marinecz, Sales Manager; Tim Kish, Sales Engineer.

Raytheon #722

2000 E El Segundo Blvd, El Segundo, CA, 90245
310/647-2246; fax 310/647-4012
jgserrano@raytheon.com; www.raytheon.com

Redlake #221

3440 E Britannia Rd, Tucson, AZ, 85706
520/547-2772; fax 520/574-2773
info@redlake.com; www.redlake.com

Research Electro-Optics, Inc. #106

SPIE Corporate Member
5505 Airport Blvd, Boulder, CO, 80301
303/938-1960; fax 303/447-3279
sales@reoinc.com; www.reoinc.com

REO is an integrated supplier of precision optics, assemblies and laser products as well as design services and full manufacturing capabilities that enable rapid and cost effective implementation of optical systems for industrial markets such as defense, aerospace, semiconductor production, telecommunications and medical instrumentation. Contact: Mark Damery, Vice President of Sales, markd@reoinc.com.

Roberts & Company Publishers #1013

4950 S Yosemite St F2 #197, Greenwood Village, CO, 80111
303/221-3325; fax 303/221-3326
info@roberts-publishers.com; www.roberts-publishers.com

New Product: Introducing Joseph Goodman's new book entitled Speckle Phenomena in Optics: Theory and Applications.

Publisher of academic books in engineering and the sciences. Contact: Ben Roberts, Publisher, bwr@roberts-publishers.com.

Rochester Precision Optics LLC #819

SPIE Corporate Member
850 John St, W. Henrietta, NY, 14586
585/292-5450; fax 585/292-5459
sales@rpoptics.com; www.rpoptics.com

Rochester Precision Optics (RPO) delivers complete optical manufacturing solutions of superior quality from custom design to value-added assembly. Proven technology and trusted experience characterize our capabilities, which include Precision Glass Molding, Diamond Turning, Prototype Optics, Coating, Assembly & Test and a Precision Machine Shop. Our vertical integration provides low cost solutions to our clients with shorter lead-times. Contact: Matthew Pembroke, Sales & Marketing, mpembroke@rpoptics.com.

Rockwell Collins Optronics #216

400 Collins Rd NE, Cedar Rapids, IA, 52498
319/295-5100; fax 319/295-4777
learnmore@rockwellcollins.com; www.rockwellcollins.com/gs

At Rockwell Collins, we are a world leader in advanced display technology and diversified supplier of high-quality electro-optical display systems. Producing advanced displays used for soldier systems and virtual information systems. These products integrate high performance, small format displays into turnkey products. We also develop precision optical systems for military and space applications including Head Up Displays, Head Mounted Displays, reconnaissance, countermeasures and space. Contact: Ben Mall, Director, Optronics Marketing, BJMALL@rockwellcollins.com.

RoMack, Inc. Booth #212

SPIE Corporate Member
PO Box 615, Lightfoot, VA, 23090
757/258-4805; fax 757/258-4694
contact@romackfiberoptics.com; www.romackfiberoptics.com

RPMC Lasers, Inc. #605

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: Dean Micke, Vice President, dean@rpmclasers.com.

Rubicon Technology, Inc. #715

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

We are a leading materials science solutions provider that develops, manufactures and sells sapphire substrates and other advanced crystalline materials for Light-Emitting Diodes ("LED"), radio frequency integrated circuits ("RFICs"), blue laser diodes, optoelectronics and other advanced optical applications. We provide our products to the solid state lighting, semiconductor electronics, consumer electronics as well as aerospace, sensor and medical markets. Contact: Sales, sales@rubicon-es2.com.

SAGEM Defense Security #433

Avenue de la Tour Maury, St. Pierre du Perray, France, 91280
33 1 69 89 72 00; fax 33 1 69 89 72 20
REOSC Department of SAGEM provides High Technology Optics for Aerospace, Astronomy, Laser and Industrial applications.

Santec USA Corp. #729

433 Hackensack Ave 8 Fl, Hackensack, NJ, 07601
201/488-5505; fax 201/488-7702
info@santec.com; www.santec.com

New Product: NEW! World's first optical tunable filter with bandwidth tuning.

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: Jonathan Evans, West Coast Sales Engineer, jonathan@santec.com; Max Chang, Sales Engineer, max@santec.com.

Sarnoff Corp. #626

201 Washington Rd, Princeton, NJ, 08543
609/734-2553; fax 609/734-2040
bd@sarnoff.com; www.sarnoff.com

Sarnoff Imaging Systems develops cutting edge imaging products and technology to meet the needs of the aerospace, defense, semiconductor, biomedical and scientific instrumental communities. We specialize in Custom and OEM development of image sensors and cameras, combining the ability to design and manufacture new high-speed back illuminated sensors and accompanying high performance digital imaging cameras and user friendly software. Contact: Mike Melle, Business Development Director, mmelle@sarnoff.com.

Satisloh North America Inc. #736

SPIE Corporate Member

N116 W18111 Morse Dr, Germantown, WI, 53022
262/255-6001; fax 262/255-6002
www.satisloh.com

Contact: Tom Godin, Sales Engineer, tom.godin@satisloh.com.

SCHOTT North America, Inc. #601

SPIE Corporate Member

400 York Ave, Duryea, PA, 18642
570/457-7485; fax 570/457-6960
info.optics@us.schott.com; www.us.schott.com

SCHOTT Advanced Optics is a leading manufacturer of optical glass & glass ceramics with a comprehensive expertise in high precision processing optical components. The product portfolio ranges from optical glass & preforms for precision molding, glass filters & plane-parallel substrates, to precision molded & polished aspheric lenses as well as near zero-expansion glass ceramics. Contact: Steve Sokach, Director, Sales/Marketing, steve.sokach@us.schott.com; Marlene Deily, Promotions Manager, marlene.deily@us.schott.com.

Scientific Solutions, Inc. (SSI) #728

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.

Servometer® #211

SPIE Corporate Member

501 Little Falls Rd., Cedar Grove, NJ, 07009-1291
973/785-4630; fax 973/785-0756
info@servometer.com; www.servometer.com

New Product: Edge-welded & miniature metal bellows, electroforms, flexible couplings & bellows spring contacts.

Servometer/PMG, LLC manufactures precision miniature metal bellows, lightweight electroforms, flexible shaft couplings & bellows spring contacts. A recent acquisition has allowed for the establishment of BellowsTech, LLC a premier producer of edge-welded bellows, specializing in the design & manufacture of precision welded bellows, in a wide array of alloys and sizes, serving the high vacuum, semiconductor, oil services, process control & medical device industries. Contact: Ed Gajewski, Technical Support Engineer, edg@servometer.com; Jim Barkand, Technical Support Manager, jimb@servometer.com.

Exhibitor Directory

Shanghai Optics

#631

SPIE Corporate Member

148 Main St, Edison, NJ, 08840
732/321-6915; fax 732/875-0298

sales@shanghai-optics.com; www.shanghai-optics.com

New Product: CaF₂, MgF₂, Zinc Selenide and Silicon optics for IR and UV applications.

Shanghai Optics is a full service manufacturer of high precision optical flats, lenses, beamsplitters, light pipes, telecom filters, precision laser optics and filters for digital imaging, aspheric surfaces, plastic optics, miniature optics and excimer laser optics. Materials include: fused silica, BK7, crystal quartz, sapphire, CaF₂, MgF, GaAs, Germanium, Zinc Selenide, Zinc Sulfide, Silicon and more. Contact: Joanna Lee, Vice President of Sales, jlee@shanghai-optics.com; Brad Lewis, Director of Mid-West Sales, blewis@shanghai-optics.com.

Silicon Lightwave Technology, Inc. #617

16 Technology Dr Ste 168, Irvine, CA, 92618
949/753-0421; fax 949/753-8033

info@slwti.com; www.slwti.com

New Product: Fiber coupled LEDs, Raman modules collimator/focusers, laser combiners, lensed fibers, fiber arrays.

One-stop shop for specialty fiber optics/photonics, specialty fibers, cable assemblies, lensed fibers, fiber arrays/bundles, fiber probes, high power high temperature fiber optics, Raman fiber optics, polarization maintaining, delay lines, harsh environment fiber optics, fiber-coupler laser sources/LEDs, laser combiners, fiber collimators/focusers, photodetector amplifiers, waveguide pigtail polishing, photonics components, fiber optic mounts, custom photonics, photonic packaging. Contact: Paul Trinh, President, paul@slwti.com.

Siskiyou Corp.

#1011

SPIE Corporate Member

110 SW Booth St, Grants Pass, OR, 97526
541/479-8697; fax 541/479-3314

sales@siskiyou.com; www.siskiyou.com

New Product: Flexure Mounts. The top adjustment feature allows easy access when mounted in a laser cavity.

Siskiyou Corporation manufactures motion control devices with manual and computer interfaced controllers, translation stages, mirror mounts, lens positioners, adjustment screws, construction hardware, fiber grippers and other opto-mechanical components for use in research and manufacturing. Siskiyou Corporation will also custom tailor devices to fit your needs.

Special Optics Manufacture & Design

#434

SPIE Corporate Member

315 Richard Mine Rd, Wharton, NJ, 07885-1659
973/366-7289; fax 973/366-7407

sales@specialoptics.com; www.specialoptics.com

New Product: New 1-4X Motorized Zoom Beam Expander and our New line of Large Output Beam Expanders.

Special Optics designs, develops, manufactures and tests custom OEM and catalog optics for UV, VIS and IR applications for aerospace, defense, industry, medicine, research and semiconductors. Our products include Motorized Zoom Beam Expanders, Telecentric Scanning Lenses, Diffraction-Limited Lenses, Zero Order Waveplates, Soleil-Babinet Compensators and Achromatic Focusing Objectives. Contact: Steven Morales, Sales Manager; Brian Weinberg, Director of Sales and Marketing, bweinberg@specialoptics.com.

Spectral Instruments Inc.

#1032

420 N Bonita Ave, Tucson, AZ, 85745
520/884-8821; fax 520/884-8803

info@specinst.com; www.specinst.com

New Product: Spectral Instruments is developing an aerial mapping camera utilizing the worlds largest CCD.

Spectral Instruments manufactures and designs cooled CCD cameras for analytical imaging applications. We are dedicated to bring to market the finest, most advanced CCD based imaging systems in the world. We strive to understand our customer's needs, and to help provide the appropriate solution, with exceptional service and technical support. Contact: Kevin Toerne, Systems Specialist, ktoerne@specinst.com; Mary Lou French, info@specinst.com.

Spectrogon US Inc.

#637

24B Hill Rd, Parsippany, NJ, 07054
973/331-1191; fax 973/331-1373

sales.us@spectrogon.com; www.spectrogon.com

SPECTROGON specializes in the design and manufacture of optical filters, thin film coatings and components, for analytical, medical and scientific instruments. Spectrogon is the world leader in the manufacture and design of Holographic Diffractions Gratings for laser Compression/Stretcher applications, tuning and spectroscopic instruments. Spectrogon offers a huge inventory of filters, available on our website (www.spectrogon.com), that can be delivered from stock. Contact: Kelly Koerber, Sales Administrator; Sam Ponzo, Sales Manager.

Spectroscopy Magazine

#710

Bldg F 1st Fl, 485 Route One South, Iselin, NJ, 08830
732/225-9500; fax 732/225-0211

www.spectroscopymag.com

Spectroscopy is the only publication dedicated exclusively to the spectroscopic sciences, providing peer-reviewed technical and applications-oriented information to the largest audited circulation of influential spectroscopists in the US. Our focus is on cutting-edge techniques like Raman, X-ray, MS, ICP-MS, FT-IR and the multitude of other hyphenated techniques that continue to grow in popularity. Contact: Ed Fantuzzi, Publisher, efantuzzi@advanstar.com.

Spectrum Detector Inc.

#903

SPIE Corporate Member

5825 Jean Road Center, Lake Oswego, OR, 97035
503/697-1870; fax 503/697-0633

info@spectrumdetector.com; www.spectrumdetector.com

New Product: 2 CH Optical Power Meter/Ratiometer based on our SSI-D-05 Digital Silicon Probes.

Design and manufacture extensive line of Hybrid Pyroelectric Detectors used to measure power or energy from UV to Extreme IR. Modular Analog and Digital Detector Instruments based on Pyro, Silicon and Germanium detectors. Digital Instruments are USB powered and include fully featured LabView Applications Software. Spectrum offers a number of unique Optical TRAP detectors based on concepts developed at NIST Boulder. These make excellent Calibration Standards for power and/or energy measurements. Contact: Don Dooley, President, dond@spectrumdetector.com.

SphereOptics LLC

SPIE Corporate Member

One Horseshoe Pond Ln, Concord, NH, 03301
603/715-3000; fax 603/225-3089
sales@sphereoptics.com; www.sphereoptics.com

SphereOptics is a leading manufacturer of precision standard and custom radiometric and photometric products that meet the needs of the LED, lighting, aerospace, automotive, electronic imaging, laser diode and optics industries. The company offers a broad line of integrating spheres, light measurement systems and instruments and the highest quality diffuse reflectance materials and standards available today. SphereOptics specializes in custom design and production services. Contact: Chris Durell, Vice President Sales, cdurell@sphereoptics.com; Justin Jacobs, Sales Engineer, jjacobs@sphereoptics.com.

#435



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Springer

233 Spring St, New York, NY, 10013
212/460-1600; fax 201/348-4505
exhibits-ny@springer.com; www.springer.com

New Product: Springer Handbook of Lasers and Optics with foreword by T. W. Hänsch.

Visit Springer to save 20% (or more!) on world-leading books on lasers, optics, photonics, quantum information science and more! Plus, get a FREE copy of any Springer journal on display and find out about SpringerLink and Springer's FREE Tables of Contents e-mail alerts! Contact: Scott Epstein, Product Manager, scott.epstein@springer.com; Virginia Lipsy, Associate Editor, virginia.lipsy@springer.com.

#802

SPIE Industry Resources

#411

PO Box 10, Bellingham, WA, 98227
360/676-3290; fax 360/647-1445
http://spie.org

From concept, through R&D and into the hands of prospects and customers, SPIE provides the events, marketing opportunities, education and training and connections that you need to make your venture a success. Gain easy access to critical technology information with SPIE publications, your comprehensive source for the numerous fields involving light. Locate and recruit the best optics and photonics talent with SPIEWorks. SPIE helps you move ideas and technology to market. Contact: Peter Hallett, Manager of Industry Relations, Exhibitions and Sales, peterh@spie.org; Courtney Pineau, Promotions Project Manager, courtneyp@spie.org.

SPIE Taiwan Regional Chapter

#732

Inst of Electro-Optical Engg National Taiwan Univ, 1 Roosevelt Rd Section 4, Taipei, Taiwan, 10617
886 2 3366 3700; fax 886 2 3366 9598
grlin@ntu.edu.tw; www.ntu.edu.tw

SPIE Taiwan Regional Chapter is a non-profit academic organization to support the member communication and to promote the university-industry collaboration of the optics and photonics society in Taiwan. Currently, there have been four student chapters registered and the total registered members are more than 100 in Taiwan. Contact: Chapter Chair: C.-C. Lee, National Central University; Chapter Vice Chair: G.-R. Lin, National Taiwan University; Secretary: S.-L. Tsao, National Taiwan Normal University.

SPIEWorks

#1007

1000 20th St, Bellingham, WA, 98225
360/715-3705; fax 360/824-6014
sales@spieworks.com; www.spieworks.com

SPIEWorks, the SPIE job site, was developed to serve the career needs of optics professionals. Whether you are actively seeking a new position or just want to keep track of the current market, you can search listings, set up email alerts or subscribe to feeds and research companies of interest. Employers may post jobs and gain access to a resume database, create a Resume Alert or participate in career fairs. For all your employment and recruiting needs SPIEWorks is here to serve you. Contact: Dave Baggenstos, Sales, davidb@spie.org; Robert Dentel, Sales, robertd@spie.org.

State of Hawaii, Department of Business, Economic Development & Tourism #917

250 S Hotel St 5th Fl, Honolulu, HI, 96813
808/587-2750; fax 808/586-2589
service@dbedt.hawaii.gov; www.hawaii.gov/dbedt

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: Jim Crisafulli, Director, Office of Aerospace Development, jcrisafu@dbedt.hawaii.gov; Maurice Kaya, Chief Technology Officer, mkaya@dbedt.hawaii.gov.

StellarNet, Inc.

#527

SPIE Corporate Member

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

StellarNet manufacturers 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: William Pierce, Chief Scientist, wpierce@stellarnet.us; Ryan Flaherty, Principal Scientist, rflaherty@stellarnet.us.

STEP Development

#416

5850 W Third St. #312, Los Angeles, CA, 90036
323/938-7528; fax 323/938-7528
mfo@stepdev.com

StockerYale Inc.

#210

275 Kesmark, Montreal, QC, Canada, H9B 3J1
514/685-1005; fax 514/685-3307
lasers@stockeryale.com; www.stockeryale.com

StockerYale, Inc. is a leading supplier of structured light lasers, LED modules, as well as phase masks and specialty optical fibers for industry leading OEMs. We manufacture the world-renowned Lasiris™ brand of laser line generators, as well as the award-winning family of COBRA Linescan Illuminators. Contact: Sales.

Exhibitor Directory

SUI, part of Goodrich Corporation #101

SPIE Corporate Member

Bldg 12, 3490 US Rte 1, Princeton, NJ, 08540
609/520-0610; fax 609/520-0638

sui_info@goodrich.com; www.oss.goodrich.com/sui

New Product: High Speed, High Resolution InGaAs SWIR Linescan Camera for Spectroscopy and Machine Vision.

SUI, part of Goodrich Corporation, manufactures a complete line of shortwave infrared (SWIR) imaging and detection products for defense and commercial applications. Our innovative InGaAs-based product offerings include fast framing and high resolution cameras, linescan imagers, focal plane arrays and more. SUI imaging products feature easy-integration, use standard glass optics and require no cooling. Consult SUI to learn how SWIR products can meet your imaging needs. Contact: SUI Sales, sui_sales@goodrich.com.

Surface Optics Corp. #104

11555 Rancho Bernardo Rd, San Diego, CA, 92127-1441

858/675-7407; fax 858/675-2028

soc@surfaceoptics.com; www.surfaceoptics.com

Sutter Instrument Co. #207

One 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 scientific research and industrial OEM. Imaging products include motorized optical filter wheels for wavelength switching applications, a xenon light source with integrated wavelength switching capabilities and our stepper-motor controlled SmartShutter. Also on display will be the P-2000 CO₂ laser-based micropipette puller, used for fabricating tapered fiber-optic probes and quartz micropipettes. Contact: Alex Cooper, Director, Sales & Marketing, alex@sutter.com; Jack Belgum, Ph.D., Vice President, Research & Development, jack@sutter.com.

Syntec Optics #821

SPIE Corporate Member

7100 Junction Rd, Pavilion, NY, 14525

585/768-2513; fax 585/768-6099

info@syntecoptics.com; www.syntecoptics.com

Hybrid solutions that push the polymer envelope. Syntec Optics is the largest independent custom manufacturer of precision plastic optics in the U.S. Capabilities consist of optical and mechanical design, including optics that combine polymer and glass; optical and opaque mold building; including fixture tooling; single-point diamond turning, including HRDT™ for high refraction, high thermal optics and also plano polishing. Fully integrated custom metrology and assembly services. Contact: Paul Tolley, Vice President/General Manager, ptolley@syntecoptics.com.

Taylor Hobson Inc. #719

1725 Western Dr., West Chicago, IL, 60185

630/621-3099; fax 630/231-1739

www.taylor-hobson.com

New Product: 3D Aspheric Measurement system PGI 1260.

Manufacturer of contact and noncontact measurement systems for aspheric lenses and other diamond turned parts. Contact: Phil Lockhart, North America Sales Manager, Phil.Lockhart@Ametek.com.

tec5USA #718

80 Skyline Dr, Plainview, NY, 11803

516/653-2000; fax 516/939-0555

info@tec5USA.com; www.tec5USA.com

New Product: Improved CCD Readout Electronics for Hamamatsu Chips.

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 Sales Manager, arek.betlej@tec5usa.com.

Tessera North America, Inc. #521

SPIE Corporate Member

9815 David Taylor Dr, Charlotte, NC, 28262

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

charlotte@tessera.com; www.tessera.com

Tessera North America, Inc., formerly Digital Optics Corp., is a worldwide leader in micro-optics and integrated micro-optical sub-assembly design for high-performance, small-form factor, optical solutions. Industry-leading capabilities include diffractive, refractive and wafer-level optics. Tessera provides solutions for consumer electronics, sensors, semiconductor equipment, IR systems, aerospace/defense, vision systems and more. Contact: Jessica Wargats, Sales Engineer, jwargats@tessera.com.

TGT Optoelectronic Technology Company #833

SPIE Corporate Member

Unit 10 3rd Fl Technology Park, 10 On Lai St, Sie Lek Yuen Shatin, Hong Kong, China, 852

852 2643 0595; fax 852 2640 1089

george-wong@tgt-tech.com; www.tgt-tech.com

New Product: Consumables for Thermal Evaporation Sources & Deposition Materials.

TGT is located in HK, China, Taiwan and UK for supplying consumables to the film-coating industries since 1999. We have our in-house assembly site for consumables like boat, heating filament, target and deposition materials. Contact: George Wong, Sales Director; Annie Lan, Export Coordinator, annie@tgt-tech.com.

Thermo Fisher Scientific #701

SPIE Corporate Member

101 Commerce Blvd, Liverpool, NY, 13088

315/451-9410; fax 315/451-9421

sales.cidtec@thermo.com; www.thermo.com

New Product: Radiation hardened color camera. Random addressable scientific camera.

Thermo Fisher Scientific manufactures high performance Charge Injection Device (CID) cameras for demanding imaging applications in machine vision, scientific imaging and radiation environments. Features include 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. Deep UV and X-Ray deposition services are also available. Contact: Tony Chapman, Sales and Marketing Director, tony.chapman@thermofisher.com; Mike Pilon, Product Line Manager, michael.pilon@thermofisher.com.

TNO Science & Industry

#933

Stieltjesweg 1, Delft, The Netherlands, NL-2600 AL
31 15 269 2065; fax 31 15 269 2111
www.tpd.tno.nl

Trex Advanced Materials

#634

SPIE Corporate Member

3038 Aukele St, Lihue, HI, 96766-1464
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.

Trex Enterprises Corp.

#917

733 Bishop St Ste 1717, Honolulu, HI, 96813
808/543-5939; fax 808/521-4906
www.trexenterprises.com

Trex Enterprises Corporation (Trex) is a diversified high-technology company specializing in cutting-edge technical solutions and products to improve performance across the electromagnetic spectrum. We have developed a strong base of proprietary technologies in microwave sensing, high resolution imaging, digital signal processing, applied optics and materials. Log on at www.trexenterprises.com or call 800-626-5885. Contact: Linda Jameson, ljameson@trexenterprises.com, 808-221-3552; Grant Bishop, gbishop@trexenterprises.com, 858-414-6005.

Trioptics GmbH

#1010

SPIE Corporate Member

Hafenstr 39, Wedel, Germany, 22880
49 4103 180060; fax 41 4103 1800620
trioptics@compuserve.com; www.trioptics.com

New Product: -OptiSpheric for EFL, MTF, BFL, Radius, centering errors -Wavefront sensor to test aspheric lens.

Manufacturer of stock and custom Optical Test Equipment as focometers OptiSpheric® for testing (EFL), (MTF), (BFL), radius of curvature, (FFL), MTF-Equipment UV, VIS, IR ImageMaster® series for lab and production testing, OptiCentric® for centering errors, alignment, cementing and bonding, Aspheric lens testers and scanning sensors for aspheric lenses in reflection (shape) and transmission (wavefront), goniometers PrismMaster® for prism check, Electronic - visual autocollimators, spherometers. Contact: Simon Zilian, Sales Engineer, s.zilian@trioptics.com; Stefan Krey, Technical Director, s.krey@trioptics.com.

Univ. of Arizona College of Optical Sciences

#904

1630 E University Blvd, PO Box 210094, Tucson, AZ, 85721-0094
520/621-4111; fax 520/626-1480
academics@optics.arizona.edu; www.optics.arizona.edu

The College of Optical Sciences offers one of the world's foremost teaching and research programs in optics. The College's 400 students select from over 100 graduate and undergraduate optics courses and have the opportunity to participate in pioneering research programs. The College of Optical Sciences also offers distance learning opportunities for companies and individuals, including programs leading to a Master of Science or a Professional Graduate Certificate in Optical Sciences. Contact: Rick Shoemaker, Associate Dean, Shoemaker@optics.arizona.edu; Will Rivera, Director of Development, wrivera@email.arizona.edu.

University of Hawaii, Institute for Astronomy

#917

2680 Woodlawn Dr, Honolulu, HI, 96822
808/956-8312; fax 808/956-2790
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: Michael Maberry, Assistant Director, maberry@hawaii.edu.

University of Hawaii, Office of Technology Transfer & Economic Development

#917

2800 Woodlawn Dr Ste 280, Honolulu, HI, 96822
808/539-3817; fax 808/539-3833
www.mic.hawaii.edu

OTTED is the technology licensing office for the UH and was organized to help UH researchers commercialize promising new inventions and discoveries and to collaborate with industry research sponsors; to help industry gain access to promising research and new technologies developed at the University of Hawaii and to promote State-wide economic development through UH's technology transfer programs. Contact: Richard Cox, Director, rcox@hawaii.edu; Jonathan Robert, Licensing Associate, robertsj@hawaii.edu.

Vacuum Process Technology, Inc. #530

70 Industrial Park Rd, Plymouth, MA, 02360
508/732-7200; fax 508/732-0317
sales@vpotec.com; www.vptec.com

Vacuum Process Technology, Inc. (VPT) designs and manufactures thin film deposition systems for a wide range of applications. VPT, a leader in producing precision optical coating systems, utilizes ion-beam, sputtering, electron-beam, thermal evaporation and plasma assisted thin film deposition technologies. VPT provides on-site service and support for all of our PVD equipment. Our applications laboratory is available for development and verification of coating processes.

Exhibitor Directory

Varian, Inc.

#600

3120 Hansen Way, Palo Alto, CA, 94304
800/926-3000; fax 650/858-0480
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 reflectance 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; Contact: Russ Pong, Russ.Pong@varianinc.com.

Veeco Instruments

#526

100 Sunnyside Blvd, Woodbury, NY, 11797
516/677-0200
info@veeco.com; www.veeco.com

Veeco Instruments provides solutions for nanoscale applications in worldwide data storage, HB-LED/wireless, semiconductor and scientific research markets. Veeco's Wyko optical profilers offer precision, non-contact, 3D measurement of surface topography from sub-nanometer scale surface roughness through millimeter-scale steps. Wyko profilers enable rapid R&D and production metrology in applications including optics/optical systems, MEMS, biomedical devices, displays and more. Our atomic force microscopes are used for materials characterization in the advancement of nanotechnology.

Vincent Associates

#817

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), the new N-CAS series & custom configurations available. Standard aperture sizes ranging from 1mm - 90mm with many types of microscope and video mounting systems offered for specific shutter mounting applications. OEM systems are also available. Contact: Stephen Pasquarella, Senior Vice President, spsq@uniblitz.com; Adam J. Lamb, Vice President of Manufacturing, alamb@uniblitz.com.

VisiMax Technologies, Inc.

#621

9177 Dutton Dr, Twinsburg, OH, 44087
330/405-8330; fax 330/405-8332
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.

#624

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

New Product: Vision Research is unveiling the PhantomR MiroT line of compact, high-speed digital cameras.

Vision Research Inc. designs and manufactures high-speed digital imaging systems used in domains including defense, automotive, engineering, scientific and medical research and industrial applications. The company prides itself on the sensitivity, high-resolution and quality of images produced by its systems, robust yet easy-to-use software interfaces and reliability and versatility of its camera families. More information on Vision Research can be found at www.visionresearch.com. Contact: Rick Robinson, Director of Marketing, rick.robinson@visionresearch.com.

Wangness Optics

#909

620 E 19th St #110, Tucson, AZ, 85719
520/611-6313
wangnessoptics1@qwest.net; www.wangnessoptics.com

WaveFront Sciences, Inc.

#1025

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

New Product: uCLAS is a high quality wavefront sensor that fits almost anywhere in the optical system.

WaveFront Sciences provides full-service design and manufacturing capabilities for micro-optics and wavefront sensor based instrumentation for lasers, optics, optometry, ophthalmology and semiconductor metrology. The CLAS-2D™ system offers a complete line of products for the analysis of visible, infra-red, continuous and pulsed lasers. CLAS-2D™ also presents advantages to most optical test requirements traditionally addressed by interferometry. Contact: Harry Skolnik, Sales Representative, hskolnik@hotmail.com.

Webcom Communications

#627

7355 E Orchard Rd Ste 100, Greenwood Village, CO, 80111
720/528-3770; fax 720/528-3771
softpub@infowebcom.com; www.infowebcom.com
Webcom Communications Corp. is an integrated media company serving advanced technology industries worldwide through its magazines, events, online media, directories, buyers guides, data products and marketing services.

Wordingham Technologies

#815

SPIE Corporate Member
580 Fisher Station Dr, Victor, NY, 14564
585/924-2294; fax 585/924-7660
sales@wordingham.com; www.wordingham.com

Wordingham Technologies, produces precision custom machined components exclusively for the optical, photonics, precision instrumentation markets. Our reputation of zero defects and absolute on time delivery is well known in the industry. We provide components for products such as, optical devices/lenses, laser devices, machine vision/illumination, micro/nano positioning and medical instrumentation. See why we are considered "The Mechanical Partner to the Optical World". Contact: Michael Grady, Vice President/General Manger; Jimmy Distefano, Sales.

Exhibitor Directory

XenICs #415

Ambachtenlaan 44, Leuven, Belgium, 3001
32 16 38 99 00; fax 32 16 38 99 01
sales@xenics.com; www.xenics.com

New Product: New camera for the visible and NIR range (400 - 1700 nm).

XenICs is Europe's only designer and manufacturer of InGaAs focal plane arrays. In addition we design and manufacture a range of advanced infrared cameras based on InGaAs, HgCdTe (MCT), InSb and other detector technologies. Contact: Luc De Brouckere, XenICs Agent for United States and Canada, ldb@xenics.com; Raf Vandersmissen, Sales Engineer.

ZEMAX Development Corp. #401

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

ZEMAX Development Corporation publishes the ZEMAX 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; Technical Support, support@zemax.com.

Zygo Corp. #801

SPIE Corporate Member

Laurel Brook Rd, Middlefield, CT, 06455
860/347-8506; fax 860/347-8372
inquire@zygo.com; www.zygo.com

ZYGO designs, manufactures and distributes high-end optical systems and components for metrology and end-user applications. ZYGO's metrology systems are based on optical interferometry measuring displacement, surface figure and optical wavefront. Metrology and optical markets for end-user and OEM applications include semiconductor capital equipment, aerospace/defense, automotive and research. Contact: Robert Ham, Western Regional Manager, rham@zygo.com.

The advertisement features a background image of a microscopic structure. In the top right corner is the Elsevier logo, which includes a tree and the text 'ELSEVIER'. The main text reads 'keeping you informed...'. Below this, four covers of the journal 'materialstoday' are displayed in a 2x2 grid. Each cover has the journal title at the top and a different scientific image or title below. The covers are: 1. 'Material response to tissue engineering' with a circular microscopic image; 2. 'Carbon nanomaterials' with a graphic of carbon nanotubes; 3. 'Organic transistors' with a microscopic image of a transistor; 4. 'Soft matter gets smart' with a graphic of polymer chains.

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The international review magazine for researchers in materials science

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Fibertech Optica
Photonis
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Sutter Instrument Co.
Varian, Inc.

Communications

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APIC Corp.
EDP Sciences
Isuzu Glass Inc.
National Reconnaissance Office
NovaSol
Santec USA Corp.
SPIE Taiwan Regional Chapter

Displays

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Isuzu Glass Inc.
Norland Products Inc.
Optical Research Associates
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Photon Engineering, LLC
Power Technology, Inc.
Roberts & Company Publishers

Electron-Beam Lithography

AOptix Technologies Inc.
Heidelberg Instruments Inc.
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State of Hawaii, Department of Business, Economic Development & Tourism

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Evaporated Coatings, Inc.
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Scientific Solutions, Inc. (SSI)
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Electronics, Signal Analysis Equipment

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DxO Labs
Elite Engineering Corp.
Nidec Copal Electronics, Inc.
Pulse Instruments
Roberts & Company Publishers
tec5USA

EUV Lithography

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ASML Optics
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L-3 Communications, Tinsley Laboratories, Inc.
Luxel Corp.
SAGEM Defense Security
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Springer
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tec5USA
Tsinghua University Student Chapter

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Hellma International, Inc.
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Kigre, Inc.
Kurt J. Lesker Co.
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Luxel Corp.
Max Levy Autograph, Inc.
MediVision Optics
Mildex, Inc.
MRC a PPGI Company
New Focus, a Division of Bookham
OptiPro Systems
Pacific Coast Optics
Piezosystem Jena, Inc.
PolarOnyx, Inc.
Princeton Instruments
Research Electro-Optics, Inc.
Rochester Precision Optics LLC
Satisloh North America Inc.
SCHOTT North America, Inc.
Servometer®
Shanghai Optics
Spectrogon US Inc.
Syntec Optics
TGT Optoelectronic Technology Company
VisiMax Technologies, Inc.

High Speed Imaging and Sensing

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Axsys Technologies, Inc.
Electrophysics Corp.
Hinds Instruments, Inc.
MEMS Optical Inc.
New Focus, a Division of Bookham
Night Vision Systems, Inc.
NovaSol
Ontar Corp.
Photonis
Photo-Sonics, Inc./IMC
Photron USA, Inc.
Princeton Instruments
Sarnoff Corp.
Springer
SUI, part of Goodrich Corporation
Sutter Instrument Co.
Vision Research Inc.
XenICs

Illumination Engineering

Abet Technologies
Breault Research Organization
Collimated Holes, Inc.
Fiberguide Industries, Inc.
JENOPTIK Polymer Systems, Inc.
Lambda Research Corp.
Optical Research Associates
Photon Engineering, LLC
Syntec Optics
Veeco Instruments

Infrared Sources, Detectors, Systems

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Andor Technology
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Beijing Guojing Infrared Optical Technology Co., Ltd.
Electrophysics Corp.
Epner Technology, Inc.
Greyhawk Optics
Hamamatsu Corp.
HORIBA Jobin Yvon Inc.
II-VI Infrared
Isuzu Glass Inc.
JENOPTIK Laser, Optik, Systeme GmbH - Business Unit
Microoptics
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MEMS Optical Inc.
NovaSol
Ontar Corp.
Photonis
Power Technology, Inc.
Pulse Instruments
Santec USA Corp.
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IMT Masken und Teilungen AG

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Heidelberg Instruments Inc.
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II-VI Infrared
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Photon Engineering, LLC
PolarOnyx, Inc.
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Hellma International, Inc.
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Precision Glass & Optics
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TGT Optoelectronic Technology Company
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Engineering Synthesis Design, Inc.
Exotic Electro-Optics
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Photo-Sonics, Inc./IMC
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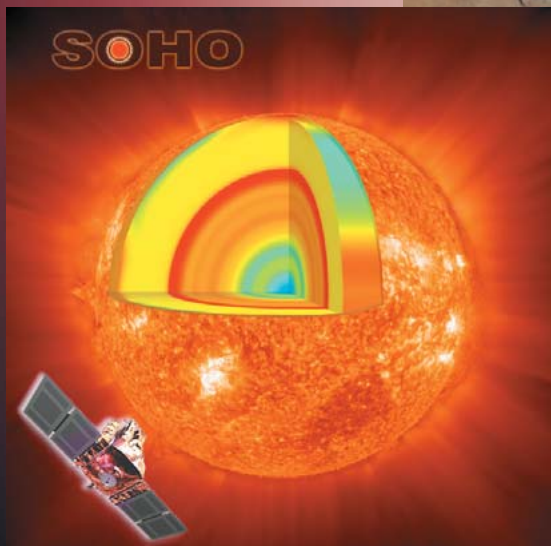
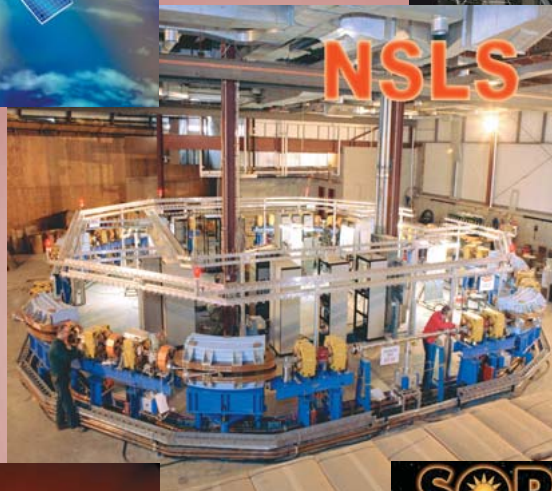


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