2013 Optifab
North America’s Largest Optical Fabrication Event

Exhibition Guide

Moving Technology to Market™

Exhibition
15–17 October 2013
Rochester Riverside Convention Center, Rochester, New York, USA

Conference and Courses
14–17 October 2013
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About SPIE
SPIE is an international society advancing an interdisciplinary approach to the science and application of light. www.SPIE.org

About APOMA
The American Precision Optics Manufacturers Association represents a broad constituency of precision optics manufacturers, the supporting industry, and academic associates, whose mutual interest is the advancement and expansion of optics manufacturing and technology, www.APOMA.org
General Information

Rochester Riverside Convention Center
123 East Main St, Rochester, NY 14604-1619
Tel: (585) 232-7200, Fax: (585) 232-1510, www.rrcc.com

Exhibition Hours
Tuesday 15 October .......................... 10:00 am to 5:00 pm
Wednesday 16 October ....................... 10:00 am to 6:00 pm
  Networking and Poster Reception .......... 4:30 pm to 6:00 pm
Thursday 17 October .......................... 10:00 am to 3:00 pm

Registration
Onsite Registration and Badge Pick-Up Hours
Empire Lobby
Sunday 13 October ............................ 9:00 am to 4:00 pm
Monday 14 October ............................ 7:30 am to 5:00 pm
Tuesday 15 October ............................ 7:30 am to 5:00 pm
Wednesday 16 October ........................ 7:30 am to 6:00 pm
Thursday 17 October ........................... 7:30 am to 3:00 pm

Course and Workshop Registration
Courses and workshops are priced separately. Course-only registration
includes your selected course(s), course notes, coffee breaks, and admittance
to the exhibition. Course prices include applicable taxes.

SPIE Member, SPIE Student Member, and Student Pricing
- SPIE Members receive conference and course registration discounts.
  Discounts are applied at the time of registration.
- SPIE Student Members receive a 50% discount on all courses.
- Student registration rates are available only to undergraduate and
  graduate students who are enrolled full time and have not yet
  received their Ph.D. Post-docs may not register as students. A
  student ID number or proof of student status is required with your
  registration.

Press Registration
For credentialed press and media representatives only. Please email
contact information, title, and organization to media@spie.org.

SPIE Cashier
Registration Area
Open during registration hours
Registration Payments If you are paying by cash or check as part of your
onsite registration, wish to add a course, workshop, or special event re-
quiring payment, or have questions regarding your registration, visit the
SPIE Cashier located in the Empire Lobby.

Receipts and Certificate of Attendance
Preregistered attendees who did not receive a receipt or attendees who
need a Certificate of Attendance may obtain those from the SPIE Cashier
at Badge Corrections and Receipts.

Badge Corrections
Badge corrections can be made by the SPIE Cashier at the Badge Cor-
rections station. Please have your badge removed from the badge holder
and marked with your changes before approaching the counter.

Onsite Services

Internet Access
Empire Lobby and Lounge, 2nd Floor
Complimentary wireless access is available; instructions will be posted
onsite.

Sponsored by:

SPIE Bookstore
Galleria, 1st Floor
The SPIE Bookstore is your source for information on the latest SPIE
Press Books, Proceedings, and Education and Professional Development
materials. Become an SPIE Member and browse course offerings and the
other education services available.

Restaurant & City Information
Empire Lobby, 2nd level
Monday through Wednesday .................. 7:30 am to 5:00 pm

Urgent Message Line
An urgent message line is available during registration hours:
+1 585-770-2360.

Lost and Found
Found items will be kept at Cashier until 5:00 pm each day and then turned
over to Rochester Riverside Convention Center Security. At the end of
the meeting, all found items will be turned over to Rochester Riverside
Convention Center, (585) 232-7200.

Food + Beverage Services

Coffee Breaks
Monday ............................ Highland Ballroom Foyer, 1st Floor
Tuesday through Thursday ................... Exhibition Hall
Complimentary coffee will be served twice daily, at 10:00 am and 3:00
pm. Check individual conference listings for exact times and locations.
There will not be a 3:00 coffee break on Thursday.

Sponsored by:

Food & Refreshments for Purchase
Café Express, back of the Exhibition Hall
Tuesday through Thursday ..................... 11:00 am to 2:00 pm
Hot and cold snacks, hot entrees, deli sandwiches, salads, and pastries
are available for purchase. Cash and credit cards accepted.
Photonics Spectra, the world’s leading magazine covering the photonics industry, is now available as a FREE mobile app!

Photonics Spectra magazine print and digital subscribers can access full issues and news feeds by logging in with their email address or subscriber number. Non-subscribers can access a preview of each issue as well as real-time news feeds from Photonics.com.

Not a current Photonics Spectra subscriber? Visit www.photonics.com/subscribe to start or renew your subscription. Once your subscription is activated, you will have access to all the app features. (Allow 24 hours for activation of account.)

BioPhotonics and EuroPhotonics apps are also available!

Log in with your email address or your magazine subscriber number:

Questions? Email circulation@ photonics.com, or call the circulation department at (413) 499-0514.

Visit us at booth #803

To download the app, scan this QR code, or visit www.photonics.com/apps.
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<td><strong>Technical Conference</strong></td>
<td><strong>EXHIBITION</strong> – Walk the floor and see the latest in optical fabrication technologies</td>
<td><strong>EXHIBITION</strong></td>
<td><strong>EXHIBITION</strong></td>
<td><strong>EXHIBITION</strong></td>
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<tr>
<td>SC1061 Designing Optical Systems with Manufacturable Aspheres (Bentley) 8:30 am to 12:30 pm</td>
<td>10 am to 5 pm</td>
<td>SC690 Optical System Design: Layout Principles and Practice (Greivenkamp) 8:30 am to 5:30 pm</td>
<td>SC1119 Subcontracting Custom Optics (Orr) 8:30 am to 12:30 pm</td>
<td>SC1019 Mounting of Optical Components (Kasunic) 8:30 am to 5:30 pm</td>
</tr>
<tr>
<td>SC863 Introduction to Modern Optical Drawings – the ISO 10110 Standard (Aikens) 8:30 am to 12:30 pm</td>
<td>PLENARY SESSION Disruptive innovation: the story of the first digital camera, 11:00 am to 12:00 pm, Highland A/B</td>
<td>Steven Sasson, Retired, Eastman Kodak Co. (USA)</td>
<td>SC321 Thin Film Optical Coatings (Macleod) 8:30 am to 12:30 pm</td>
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<tr>
<td>SC350 Optical Manufacturing Overview (Novak) 8:30 am to 5:30 pm</td>
<td>Lunch Break</td>
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<tr>
<td><strong>AFTERNOON SESSIONS</strong></td>
<td><strong>Technical Conference</strong></td>
<td><strong>Technical Conference</strong></td>
<td><strong>PLENARY SESSION</strong></td>
<td><strong>INDUSTRY EVENTS</strong></td>
</tr>
<tr>
<td>SC1039 Evaluating Aspheres for Manufacturability (Forbes, Murphy, Dumas) 1:30 to 5:30 pm</td>
<td>SC848 Fundamentals of Single Point Diamond Turning (Schaefer) 1:30 to 5:30 pm</td>
<td>PLENARY SESSION NASA funding for optical fabrication and testing technology development, 1:10 to 2:00 pm, Highland A/B</td>
<td>INDUSTRY EVENTS Future of Metrology 2:00 to 3:00 pm, Highland A/B</td>
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<tr>
<td>SC1011 Making Sense of Waviness and Roughness on Optics (Aikens) 1:30 to 5:30 pm</td>
<td>H. Philip Stahl, NASA Marshall Space Flight Center (USA)</td>
<td>Panel discussion on the future developments of metrology.</td>
<td>Panel discussion on careers in optics and photonics outside the academic world.</td>
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<tr>
<td><strong>EVENING EVENTS</strong></td>
<td>15th Annual Photonics Clambake (Co-located Event) 5:30 pm Hyatt Ballroom</td>
<td>Networking Reception and Poster Viewing 4:30 to 6:00 pm, Empire Hall</td>
<td>All attendees are invited to relax, socialize, and enjoy refreshments.</td>
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**Promotional Partners**
- Electro Optics Magazine
- IOP Publishing Ltd.
- Laser Focus World
- Photonics Media
- Photonics Online
- The Optronics Co., Ltd.
Photonics Online is the leading online community and industry resource for optics and photonics professionals.

- **Find Solutions** For Your Projects.
- Stay Current With **Industry Headlines**.
- **Engage** With Industry Thought Leaders.
- Register For Our **Free Newsletter**.

Visit us at **www.photonicsonline.com**.

Plenary Sessions

Tuesday 15 October • 11:00 am to 12:00 pm • Highland A/B

Disruptive innovation: the story of the first digital camera

Steven Sasson, Retired, Eastman Kodak Co. (USA)

The creation of the first digital camera prototype in 1975 at the Eastman Kodak Company will be discussed as well as how the concept was demonstrated within Kodak during the following year. Subsequent technical innovations with megapixel imagers, image compression products in the mid 1980’s, and the early commercialization of professional and consumer digital still cameras in the early 1990’s will be discussed. The internal Kodak reaction to these developments will be highlighted as well as some of the learned observations about how to deal with disruptive innovation within an established corporate environment will be shared.

Steven Sasson attended Rensselaer Polytechnic Institute (RPI) in Troy N.Y. and in 1973; he graduated with a BS and a Masters degree in electrical engineering. After graduation Steven joined Eastman Kodak Company as an electrical engineer working in an applied research laboratory. He engaged in a number of early digital imaging projects. Among these was the design and construction of the first digital still camera and playback system in 1975. Steven continued to work throughout the 1980’s in the emerging field of digital photography receiving over 10 key digital imaging patents. In 1989 he led the development of the first prototype megapixel electronic digital camera utilizing DCT compression that stored images to flash memory cards. Steven continued his work throughout the 1990’s by developing one of the first photographic quality thermal printing systems, derivatives of which are still in use in self-service imaging kiosks around the world today. Before retiring in 2009 Steven was a project manager in the Intellectual Property Transactions group at Kodak.

Wednesday 16 October • 1:10 to 2:00 pm • Highland A/B

NASA funding for optical fabrication and testing technology development

H. Philip Stahl, NASA Marshall Space Flight Center (USA)

Technologies to fabricate and test optical components are required for NASA to accomplish its highest priority science missions. For example, the NRC ASTRO2010 Decadal Survey states that an advanced large-aperture UVOIR telescope is required to enable the next generation of compelling astrophysics and exo-planet science; and that present technology is not mature enough to affordably build and launch any potential UVOIR mission concept. The NRC 2012 NASA Space Technology Roadmaps and Priorities report states that the highest priority technology in which NASA should invest to ‘Expand our understanding of Earth and the universe’ is a new generation of astronomical telescopes. And, each of the Astrophysics division Program Office Annual Technology Reports (PATR), identifies specific technology needs. NASA has a variety of programs to fund enabling technology development: SBIR (Small Business Innovative Research); the ROSES APRA and SAT programs (Research Opportunities in Space and Earth Science; Astrophysics Research and Analysis program; Strategic Astrophysics Technology program); and several Office of the Chief Technologist (OCT) technology development programs.

Dr. H. Philip Stahl is a Senior Optical Physicist at NASA MSFC currently leading an effort to mature technologies for a new large aperture telescope to replace Hubble. Previous assignments include Astrophysics Division Deputy Assistant Director for Technology and Mirror Technology lead for the James Webb Space Telescope (JWST). Dr. Stahl co-authored two NASA technology studies: Office of Chief Technologist Science Instruments, Observatories and Sensor Systems Technology Assessment (2011); and Advance Planning and Integration Office Advanced Telescope and Observatory Capability Roadmap (2005). Dr. Stahl is a leading authority in optical metrology, optical engineering, and phase-measuring interferometry. Many of the world’s largest telescopes have been fabricated with the aid of high-speed and infrared phase-measuring interferometers developed by him, including the Keck, VLT and Gemini telescopes. At Raytheon Danbury he was lead optical engineer for the 4 meter LAMP mirror and the Spitzer secondary mirror. Dr. Stahl is a member of OSA and SPIE (Fellow) and 2013 SPIE President-Elect. He is a past ICO Vice President. He earned his PhD in Optical Science at the University of Arizona Optical Sciences Center in 1985.
Industry Panel Discussions

Future of Metrology
Wednesday • 2:00 to 3:00 pm • Highland A/B
Short presentations will be followed by a moderated discussion.
WORKSHOP CHAIR AND MODERATOR: Thomas Battley, New York Photonics Industry Association (USA)

SPEAKERS AND PANELISTS:
Scott DeFisher, OptiPro Systems (USA)
Measurement and tolerances on freeform optics
Freeform optics are now appearing in optical systems. Measurement of these surfaces to rough and optical tolerances is critical to the manufacturing process. Surface fitting, error calculation, and error mapping for corrective grinding and polishing will be discussed.

Andrew Kulawiec, QED Technologies, Inc. (USA)
Extending interferometry for even tighter tolerances and more complex shapes
Phase-shifting interferometry has been the optical fabricator’s metrology tool of choice for several decades now. As the size and surface accuracy requirements of precision optical components have continued to increase, interferometry has kept up the pace. This trend will continue with the increasing use of on-axis aspheres and the recognition of the importance of mid-spatial frequencies. Further advancements in interferometry will come as the industry continues to move to more complex shapes such as off-axis aspheres and freeform surfaces.

Erik Stover, AMETEK Precitech, Inc. (USA)
Latest developments in contact and non-contact profilometry for Aspheric optics
The growing demand of optical components being integrated into a wide-spread of new markets and technologies has driven the need to manufacture and measure a much wider range of shapes, sizes, frequencies and tolerance than seen before. The commercialization of these optical technologies has driven the need for lower cost manufacturing methods but with increased yields and tighter tolerance. The importance of metrology feedback to the manufacturing process is now critical to achieving these goals. New profilometry capabilities and corrective feedback will be discussed.

Marc Tricard, Zygo Corp. (USA)
Metrology at the fringe
A brief, and hopefully entertaining, “teaser” of selected Zygo metrology developments will be presented to highlight “Better, Faster and Cheaper” approaches.

Steven VanKerkhove, Corning Inc. (USA)
Developing Metrology Solutions to Support Aspheric Fabrication
Aspheric fabrication processes are continuing to take hold throughout the optics industry as applications continue to emerge that are embracing aspheric solutions. Metrology processes must continue to follow this trend with cost effective solutions. A variety of nanometer level optical measurement probes are emerging and these devices, in conjunction with traditional null interferometry techniques, may evolve to meet the growing need to accurately measure aspheric form as well as mid frequency figure errors.

Panel Discussion

Export Control: Reform Update and Tips for Compliance – An Open Forum
Thursday • 10:30 to 11:30 am • Exhibition Hall
Join us for a fast-paced discussion of critical export control issues confronting the optics and photonics industry, including the status of export control reform efforts, and learn key techniques for growing your business while remaining compliant. If you design, develop, manufacture and/or sell any system or any component of a system utilized in an advanced application, you must take certain steps to ensure compliance with a wide range of U.S. export control laws and regulations, even if you don’t think you are exporting. We will address best practices and reveal traps for the unwary. This will be an open forum, with the opportunity for audience input and questions.

Panel Discussion

ROSA Optics Talk
CO-LOCATED MEETING
Wednesday • 7:00 to 8:30 pm • Highland A/B
Open to all attendees and visitors
Hosted by: ROSA, Rochester Optics Society

SPEAKERS:
Jim Burge, The Univ. of Arizona
The Evolution of Optical Manufacturing Technologies
Ira Tiffen, Schneider Optics
How light can be manipulated to create mood, impart impact to the stories we tell. And to extend the careers of our best actors...

For more information visit the ROSA website at http://www.osarochester.org or contact program@osarochester.org.
# Product Demonstrations

Product Demonstrations are located in the Empire Hall • Open to all attendees.

Exhibiting companies will showcase new and successful products in half-hour demonstrations.

<table>
<thead>
<tr>
<th>TIME</th>
<th>Tuesday 15 October</th>
<th>Wednesday 16 October</th>
<th>Thursday 17 October</th>
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<tbody>
<tr>
<td>10:30 am</td>
<td></td>
<td><strong>New Nanotech 100UPG Ultra Precision Grinding System</strong></td>
<td><strong>Export Control: Reform Update and Tips for Compliance - An Open Forum</strong></td>
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<td></td>
<td></td>
<td>Jeff Perra, Moore Nanotechnology Systems, LLC</td>
<td>Kerry T. Scarlott, Esq., Goulston &amp; Storrs, P.C.</td>
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<td><strong>Booth #602</strong></td>
<td><strong>Product Demonstration Area</strong></td>
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<td>Once again Nanotech defines new industry standard for Ultra Precision Machining Systems. The new Nanotech 100UPG is a deterministic grinding system for carbide molds and aspheric glass lenses.</td>
<td>U.S. export controls are undergoing a dramatic shift. Join us for a forum on critical ITAR/export control issues for the optics industry. This will be an open discussion with the opportunity for audience input and questions.</td>
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<tr>
<td>11:30 am</td>
<td><strong>QIS - A Coherent Imaging Fizeau Interferometer for Improved Stitching</strong></td>
<td><strong>OptiSonic: Ultrasonic Grinding Technology from OptiPro Systems</strong></td>
<td><strong>Objective measurement of stress birefringence in optical materials and components</strong></td>
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<td></td>
<td>Chuck McFee, QED Technologies Inc.</td>
<td>Edward Fess, OptiPro Systems</td>
<td>Henning Katte, ilis gmbh</td>
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<td><strong>Product Demonstration Area</strong></td>
<td><strong>Booth #615</strong></td>
<td><strong>Product Demonstration Area</strong></td>
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<td>Aspheric stitching interferometry requires measurement of high fringe densities. QED demonstrates the advantages of its coherent imaging Fizeau interferometer QIS over incoherent imaging systems.</td>
<td>OptiSonic is OptiPro’s latest innovation which utilizes Ultrasonic technology, an ideal method to grind hard optical ceramic materials. The features, capabilities, and benefits will be demonstrated.</td>
<td>The StrainScope™ real-time imaging polarimeter makes it possible to measure stress birefringence in optical materials and components with high precision and at high lateral resolution</td>
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<td>12:30 pm</td>
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<td><strong>FPSensor – an ultra-compact, non-invasive, fiber based interferometric displacement sensor system from attocube</strong></td>
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<td>Florian Ponnath, attocube</td>
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<td>2:30 pm</td>
<td><strong>PRO 160C: The Latest in Centering Machine Technology for Precision Optics</strong></td>
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<td>Michael Bechtold, OptiPro Systems</td>
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<td><strong>Booth #615</strong></td>
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<td>PRO 160C centering machine is the newest addition to OptiPro’s PRO Series product line. Fast and easy setups as well as cutting-edge advanced features will be demonstrated.</td>
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<tr>
<td>3:30 pm</td>
<td><strong>NANOGRIP - Ultra precise clamping technology for spindle and tool</strong></td>
<td><strong>Getting Hired in 2013 and Beyond</strong></td>
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<td>Dr.-Ing. Christian Wenzel, Innolite Gmbh</td>
<td><strong>SPIE Product Demonstration Area</strong></td>
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<td><strong>Product Demonstration Area</strong></td>
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<td>The retrofit NANOGRIP clamping system (repeating accuracy &lt; 1 lm) revolutionizes flexibility in ultraprecision manufacturing processes and can reduce production downtime by hours.</td>
<td>Join us for a panel discussion on careers in optics and photonics outside the academic world. Learn about getting hired at tech-based companies and non-academic jobs directly from human resource professionals in the optics and photonics sector.</td>
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</table>
12th Optatec
International trade fair
for optical technologies, components and systems

- Optical components
- Optomechanical and optoelectronical components
- Fibre-optics
- Laser system components
- Photovoltaic components

20.–22.5.2014
Frankfurt am Main
Thanks to the following Sponsors

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<td><img src="#" alt="QED Technologies" /> Booths #511, 515</td>
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<td><a href="#">www.goochandhousego.com</a></td>
<td><a href="#">www.qedmrf.com</a></td>
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<tr>
<td><img src="#" alt="TriOptics" /> Booth #215</td>
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<th>Conference Bag Insert</th>
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<td><img src="#" alt="SCHALL" /> <a href="http://www.schall-messen.de">www.schall-messen.de</a></td>
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<tr>
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<td><img src="#" alt="United Lens" /> Booths #310, 311</td>
<td><img src="#" alt="Agilent Technologies" /> Booth #1352</td>
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<tr>
<td><a href="#">www.sydor.com</a></td>
<td><a href="#">www.unitedlens.com</a></td>
<td><a href="#">www.agilent.com</a></td>
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<td><a href="#">www.unitedlens.com</a></td>
<td><a href="#">www.jenoptik-inc.com</a></td>
<td>QED Technologies</td>
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<td>Swift Glass, Inc.</td>
<td>McVac Manufacturing Co., Inc.</td>
<td>Heraeus Quartz America LLC</td>
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<td>Booth #509</td>
<td>Booth #507</td>
<td>United Lens</td>
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<td>JML Optical Industries, LLC</td>
<td>Optics Technology, Inc.</td>
<td>Swift Glass Co.</td>
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New York Photonics  www.newyork photonics.org
Promoting New York State’s photonics, optics, and imaging industry through cluster-based initiatives. Programs and services to help New York State companies increase visibility, grow sales, reduce costs, and attract the best talent. Group promotions, networking, information transfer, discount purchasing, government liaison, and workforce development. Host of NYS Pavilions at major trade shows.

New York State Pavilion Participants at Optifab 2013

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<td>Photon Gear, Inc.</td>
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<td>McVac Manufacturing Co., Inc.</td>
<td>JML Optical Industries, LLC</td>
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<td>Booth #504</td>
<td>Booth #507</td>
<td>Booth #510</td>
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<td>Sydor Optics, Inc.</td>
<td>Syntec Optics</td>
<td>Optics Technology, Inc.</td>
<td>QED Technologies</td>
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<td>Wordingham Technologies</td>
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<td>Booth #505</td>
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Showcase your products at this premiere event!

LENS EXPO
Lens Design & Manufacturing

23-25 April, 2014
Pacifico Yokohama, Japan

First-time exhibitors receive a 20% discount!

Co-located with
LE LASER EXPO
IR + UV EXPO
POSITIONING EXPO

Medical & Imaging EXPO
Space & Astronomical Optics EXPO
OPTICS & PHOTONICS International Congress 2014

Total Projected Participation
- Exhibitors 400
- Attendees 14,000

For further information http://www.opie.jp/en/
OPTRONICS International Dept. E-mail: intl@optronics.co.jp
How to use this directory

Exhibitors are listed in alphabetical order with details about products or services they are exhibiting on pages 14–38. Companies are additionally cross-indexed by technology areas in the Product Index on pages 39–41, to allow you to quickly shop for products for your engineering and business needs. Booth numbers are listed below and may be cross-referenced with the map at right.

Exhibitor Booth Index

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008 Chardon Tool
009 Advanced Abrasives Corporation
100 Precision Optical
101 IRD Glass
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103 Salem Advanced Surfacing Materials
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109 Radiant Zemax, LLC
200 Innomat GmbH
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206 Applied Image, Inc.
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301 MicroSystems GmbH
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305 Zeeko Ltd.
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321 Optimex Systems, Inc.
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324 Wordingham Technologies
325 AccuCoat Inc.
326 McVac Mfg. Co. Inc.
327 Optics Technology, Inc.
328 Swift Glass Co.
329 JML Optical Industries, LLC
500 511; 515 QED Technologies, Inc.
501 Moore Nanotechnology Systems, LLC
502 4D Technology Corp.
503 Leybold Optics USA, Inc.
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505 Technodiamant USA Inc.
506 Shanghai Optics Inc.
507 Mildex, Inc.
508 OptiWorks, Inc.
509 Eminess Technologies Inc.
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511 JENOPTIK Optical Systems
512 Precitech, Inc.
513 Hinds Instruments, Inc.
514 Optikos Corp.
515 SlicingTech
516 University of Rochester, The Institute of Optics
517 LaCroix Optical Co.
518 Taylor Hobson - AMETEK UPT
519 Engineering Synthesis Design, Inc.
520 Photonics Media/Laurin Publishing
521 Valtech Corp.
522 Larsen Equipment Design, Inc.
523 Kugler of America Ltd.
524 DCM Tech, Corp.
525 Fraunhofer-Institut für Produktionstechnologie
526 Ferrotec (USA) Corp.
527 Heraeus Quartz America LLC
528 Diffraction International Ltd.
529 Universal Photonics Inc.
530 The Optronics Co., Ltd.
531 Kreischer Optics, Ltd.
532 Volpi
533 Lattice Materials, LLC
534 Electro Optics Magazine
535 Boldt Machinery
536 Photonics Online
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538 CV Nanotechnology Inc.
539 C&D Assembly, Inc.
540 Evaporated Metal Films Corp.
541 Sierr Precision Optics
542 OptoTech Optical Machinery Inc.
543 Tydex
544 Cleaning Technologies Group
545 ET Precision Optics, Inc.
546 K&Y Diamond Ltd.
547 Precision MicroDynamics, Inc.
548 Opto-Alignment Technology
549 Nanophase Technologies Corp.
550 Gooch & Housego
551 Diverse Optics Inc.
552 PremaTech Advanced Ceramics
Empire Hall

Enter to Win
Enter for your chance to win an iPad mini at one of the following booth locations:

- OptiPro Systems 615
- Photonics Media 803
- Zygo Corporation 1115

Drawing will be held on Thursday 17 October at 2:30 in the coffee area of the exhibition hall.

Must be present to win.

Ribbon cutting ceremony
Join New York Congresswoman Louise Slaughter for a ribbon cutting ceremony to open the Optifab exhibition on Tuesday 15 October at 9:50 am in the Empire Lobby.

1115 Zygo Corporation
1202 Savvy Optics Corp.
1203 HOYA Corporation USA—Optics Division
1204 Mindrum Precision, Inc.
1205 Spectra Services Inc.
1206 Rubicon Technology
1207 Tempo Wafer Boxes
1208 CDA GmbH
1209 LED Optics Design, LLC
1210 JAYCO Cleaning Technologies
1211 ML Optic
1213 Ferson Technologies, Inc.
1215 Schneider Optical Machines Inc.
1300 P.R. Hoffman Machine Products, Inc.
1306 Reynard Corporation
1310 TechnoTrade International Inc
1314 Spica Technologies, Inc.
1315 Xenox Technology GmbH
1316 OPTIX Co.
1322 Luphos GmbH
1324 NGL Cleaning Technology SA
1326 attocube systems Inc.
1328 Displays & Optical Technologies Inc.
1330 Glass Fab, Inc.
1334 Techmetals, Inc.
1336 Isuzu Glass, Inc.
1338 TAG Optics, Inc.
1340 General Ruby & Sapphire Company
1342 GTI Technologies, Inc.
1346 Andover Corporation
1348 Vermont Photonics Technologies Corp.
1350 Energetiq Technology, Inc.
1352 Agilent Technologies
1356 MBT Systems
1402 Sensofar, LLC
1403 DichroTec Thin Films, LLC
1404 DynaVac
1405 PI
1406 ER Precision Optical
1408 American Swiss Products Co., Inc.
1409 Imagine Optic Inc.
1410 NiPro Optics, Inc
1411 OP-TEC National Center for Optics and Photonics Education
1412 Space Optics Research Labs
1413 RSP Technology
1415 Ariel Optics, Inc.
1340 General Ruby & Sapphire Company
1347 Treibacher Industries Inc.

SPIE Optifab Exhibition: 15–17 October 2013
4D Technology Corp. #603

SPIE Corporate Member

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

Featured Product: PolarCam micropolarizer cameras for image enhancement, polarimetry, stress measurement and more.

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

AccuFiz Laser Interferometer. High lateral resolution for measuring steep slopes and aspheres.

AccuCoat Inc. #506

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

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

Advanced Abrasives Corporation #109

7980 National Highway, Pennsauken, NJ, 08110 USA
+1 856 665 9300; fax +1 856 488 1815
aselgman@advancedabrasives.com; www.advancedabrasives.com

Advanced Glass Industries #504

1335 Emerson St, Rochester, NY, 14606 USA
+1 585 458 8040; fax +1 585 458 8087
agi@advancedglass.net; www.advancedglass.net

Manufacturer of molded and precision machined glass products. Services include precision custom molding, annealing, slumping, sawing, grinding, CNC machining, generating, edging, cutting, and machining. Products include Optical and filter glass, Fused Quartz, Fused Silica, and Industrial glass. Protoype to production quantities. Contact: Henry Louis, Sales Manager, hank@advancedglass.net; Alicia Gionta, Office Manager, agionta@advancedglass.net

Agilent Technologies #1352

2850 Centerville Rd, Wilmington, DE, 19808-1610 USA
+1 302 636 0000
www.agilent.com
Aixtooling GmbH
Steinbachstrasse 17, Aachen, 52074 Germany
+1 49 241 8904 499; fax +1 49 241 8904 4999
info@aixtooling.de; www.aixtooling.de

Featured Product: Design and manufacturing of mold systems for the precision molding of optical glasses
Aixtooling GmbH was founded in 2005 in Aachen, Germany, as a spin-off company from the Fraunhofer Institute for Production Technologies IPT. Aixtooling is expert in the application of precision glass molding processes for the replication of high quality optics. Core competence of the company is the manufacturing of complex mold systems by the use of multi-axis CNC ultra precision grinding. Furthermore Aixtooling provides comprehensive services along the entire process chain. Contact: Bernd Bresseler, Managing Partner, Production & Sales, bresseler@aixtooling.de; Guido Pongs, Managing Partner, R&D and Engineering, pongs@aixtooling.de

American Swiss Products Co., Inc. #1408
1987 Jefferson Rd W, Pittsford, NY, 14534 USA
+1 585 292 1720; fax +1 585 292 5525
sales@americanswiss.com; www.americanswiss.com

Featured Product: Precision Optical components
American Swiss Products has been specializing in high precision, Swiss screw machined parts for 60 years. Equipment includes Swiss CNC, Multi-spindle, Escomatics as well as high speed Swiss Automatics. Micro miniature components with diameters down to .0025 in. High precision components maximum diameter 1.5 in. Industries served: Optics, Medical, Aerospace, Electronics, Instrumentation, Telecommunications, Sensor, Connector, RF, Microwave & Fiber Optics. Customer tailored inventory plans. Contact: Douglas Bell, Sales, dbell@americanswiss.com; Stacy Cowley, Sales, scowley@americanswiss.com

American Precision Optics Manufacturers Association Empire Lobby
PO Box 20001, Rochester, NY, 14602 USA
+1 585 975 9194
www.apoma.org

The American Precision Optics Manufacturers Association (APOMA) is committed to promoting and advancing opportunities for the precision optics industry. APOMA is the working group of the top U.S. optics manufacturers. Our members are front line and operations managers who turn to their peers in APOMA for best practices and technical guidance. Contact: Rick Nasca, Nasca@corning.com

Andover Corporation #1346
4 Commercial Dr, Salem, NH, 03079-2800 USA
+1 603 893 6888; fax +1 603 893 6508
info@andovercorp.com; www.andovercorp.com

Featured Product: Optical Coatings from 193nm to 15μm
Andover manufactures high-quality optical coatings in the UV to Mid IR range. We coat a wide variety of substrate materials, including Fused Silica, Sapphire, BK7, Zinc Sulfide, Zinc Selenide, Calcium Fluoride, Silicon, Germanium and more. Our coating technologies include Ion-assisted E-Beam and Reactive Sputtering. We are 100% US-owned, ITAR and AS9100 registered. Contact: Rob Pursel, Sr. Optical Coating Engineer, rpursel@andovercorp.com; Phil Clark, Technical Sales, pclark@andovercorp.com; Contact: Phil Clark, Technical Sales, pclark@andovercorp.com; Rob Pursel, Sr. Optical Coating Engineer, rpursel@andovercorp.com

Sputtered Coatings from UV to near IR - Hard Oxide sputtered coatings on a wide variety of substrates.
**Applied Image, Inc.**  
#302  
1653 E Main St, Rochester, NY, 14609-7090 USA  
+1 585 482 0300; fax +1 585 288 5989  
info@appliedimage.com; www.appliedimage.com  

**Featured Product:** 3 NEW product lines: custom ball lenses manufacturing; ImagingGauge software & target; & Mask Making  
“Your Single Source Photonics Solution Provider” dedicated to innovative OPTO-IMAGING Products & Services. Providing custom and “off the shelf” linear scales, test targets, reticles, encoders, image analysis standards, sinusoidal arrays, photo masks, ronchi rulings & other imaged components on various substrate materials for today’s complex photonics needs. Now offering image analysis software with Applied Image targets packages.  

**Applied Surface Technologies**  
#412  
15 Hawthorne Dr, New Providence, NJ, 07974 USA  
+1 908 464 6675  
co2clean@co2clean.com; www.co2clean.com  

**Featured Product:** CO2 Snow Jet  
We will demonstrate precision cleaning solutions using CO2 snow — a nondestructive, residue-free, dry process for removing particles of all sizes (from visible down below 0.03 micron) and also organic residues. The process cleans metals, ceramics, optics, thin film substrates, vacuum parts, vacuum systems, wafers, fiber optics, analytical samples (AFM), and many other samples. This process works well on diamond turned optics as well and we will do demonstrations with your samples. Contact: Robert Sherman, RobertS@co2clean.com

**Attocube Systems Inc.**  
#1326  
1918 Martin Luther King Jr. Way, Berkeley, CA, 94704 USA  
+1 510 649 9245  
info@attocube.com; www.attocube.com  

Attocube is a worldwide supplier for ultra-precision nanopositioner and multi-axes interferometric sensors. With the introduction of the ECS series, Attocube offers highest precision piezodrive technology with extremely rugged yet cost efficient design. Attocube’s patented fiber interferometer technology is being used in various applications such as extreme environmental positioning or micromachining.  

**Boldt Machinery**  
#907  
4803 Pittsburgh Ave, Erie, PA, 16509 USA  
+1 814 833 9836  
www.boldtmachinery.com

**C&D Assembly, Inc.**  
#911  
107 Corona Ave, Groton, NY, 13073 USA  
+1 607 898 4275; fax +1 607 898 4685  
sales@cdassembly.com; www.cdassembly.com  

C&D Assembly, Inc. has been a leading domestic Electronics Contract Manufacturer for over 20 years. We specialize in rapid-prototype and low to mid volume high-mix production requirements. Our dynamic manufacturing model enables us to accommodate the changing demands of a high-mix environment, while maintaining the ability to provide larger production runs. Contact: David Dematteo, sales, ddematteo@cdassembly.com; Jeff Cronk, president, jcronk@cdassembly.com

**Ariel Optics, Inc.**  
#1415  
261 David Pkwy, Ontario, NY, 14519 USA  
+1 585 265 4820; fax +1 585 265 1052  
sales@arieloptics.com; www.arieloptics.com  

Ariel Optics, Inc. was established 22 yrs ago, in 1990 by Frederick Koch, and with over 38 years total experience in this field we can guarantee you the highest possible quality of your optical components. Ariel Optics is a skilled manufacturer of custom, ultra precision plano optics and optical components. We deliver high quality optics that are used in a variety of applications including but not limited to: R&D, defense, aerospace, medical and commercial applications. Contact : Jessica Koch, Sales Director, sales@arieloptics.com; Fred Koch, President, frederick@arieloptics.com

**CDA GmbH**  
#1208  
Arn Mittelrain 11, Suhl OT Albrechts, 98529 Germany  
+49 3681 387 108; fax +49 3681 387 216  
www.cda-microworld.com  

CDA’s core competence is the mass-production of highly complex microstructures in plastic. Inspired by the needs of our customers we constantly expand the limits of what is possible to make your ideas become reality. With our know-how in microoptic, microfluidic and printed electronics we combine various applications into unique and innovative smart solutions for the future. www.cda.de
Chardon Tool  
115 Parker Ct, Chardon, OH, 44024-9018 USA  
+1 440 286 6440; fax +1440 286 7165  
info@chardontool.com  
One of the world’s largest manufacturers of ultra-precision diamond tools used to machine optical parts. Single-crystal synthetic and natural diamonds with low waviness radius surface for turning, fly-cutting, boring all diamond machinable materials. In addition, we offer the most accurate SCD tipped end mills used to machine micro-lens arrays, optical molds, microfluidics and free-form surfaces. Chardon Tool also supplies repair and relap services for all styles and makes of diamond tools. Contact: Hugh McAllister, Sales, ihugh@zoominternet.net; Pete Kawalec, Technical support, petekawalec@chardontool.com

Cleaning Technologies Group  
4933 Provident Dr, Cincinnati, OH, 45246 USA  
+1 800 248 9274; fax +1 513 870 0100  
info@etgclean.com; www.ctgclean.com  
Featured Product: PROHT Sonic Tank is an entry-level benchtop ultrasonic cleaning  
Cleaning Technologies Group is the industry leader in aqueous parts washers. We have provided parts washers to industrial and precision parts manufacturers for over 90 years. We’ve had experience and been involved with nearly every kind of industrial parts washer application and can provide our customers with the latest cleaning technology available today. Contact: Doug Cole, Sales Manager, dcole@ctgclean.com; Dale Bowden, Sales Manager, dbowden@ctgclean.com

Contour Fine Tooling Inc.  
143 Jaffrey Rd, Marlborough, NH, 03455-2517 USA  
+1 603 876 4908; fax +1 603 876 4911  
info@contour-diamonds.us; www.contour-diamonds.com  
Featured Product: Single crystal natural and synthetic diamond tools for turning, milling, & flycutting optical parts.  
Contour supplies Natural and Synthetic single crystal diamond tools for 2-axis and multi-axis Freeform machining, to include processes for Slow Slide Servo, Fast Tool Servo & micro-milling to manufacture I/R, transmissive and reflective optics for Aero-Space/Defense, Consumer electro-optics and Ultra-precision mechanical components. With our sister company Technodiamant, we have 7 global manufacturing sites. Tools can be supplied with edge waviness down to 50 nm P-V and 1.0 um tip radius. Contact: Dennis Keating, VP Sales & Marketing, Dennis@contour-diamonds.us; Jeff Tomlin, VP & General Manager, Jeff@contour-diamonds.us

CV Nanotechnology Inc.  
3989 First St, Unit G, Livermore, CA, 94551 USA  
+1 510 206 5066; fax +1 510 263 6549  
www.cvnanotech.com  
Featured Product: New Submicron Cerium Oxide and Aluminum Oxide Polishing Slurries  
CV Nanotechnology develops and manufactures precision polishing materials for glass, precision optics, metals and other surfaces that requiring excellent finishes. Contact: Floyd McClung, Manager, floydm@cvnanotech.com

Davidson Optronics, Inc.  
2223 W San Bernardino Rd West Covina, CA 91790-1008 USA  
+1 626 962 5181; fax +1 626 962 5188  
sales@davidsonoptronics.com; www.davidsonoptronics.com  
Since 1932 Davidson Optronics, Inc. has built a reputation for high precision optics and fine optical instruments. Laboratories, observatories, and manufacturers throughout the world are using high quality Davidson optics from 1” to over 100” in diameter for metrology, aerospace, astronomical, military, medical, life science, industrial, and commercial applications. Every major missile or space vehicle has had a Davidson instrument used at some stage of its production or testing phases. These instruments are the state-of-the-art tools required for the advancement of sophisticated optical & electro-optical systems. Such a position of leadership demands the most advanced engineering and highest skilled craftsmanship, a challenge we at Davidson are meeting with improved instruments and advanced technologies.

DCM Tech, Corp.  
4455 Theurer Blvd, Winona, MN, 55987-1593 USA  
+1 507 452 4043; fax +1 507 452 7970  
interest@dcm-tech.com; www.dcm-tech.com  
Featured Product: The DCM IG 140 SD exhibited in booth 807 at Optifab 2013. Blanchard style grinder with servo feed.  
DCM Tech designs and builds a line of blanchard style Rotary Surface Grinders. Our line of grinders are used for grinding pjanio surfaces on various glass/crystal materials including: CaF2, ceramics, filter glass, fused silica, fused quartz, natural quartz, optical glass, pyrex, silicon, ULE, zerodur, sapphire and zinc selenide. DCM Tech, a U.S. builder headquartered in Winona, Minnesota, sells and services DCM equipment factory direct. Contact: Mike Anderson, Product Manager, interest@dcm-tech.com
DichroTec Thin Films, LLC
465 Paul Rd, Rochester, NY, 14624 USA
+1 585 247 6000; fax +1 585 247 1219
info@dtthinfilms.com; www.DTthinfilms.com

**Featured Product:** Dichroic filters & large area coatings.

DichroTec Thin Films LLC (DT Thin Films) is a brand new company in name only. It emerged in the Spring of 2013 from a storied pedigree. The foundation of the organization has been researching, engineering, and manufacturing optical thin films for over 75 years. DT Thin Films is a 2nd generation offshoot of world-class optics pioneer Bausch & Lomb. Contact: Andy Polmeroy, CEO, info@DTthinfilms.com.

Diffraction International Ltd.
5810 Baker Rd Ste 225, Minnetonka, MN, 55345-5982 USA
+1 952 945 9912; fax +1 952 400 8959
info@diffraction.com; www.diffraction.com

Diffraction International is the leader in supplying custom CGH diffractive null correctors for interferometric testing of cylinders and aspheres. We provide design, fabrication, certification and full documentation. Durango Interferometry Software brings phase shifting and static analysis to any interferometer. An intuitive graphical interface provides full control of analysis and complete access to raw data. Durango supports most hardware and imports several interferometry data formats. Contact: Steven Arnold, President, info@diffraction.com.

Displays & Optical Technologies Inc.
110 Market Street, Georgetown, TX, 78626 USA
+1 512 246 6400; fax +1 512 246 6060
mmagill@doti-optics.com; www.doti-optics.com

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

Diverse Optics Inc. is a leading designer and manufacturer of polymer optic components and systems providing a complete custom solution for multiple applications in defense, medical, and commercial applications. Core manufacturing processes include single point diamond turning (SPDT), precision injection molding, thin-film coating, optical metrology, optical bonding, and assembly. Contact: Erik Fleming, Pres/CEO, erik.fleming@diverseoptics.com; Letty De La Cruz, Sales Engineer, letty.delacruz@diverseoptics.com.

DMG Mori Seiki
2400 Huntington Blvd, Hoffman Estates, IL, 60192 USA
+1 847 593 5400; fax +1 847 593 5433
www.dmgmoriseikiusa.com

**Extreme machining of hard brittle materials using Ultrasonic machining technology.**

Dopa Diamond Tools
Plauener Str. 163-165, Berlin, 13053 Germany
+49 30 983188 11; fax +49 30 983188 17
info@dopa-diatoools.com; www.dopa-diatoools.com

**Featured Product:** grinding wheels, generating tools, asphere tools, coolants and diamond slurries, diamond pellets etc

dopa diamond tools develops and produces abrasive solutions for grinding, lapping and polishing optical glass, ceramics and crystals. Our products have high cutting rates but simultaneously produce very low Sub Surface Damage. By using them you can usually cut down your polishing time by min. 35%. We produce grinding wheels for single and double sided applications, generating tools, diamond pellets, coolants and diamond slurries, dressing tools, measuring equipment and others. Contact: Marcel Patraschkov, Technology, marcel@dopa-diatoools.com; Mario Patraschkov, Sales, mario@dopa-diatoools.com.

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

**PROMOTIONAL PARTNER**

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Europa Science, Unit 9, Clifton Court, Cambridge, CB1 7BN United Kingdom
+44 1223 211170; fax +44 1223 213385
sales.electro@europascience.com; www.electrooptics.com

**Featured Product:** Electro Optics is available free to qualifying individuals worldwide as a digital edition

Electro Optics is the leading Europe-wide publication for the photonics industry, covering business, applications and technology. Supported by a regularly-updated website, www.electrooptics.com, and two monthly email newsletters, EONewsline and EOProductline, it is the primary source of information for anyone looking to do business in photonics. Subscription is free to qualifying individuals. Subscribe now at www.electrooptics.com/subscribe Contact: Warren Clark, Publishing Director, warren.clark@europascience.com; Jon Hunt, Advertising Sales Manager, jon.hunt@europascience.com.
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**Eminess Technologies Inc.**

**APOMA**

7272 E. Indian School Road, Scottsdale, AZ, 85255 USA  
+1 480 505 3409  
info@eminess.com; www.eminess.com

**Featured Product: Ultra-Sol™, Custom Blended slurries Suba™, Polishing Pads, Challenge Coolants / Cleaners**

Manufacturer and distributor of consumables for fabrication processes including slicing, grinding, lapping, polishing and cleaning. Our products are used on assorted optical substrates in addition to infrared materials and sapphire. Eminess provides our customers with insight, counsel, and specialized solutions with a high level of personal interaction. We understand the integration of equipment, products and processes to recommend the right product for your application. Contact: Mitzi Brennan, Vice President Sales / Marketing / Tech Services, mbrennan@eminess.com; Valerie Mack, Product Manager, vmack@eminess.com

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**ER Precision Optical**

**APOMA**

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

**Featured Product: Germanium - mono & poly crystalline optical grade used for thermal imaging and night vision systems**

HUBZone based facility in Orlando, FL, specializing in the manufacture of precision infrared components and the only U.S. based facility growing both high purity germanium and silicon CZ crystals for use in most DoD advanced infrared (IR) targeting and sighting applications; such as windows, lenses, prisms & filters. We also recycle Germanium (Ge)—the only 100% full capability facility that supports US DoD programs with a germanium reclaim/recycling program. Contact: Jason Hess, VP Operations, jhess@eroptics.com; Brian Weinberg, Business Development, bweinberg@eroptics.com

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**ET Precision Optics, Inc.**

**APOMA**

33 Curlew St, Rochester, NY, 14606 USA  
+1 585 254 2560  
teckler@etprecision.com; www.etprecision.com

**Featured Product: Precision Machined Optical Components**

Founded in 1992, E.T. Precision Optics is an ISO-9001:2008 registered company that specializes in the manufacturing of precision machined components. While our first customers were optical manufacturers, today our customers come from: OPTICAL, MEDICAL, TELECOMMUNICATIONS, ELECTRONICS Contact: Thomas Eckler, President and CEO, teckler@etprecision.com; David Kolczynski, Chief Operating Officer, dkolczynski@etprecision.com

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**Evaporated Metal Films Corp.**

**APOMA**

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

**Featured Product: Germanium - mono & poly crystalline optical grade used for thermal imaging and night vision systems**

DoD advanced infrared (IR) targeting and sighting applications; such as windows, lenses, prisms & filters. We also recycle Germanium (Ge)—the only 100% full capability facility that supports US DoD programs with a germanium reclaim/recycling program. Contact: Jason Hess, VP Operations, jhess@eroptics.com; Brian Weinberg, Business Development, bweinberg@eroptics.com

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**Evatec NA**

150 Dow Street, Manchester, NH, 03101 USA  
+1 603 669 9656; fax +1 603 606 7043  
info@evatec.us; www.evatec.us

**Featured Product: “Unicalc” - for new levels of performance in thin film evaporation processes**

Evatec delivers thin film deposition and etch systems for precision optical and opto-electronic processes. Choose from enhanced evaporation or sputter technologies for the production of stable, durable films. “In situ” process control technologies like broadband optical monitoring and “on line” process reoptimisation throughout the deposition bring new levels of accuracy and repeatability to the most demanding optical stacks. Contact: Dan Pace, Sales Director- North America, dan.pace@evatec.us; Allan Jaunzens, Marketing Manager, allan.jaunzens@evatecnet.com

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**Engineering Synthesis Design, Inc.**

**APOMA**

150 N Tucson Blvd, Tucson, AZ, 85716-4740 USA  
+1 520 296 3068  
sales@engsynthesis.com; www.esdimetrology.com

**Featured Product: Dimetior Series Fizeau Interferometer**

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

Dimetior Interferometers - Dynamic Metrology, Vibration Insensitive, Aspheres with Auto Alignment.
Ferrotec (USA) Corp. #809
33 Constitution Dr, Bedford, NH, 03110 USA
+1 603 472 6402; fax +1 603 472 2320
info@ferrotec.com; www.ferrotec.com
Ferrotec is a world leader in advanced material, component, and system solutions. Ferrotec manufactures precision electron beam coating solutions for optical fabrication applications including complete Temesecal systems, integrated component solutions for system builders, as well as components and accessories for replacements and upgrades. Our booth features demonstrations of the new multi-function TemEBeam EBC Integrated E-Beam Controller. For more information, visit www.ferrotec.com.

Ferson Technologies, Inc. #1213
APOMA
5801 Gulf Tech Dr, Ocean Springs, MS, 39564-8225 USA
+1 228 875 8146; fax +1 228 875 5947
sales@ferson.com; www.ferson.com
Manufacturer of custom precision optical components including lenses, prisms, windows, mirrors, filters, domes and cylindrical lenses. Capabilities include optical coating design and services, assembly and optical systems. Contact: Louis Peters, President, Lpeters@ferson.com; Connie Spence, Applications Engineer, Cspence@ferson.com

Fraunhofer-Institut für Produktionstechnologie #808
Steinbachstr 17, Aachen, 52074 Germany
+49 241 8904 0; fax +49 241 8904 198
info@ipt.fhg.de; www.ipt.fraunhofer.de
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Fujitok Corp.  
9-16 Kamijujo 1 Chome, Optics Sales Division, Kita-Ku, Tokyo, 114-0034 Japan  
+81 3 3909 1791; fax +81 3 3908 6450  
opt@fujitok.co.jp; www.fujitok.co.jp/en/  
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Fujitok have almost 60 years history for glass manufacturing, e.g. cutting, grind, polish and other treatment for the surface. We have many variations for material, shape and surface qualities. The available materials: Fused Silica, various Optical Glass, Color Filter Glass, Si, Germanium and other Glass and Crystals. We can meet your requirements with reasonable price.  
Contact: Toshihiko Hayashi, Project Manager, hayashi@fujitok.co.jp; Takaaki Saito, General Manager, saito@fujitok.co.jp  
Substrates of Optical Materials, such as Glass, Fused silica, CFG, Crystal and others.

Glass Fab, Inc.  
257 Ormond St, Rochester, NY, 14605-3024 USA  
+1 585 262 4000 x107; fax +1 585 454 4305  
info@glassfab.com; www.glassfab.com  
*Featured Product:* Newly acquired 5 Axis Machining Center for increased capacity of Precision Machined Blanks.  
Manufacturer of custom blanks. Products include fused quarts, fused silica, optical glasses, filter glasses, and low/ultralow expansion glasses. Capabilities included annealing, slumping, sawing, grinding, edging, drilling, water jet cutting, CNC shaping and CNC generating. Contact: George Dean, Customer Service., gdean@glassfab.com; Dan Saltzman, President, dsaltzman@glassfab.com

Gooch & Housego  
Dowlish Ford, Ilminster Somerset, TA19 0PF United Kingdom  
+ 44 1460 256440  
sales@goochandhousego.com; www.goochandhousego.com  
*Featured Product:* Spectrosil synthetic fused silica for deep UV applications and high power NIR lasers.  
Heraeus is a leader in the manufacturing of high purity quartz materials and components, and produces various types of high purity fused silica for use in semiconductor manufacturing, telecommunications, optical, chemical, lamps and a variety of other advanced applications. Contact: David Gritz, Director of Sales, Optics, david.gritz@heraeus.com; Robert Sawyer, Account Manager, robert.sawyer@heraeus.com  
High performance fused silica and quartz for challenging optical applications.

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6 Armstrong Rd, Shelton, CT, 06484-4780 USA  
+1 203 929 2200; fax +1 203 926 0074  
info@gti-usa.com; www.gti-usa.com/  
*Featured Product:* WSD-K2 Single/Multi Wire Saw  
GTI Technologies is a worldwide supplier providing sales, applications support and service of Takatori multi-wire saws for use with diamond wire and/or slurry processes. Takatori single wire saws for diamond wire, Takatori lamination, delamination, wafer mounting, and temporary bonding equipment, carbon fiber end effectors from Astel, and Harmotec non-contact end effectors. Contact: Patrick Frei, VP New Business Development, patrick@gti-usa.com  
The most capable small diamond wire saw available - the WSD-K2.

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7245 NW Evergreen Pkwy, Hillsboro, OR, 97124-5822 USA  
+1 503 690 2000; fax +1 503 690 0000  
sales@hindsinstruments.com; www.hindsinstruments.com  
*Featured Product:* Exicor Residual Stress Measurement Systems (Birefringence), Stokes and Mueller Polarimeter Systems  
Hinds Instruments develops and manufactures research grade technology for polarization modulation and analysis. Our core technology, the PEM (PhotoElastic Modulator), is the most sensitive and precise polarization modulation technology available on the market today. We sell our PEM modulation components and other system development support modules to OEMs and researchers building their own equipment as well as building our own turnkey polarization metrology systems for industry and education. Contact: Doug Mark, Sales Engineer, sales@hindsinstruments.com; Connie Wimmer, Technical Sales, sales@hindsinstruments.com
HOYA Corporation USA-Optics Division

3285 Scott Blvd, Optics Div, Santa Clara, CA, 95054 USA
+1 408 654 2200; fax +1 408 654 2270
opticsales@hoyausa.com; www.hoyaoptics.com

Featured Product: Filter, Optical & Specialty Glasses

HOYA CORPORATION USA Optics Division is a leading supplier of advanced optical materials and components for scientific, technology and industrial companies throughout the US. Contact: Sushama Apte, Sales Engineer, sushama@hoyausa.com; Lynn Brown, Division Manager, lbrown@hoyaoptics.com

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+1 724 352 1504; fax +1 724 352 4980
info@iiviinfrared.com; www.iiviinfrared.com

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ILis gmbh

Konrad-Zuse-Str. 22, Erlangen, 91052 Germany
+49 9131 9747790; fax +49 9131 9747799
info@ilis.de; www.ilis.de

Featured Product: StrainScope™ Imaging Polarimeter System for fast and objective stress birefringence measurement

ILis develops, produces and distributes software solutions, measuring systems as well as automated test equipment for quality assurance in the glass and optical industry. With the measuring and testing equipment of the StrainMatic™ and StrainScope™ series, the company develops imaging polarimeter systems for the automatic and objective measurement of stress birefringence in glass and plastics. Contact: Daniel Schreinert, Technical Sales, daniel.schreinert@ilis.de; Henning Katte, Managing Director, henning.katte@ilis.de

Inrad Optics, Inc

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

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

Imagine Optic Inc.

One Broadway, 14th Fl Cambridge Innovation Ctr, Cambridge, MA, 02142 USA
+1 617 401 2198; fax +1 425 930 9818
contact@imagine-optic.com; www.imagine-optic.com

Featured Product: HASO-RFLEX, Compact Auto-Illuminated Wavefront Sensor for fast and accurate optical metrology

Imagine Optic is a leading global provider of Shack-Hartmann wavefront sensing and adaptive optics solutions (hard and soft), and professional services in optics. Since 1996, we have provided high quality solutions to scientific and industrial clients in the fields of optical metrology, fundamental research, industrial quality control, space, defense and semiconductors. With 2 new offices in Boston and Sacramento, we are proud to provide the highest quality services in the US optics industry. Contact: Philippe Clementeau, East Coast Sales Manager, pclementeau@imagine-optic.com; Jerome Ballesta, West Coast Sales Manager, jallesta@imagine-optic.com

Innolite GmbH

Steinbachstraße 17, Aachen, 52074 Germany
+49 241 8904 220; fax +49 241 8904 6220
info@innolite.de; www.innolite.de/?lang=en

Featured Product: Ultra precise clamping system: NANOGRIP; Ultra precision machines: ILCentric & IL600

Innolite GmbH is your expert partner for the production of plastic and metal optics. On your products way to market, we help you to configure the optic for optimal production and create prototypes to demonstrate the functioning of the final optical system. Our core competence is the configuration and manufacture of tailored ultra-precise molds for your plastic injection molding or hot embossing process. Upon request, we are also happy to produce small series for you.

NANOGRIP - ultra precise clamping technology for spindle and tool.

Institut für Strahltechnik (IFST) e.V.

Petersweg 30a, Bremen, 28359 Germany
+49 421 370280; fax +49 421 37028179
office@ifst.de; www.ifst.de

Featured Product: aerostat, Weather Monitoring Towers, Solid Rocket Booster, Sounding Rocket, Balloon

Institut für Strahltechnik (IFST) e.V. is a German non-profit research institute for the development of laser-based technologies and space-based observation systems. The institute specializes in the development of high-power lasers, laser-based remote sensing systems, and atmospheric research.

Imagine Optic Inc. #1409

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Innolite GmbH #210

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

Featured Product: Precision custom laser optics for OEM’s. Mirrors, reflectors, windows, prisms, lenses and more.

IRD Glass—Your glass experts for over 30 years! IRD does things that virtually no one else in the world does with glass. Count on IRD to build your custom glass or ceramic components to your specifications, and deliver it on time. IRD Glass provides a full spectrum of custom manufacturing capabilities, including laser reflectors, mirrors, precision tubes, cylinder & spherical lenses, prisms, wedges, windows, assemblies & thin film coatings, and they have the metrology to verify their processes. Contact: Ron Antos, Technical Sales Engineer; Todd Anderson, VP Sales & Marketing

Isuzu Glass, Inc.
23505 Crenshaw Blvd Ste 130, Torrance, CA, 90505-5225 USA
+1 310 517 1866; fax +1 310 517 1869
sales@isuzuglass.com; www.isuzuglass.com

Featured Product: Optical Color Filter Glass- Heat Absorbing Glass (ISK)

Isuzu Glass is a manufacturer of optical filter glasses and molded optics. In our corporate history of over 100 years we have dedicated our efforts to the glass material both in melting new types of filter glass and in manufacturing glass components by developing unique technologies in steps ahead of competitors. Contact: Sean Wilson, Business Development and Sales; Hiro Yokoi, Vice President

JAYCO Cleaning Technologies
8216 Princeton Glendale Rd #201, West Chester, OH, 45069 USA
+1 513 737 9600; fax +1 513 892 3938
info@jaycoclean.com; www.jaycoclean.com

Featured Product: ELMA Ultrasonic Cleaning Systems for Precision Optics: In-Process & Final Cleaning

Manufacturing of Precision & IR lenses requires numerous grinding, polishing and centering stages. Lenses are fixed for these processes by means of pitch. Also, lacquers are used to protect the finished surfaces. Developing a PERFECT CLEANING PROCESS which allows for different glass types is the core competence of Elma. FINAL CLEANING before coating is prerequisite for successful vacuum coating. ELMA is also an expert in this technology. ELMA also provides specific Optics Cleaning Chemistries Contact: Jay Nawani, President; steve@jaycoclean.com; Steve Cramer, Vice President; Applications Engineering, scramer@jaycoclean.com

JENOPTIK Optical Systems
16490 Innovation Drive, Jupiter, FL, 33478 USA
+1 561 881 7400; fax +1 561 881 1947
sales@jenoptik-inc.com; www.jenoptik-inc.com

JENOPTIK Optical Systems delivers a unique range of custom optical solutions ranging from precision assemblies to waferscale microoptics and in materials ranging from glasses, to crystals and polymers. Competencies include optical test, optical polishing, diamond turning and lithographic etching of materials for applications covering DUV to LWIR. We combine design and engineering with high volume manufacture at US and Global manufacturing sites in Germany and Israel. Contact: Ray Malcom, VP Sales & Marketing; ray.malcom@jenoptik-inc.com; Beth McDonald, Inside Sales Representative; beth.mcdonald@jenoptik-inc.com

JML Optical Industries, LLC
820 Linden Ave, Rochester, NY, 14625-2710 USA
+1 585 248 8900; fax +1 585 248 8924
sales@jmloptical.com; www.jmloptical.com

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

We solve our customer's imaging challenges through the design, manufacture and testing of custom optical assemblies, components and systems. Our solutions encompass manufacturing of prototype and production volumes as well as flexible design and delivery options. Founded in 1972, today we are an integrated designer and maker of precision optics serving all industries that use imaging optics including defense, medical and bio-medical diagnostics, life science research, metrology and biometrics. Contact: jml@jmloptical.com

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JML Optical Industries, LLC #510
K&Y Diamond Ltd. #1105
2645 Diab, St Laurent, QC, H4S 1E7 Canada
1+514 333 5606; fax +1 514 339 5493
sales@kydiamond.ca; www.kydiamond.ca

Featured Product: Diamond Tooling for Ultra-Precision Machine Tools
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+1 815 344 4220; fax +1 815 344 4221
optics@kreischer.com; www.kreischer.com

Featured Product: 6" Transmission Spheres
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Lacroix Optical Co. #710
APOMA
PO Box 2556, Batesville, AR, 72503 USA
+1 870 698 1881; fax +1 870 698 1880
lacroix@lacroixoptical.com; www.lacroixoptical.com

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Larsen Equipment Design, Inc. #805
APOMA
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Lattice Materials, LLC #905
APOMA
516 E Tamarack St, Bozeman, MT, 59715-3050 USA
+1 406 586 2122; fax +1 406 587 9055
marketing@latticematerials.com; www.latticematerials.com

Featured Product: Wedged Witness Samples - Silicon, Germanium, YAG, Sapphire
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featured product: LaCroix Optical Co. now manufacturers custom precision Aspheres made to customer specifications.
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info@ledopticsdesign.com; ledopticsdesign.com

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Leybold Optics USA, Inc.  #605
539 James Jackson Ave, Cary, NC, 27513-8101 USA
+1 919 657 7100; fax +1 919 657 7101
sales.americas@leyboldoptics.com; www.leyboldoptics.com

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HELIOS sputter tool for ultra-precise optical coatings.

Luphos GmbH  #1322
Webestr. 21, Mainz, 55130 Germany
+49 6131 24059 0; fax +49 6131 24059 66
info@luphos.de; www.luphos.de

Featured Product: LuphoScan: Lens metrology, non-contact 3D topology measurement of optical surfaces.
Luphos GmbH is a specialist in ultra precise distance measurement and topology measurement of optical surfaces.

Magnus Precision Manufacturing, Inc.  #402
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dmiller@magnusprecision.com; www.magnusprecision.com

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309 Rte 94, Columbia, NJ, 07832 USA
+1 908 496 8999; fax +1 908 496 8998
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Featured Product: TS-23 I.D saw retrofit, DS-261 wire saw retrofit, Diamond wire saws, Sapphire slicing solutions
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joe@mcvac.com; www.mcvac.com

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McVacs adjustable position Crystal Thin Film Coating Sensor assembly.
NGL Cleaning Technology SA
7 Ch. de la Vuarpilliere, Nyon, CH-1260 Switzerland
+41 22 365 46 66; fax +41 22 3618103
f.benis@ngl-group.com; www.ngl-group.com

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72 Cascade Dr, Rochester, NY, 14614-1109 USA
+1 585 454 5530
inform@nicoform.com; www.nicoform.com

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NiPro Optics, Inc
7 Marconi, Irvine, CA, 92618 USA
+1 949 215 1151
sales@niprooptics.com; www.niprooptics.com

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North American Coating Laboratories
9450 Pineneedle Dr, Mentor, OH, 44060-1828 USA
+1 440 357 7000; fax +1 440 357 7001
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+1 608 824 1770
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info@ntg.de; www.ntg.de

**Featured Product: Plants, R&D and job order production of ion beam figuring, smoothing and etching technologies.**

We design, develop and manufacture ion beam based process technology for high performance optics. Since 1991 we are engaged in ion beam figuring (IBF). IBF is needed when the required quality of optical surfaces cannot be achieved by using conventional polishing. We build plants for optics of 5 mm to 2000 mm in diameter and our customers are the world leaders for high performance optics. Furthermore we provide tailor-made solutions for ion beam etching (IBE) and ion beam smoothing (IBSm). Contact: Thomas Franz, CEO, t.franz@ntg.de; Matthias Marschall, Project Manager, m.marschall@ntg.de

Ohara Corp.
50 Columbia Rd, Branchburg, NJ, 08876-3519 USA
+1 908 218 0100; fax +1 908 218 1685
sales@oharacorp.com; www.oharacorp.com

**Featured Product: ClearCeramZ zero-expansion glass-ceramic in meter class size, with an option for transmissive grade.**

Ohara provides one-stop shopping for optical materials. Offerings include over 150 optical glasses, ClearCeramZ (zero expansion glass-ceramic), Fused Silica, CaF2, Ge, Silicon, Sapphire and a host of other IR/UV materials. Double-sided polishing and index of refraction measurement services are also available. Optical materials can be supplied in bulk form, cut blanks, pressed or molded blanks, graded high homogeneity blanks or polished plano-plano substrates. Contact: Chris Ghio, Sales Director, chrisghio@oharacorp.com; Rob Lee, Sales Manager, roblee@oharacorp.com
OP-TEC National Center for Optics and Photonics Education  

#1411

APOMA

316 Kelly Dr, Waco, TX, 76710-5709 USA
+1 254 751 9000
op-tec@op-tec.org; www.op-tec.org

Featured Product: Photonics technician education, information, curriculum, faculty training

OP-TEC works with secondary, postsecondary and industry partners to increase and sustain our nation’s capacity to produce photonics technicians. OP-TEC focuses on curriculum and faculty development, college enlistment, and technical support for infusing photonics into existing AAS programs where photonics is an enabling technology.

Contact: Dan Hull, Executive Director, hull@op-tec.org; Christine Dossey, Associate Director, cdossey@op-tec.org

Optical Perspectives Group, LLC  

#307

7011 E Calle Tolosa, Tucson, AZ, 85750-2532 USA
+1 520 529 2950
reparks@optiper.com; www.optiper.com

Featured Product: MicroFinish Topographer (MFT) for on-machine roughness measurement and non-contact profiling

Optical Perspectives Group, LLC is a consulting firm specializing in the hardware aspects of optical assembly, testing and alignment. In support of these functions, OPG markets three products: the Point Source Microscope (PSM) used for the alignment of optics and optical systems, the MicroFinish Topographer (MFT) for measuring surface finish and the CaliBall, an artifact used for calibrating interferometer transmission spheres using the random ball test.

Contact: Bob Parks, President, reparks@optiper.com

Optics Technology, Inc.  

#508

SPIE Corporate Member

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

Same as above. Contact: Dominick Polizzi, Director of Sales & Marketing, dpolizzi@opticstechnology.com

Optikos Corp.  

#706

SPIE Corporate Member

107 Audubon Rd, Bldg 3, Wakefield, MA, 01880-1266 USA
+1 617 354 7557; fax +1 617 354 5946
sales@optikos.com; www.optikos.com

Optikos Corporation is the world’s largest manufacturer of equipment for the measurement of optical image quality. For nearly 30 years, Optikos has been a recognized leader in the fields of optical and electro-optical testing: we offer complete solutions for both optical system qualification and system level tests on imagers ranging from the ultraviolet to the far infrared.

Contact: Susan Hess, Senior Marketing Manager, shess@optikos.com

Optimax Systems, Inc.  

#503

SPIE Corporate Member

6367 Dean Pkwy, Ontario, NY, 14519-8939 USA
+1 585 265 1020; fax +1 585 265 1033
sales@optimaxsi.com; www.optimaxsi.com

Optimax is set up to manufacture, test and deliver with the speed and performance your program requires. Our reliability has allowed us to become America’s largest optics prototype manufacturer. We’ve invested in the technology and research that will enable your next program, but remain the people who are committed to small volume, high quality and quick delivery of your prototype optic needs.

Contact: Mark Palvino, Vice President of Sales, sales@optimaxsi.com; Joe Pinto, Sales Manager, sales@optimaxsi.com

OptiPro Systems  

#615

SPIE Corporate Member

6368 Dean Pkwy, Ontario, NY, 14519-8970 USA
+1 585 265 0160; fax +1 585 265 9416
sales@optipro.com; www.optipro.com

Featured Product: PRO 160C: The latest CNC centering technology. Unprecedented efficiency, flexibility & repeatability

OptiPro Systems, located in Rochester, NY, has more than 30 years experience designing and manufacturing precision optical fabrication machines and metrology systems. A leader in the implementation of optical fabrication and metrology equipment, OptiPro develops cutting edge machines for complex optics with challenging surface and production requirements. Our team of engineers, technicians and scientists can turn your concepts into optimized production solutions.

Contact: Michael Bechtold, President, mikel@optipro.com; David Mohring, Director of Sales and Marketing, dmohring@optipro.com

OptiWorks, Inc.  

#609

SPIE Corporate Member

1-2-4 Azuchi-chou, Mitsuru Plz 204, Chuo-ku Osaka, Aichi, 541-0052 Japan
+81 6 6264 7310; fax +81 6 6264 7310
sales@optiworks.jp; www.optiworks.jp

PRO 160C: The latest CNC centering technology. Unprecedented efficiency, flexibility & repeatability.
OPTIX Co. #1318
Zahari Stoyanov Str 65, Panagyurishte, 4500 Bulgaria
+1 359 288 48 621; fax +1 359 288 48 624
janice.hunter@primoptix.com; www.optixco.com

Featured Product: IR Objective Lenses, Aspheric Lenses, and Molded Lenses

OPTIX Co is a growing company, based in Bulgaria, that specializes in custom precise optical components and aspheres, opto-mechanical assemblies and sub-assemblies for the medical, life-science, research and defense fields. Contact: Janice Hunter, US Sales Manager, janice.hunter@primoptix.com; Stoyan Novakov, Sales Manager, sales@primoptix.com

Optix has increased production capacity with new machines for Aspheric production.

Opto-Alignment Technology #1107
1034 Van Buren Ave, Indian Trail, NC, 28079 USA
+1 704 893 0399
sales@optoalignment.com; www.optoalignment.com

Featured Product: The LAS-IR dual band can align and inspect lenses that are used in the UV, Visible, MWIR or LWIR.

OATi is a leading US manufacturer of precision lens alignment, assembly and inspection technologies. Our product line of IR ALIGNMENT AND ASSEMBLY STATION™ provides repeatable sub-micron lens centration and sub-arcsecond tilt measurements of spherical and aspherical lenses using a single objective. This technology allows for inspection measurements of lens alignment errors inside an assembled optical system. Also, consider our other products - LensHandler™, RotoWand™ and OptoWipes™. Contact: Guy Pearlman, General Manager, guy.pearlman@optoalignment.com; Sasha Pearlman, President, sasha.pearlman@optoalignment.com

PROMOTIONAL PARTNER
The Optronics Co., Ltd. #902
5-5 Shin-Ogawamachi, Shinjuku-ku Tokyo, 162-0814 Japan
+81 3 3269 3550; fax +81 3 5229 7253

P.R. Hoffman Machine Products, Inc. #1300
1517 Commerce Ave, Carlisle, PA, 17015 USA
+1 717 243 9900; fax +1 717 243 4542
prhoff@prhoffman.com; www.prhoffman.com

Featured Product: Lapping and Polishing Machines 3-Way & 4-Way, Lapping & Polishing Carriers, Polishing Templates

PR Hoffman Machine Products has been manufacturing lapping and polishing machines in Carlisle, PA since 1938. PR Hoffman machines are available in a variety of sizes and provide an excellent source for double sided flat and parallel processing needs. PR Hoffman is a leader in lapping and polishing carrier technology which include high quality precision machined carriers to every customer’s specifications. Polishing templates are custom manufactured to specifications to match every application. Contact: Kerry Woods, Sales Manager, kwoods@prhoffman.com; Evan Bates, International Sales Associate, ebates@prhoffman.com

4-Way SERVO 3100 Double Sided lapping, polishing Machine.
PHASICS S.A. #304

PHASICS S.A.
rt de Saclay, XTEC Bât 404 Campus de l’Ecole Polytechnique, Palaiseau, 91120 France +33 1 69 33 89 99; fax +33 1 69 33 89 60 contact@phasics.fr; www.phasics.fr

Featured Product: Kaleo measures the aberrations, the focal length and the MTF of spherical and aspherical optics.

PHASICS, a French company based in the Paris region, manufactures high-resolution (up to 400 x 300 simultaneous measurement points) wavefront sensors based on its innovative technology: 4-wave lateral shearing interferometry. These solutions answer both scientific and industrial needs and are ideal for laser characterization and optical metrology. PHASICS also proposes adaptive optics loops for laser spot optimization and beam shaping. Contact: Yoann PRIOL, Technical Sales Engineer, priol@phasics.fr; Raphael SERRA, Sales Manager, contact@phasics.fr

Kaleo solutions for MTF and WFE, from UV to far IR.

Photon Gear, Inc. #403

APOMA
245 David Pkwy, Ontario, NY, 14519-8955 USA +1 585 265 3360; fax +1 585 265 3364 sales@photongear.com; www.photongear.com

Featured Product: OEM Lens Assemblies & Optical Systems

Photon Gear specializes in the design, assembly and characterization of high-precision optical systems. Custom lens assemblies are verified with interferometric testing from 266 nm to 1600 nm. Supported application areas include semiconductor inspection and processing, military, microscopy, biomedical, laser, scanning, high precision fiber collimators, and polymer optics. We provide optical engineering and design services as well as engineering support for custom software and optical hardware. Contact: Gary Blough, President, blough@photongear.com; John Bowen, Senior Optical Engineer, Bowen@photongear.com

PI #1405

16 Albert St, Auburn, MA, 01501-1304 USA +1 508 832 3456; fax +1 508 832 0506 info@pi-usa.us; www.pi-usa.us

ISO 9001, global leader in nanopositioning, Hexapods, ultra-precision motion control & piezo stage positioning systems for OEM & research. Piezo Stages; Nanopositioning Systems; 6-Axis Hexapod Alignment Systems, Microscopy Stages; Lens Positioners; Fast Steering Mirrors/Active Optics; Long- Life Multiaxial Actuators; Ceramic Linear Motors, Piezo Drivers & Digital Controllers; Micropositioning Actuators, Stages & Motion Controllers; MicroMotion Robots for Automated 3D to 6D Photonics Alignment Contact: Sales, info@pi-usa.us

Photonics Media/ Laurin Publishing #803

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

Featured Product: Stop by our booth for the latest issues of Photonics Spectra and Biophotonics magazines.

Photonics Media – the Pulse of the Industry - invites you to explore the world of light-based technology. As the publisher of Photonics Spectra, BioPhotonics and EuroPhotons magazines, Photonics Buyers’ Guide, Photonics.com, and more, we bring you the news, research and applications articles you need to succeed. Visit wwwPhotonics.com for your FREE subscriptions and much more. Contact: Karen Newman, Group Publisher, editorial@photronics.com; Timothy Dupree, Regional Manager, advertising@photonics.com

PHOTONS ON-LINE #908

2591 Wexford-Bayne Road, Building II, Suite 305, Sewickley, PA, 15143 USA +1 724 940 7555; fax +1 724 940 7707 info@photonicsonline.com; www.photonicsonline.com

Featured Product: Previews of SPIE BIOS & Photonics West 2014 Integrated Media Promotion

Photonics Online — Where the Future of Photonics is Found — is the leading online community and industry resource for optics and photonics professionals. On the Web since 1997, Photonics Online serves the needs of design engineers, scientists, R&D, and business executives by providing engaging original content, breaking research, industry news/ views, product updates, and technical articles. Industries served include military/defense, medical imaging, industrial applications, and many others. Contact: Geoffrey Tezca, Director of Sales & Acting Publisher, gtezca@photonicsonline.com; Nathan Miller, Account Executive, nmiller@photonicsonline.com

Photonics Media #100

03062-5737 USA

98 Spitter Brook Rd, PennWell Technology Div, Nashua, NH, 03062-5737 USA +1 603 891 0123; fax +1 603 891 9238 www.laserfocusworld.com

Senior Optical Engineer, Bowen@photongear.com as well as engineering support for custom software and optical hardware.

and polymer optics. We provide optical engineering and design services as well as engineering support for custom software and optical hardware.

Contact: Jeff Nichols, National Sales Manager, jeffn@pennwell.com

PHOTONICS ONLINE

#403

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Exhibitor Listing

Precision Glass & Optics #212
3600 W Moore Ave, Santa Ana, CA, 92704 USA
+1 714 540 0126; fax +1 714 540 1482
info@pgo.com; www.pgo.com

Featured Product: PG&O offers complete turnkey optics solutions for industrial, biomedical, and defense applications.

PG&O delivers high quality, precision glass, optics, and optical coatings for industrial, military/aerospace, biomedical, imaging, laser, digital cinema & solar markets. We have 3 large coating chambers, an extremely large inventory of glass products, a full optical fabrication shop & an expert, in-house engineering staff to provide cost-effective and reliable optics & advanced thin film coatings. Other services are CNC machining, polishing, slicing, sawing, scribing, grinding, edging & assembly. Contact: Thad Sanchez, Sales Manager, thad@pgo.com

PG&O offers complete turnkey optics solutions for industrial & defense applications.

Precision Laser Technology #409
1001 Lexington Avenue #4, Rochester, NY, 14606 USA
+1 585 458 6208; fax +1 585 458 6209
RNatale@PLTemail.com; www.PrecisionLaserTech.com

Featured Product: Laser Welding Services for Injection and Blow Mold Repair

Precision Laser Technology is a leader in laser technology and services combining digital imagery and proven laser solutions to produce quality etchings on optical components and housings. PBT’s laser services extend to include precision cutting of plastics, micro-drilling and welding. Contact: Ron Natale, Business Development, RNatale@PLTemail.com

Precision MicroDynamics, Inc. #1106
512 Frances Ave, Unit 3, Victoria, BC, V8Z 1A1 Canada
+1 250 382 7249; fax +1 250 382 1830
info@pmdi.com; www.pmdi.com

Featured Product: Polaris is our new ultra high performance motion control system for optics and laser manufacturing.

Precision MicroDynamics (PMDi) is a high performance motion control company. Nano-second synchronization of motion with lasers, spindles and measuring instruments is our unique offering. Voice coil, Galvo and BLDC motor control is a key area of expertise. A modern approach to software provides customers the ability to create useful, easily maintained HMI quickly. PMDi enables speed and precision in CNC, aerospace/military, automotive, photonics; touch screen and electronics manufacturing. Contact: Mile Erlic, President, merlic@pmdi.com; Tom Erlic, CEO, terlic@pmdi.com

Leaders in precision machining and polishing of technical ceramics.

Precision Optical #110
320 Kalmus Dr, Costa Mesa, CA, 92626-6045 USA
+1 949 631 6800; fax +1 949 642 7501
sales@precisionoptical.com; www.precisionoptical.com

Featured Product: HIGH PRECISION PRISMATIC COMPONENTS, COATINGS AND ASSEMBLIES

Manufacturer of laser-quality precision optical assemblies and components (uv to ir) including prisms, mirrors, windows, wedges, retroreflectors, filters, plate-type beamsplitters, alignment cubes, polarizing and nonpolarizing cube beamsplitters and coatings. High precision cube corners, sharp edge porro-prisms. Contact: ROD RANDOLPH, PRESIDENT, randolph@precisionoptical.com; PAUL DIMECK, V.P. SALES & MARKETING, pdimeck@precisionoptical.com

Precitech, Inc. #703
44 Blackbrook Rd, Division of AMETEK, Keene, NH, 03431-5040 USA
+1 603 357 2511; fax +1 603 3553291
sales@precitech.com; www.precitech.com

AMETEK Precitech designs and manufactures ultra precision machine tools for turning, milling, and grinding. Our machines produce rotationally symmetric, asymmetric, freeform and sculpted geometries. We achieve form tolerances in the sub-micron range and nanometer surface finishes when equipped with diamond tooling. With sales and service eng. in North America, Europe and Asia, Precitech has the global reach to quickly solve your most complex machining challenges second to none. Contact: Mike Tanniru, Business Director, mike.tanniru@ametek.com; Kirk Rogers, North American Sales Manager, kirk.rogers@ametek.com

PremaTech Advanced Ceramics #1111
160 Goddard Memorial Dr, Worcester, MA, 01603-1260 USA
+1 508 791 9549; fax +1 508 793 9814
info@prematechac.com; www.prematechac.com

Featured Product: Grinding, lapping, and polishing of advanced technical ceramics with a focus on applications.

With a constant focus on applications and innovation, PremaTech Advanced Ceramics has been an industry leader in the precision machining and polishing of technical ceramics for more than 30 years. Industries served include aerospace, defense, life sciences, medical, optics, research & development, power generation, and semiconductor manufacturing. Expertise in: Ultra-hard materials, large components, grinding aspheric shapes, structural components, optical polishing, and engineering assistance. Contact: Ellen Costello, Manager, Customer Service and Operations Support, emcostello@prematechac.com; Richard Annis, Engineering Manager, rannis@prematechac.com

Leaders in precision machining and polishing of technical ceramics.
QED Technologies, Inc. #511; 515
1040 University Ave, Rochester, NY, 14607-1282 USA
+1 585 256 6540; fax +1 585 256 3211
info@qedmrf.com; www.qedmrf.com

Featured Product: ASI(Q) metrology system is optimized for stitching and collects high quality data on more parts.

QED Technologies’ SSI® high resolution, stitching metrology systems enable in-process and final testing of precision optics. QED’s MRF® polishing systems are predictable, precise and fast. QED Optics, offers polishing, metrology and engineering services for applications involving precision optical components. Rely on QED Optics for extra capacity, expanded capabilities, prototyping or polishing unfamiliar materials. Visit QED booths 515, 511 to learn about the latest developments at QED. Contact: Chuck McFee, Director of Sales, mcfee@qedmrf.com

R. Mathews Optical Works, Inc. #405
26280 Twelve Trees Ln NW Ste A, Poulsbo, WA, 98370-7199 USA
+1 360 697 6166; fax +1 360 697 7417
bob@mathewsoptical.com; www.mathewsoptical.com

Featured Product: Aspheric Lenses

Since 1978 R. Mathews Optical Works, Inc. has served the commercial, industrial, medical and research communities manufacturing precision glass aspherics. From 10mm to 300mm diameter Mathews Optical utilizes flexible generating and polishing techniques and equipment to provide cost-effective products for prototype and production quantities. Contact: Bob Mathews, President, bobb@mathewsoptical.com; Nathaniel Mathews, nathaniel@mathewsoptical.com

ColorLock™ Filter Stacks are durable, cleanable, customized & exhibit no angle shift.

Reynard Corporation #1306
1020 Calle Sombra, San Clemente, CA, 92673 USA
+1 949 366 8866; fax +1 949 498 9528
sales@reynardcorp.com; www.reynardcorp.com

Featured Product: ColorLock™ Filter Stacks are durable as glass, cleanable, customized & exhibit no angle shift.

Reynard Corp supplies custom and standard optical components & thin film coatings 0.2µm to 50µm (UV-FAR IR) to demanding specs for military, aerospace, medical & telecommunication applications. Our expertise in these markets enables us to stay on the leading edge of technological advancements through research partnerships, commercial development programs, SBIR programs and internal R&D. Other services include optical & mechanical fabrication, photolithography patterns & environmental testing. Contact: Sales Department, sales@reynardcorp.com

ColorLock™ Filter Stacks are durable, cleanable, customized & exhibit no angle shift.

RSP Technology #1413
Metaalpark 2, Delfzijl, 9936 BV Netherlands
+31 596 632 300; fax +31 596 632 678
info@rsp-technology.com; www.rsp-technology.com


RSP Technology, Inc. is a vertically-integrated manufacturer and an advanced electronic materials provider that is engaged in developing, manufacturing and selling monocrystalline sapphire for LEDs, RFICs, blue laser diodes, optoelectronics and other optical applications. We apply its proprietary crystal growth technology and fabrication process to produce very high-quality sapphire in various sizes and orientations of substrates and windows specified by its customers in volume production Contact: Miyuki Calvert, Senior Account Manager, mcalvert@rubicontechnology.com; Sunil Phatak, VP of Sales, sphatak@rubicontechnology.com

Rubicon Technology #1206
900 Green St, Bensenville, IL, 60106-2553 USA
+1 847 295 7000
www.rubicontechnology.com


Rubicon Technology, Inc. is a vertically-integrated manufacturer and an advanced electronic materials provider that is engaged in developing, manufacturing and selling monocrystalline sapphire for LEDs, RFICs, blue laser diodes, optoelectronics and other optical applications. We apply its proprietary crystal growth technology and fabrication process to produce very high-quality sapphire in various sizes and orientations of substrates and windows specified by its customers in volume production Contact: Miyuki Calvert, Senior Account Manager, mcalvert@rubicontechnology.com; Sunil Phatak, VP of Sales, sphatak@rubicontechnology.com
Salem Advanced Surfacing Materials

Featured Product: STATUS: cerium oxide polish that exhibits high price to performance ratio on precision glass optics.

The Salem Group successfully serves five distinct industries: Glass & Stone Fabrication, Precision Electro-Optical, Ophthalmic and Solar. This complex relationship of industries, materials and applications serves to build a wealth of product and process knowledge unique to a single company. Salem Advanced Surfacing Materials is the product of distilling these fields of expertise to provide innovative solutions and services to the manufacturing segment of the Precision Electro-Optical industry. Contact: Steve Albright, Product Development, salbright@salemdist.com

Satisloh North America Inc.

Featured Product: C-300: CNC controlled, high precision centering of 10-300 mm diameters.

The Satisloh line includes generators, polishers, laser centering, and coating machines (sputtering) for all applications and the powerful Syntile for Windows software. A supplier of diamond wheels and pellets, spherometer rings, and spare parts, we offer a complete range of consumable products – including distribution of Mueller Diamonds, polishing pads, and Borer Chemical ultrasonic cleaning products. Satisloh provides both Consulting and Tool Services. STEP is our premium maintenance program. Contact: Tom Godin, Sales Director, tom.godin@satisloh.com; Lori Heller, Sales Administration, lori.heller@satisloh.com

Savvy Optics Corp.

Featured Product: Introducing the SIF-4E - The new, objective, megapixel scratch and dig inspection system for flats.

Savvy Optics Corp is dedicated to serving the optics industry through practical solutions to today’s problems. Founded in 2007 as an optical design consultancy focused on practical optical solutions and optics standards, Savvy Optics is now recognized as the go-to company for any issues involving scratch and dig specification, comparison standards, metrology, and inspection. The SavvyInspectorTM SIF-4 system is the industry standard for scratch and dig inspection on flat optics. Contact: Dave Aikens, President, sales@savvyoptics.com; Dana Takaki, Director, dtakaki@savvyoptics.com

Schneider Optical Machines Inc.

Featured Product: SCG 100 for precision CNC grinding of spherical and aspherical optics.

Designs and manufactures precision CNC equipment for optics fabrication and testing. Provides complete solutions for generating, polishing, centering, edging and measuring aspheric, spherical, plano and other optics. Offers training, service, applications support and custom tooling for optimizing machine use and production. Contact: Alex Pisarski, Sales Manager, Precision Optics North America, a.pisarski@schneider-om.com; Dr. Thomas Danger, Vice President Sales, Precision Optics, t.danger@schneider-om.com

Sensofar, LLC

Featured Product: Custom Optics, Lens Design, Lens Assembly, Aspheric Lens, Thin Film Products, Sputtering Targets

Sensofar (ISO:9001) is a leading supplier of lens systems, opto-mechanical assembly and optical components. SO engineers have decades of experience in design and engineering of imaging and illumination systems and assemblies from prototyping to production. We serve OEM customers worldwide in semiconductor, biotechnology, pharmaceutical, military and telecommunications. SO offers second-to-none design and manufacturing expertise that provides you the most competitive edge in global markets. Contact: Kristi Sun, Senior Project Manager, kksun@shanghai-optics.com; Vanessa Zhou, Project Manager, vzhou@shanghai-optics.com

Shanghai Optics Inc.

Featured Product: Custom Objective Design with working distance ranging from 200 - 1100nm.
Sierra Precision Optics  #913
12830 Earh Ave, Auburn, CA, 95602 USA
+1 530 885 6979; fax +1 530 885 1037
jstimson@sierraoptics.com; www.sierraoptics.com

**Featured Product: Custom Optics Fabrication**
Plano optics, Filters, Panels, Windows, Mirrors, Beam Splitters, Wedges & Prisms, Spherical & Cylindrical Lenses, Specialties: Cylindrical optics, Excimer laser Optics, UV/VIS/NIR Resonator optics, Flow Tubes & Custom shaped optics, 1/20th wave metal polishing of Invar & stainless steel, Materials, optical glasses UV, Visible, Near IR such as Fused Silica, Optical Glass BK7, Pyrex, SF grade, Filter Glass, Samarium, Quartz, CaF2, MgF2, Zerodur, Yag, Silicon, ZnSe, ZrS, & Ge. Contact: Jim Stimpson, V.P. Sales & Marketing, jstimson@sierraoptics.com; Steve Bennion, Engineering Manager, sbennion@sierraoptics.com

SlicingTech  #707
432 Mt Bethel Hwy, Bangor, PA, 18013 USA
+1 610 588 7884; fax +1 610 588 7885
mhartman@slicingtech.com; www.slicingtech.com
MeyerBurger DS-265 with diamond wire for slicing sapphire, ultrahard materials.

Space Optics Research Labs  #1412
SPIE Corporate Member
7 Stuart Rd, Chelmsford, MA, 01824-4107 USA
+1 978 250 8640; fax +1 978 256 5605
info@sorl.com; www.sorl.com

Spectra Services Inc.  #1205
APOMA
6359 Dean Pky, Ontario, NY, 14519 USA
+1 585 329 9950; fax +1 585 265 4374
www.spectraservices.com

Spica Technologies, Inc.  #1314
SPIE Corporate Member
18 Clinton Dr Ste 3, Hollis, NH, 03049-6576 USA
+1 603 882 8233
sales@spicatech.com; www.spicatech.com

**Featured Product: Laser Damage Testing**
Spica Technologies provides a broad range of optical test and measurement services for manufacturers and end users of optical components. Founded in 1989, Spica has evolved as the premier source for laser damage testing, optical density measurements, environmental exposure, telecomm testing, and general optical component metrology. Relying on numerous laser sources, a host of specialized optical instruments, Spica can support a broad range of optical test and measurement needs. Contact: Michael Thomas, President.

TAG Optics, Inc.  #1338
SPIE Corporate Member
PO Box 1572, Princeton, NJ, 08542 USA
+1 609 356 2142
info@tagoptics.com; www.tagoptics.com

**Featured Product: TAG Lens 2.0: Ultra high speed varifocal lens with high depth-of-field capabilities**
TAG Optics develops and manufactures ultra-high-speed adaptive optical elements based on its patented mechanism of action that uses sound to shape and focus light with sub-microsecond temporal resolution. Our award winning TAG Lens has the unique ability to focus, defocus, beam shape, and extend the depths-of-field, all in one low-costs electronically controlled device making it ideal for applications in industrial/biomedical imaging, laser micro-processing, and metrology. Contact: Christian Theriault, info@tagoptics.com

Swift Glass Co.  #509
APOMA
131 West 22nd St, Elmira Heights, NY, 14903 USA
+1 607 733 7166; fax +1 607 732 5829
quality@swiftglass.com; www.swiftglass.com

**Featured Product: Custom flat glass components**
Specializing in custom plano/plano glass, ceramic, and fused silica components. Capabilities include double sided lapping and polishing, heat tempering and chem strengthening, cnc milling, od grinding, edge polishing, precision hole drilling, and water-jet cutting. Materials worked on include Borofloat, Soda Lime, Starfire, Eagle XG, Fused Silica, Quartz, Schott color filters, Kopp color filters, Hoya color filters, Yvorer, B-270, BK-7, and Sapphire. Contact: Charlie Burke, VP, cburke@swiftglass.com; Kevin Wheeler, VP New Business Development, kwheeler@swiftglass.com

Syntec Optics  #505
SPIE Corporate Member
31 Jet View Dr, Rochester, NY, 14624 USA
+1 585 271 7300; fax +1 585 271 7309
sales@sydor.com; www.sydor.com

**Featured Product: Polymer Optics**
Syntec Optics is North America’s largest, private, manufacturer of custom plastic optics serving the Medical, Defense and Biometric Industries by producing “Precision Plastic Optics for Tomorrow’s Technologies” from our location near Rochester, NY. We specialize in Design, Injection Molding, Diamond Turning, Assembly and Metrology. Contact ramrd@syntecoptics.com or dhand@syntecoptics.com for more information or visit www.syntecoptics.com. Contact: Rick Arndt, VP/GM, rarndt@syntecoptics.com; Doug Hand, Sales Manager, dhand@syntecoptics.com

TAG Optics, Inc.  #1338
SPIE Corporate Member
PO Box 1572, Princeton, NJ, 08542 USA
+1 609 356 2142
info@tagoptics.com; www.tagoptics.com

**Featured Product: TAG Lens 2.0: Ultra high speed varifocal lens with high depth-of-field capabilities**
TAG Optics develops and manufactures ultra-high-speed adaptive optical elements based on its patented mechanism of action that uses sound to shape and focus light with sub-microsecond temporal resolution. Our award winning TAG Lens has the unique ability to focus, defocus, beam shape, and extend the depths-of-field, all in one low-costs electronically controlled device making it ideal for applications in industrial/biomedical imaging, laser micro-processing, and metrology. Contact: Christian Theriault, info@tagoptics.com

Wheeler, VP New Business Development, kwheeler@swiftglass.com
Taylor Hobson - AMETEK UPT  #711

APOMA
1725 Western Dr, Chicago, IL, 60185 USA
+1 630 621 3099; fax +1 630 231 1739
www.taylor-hobson.com

Featured Product: PGI Dimension is the Global Standard for Asphere Metrology. No limit for departure, slope or shape!

Taylor Hobson is an ultra-precision technology company operating at the highest levels of accuracy. Offering contact and non-contact surface and form metrology solutions for the most demanding applications. We offer truly global support, with worldwide sales, technical support and aftermarket service infrastructure. New products are continually introduced at events like Optifab! Visit to see the latest in Asphere, Freeform and High Production metrology! Contact: Rick Parnoff, Regional Sales Manager, rick.parnoff@ametek.com; Erik Stower, Business Development Manager, Optics, erik.stover@ametek.com

PGI Dimension - the Standard in Asphere Metrology.

Techmetals, Inc.  #1334

SPIE Corporate Member
345 Springfield St, Optics Division, Dayton, OH, 45403 USA
+1 937 253 5311; fax +1 937 253 5096
info@techmetals.com; www.techmetals.com

Featured Product: Optic Grade Nickel alloys for SPDT, Optakoat and other precision machining coating applications.

Techmetals provides Optakoat - the coating of choice for SPDT applications of precision optics, mirrors, critical optic molding applications, BEF and solar panel film production. Techmetals also offers Optic Grade EN, Anodize, Silver, as well as TM-Rx Medical Grade Chrome, Medically approved Electro polish, Passivation Titanium Anodize and a full line of PVD coatings. See our complete list of custom designed coatings at www.techmetals.com Contact: Steve Deisher, Director of Business Development, sdeisher@techmetals.com; Lisa Watson, Optics Team Leader, lgwatson@techmetals.com

Tempo Wafer Boxes  #1207

SPIE Corporate Member
6901 TPC Dr Ste 450, Orlando, FL, 32822-5127 USA
+1 407 855 1212; fax +1 407 855 1213
sales@tecportoptics.com; www.tecportoptics.com

Treibacher Industries Inc.  #1417

SPIE Corporate Member
515 Consumers Road, Suite 212, Toronto, ON, M2J 422 Canada
+1 416 535 2600; fax +1 416 535 2602
www.treibacher.com

Featured Product: Residue Free Cleaning of precision optics.

Deconex aqueous Detergents for residue free cleaning of precision optics.

Technotrade International Inc  #1310

7 Perimeter Road, Manchester, NH, 03103 USA
+1 603 622 5011; fax +1 603 622 5211
sales@technotradeinc.com; www.technotradeinc.com

Featured Product: Processes and Aqueous bases Detergents for Residue Free Cleaning

TECHNOTRADE International is the stocking distributor for Gorer Chemie, a leading supplier of environmentally safe, aqueous based products and technologies for the cleaning and stripping of a wide range of materials including metals, glass, precision optical material and plastics. The Deconex product line has been developed for use in spray, brush and ultrasonic applications. Highlighted at the show are cleaning chemistries for optics, ophthalmic and metal manufacturing. Contact: Johnny Hagen, Technical Sales, sales@technotradeinc.com; Markus Auwaerter, Technical Sales, sales@technotradeinc.com

Techmetals USA Inc.  #606

35A Kennedy Rd, Tranquility, NJ, 07879 USA
+1 908 850 8505; fax +1 908 850 8506
info@technodiamant.com; www.technodiamant.com

Technodiamant manufactures a full range of diamond tools including controlled waviness tools for precision diamond turning, CVD diamond windows and ATR products, diamond core drills, diamond and CBN wheels, and custom CBN/PCD tooling. Along with our sister company Contour Fine Tooling, we have 7 global manufacturing locations. Diamond tools can be supplied with edge waviness down to 50 nm P-V and 1 micron tip radius Contact: David Slaperud, President, dave@technodiamant.com

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tempoglass@yahoo.com; www.tempo-foam.com

Rogers, tempo@tempo-foam.com

Reduce labor, many options for round, square & rectangular. Contact: Doug Rogers, tempo@tempo-foam.com

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SPIE Corporate Member
Hafenstr 35-39, Wedel, 22880 Germany
+49 4103 18006 0; fax +49 4103 180062 0
info@trioptics.com; www.trioptics.com

Featured Product: TRIOPTICS has been offering test and measurement solutions for optics “Made in Germany” since 1992. OptiCentric® automated centration error measurement, alignment, centering, center thickness measurement, cementing & bonding; OptiSpheric® complete optical characterization (EFL, BFL, MTF, radius); ImageMaster® MTF-characterization UV-VIS-IR; WaveMaster® real time wavefront analysis with Shack-Hartmann sensors; μPhase® interferometers; PrismMaster® prism measurement; TriAngle® electronic autocollimators, visual autocollimators; Telescopes, autocollimators and Ophthalmic metrology instruments.
Tydex

Domostroitelnaya str., 16, St. Petersburg, 194292 Russian Federation
+7 812 334 8701; fax +7 812 309 2958
optics@tydex.ru; www.tydexoptics.com

Featured Product: THz optics, astromirrors and systems, off-axis parabolic mirrors, polarizers, filters and more.

Tydex is a manufacturer of optical components and instruments for research and industry including spectroscopy, pyrometry and thermography, THz photonics, sensors and detectors, metrology, lasers and more. Tydex offers THz optics, astromirrors and systems, off-axis parabolic mirrors, polarizers, filters and optical elements of a wide range of materials. Contact: Vladimir Kopalov, Commercial Department Manager, vladimir@tydex.ru; Valery Nikolaev, Deputy General Manager, valerynikolaev@tydex.ru

Thz Diffractive Optical Elements: Thz Fresnel lenses and Thz Beam Dividers.

Unist Technologies Corporation

3B-21 No 5 Sec 5 Hsin-Yi Rd,
Taipei, 11011 Taiwan
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info@unist.com.tw; www.unist.com

Carriers for double side grinding, lapping and polishing.

University of Rochester,
The Institute of Optics

275 Hutchison Road, Wilmot Bldg., R C, Rochester, NY, 14627 USA
+1 585 275 2322; fax +1 585 244 4936
www.optics.rochester.edu

Featured Product: Education

The Institute of Optics Industrial Associates Program provides individuals and organizations with an interest in optical science and engineering to interact with our faculty and students. This program meets on the University of Rochester Campus twice annually. The Institute of Optics Summer School program provides both introductory and general training in optics and also several specialized tracks in areas of optical science and engineering. See www.optics.rochester.edu for additional details.

Valtech Corp.

2113 Sanatoga Station Rd, Pottstown, PA, 19464 USA
+1 610 705 5900; fax +1 610 705 0300
info@valtechcorp.com; www.valtechcorp.com

Featured Product: VALTRON® high-performance temporary adhesives, detergents and molded and machined polymers

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Vermont Photonics Technologies Corp. #1348
22 Browne Ct Unit 110, Brattleboro, VT, 05301 USA
+1 802 275 5210; fax +1 802 275 5215
mail@vermontphotonics.com; www.vermontphotonics.com

Featured Product: Glass refractive index measurement with the Vermont Photonics HCDR

Volpi #904
5 Commerce Way, Auburn, NY, 13021 USA
+1 315 255 1202
Volpi@VolpiUSA.com; www.volpiusa.com

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+1 860 651 1813
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+1 860 347 8506; fax +1 860 347 3968
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Policies

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At SPIE events where wireless is included with your registration, SPIE provides wireless access for attendees during the conference and exhibition but cannot guarantee full coverage in all locations, all of the time. Please be respectful of your time and usage so that all attendees are able to access the internet.

Excessive usage (e.g., streaming video, gaming, multiple devices) reduces bandwidth and increases cost for all attendees. No routers may be attached to the network. Properly secure your computer before accessing the public wireless network. Failure to do so may allow unauthorized access to your laptop as well as potentially introduce viruses to your computer and/or presentation. SPIE is not responsible for computer viruses or other computer damage.

**Mobile Phones and Related Devices Policy**
Mobile phones, tablets, laptops, pagers, and any similar electronic devices should be silenced during conference sessions. Please exit the conference room before answering or beginning a phone conversation.

**Smoking**
For the health and consideration of all attendees, smoking is not permitted at any event elements, such as but not limited to: plenaries, conferences, workshops, courses, poster sessions, hosted meal functions, receptions, and in the exhibit hall. Most facilities also prohibit smoking in all or specific areas. Attendees should obey any signs preventing or authorizing smoking in specified locations.

**Hold Harmless**
Attendee agrees to release and hold harmless SPIE from any and all claims, demands, and causes of action arising out of or relating to your participation in the event you are registering to participate in and use of any associated facilities or hotels.

**Event Cancellation**
If for some unforeseen reason SPIE should have to cancel the event, registration fees processed will be refunded to registrants. Registrants will be responsible for cancellation of travel arrangements or housing reservations and the applicable fees.

**Confidential Reporting of Unethical or Inappropriate Behavior**
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12–15 October 2015

Exhibition
13–15 October 2015

Location
Rochester Riverside Convention Center
Rochester, New York, USA

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- Optical Manufacturing
- Advanced Fabrication Equipment
- Diamond Turning
- Coating Equipment and Processes
- Metrology Developments and Equipment