OPTIFAB EXHIBITION GUIDE

North America’s Largest Optical Fabrication Event

www.spie.org/ofb

Joseph A. Floreano Rochester Convention Center
Rochester, New York, USA

Conference & Courses
12–15 October 2015

Exhibition
13–15 October 2015

MOVING TECHNOLOGY TO MARKET™

Sponsor
Co-sponsor

SPIE
APOMA
EXHIBITION GUIDE.

Tuesday 13 October ............... 10:00 am to 5:00 pm
Wednesday 14 October ............. 10:00 am to 6:00 pm
Poster Reception/Networking . 4:30 pm to 6:00 pm
Thursday 15 October ............... 10:00 am to 3:00 pm

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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, and the supporting industry along with academic associates, whose mutual interest is the advancement and expansion of optics manufacturing and technology.
www.APOMA.org
GENERAL INFORMATION

Joseph A. Floreano Rochester Convention Center
123 East Main Street, Rochester, New York, 14604-1619 USA
Tel: +1 585 232-7200, Fax: +1 585 232-1510, www.rrcc.com

Exhibition Hours
Tuesday 13 October ............................. 10:00 am to 5:00 pm
Wednesday 14 October .......................... 10:00 am to 6:00 pm
Poster Reception/Networking ............... 4:30 pm to 6:00 pm
Thursday 15 October ............................ 10:00 am to 3:00 pm

Registration
Onsite Registration and Badge Pickup Hours
Galleria Lobby, 1st Floor
Monday 12 October ............................. 7:30 am to 5:00 pm
Tuesday 13 October ............................. 7:30 am to 5:00 pm
Wednesday 14 October ........................ 7:30 am to 6:00 pm
Thursday 15 October ............................ 7:30 am to 3:00 pm

Conference Registration
Includes admission to all conference sessions, plenaries, panels, networking and poster sessions, admission to the exhibition, coffee breaks, and an online proceeding.

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. Onsite, please go to Course Materials after you pick up your badge. Multiple facilities may be used for courses; allow yourself enough time to register, pick up your materials and possibly walk to a nearby facility before your course begins.

Press Registration
For credentialed press only. Please email contact information, title, and organization to media@spie.org. Advance registration is highly encouraged, to avoid delays onsite. Your press badge will be available onsite at the registration desk.

SPIE Cashier
Registration Area, Galleria, 1st Floor
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 requiring payment, or have questions regarding your registration, visit the SPIE Cashier.

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

Badge Corrections
Badge corrections can be made by the SPIE Cashier at the Receipts and Corrections 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.

SPIE Conference and Exhibition App
On your Smart Phone (iPhone, Android)
Search and browse the program, special events, participants, exhibitors, courses, and more. Free Conference Apps available for iPhone and Android phones.

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, browse course offerings and the other education services available.

SPIE Education Services
Registration Area, Galleria, 1st Floor
Browse course offerings and the other education services available: SPIE courses, videos, and CDs, as well as customized in-company courses.

Restaurant & City Information
Empire Lobby, 2nd level
Monday through Wednesday ..................... 8:00 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 at the end of the meeting, all found items will be turned over to Joseph A. Floreano Rochester Convention Center, +1 585 232-7200.

Advertisers
Engis Corp. ........................................... 7
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TRIOPTICS GmbH ................................. 3
Measurement of lens systems

Alignment and assembly of optical elements

Alignment, assembly and testing of camera modules

Optical Manufacturing Process

Measurement of optical elements (e.g. lenses, prisms)

See the Difference – in Your Optical Manufacturing Process

- Measurement systems for each step in the optical manufacturing process
- Alignment and assembly systems for optics and camera modules based on TRIOPTICS’ advanced measurement technology

We are looking forward to meeting you at Booth #115

Live Demo!
Measurement and Active Alignment of Lenses

www.trioptics.com
Food and 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.

FOOD & REFRESHMENTS FOR PURCHASE
Café Express, back of the Exhibition Hall
Hours of operation - As posted onsite
Hot and cold snacks, hamburgers, deli sandwiches, salads, and pastries are available for purchase. Cash and credit cards accepted.

FOOD TRUCKS
Food trucks will be available in front of the Convention Center
Monday through Wednesday ............... 11:00 am to 2:00 pm
Thursday ........................................ 11:00 am to 1:00 pm

Travel

COMPLIMENTARY AIRPORT SHUTTLES
Hyatt Regency Rochester
The Hyatt Regency Rochester has a complimentary airport shuttle. Call from the courtesy phone in baggage claim area at the airport. Look for the two-tone grey and light blue van with Hyatt logo. The shuttle runs from 6:00 am to 11:00 pm.

Radisson Hotel Rochester
The Radisson Hotel Rochester has a complimentary airport shuttle. Call from the courtesy phone in the baggage claim area at the airport. The shuttle runs from 4:30 am until midnight every day.

Hilton Garden Inn
The Hilton Garden Inn has a complimentary airport shuttle. Call from the courtesy phone in baggage claim area, or call the hotel directly at +1 585-232-5000. The shuttle runs from 6:00 am to 10:00 pm.

Taxi
Taxi from Greater Rochester International Airport Taxi from ROC to the event hotels and Convention Center is approximately $25 one way.

Parking
- Rochester Riverside Convention Center has parking.
- Radisson Hotel Rochester Riverside is complimentary for overnight guests and $10 for day visitors.
- Hilton Garden Inn is complimentary to overnight guests.
- Hyatt Regency Rochester has valet, discounted overnight guest rates, and non-guest rates.

Hertz Car Rental has been selected as the official car rental agency for this Symposium. To reserve a car, identify yourself as an Optifab conference attendee using the Hertz Meeting Code CV# 029B0020. Note: When booking from International Hertz locations, the CV # must be entered with the letters CV before the number, i.e. CV029B0020.
Book online at Hertz.com
- In the United States call 1-800-654-2240

New York Photonics www.newyorkphotronics.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 2015

<table>
<thead>
<tr>
<th>Company</th>
<th>Booth #</th>
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<tbody>
<tr>
<td>Optimax</td>
<td>#500</td>
</tr>
<tr>
<td>Applied Image, Inc.</td>
<td>#501</td>
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<tr>
<td>Advanced Glass Industries</td>
<td>#502</td>
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<tr>
<td>JML Optical Industries, LLC</td>
<td>#503</td>
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<tr>
<td>Syntec Optics</td>
<td>#506</td>
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<tr>
<td>Xactra Technologies</td>
<td>#505</td>
</tr>
<tr>
<td>Empire Precision Plastics</td>
<td>#509</td>
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<tr>
<td>Angstrom Precision Optics Inc</td>
<td>#507</td>
</tr>
<tr>
<td>AccuCoat Inc.</td>
<td>#508</td>
</tr>
<tr>
<td>Sydor Optics, Inc.</td>
<td>#510</td>
</tr>
<tr>
<td>QED Technologies</td>
<td>#511, 615</td>
</tr>
</tbody>
</table>


## PRODUCT DEMOS

Nine free seminars and two plenary talks give you a valuable opportunity to learn new methods, improve your processes, cut costs, and discuss your requirements face-to-face.

<table>
<thead>
<tr>
<th>TIME</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30 am</td>
<td>PR-1 2015; Not your father’s PR-1!</td>
<td></td>
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<tr>
<td></td>
<td>Andy Leber &amp; the PR Hoffman Engineering Team, PR Hoffman Machines Products, Inc.</td>
<td>Booth #202</td>
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<tr>
<td></td>
<td>View the new standard features and exciting options for the PR-1 that will be available on new machines beginning October 2015. See how the PR-1 can help your world stay flat and parallel.</td>
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<tr>
<td>12:30 pm</td>
<td>Difrotec D7</td>
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<tr>
<td></td>
<td>Prof. Nikolay Voznesensky, Difrotec</td>
<td>Booth #209</td>
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<tr>
<td></td>
<td>Presentation of point diffraction interferometer Difrotec D7 for absolute testing of optical components and systems with sub-nanometer accuracy.</td>
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<tr>
<td>1:30 pm</td>
<td>PR-1; What’s New?</td>
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<tr>
<td></td>
<td>Andy Leber &amp; the PR Hoffman Engineering Team, PR Hoffman Machines Products, Inc.</td>
<td>Booth #202</td>
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<tr>
<td></td>
<td>Machine Design Engineers will share with viewers the new features and options. Hands on operation of the PR-1 will be available.</td>
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<tr>
<td>2:30 pm</td>
<td>Q-flex 300 MRF polishing: modular flexibility for off-axis and freeform optics</td>
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<td></td>
<td>Bruce Forman, QED Technologies Inc.</td>
<td>Booth #615</td>
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<td></td>
<td>Freeform applications are becoming more prevalent in the optical industry which poses new challenges to optical fabrication.</td>
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<tr>
<td>3:30 pm</td>
<td>UltraSurf 4X 300: Flexible and Accurate Non-Contact Asphere Metrology</td>
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<td></td>
<td>Scott DeFisher, OptiPro Systems</td>
<td>Booth #715</td>
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<td></td>
<td>A demonstration of the UltraSurf 4X 300 performing high precision metrology of a 300mm asphere, emphasizing the unit’s easy-to-use, powerful software with 2D &amp; 3D measurement &amp; analysis capabilities.</td>
<td></td>
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<tr>
<td>4:30 pm</td>
<td>High precision angle measurement of prisms, polygons and wedges made easy and reliable</td>
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<td></td>
<td>Byron Seabolt, TRIOPTICS</td>
<td>Booth #115</td>
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<td></td>
<td>The PrismMaster 300HR offers an unrivaled angle accuracy of 0.2 arcsec. It provides automated angle measurement on prisms, polygons and wedges and special measurement routines for optical gratings, refractive index, and deviation angle in transmission.</td>
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<tr>
<td></td>
<td>PRO 160A: Deterministic CNC Asphere Polishing Platform</td>
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<td></td>
<td>Jayson Tierson, OptiPro Systems</td>
<td>Booth #715</td>
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<td></td>
<td>PRO 160A, OptiPro’s latest solution utilizing UltraForm Finishing &amp; UltraSmooth Finishing in one platform, is ideal for polishing aspheres to optical requirements with minimal mid-spatial frequencies.</td>
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<td></td>
<td>MultiCentric Cementing Station: Highly Efficient Lens Alignment of Doublets and Triplets</td>
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<tr>
<td></td>
<td>Christian Wilde, TRIOPTICS</td>
<td>Booth #115</td>
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<td></td>
<td>The MultiCentric® Cementing Station aligns and cements lens pairs quickly and accurately. Compared to the conventional cementing methods, the system reduces the measurement and alignment time significantly to less than 10s.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hyprez® Lapping & Polishing Solutions for Advanced Optical Materials

Challenges with Sapphire, Zinc Selenide and other Advanced Materials?

Engis has solutions for:

- Reducing polishing times
- Edge-to-edge flatness control
- Scratch-free surfaces
- Eliminating edge dubbing and lensing effect

At Optifab 2015 we will demonstrate our Full Systems Approach for challenging optical substrates. We will feature:

- Superior lapping plate materials for faster stock removal and better finishes
- Advanced facing and grooving technology for exceptional flatness
- Engineered diamond slurry formulations for improved efficiency vs. conventional abrasives
- Our Process Development Lab which is ready to assist you with even the most challenging applications

Trust the diamond experts at Engis.

See us at Booth #805
THANKS TO THIS YEAR’S CONTRIBUTING SPONSORS

Scratch Free Packaging
a division of Alliance Corporation

Edmund Optics worldwide

Heraeus

Precision Laser Technology

Quantel Laser

SALEM Advanced Surfaces
WE ARE 100% EMPLOYEE OWNED

SYDOR OPTICS

TRIOPTICS
See the Difference.

PROMOTIONAL PARTNERS
Electro Optics
IOP Publishing
Laser Focus World
OptoIndex

The Optronics Co., Ltd.
Photonics Media
Photonics Online
Because staying informed has never been so critical.

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Available in print and digital formats.
To contribute to Photonics Media publications submit a 100-word abstract to editorial@ photonics.com for consideration.
3D Printing of Optics: The Manufacturing of Polymer Optics via Inkjet Printing

Tuesday 13 October · 8:00 to 8:45 am
Location: Highland A/B

Joris Biskop
LUXeXceL Group BV (Netherlands)

Via a digital design (CAD-file) the optical design is converted into a print file. These drive the inkjet printhead inside of the manufacturing printer, this printhead ejects droplets of a specially developed monomer mixture that is sensitive to UV light, in the specific coordinates defined by the converted design. These droplets are cured via UV light and form a solid layer, this process is repeated until a 3D printed optic emerges. LUXeXceL has developed this technology that they can produce parts, accurately, transparent, smooth and at production speeds.

Also discussed: The design for manufacturing, the optical parameters, and the part quality.

Joris Biskop: currently CTO of LUXeXceL. Brought two generations of inkjet printers to market and led pioneer work in optimizing acrylic materials for use in inkjet technology. Author and inventor on 5 patents.

Laser Polishing of Glass

Tuesday 13 October · 8:45 to 9:30 am
Location: Highland A/B

Christian Weingarten
Fraunhofer-Institut für Lasertechnik (Germany)

The manufacturing of nonspherical optics in small lot sizes is time consuming and hence more expensive compared to the manufacturing of spheres. But, since nonspherical optics exhibit several advantages the demand for aspheres is steadily increasing.

With laser processing, a decoupling of work piece and tool geometry is achieved, which enables the manufacturing time being nearly independent from the optics geometry.

A laser based process chain for optics manufacturing, which is being developed at the Fraunhofer ILT.

Generally, each process step for optics manufacturing can be conducted with laser radiation. However, each process step can be used as self-standing process and hence implemented in a conventional process chain.

To manufacture an optic with laser radiation three laser based process steps are consisted in the process chain. In a first step the geometry is generated from a glass preform. Using a CO2-Laser material is ablated by evaporation.

The second step of the Laser based process chain is the Laser Polishing for reducing the resulting roughness of the high speed laser ablation. For Laser Polishing, CO2 laser radiation is used due to the high absorption coefficient of glass at $\lambda = 10.6\ \mu\text{m}$ of about 80%. The laser radiation is absorbed in a thin surface layer with a thickness in fused silica of $\sigma_{\text{opt}} < 10 \ \mu\text{m}$. Hence, the thin layer of the glass surface can be heated up just below evaporation temperature. Due to the surface tension and the reduced viscosity the roughness can flow out.

To reduce the resulting waviness of the polishing step a third process step is necessary. First, the surface is measured and subsequently the shape deviation is reduced by a High Precision Laser Ablation step. For the form correction CO2—or ultra-short pulse laser radiation is used.

In the presentation results for all three steps with a focus on laser polishing will be shown.

Christian Weingarten: studied material science at the RWTH Aachen University in Germany (2008 – 2013). Since November 2013 he has been doing his doctorate at the Fraunhofer Institute for Laser Technology in Aachen. His research interest in the field of laser material processing include the laser polishing as well as the development of a laser based process chain for manufacturing of optics.

Kidger Scholarship Award

Tuesday 13 October · 9:30 to 9:40 am

Tina Kidger, Kidger Optics, will present the Michael Kidger Memorial Scholarship in Optical Design to Eric Schiesser, University of Rochester. This scholarship is supported by the Michael Kidger Memorial Scholarship fund in memory of Michael John Kidger, a well-respected educator, design software developer and member of the optical science and engineering community.
Ribbon Cutting Ceremony
Tuesday, 13 October from 9:45 – 10:00 am
Location: Empire Hall Lobby
Join the Honorable Lovely Warren, Mayor of Rochester, New York, for a Ribbon Cutting Ceremony to open the Optifab 2015 Exhibition on Tuesday, 13 October at 9:45 am in the Empire Hall lobby.

17th Annual Photonics Clambake
Tuesday 13 October · 5:30 pm
Location: Hyatt Ballroom
Tickets are sold separately

Attendees and Exhibitors are welcome to attend. Limited space available. Contact Michael Naselaris, Sydor Optics, Inc. for tickets at Booth #510.

PRESENTED BY: SYDOR

SPIE Optifab Job Fair
Wednesday 14 October · 10:00 am to 6:00 pm
Location: Exhibition Hall
Top employers are coming together to interview and hire candidates at SPIE Optifab 2015. Bring your resume to the Exhibition Hall and start your future.

SPONSORED BY: SPIE Career Center

Networking Reception and Poster Viewing
Wednesday 14 October · 4:30 pm to 6:00 pm
Location: Empire Hall
Symposium attendees are invited to attend the Poster/Networking Reception on Wednesday evening in the Empire Hall. The reception provides an opportunity for attendees to meet with colleagues, network, view poster papers, and interact with the authors. Refreshments will be served.

Attendees are required to wear their badges.

PANEL DISCUSSION
Optics and Photonics Education in Rochester: Strategies for Advanced Education to Support Growth, Innovations, and Future Jobs
Wednesday, 14 October · 3:30 to 4:30 pm
Location: Highland A/B

SPIE Event Mobile App
SPIE Conference and Exhibitions are known for their networking and information gathering opportunities.

Schedule your time in the conferences... find your way around the exhibition floor... make new connections. Download a free Conference + Exhibition App for iPhone and Android.
GET A JOB

Visit the Job Fair in the Exhibition Hall
Wednesday 14 October • 10:00 am to 6:00 pm

For more information, visit the SPIE Career Center Booth #1103
You Can’t Afford to Stop Learning

Get focused, efficient training that you can apply directly to your daily work. Learn from some of the most experienced and accomplished minds in industry and research. Take advantage of the unique opportunity to interact with experts and peers who share similar challenges.

**MONDAY**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Instructor(s)</th>
<th>Time</th>
<th>Fee</th>
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</thead>
<tbody>
<tr>
<td>SC1039</td>
<td>Evaluating Aspheres for Manufacturability</td>
<td>Dumas, Murphy</td>
<td>8:30 am to 12:30 pm</td>
<td>$360 / $410</td>
</tr>
<tr>
<td>SC1169</td>
<td>Optical Manufacturing Fundamentals</td>
<td>Williamson</td>
<td>8:30 am to 5:30 pm</td>
<td>$600 / $690</td>
</tr>
<tr>
<td>SC1153</td>
<td>A Practical Guide to Specifying Optical Components</td>
<td>Youngworth</td>
<td>1:30 pm to 5:30 pm</td>
<td>$360 / $410</td>
</tr>
<tr>
<td>SC1167</td>
<td>Gradient Index (GRIN) Optical Design</td>
<td>Moore</td>
<td>1:30 pm to 5:30 pm</td>
<td>$360 / $410</td>
</tr>
</tbody>
</table>

**TUESDAY**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Instructor(s)</th>
<th>Time</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC1122</td>
<td>Applying Freeform Optical Surfaces in Imaging Optics</td>
<td>Rolland, Rolland-Thompson</td>
<td>8:30 am to 5:30 pm</td>
<td>$570 / $660</td>
</tr>
<tr>
<td>SC700</td>
<td>Understanding Scratch and Dig Specifications</td>
<td>Aikens</td>
<td>8:30 am to 12:30 pm</td>
<td>$430 / $480</td>
</tr>
<tr>
<td>SC720</td>
<td>Cost-Conscious Tolerancing of Optical Systems</td>
<td>Youngworth</td>
<td>1:30 pm to 5:30 pm</td>
<td>$360 / $410</td>
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</tbody>
</table>

**WEDNESDAY**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Instructor(s)</th>
<th>Time</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC1017</td>
<td>Optics Surface Inspection Workshop</td>
<td>Aikens</td>
<td>8:30 am to 12:30 pm</td>
<td>$440 / $490</td>
</tr>
<tr>
<td>SC015</td>
<td>Fastening Optical Elements with Adhesives</td>
<td>Daly</td>
<td>1:30 pm to 5:30 pm</td>
<td>$360 / $410</td>
</tr>
<tr>
<td>SC1168</td>
<td>Specifying and Mitigating Laser Damage</td>
<td>McGuire</td>
<td>1:30 pm to 5:30 pm</td>
<td>$360 / $410</td>
</tr>
</tbody>
</table>

**THURSDAY**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Instructor(s)</th>
<th>Time</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC1011</td>
<td>Making Sense of Waviness and Roughness on Optics</td>
<td>Aikens</td>
<td>8:30 am to 12:30 pm</td>
<td>$480 / $530</td>
</tr>
<tr>
<td>SC1170</td>
<td>The Very Least You Need To Know About Optics</td>
<td>Diehl</td>
<td>8:30 am to 12:30 pm</td>
<td>$225 / $275</td>
</tr>
</tbody>
</table>

*Improve your ability to connect with customers.*

This course is intended for non-engineers, particularly sales professionals, who need a rapid, non-mathematical introduction to the core principles of optics.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Instructor(s)</th>
<th>Time</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC1171</td>
<td>Seeing, Analyzing and Controlling Mid-Spatial Frequency (MSF) and Surface Roughness Errors on Optical Surfaces</td>
<td>DeGroote Nelson</td>
<td>1:30 pm to 5:30 pm</td>
<td>$360 / $410</td>
</tr>
</tbody>
</table>

**MONEY-BACK GUARANTEE**

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

**CONTINUING EDUCATION UNITS**

SPIE has been approved as an authorized provider of CEUs by IACET, The International Association for Continuing Education and Training (Provider #1002091). In obtaining this approval, SPIE has demonstrated that it complies with the ANSI/IACET Standards which are widely recognized as standards of good practice. SPIE reserves the right to cancel a course due to insufficient advance registration.
EXHIBITION HOURS
Joseph A. Floreano Rochester Convention Center
Empire Hall
Tuesday 13 October . ......... 10:00 am to 5:00 pm
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HOW TO USE THIS DIRECTORY
Exhibitors are listed in alphabetical order with details about products or services they are exhibiting on pages 16–39. Companies are additionally cross-indexed by technology areas in the Product Index on pages 40–43, 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

100 G-S Plastic Optics
101 SCHOTT North America, Inc.
102 Empire West, Inc.
103 EMF Corp.
104 Imagine Optic Inc.
105 Sciences et Techniques Industrielles de la Lumière
106 Sensofar USA
107 DCM Tech
108 Navitar
109 Davidson Optronics Inc. - A TRIOPTICS Company
110 Savvy Optics Corp.
111 Advanced Abrasives Corporation
112 INFICON Inc.
113 Telemark, Inc.
115 TRIOPTICS GmbH
200 nPoint, Inc.
201 Micro-LAM Technologies
202 PR Hoffman Machine Products
203 Coresix Precision Glass, Inc.
204 Bridger Photonics, Inc.
205 DOPA
206 Micro Abrasives Corp.
207 Laser Focus World/ Pennwell Corp.
208 Difrotec
209 Andover Corporation
tattocube systems Inc.
210 OPTEG GmbH
211 OptoTech Optical Machinery Inc.
300 New Way Air Bearings
301 Opto-Alignment Technology
302 North American Coating Laboratories
303 RayoTech Scientific
304 Nanophase Technologies Corporation
305 NGL Cleaning Technology SA
308 asphericon, Inc.
309 Diffraction International Ltd.
310 Diverse Optics Inc.
311 Universal Photonics
315 OHARA CORPORATION
320 SlicingTech
400 Blackstone-NEY Ultrasonics
401 Wacom Corporation
402 Zeiss
403 Tecsport Optics
404 HIWIN Corp.
405 GNP Ceramics, LLC
406 Spartan Felt Co.
407 Precision Glass & Optics
408 Inrad Optics, Inc
410 R. Mathews Optical Works, Inc.
411 Satisloh North America, Inc.
415 Optimax
451 Applied Image, Inc.
452 Advanced Glass Industries
453 JML Optical Industries, LLC
454 Swift Glass Company
455 Xactra Technologies
456 Syntec Optics
457 Angstrom Precision Optics Inc.
458 AccuCoat Inc.
459 Empire Precision Plastics
500 Sydor Optics, Inc.
501 QED Technologies
502 Moore Nanotechnology Systems, LLC
503 United Lens Company
504 Optikos Corporation
505 Agilent Technologies
506 Gooch & Housego
507 Taylor Hobson-AMETEK UPT
508 PI
509 Salem Advanced Surfacing Materials
510 4D Technology Corp.
511 AMETEK Precitech
512 Photonics Media
513 Mindrum Precision, Inc.
514 Glass Fab, Inc.
515 Larsen Equipment Design
516 Newport Thin Film Laboratory, Inc.
517 Eminess Technologies, Inc.
518 DynaVac
519 LaCroix Optical Co.
520 JENOPTIK Optical Systems
4D Technology Corp. #700

**SPIE Corporate Member**

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

**Featured Product: AccuFiz Interferometer with Surface Isolation**

Source for measuring, plane parallel optics and more

4D Technology designs and manufactures dynamic laser interferometers, optical profilers and polarization cameras 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 microsecond, at wavelengths from DUV through NIR. Applications include astronomy, aerospace, general optics, flexible electronics, displays and more. Contact: Don Roberts, Eastern Region Manager, don.roberts@4dtechnology.com; Stephen Martinek, Director of Sales and Marketing, steve.martinek@4dtechnology.com

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AccuCoat Inc. #508

**APOMA**

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

AccuCoat Inc. is a supplier of thin film coatings on plastic, metal, glass and a variety of other components. Producing a wide range of antireflective, beamsplitter, hot & cold mirror, ITO, filter, hydrophobic and metal coatings as well as custom coatings to meet your dynamic applications. Experienced in handling prototype thru OEM volumes. Coatings available from the UV to the NIR. Over 90 years combined engineering experience can provide custom designed solutions. Contact: Alan Parsons, Sales Manager, alan@accucoatinccom

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Advance Reproductions Corp. #1109

**SPIE Corporate Member**

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

**Featured Product: Photomask**

Advance Reproductions is a leading supplier of high-quality, large-area and optical photomasks and phototools. Advance is an ISO 9001 and ITAR registered company. We support manufacturers throughout the world involved in the manufacturing of semiconductor, hybrid, microwave, nanotechnology, medical and electronic packaging devices. Advance Reproductions provides solutions and custom manufacturing services for research and development, custom shaped substrates and engineered tooling. Contact: Don Robinson, Director of Business Development, d.robinson@advancerepro.com

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Advanced Abrasives Corporation #111

**SPIE Corporate Member**

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

Independently owned and operated micronizer of abrasive and superabrasive products

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Advanced Glass Industries #502

**APOMA**

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 molding, annealing, slumping, sawing, grinding, CNC machining, generating, edging, cutting, and machining. Products include optical and filter glass, Fused Quartz, Fused Silica, industrial glass, and exotic materials. Prototype to production quantity. Contact: Henry Louis, Sales Manager, agi@advancedglass.net; Alicia Gionta, Office manager, agi@advancedglass.net
Agilent Technologies
2850 Centerville Rd, Wilmington, DE, 19808-1610 USA
+1 800 227 9770
inquiries@agilent.com; www.agilent.com
Agilent manufactures and distributes a complete line of instrumentation serving the clinical, analytical, biotech, environmental, pharmaceutical, forensic science, food and flavor, academia, and all other laboratory markets that have needs for the best in quality, performance, and serviceability in the instruments they purchase.

Allied Scientific Pro
815 Boul de la Carriere, Bureau 202, Gatineau QC J8Y 6T4 Canada
+1 819 743 7851; fax +1 866 526 4086
info@alliedscientificpro.com; www.alliedscientificpro.com

American Swiss Products Co.
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: Custom Precision Machined Components for optics.
American Swiss has been supplying precision Swiss Screw Machine Components for over 60 years! We are ready to take on your difficult custom machined optic components! Machined Components from 1.5" Down to .003" in diameter! We have a wide range of equipment available to meet your needs and exceed your expectations! Contact us today to discuss your Machined Component needs. Industries: Fiber Optic, Connector, Semi Conductor, Sensor, General Optics, Aerospace, medical, dental, instruments. Contact Douglas Bell, Sales

AMETEK Precitech
44 Black Brook Rd, Keene, NH, 03431-5040 USA
+1 603 357 2511; fax +1 603 358 6174
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

Andover Corporation
4 Commercial Dr, Salem, NH, 03079-2800 USA
+1 603 893 6888; fax +1 603 893 6508
info@andovercorp.com; www.andovercorp.com
Contact: Sue Brennan, Inside Sales Representative, sue.brennan@andovercorp.com; Phil Clark, Technical Sales Representative, p.clark@andovercorp.com
Durable, hard-coated optics designed for demanding environments

Featured Product: Custom Precision Machined Components for optics.
Andover Corporation has been supplying precision Swiss Screw Machine Components for over 60 years! We are ready to take on your difficult custom machined optic components! Machined Components from 1.5" Down to .003" in diameter! We have a wide range of equipment available to meet your needs and exceed your expectations! Contact us today to discuss your Machined Component needs. Industries: Fiber Optic, Connector, Semi Conductor, Sensor, General Optics, Aerospace, medical, dental, instruments. Contact Sue Brennan, Inside Sales Representative, sue.brennan@andovercorp.com; Phil Clark, Technical Sales Representative, p.clark@andovercorp.com

Precitech introduces the Freeform MGG optimized for light management applications

Contact: Douglas Bell, Sales
Angstrom Precision Optics Inc. #507
1321 Emerson St, Rochester, NY, 14606 USA
+1 585 663 7230; fax +1 585 663 7236
info@apoptics.com; www.apoptics.com
Featured Product: Quick Turn Optical Polishing And Precision Fabrication. 2-3 Day Deliveries Available.
APO is a manufacturer of precision flat optical components such as windows, wafers, filters, mirrors, debris shields, wedges, and optical flats. APO also has 5 CNC machines and 4 saws for slicing, dicing, and shaping of finished coated optics. Capabilities include pitch, double-sided, and OD/ID polishing to <0.5 arc sec wedge, <10-5 scr/dig, and <1/20 wave flatness. Materials include optical glass, fused quartz/silica, filter glass, silicon, germanium, borofloat and float glass. ITAR Registered. Contact: Scott Walker, Sales Manager, scott@apoptics.com; John O’Herron, General Manager, johnny@apoptics.com
Contact Angstrom for your precision fabrication of Germanium and Silicon

Angstrom Sciences, Inc. #1202
40 S Linden St, Duquesne, PA, 15110 USA
+1 412 469 8466; fax +1 412 469 8511
info@angstromsciences.com
Featured Product: Magnetron Sputtering Cathodes and Materials for Plasma Vapor Deposition
Angstrom Sciences, Inc. manufacturers High Performance Magnetron Sputtering Cathodes, Magnet Retrofits, and Plasma Vapor Deposition Materials for a wide variety of applications ranging from R&D to large scale production. Patented designs permit High Target Utilization and Deposition Rates with uncompromising film quality. The “Angstrom Advantage”™ designed into our cost effective circular, planar, and cylindrical magnetrons make them the industry performance standard. Contact: Joel Smolka, VP Global Sales and Marketing,

Applied Image, Inc. #501
1653 E Main St, Rochester, NY, 14609-7090 USA
+1 585 482 0300; fax +1 585 288 5989
info@appliedimage.com; www.appliedimage.com
“Your Single Source Photonics Solution Provider” dedicated to innovative OPTO-IMAGING Products & Services. Providing “off the shelf” Calibration Tools; custom manufacturing services on a variety of substrate materials as well as assembly services, from simple mounting to complex components; Imaging Gauge Analysis System that includes software & targets for image/camera evaluation plus custom Spherical / Ball Lenses and Mask Making Services. APPLIED IMAGE, where image concepts become reality…. Contact: Darren Dixon, Custom Sales & Support, Ddixon@appliedimage.com; Natalie Russo, Custom Sales & Support, Nrusso@appliedimage.com

Apre Instruments, LLC #1102
3123 W Morgan Rd, Tucson, AZ, 85745 USA
+1 860 398 5764; fax +1 860 347 6407
inquire@apre-inst.com; www.apre-inst.com
Featured Product: REVEAL Software
Apre Instruments upgrades interferometer software and provide custom interferometer design and development services. Contact: Robert Smythe, President, rsmythe@apre-inst.com; Artur Olszak, VP Engineering, aolszak@apre-inst.com
REVEAL™ Interferometer acquisition analysis software for upgrades and OEM applications

Ariel Optics, Inc. #1358
261 David Pkwy, Ontario, NY, 14519 USA
+1 585 265 4820; fax +1 585 265 1052
sales@arieloptics.com; www.arieloptics.com
Featured Product: Prisms, Light Pipes, Beam splitters, Wedges, Precision Flats, Mirrors and Ellipses.
For 25 years Ariel Optics has been a leading manufacturer of high quality, ultra precision optics and optical components. We manufacture components for R&D, Defense, Aerospace, Medical, Commercial applications and more! Located in the Rochester, NY area, we are at the heart of the largest optics community in the nation. With 2 of the largest glass manufacturers in the country just around the corner and the help of our experienced staff we produce precision products quickly and efficiently. Contact: Jessica Koch, Sales Director, sales@arieloptics.com; Frederick Koch, Owner, Frederick@arieloptics.com

asphericon, Inc. #309
411 N Main St Ste 2-A, Gainesville, FL, 32601 USA
+1 941 564 0890
sales@asphericon.com; www.asphericon.com
Featured Product: aspheric components, optical design, optical coating, optical systems
As an independent specialist, asphericon is among the technological leaders in asphere manufacture. The basis for manufacture is a patented technology to control CNC grinding and polishing machines. Small runs right through to large series can be manufactured with high precision. asphericon assists its customers from the initial optic design, via manufacturing, coating, full-surface interferometer measuring, through to the assembly of optical modules and their optical characterization. Contact: Sabrina Matthias, President, s.matthias@asphericon.com; Steffen Schneider, Vice President, s.schneider@asphericon.com

attocube systems inc. #211
2020 Stuart Street, Berkeley, CA, 94703 USA
+1 510 649 9245
info@attocube.com; www.attocube.com
attocube offers highest precision piezo positioning systems and multi-axes interferometric displacement sensors. The recently introduced hexaCUBE is a sophisticated 6D multi-axes motion solution based on piezo stage technology with an innovative design of high precision ball joints combined with linear bearings. The extremely stiff design, its large travel ranges, highest accuracy and nanometer repeatability make it one of the most precise multi-axes motion systems available on the market.

Blackstone-NEY Ultrasonics #402
9 N Main St, Jamestown, NY, 14701 USA
+1 800 766 6609; fax +1 716 665 2480
info@ctgclean.com; www.ctgclean.com
Featured Product: Ultrasonic Cleaning Equipment
Blackstone-NEY Ultrasonics, located in Jamestown, NY, is a recognized leader in ultrasonic technology. Starting with the introduction of sweeping frequency in 1988, there has been a continuous stream of development and patents covering new ultrasonic generator and transducer technology. A broad spectrum of ultrasonic technology is available to meet the specific needs of a growing list of applications. Contact: Doug Cole, Sales Manager, dcole@ctgclean.com
Bridger Photonics, Inc. #205
2310 University Way Bldg 4-4, Bozeman, MT, 59715 USA
+1 406 585 2774; fax +1 406 587 0808
www.bridgerphotonics.com

Featured Product: Thickness Metrology Station providing non-contact measurements up to 75mm, accuracy to 200nm.

Bridger Photonics is a recognized world leader in high-resolution, coherent length/thickness metrology and 3D imaging technologies. We create innovative and sound solutions together with our customers and partners to meet their Metrology and Security & Defense objectives. We are driven by a desire to create innovative distance measurement products that advance society and significantly enhance our customers’ measurement capabilities. Contact: Pete Roos, President, roos@bridgerphotonics.com; Jay Brasseeur, Principal Scientist, brasseeur@bridgerphotonics.com

Bristol Instruments, Inc. #1106
SPIE Corporate Member
50 Victor Heights Pkwy, Victor, NY, 14564 USA
+1 585 924 2620; fax +1 585 924 2623
info@bristol-inst.com; www.bristol-inst.com

Featured Product: The 137 Optical Thickness Gauge, priced below $15,000, provides precise thickness measurement.

Since its founding in 2005, Bristol Instruments has focused solely on designing, manufacturing, and marketing precision instruments using its expertise in optical interferometry. This has resulted in a family of Thickness Gauge products that use light to measure the thickness of optics and optical materials to an accuracy as high as ±0.1 μm. Since a non-contact technique is used, measurements are made without damage or deformation. In addition, all material layers are measured simultaneously. Contact: Jeffrey Kondziela, Director of Business Development, jkondz@bristol-inst.com

Chardon Tool #1107
115 Parker Ct, Chardon, OH, 44024-9018 USA
+1 440 286 6440; fax +1 440 286 7165
info@chardontool.com; www.chardontool.com

Contour Fine Tooling #804
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: Ultra-precision Single Crystal & polycrystalline Diamond tools to turn, bore, flycut & mill

Contour Fine Tooling is a world class Single Crystal & Polycrystalline diamond tool company with 7 global manufacturing sites offering unparalleled new tool and tool repair services for the Optical and Ultra-precision manufacturing industries. Our tools are used to manufacture a full spectrum of optical components from space and defense to eyesight related optics which include direct component machining or mold manufacturing. Radius size to 1μm and edge waviness of less than 50nm are possible Contact: Dennis Keating, VP Sales & Marketing, Dennis@contour-diamonds.us; Jeff Tomlin, VP & General Manager, Jeff@contour-diamonds.us

5 degree included angle facet tools

Coresix Precision Glass, Inc. #203
SPIE Corporate Member
1737 Endeavor Dr, Williamsburg, VA, 23185 USA
+1 757 888 1361; fax +1 757 888 1366
sales@coresix.com; www.coresix.com
Contact: Justin Lawson

Corning Incorporated #1210
APOMA
1 Riverfront Plz, Corning, NY, 14831 USA
+1 607 974 9000; fax +1 585 377 6332
specialtymaterials@corning.com; www.corning.com/specialtymaterials

Featured Product: High precision optics from DUV to IR

Corning Advanced Optics serves a variety of commercial markets with cutting-edge optical solutions. Corning’s unmatched expertise in specialty glass and optical physics results in a diverse set of products from materials to full systems, leveraging a wide capability set to serve diverse markets including Aerospace and Defense, Astronomy, Industrial, Medical, Ophthalmic, Semiconductor, Telecommunications and more. Contact: Chris Thomas, Marketing Manger, thomascl@corning.com; Taryn Manuele, Market Specialist, manueletl@corning.com

COTEC GmbH #1336
Frankenstr 19, Karlstein, 63791 Germany
+49 6188 994 62 0; fax +49 6188 994 62 62
cotec@cotec-gmbh.com; www.cotec-gmbh.com

Creative Microsystems Corp. #1219
49 Fiddlers Green, Waitsfield, VT, 5673 USA
+1 802 496 6620; fax +1 802 496 6621
sales@creativemicro.com; www.creativemicro.com

Davidson Optronics Inc. - A TRIOPTICS Company #109
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

Featured Product: Point Source Microscope, MicroFinish Topographer, DOI-300F 12" Fizeau

Since 1932 Davidson Optronics has built a reputation for supplying precision optics and fine optical instruments. Laboratories, observatories, and manufacturers throughout the world are using precision Davidson optics and instruments for metrology, aerospace, astronomical, military, medical, life science, industrial, and commercial applications. Davidson has maintained its leadership position by recently unveiling multiple new products. Let us show you what we now have to offer. Contact: Harvey Miller, East Coast Regional Sales Manager, harvey.miller@trioptics-usa.com; Byron Seabolt, NW Regional Sales Manager, byron.seabolt@trioptics-usa.com

DCM Tech #107
4455 Theurer Blvd, Winona, MN, 55987 USA
+1 507 452 4043; fax +1 507 452 9790
interest@dcm-tech.com; www.dcm-tech.com

Featured Product: On exhibit: DCM IG 140 SD Rotary Surface Grinder; New Release: IG 380 SD 36” Grinder

DCM is a private US machine tool builder based in Winona, MN since 1974. DCM handles sales and service factory direct worldwide. Core competency lies in design and manufacture of DCM style rotary surface grinders and factory direct customer service from presale justification to long term service on existing machines that have been in operation for decades. Contact: Mike Anderson, Product Manager
Diffraction International Ltd.  #310
5810 Baker Rd Ste 225, Minnetonka, MN, 55345-5982 USA
+1 954 945 9912; fax +1 952 400 8959
info@diffract.com; www.diffract.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@diffract.com

General Sponsor

Difrotec  #209
Ria 185A, Tartu, Tartumaa, P1014 Estonia
+372 590 16617
difrotec@difrotec.com; www.difrotec.com

Featured Product: Interferometer D7 for absolute testing of optical components and systems with sub-nanometer accuracy

Difrotec, Estonian-based company, has developed point diffraction interferometer D7 for absolute testing of optical components and systems with sub-nanometer accuracy. Using the best of its location (Baltic-Scandinavian region of European Union) Difrotec created wide business connections with two sides of the world: Europe and Asia. Serving global market Difrotec works with leading European companies in optics and electronics industry as well as scientific and research institutes from China. Contact: Nikolay Voznesenskyi, CTO, nikolay@difrotec.com; Maria Voznesenskai, CEO, maria@difrotec.com

Point-diffraction interferometer D7 for absolute testing optics with sub-nanometer accuracy

Displays & Optical Technologies  #800

AP OMA
110 Market St, Georgetown, TX, 78626 USA
+1 512 246 6400; fax +1 512 246 6060
www.doti-optics.com

Featured Product: Massive Spherical Mirror

DOTI is a manufacturer of massive, lightweight optics. Our specialty is the ability to bend, grind and polish very thin substrates. We primarily sell large, precise, lightweight mirrors for flight simulation systems, solar cell test and validation and for other applications where massive mirrors are required at a very attractive price point. DOTI currently manufactures mirrors up to 96” diagonals with <5 angstroms surface roughness and sub-wave accuracy. Contact: Monty MaGill, President, mmagill@doti-optics.com; David Crownover, VP Sales & Marketing, dcrownover@doti-optics.com

Diverse Optics Inc.  #311
10310 Regis Ct, Rancho Cucamonga, CA, 91730 USA
+1 909 593 9530; fax +1 909 596 1452
info@diverseoptics.com; www.diverseoptics.com

Diverse Optics manufactures custom precision polymer optic components and assemblies. Core processes include injection molding, single point diamond turning (SPDT), opto-mechanical design, metrology, assembly, bonding, and thin-film coating. Transform your optical system from expensive, heavy, and complicated to commercially viable, light weight, and wonderfully simple. Contact: Erik Fleming, President/CEO, erik.fleming@diverseoptics.com; Letty Trevino, Sales Engineer, letty.trevino@diverseoptics.com

Dynamic Structures – Optics  #1346

DynaVac
1515 Kingsway Ave, Port Coquitlam, BC, V3C 1S2 Canada
+1 604 813-5794; fax +1 604 294 4550
p.wangsness@outlook.com; www.dynamicstructures-optics.webs.com

Featured Product: Lightweight glass mirrors to complete observatories

Designs and manufactures economical lightweight glass (primarily borosilicate) mirror substrates from 20mm to >2,400mm+ in diameter. Unusual shapes and dimensions are possible. Low mass and high stiffness complement, low inertia and rapid thermalization. Quantities range from single prototype to OEM. Areal densities as low as 8kg/m² have been fabricated. Complete systems available. Optical Telescopes, Lidar systems, scanners, active primary and secondary optics and airborne optical systems. Contact: Peter Wangsness, Astronomy Technologist, p.wangsness@outlook.com; Timothy Lee, MechTech Engineer, timothy.lee@emireds.com

DynaVac  #709
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

Electro Optics  #1300
9 Clifton Ct, Cambridge, CB1 7BN United Kingdom
+44 1223 211 170
sales@europeascience.com; www.electrooptics.com
EMF Corp.  
**Featured Product:** EMF offers a wide range of optical coatings on glass, metal, plastics, & ceramic; from 2mm to 3meters

EMF is most established thin film coating house in US- founded in 1936. Outstanding service -On Time Delivery & Product Quality at 99%. Capability to coat both small & large optics ranging from 0.25" to 2.6 meters. Largest capacity in the industry- 27 chambers across 2 sites. We coat Glass, Metal, Ceramic, & Plastic substrates. We supply AR coatings, beam splitters, durable metal coatings; dichroic coatings, cold mirrors, hot mirrors along with application specific designs. New Oleophobic coating Contact: Michelle Henderson, Sales Account Manager, michelleh@emf-corp; John McCartney, Sales Account Manager, jmccartney@emf-corp.com

**Contact:**  
EMAIL: info@emf-corp.com  
PHONE: +1 585 454 4995; fax +1 585 454 0449  
ADDRESS: 500 Lee Rd Ste 400, Rochester, NY, 14606 USA

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Empire West, Inc.  
**Featured Product:** PET-G Optics Packaging

Empire West designs and manufactures thermoformed PET-G optics packaging containers for the full range of today’s optical lenses, filters, and mirrors. Our Safe-Guard line of unique, slip-fit, low outgassing optics containers are the industry standard for value and performance. Designed to contact optics on only the bevels, these versatile containers eliminate the need for lens paper and foam liners, and greatly reduce the opportunity for handling-generated surface degradation.

**Contact:**  
EMAIL: info@empirewest.com; www.opticspackaging.com  
PHONE: +1 707 823 1190; fax +1 707 823 8531  
ADDRESS: PO Box 511, Graton, CA, 95444 USA

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Eminess Technologies, Inc.  
**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: Valerie Mack, Sales, sales@eminess.com; cs@eminess.com

**Contact:**  
EMAIL: info@eminess.com  
PHONE: +1 480 505 3409  
ADDRESS: 7272 E Indian School Rd Ste 350, Scottsdale, AZ, 85251 USA

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Engis Corporation  
**Featured Product:** Efficient and cost effective diamond lapping and polishing systems for Sapphire and Zinc Selenide.

Engis Corporation is the corporate headquarters for the worldwide Engis Group of Companies. Our expertise lies in the surface engineering of sophisticated photonic and optical materials such as Sapphire, ZnSe and Ge utilizing diamond flat lapping and polishing systems. Engis has solutions for reducing polishing times, controlling edge-to-edge flatness, achieving scratch-free surfaces and eliminating edge dubbing and lensing effects. Contact: John Smallshaw, V.P. Sales & Marketing, info@engis.com; Eric Burkam, Applications Development Manager, info@engis.com

**Contact:**  
EMAIL: info@engis.com  
PHONE: +1 847 808 9400; fax +1 847 808 9430  
ADDRESS: 105 W Hintz Rd, Wheeling, IL, 60090-6038 USA

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Empire Precision Plasctics  
**Featured Product:** Efficient and cost effective diamond lapping and polishing systems for Sapphire and Zinc Selenide.

Empire Precision Plastics is ISO-9002 and ITAR registered. 4-13 axis mill turn capability, transfer spindles enable work to be completed on both ends & all angular features in 1- operation tolerances CNC Machined Prismatic Products; Machining of complex prismatic components with features on 5+ sides that require simultaneous processing due to tight feature-to-feature tolerances. We regularly hold finish tolerances to .0005 including anodize. Materials include aluminum, Kovar, Invar, Stainless, Titanium, 17-4 Contact: Bill Gleisle, Director of Sales/Marketing, wgleisle@etprecision.com; Tom Eckler, President, teckler@etprecision.com

**Contact:**  
EMAIL: info@empireprecision.com; www.empireprecision.com  
PHONE: +1 585 454 0449; fax +1 585 454 4995  
ADDRESS: 500 Lee Rd Ste 400, Rochester, NY, 14606 USA

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ER Precision Optical Corp.  
**Featured Product:** ENGIS – Precision Facing Technology Consistently Controls Lap Plate Flatness

ER Precision Optical Corp.  
**Featured Product:** PET-G Optics Packaging

ER Precision Optical Corp. designs and manufactures thermoformed PET-G optics packaging containers for the full range of today’s optical lenses, filters, and mirrors. Our Safe-Guard line of unique, slip-fit, low outgassing optics containers are the industry standard for value and performance. Designed to contact optics on only the bevels, these versatile containers eliminate the need for lens paper and foam liners, and greatly reduce the opportunity for handling-generated surface degradation.

**Contact:**  
EMAIL: sales@eroptics.com; www.eroptics.com  
PHONE: +1 407 292 5395; fax +1 407 292 7984  
ADDRESS: 805 W Central Blvd, Orlando, FL USA 32805

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ET Precision Optics Inc.  
**Featured Product:** Multi-axis Precision Parts Manufacturing, BOOTH 105

ET Precision is ISO-9002 and ITAR registered. 4-13 axis mill turn capability, transfer spindles enable work to be completed on both ends & all angular features in 1- operation tolerances CNC Machined Prismatic Products; Machining of complex prismatic components with features on 5+ sides that require simultaneous processing due to tight feature-to-feature tolerances. We regularly hold finish tolerances to .0005 including anodize. Materials include aluminum, Kovar, Invar, Stainless, Titanium, 17-4 Contact: Bill Gleisle, Director of Sales/Marketing, wggleisle@etprecision.com; Tom Eckler, President, teckler@etprecision.com

**Contact:**  
EMAIL: info@etprecision.com; www.etprecision.com  
PHONE: +1 585 254 2560; fax +1 585 254 2966  
ADDRESS: 33 Curlew St, Rochester, NY, 14606-2535 USA

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Engis Corporation  
**Featured Product:** Efficient and cost effective diamond lapping and polishing systems for Sapphire and Zinc Selenide.

Engis Corporation is the corporate headquarters for the worldwide Engis Group of Companies. Our expertise lies in the surface engineering of sophisticated photonic and optical materials such as Sapphire, ZnSe and Ge utilizing diamond flat lapping and polishing systems. Engis has solutions for reducing polishing times, controlling edge-to-edge flatness, achieving scratch-free surfaces and eliminating edge dubbing and lensing effects. Contact: John Smallshaw, V.P. Sales & Marketing, info@engis.com; Eric Burkam, Applications Development Manager, info@engis.com

**Contact:**  
EMAIL: info@engis.com  
PHONE: +1 847 808 9400; fax +1 847 808 9430  
ADDRESS: 105 W Hintz Rd, Wheeling, IL, 60090-6038 USA

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ET Precision Optics Inc.  
**Featured Product:** Multi-axis Precision Parts Manufacturing, BOOTH 105

ET Precision is ISO-9002 and ITAR registered. 4-13 axis mill turn capability, transfer spindles enable work to be completed on both ends & all angular features in 1- operation tolerances CNC Machined Prismatic Products; Machining of complex prismatic components with features on 5+ sides that require simultaneous processing due to tight feature-to-feature tolerances. We regularly hold finish tolerances to .0005 including anodize. Materials include aluminum, Kovar, Invar, Stainless, Titanium, 17-4 Contact: Bill Gleisle, Director of Sales/Marketing, wggleisle@etprecision.com; Tom Eckler, President, teckler@etprecision.com

**Contact:**  
EMAIL: info@etprecision.com; www.etprecision.com  
PHONE: +1 585 254 2560; fax +1 585 254 2966  
ADDRESS: 33 Curlew St, Rochester, NY, 14606-2535 USA
Evaporated Coatings, Inc. #1308

SPIE Corporate Member
2365 Maryland Rd, Willow Grove, PA, 19090-1708 USA
+1 215 659 3080; fax +1 215 659 1275
sales@evapcoat.com; www.evaporatedcoatings.com

Featured Product: High Damage Threshold Laser Coatings including AR’s, Dielectric Mirrors and Filters.
ECI is a custom manufacturer of optical coatings including enhanced metal and dielectric mirrors, custom anti-reflection coatings, low polarization beamsplitters, transparent conductive coatings (ITO), large area LWP/SWP, tri-band, notch and bandpass filters. We’re experts at coating polymers, fiber ends, fiber arrays, semiconductor materials, crystals, ultrathin wafers & laser bars. Wide experience coating high index glasses, metals, micro optics, semiconductor materials and crystals. Contact: Patrick Wenrich, Senior Sales Engineer, sales@evapcoat.com; Stan Durkalec, Sales Engineer, sales@evapcoat.com

ECI’s High Power Laser Damage Threshold Highly-Reflective and Anti-Reflective Coatings

Ferrotec #809

3945 Freedom Circle, Ste 450, Santa Clara, CA, 95054 USA
+1 408 964 7761
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 Temescal systems, integrated component solutions for system builders, as well as components and accessories for replacements and upgrades. Our booth features demonstrations of the multi-function EBC Integrated E-Beam Controller. For more information, visit www.ferrotec.com.

Finkelson & Co. #1217

352 Seventh Ave Ste 1107, New York, NY, 10001 USA
+1 212 631 7400; fax +1 212 631 7542
www.ch-finkelstein.com

Fujitok Corp. #802

1-9-16 Kami-Jyu-Jyo, Optic Sales, Kita-ku, Tokyo, 114-0034 Japan
+81 3 3909 1791; fax +81 3 3908 6450
opt@fujitok.co.jp; www.fujitok.co.jp/en/

Featured Product: Fujitok will exhibit SUBSTRATES of various OPTICAL MATERIALS.
Fujitok has over 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 a reasonable price. Contact: Toshihiko Hayashi, Senior Manager, hayashi@fujitok.co.jp; Yuta Okamoto, President, yuta-okamoto@fujitok.co.jp

Substrate, Lens, Prism, Fused silica, Optical glass, Silicon, Germanium, Crystal

Gencoa Ltd #907

Physics Rd, Liverpool, L24 9HP United Kingdom
+1 724 672 7214
sales@gencoa.com; www.gencoa.com

Featured Product: Speedflo for Ebeam reactive control, HY and FFE rotating circular magnetrons for sputter deposition.
Gencoa is a science and technology company who design and manufacture plasma sources which include magnetron sputter cathodes, Speedflo reactive gas controllers, and ion sources. Other activities and sales relate to process development and sub-contract simulation services. The company has 20 years of experience in industrial sputter processes, and a comprehensive in-house testing and trials facility. Gencoa are heavily involved in R&D and process/film development to optimize existing products. Contact: Mark Seeman, Sales Engineer, mark.seeman@gencoa.com; Frank Papa, Application Engineer and Business Manager, frank.papa@gencoa.com

Improve control of reactive e-beam evaporation with Gencoa Speedflo

General Ruby and Sapphire Co. #1334

PO Box 610, New Port Richey, FL, 34656-0610 USA
+1 727 849 0638; fax +1 888 965 9446
accounts@generalruby.com; www.generalruby.com

Glass Fab, Inc. #705

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

Gencoa are heavily involved in R&D and process/film development to optimize existing products. Contact: Mark Seeman, Sales Engineer, mark.seeman@gencoa.com; Frank Papa, Application Engineer and Business Manager, frank.papa@gencoa.com

Improve control of reactive e-beam evaporation with Gencoa Speedflo

Contact: Daniel Saltzman, President, d_saltzman@glassfab.com; George Dean, Sales, gdean@glassfab.com; Wayne Leon, Sales Manager

Newest Addition: Meyer Burger DS264 Wire Saw Max Size: 220mm x 220 mm

PLAN TO ATTEND FREE Exhibitor Product Demonstrations
Refer to page 6 for complete times and schedules.
GNP Ceramics, LLC

4255 Research Pkwy, Clarence, NY, 14031 USA
+1 716 759 6600; fax +1 716 759 6602
sales@gnpceramics.com; www.gnpceramics.com

Featured Product: TREIBACHER INDUSTRIE AG Auerpol cerium oxide powders for precision polishing. MADE IN AUSTRIA.

G-S Plastic Optics

408 St. Paul Street, Rochester, NY, 14605-1788 USA
+1 585 295 0200; fax +1 585 232 2314
info@gsoptics.com; www.gsoptics.com

Featured Product: Precision Polymer Optics

G-Polymer Optics: A Global Leader in Precision Polymer Optics

Gooch & Housego

Dowlish Ford, Ilminster Somerset, TA19 0PF United Kingdom
+44 1460 256440
sales@goochandhousego.com; goochoandhousego.com

Featured Product: Precision Optical Components & Sub-systems

Gooch & Housego is a manufacturer of precision optical components and sub-systems, as well as light measurement instrumentation and services, based upon a range of complementary technologies, including: crystal growth, acousto optics and RF drive electronics, electro optics, fibre optics, optical polishing & coatings, spectroradiometers, integrating sphere calibration standards, NIST-traceable calibration standards and services, and spectral imaging & synthesis. Contact: Adrian Chance, Marketing & Communications Manager, achance@goochandhousego; Customer Service, sales@goochandhousego.com

GTI Technologies, Inc.

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

Contact: Robert Thron, VP Sales, Semiconductor, kathie@gti-usa.com; Patrick Frei, Director of Business Development, kathie@gti-usa.com
Takatori WSD-K3 Diamond Wire Saw, 200mm, Slicing & Dicing capability

Heraeus Quartz America LLC

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

Featured Product: High purity fused silica for deep UV to NIR applications and precision molded domes and mirrors.

Heraeus is a leader in the manufacturing of high purity fused silica and fused quartz glass materials and components used in broad photonics applications. Contact: David Gritz, Director of Sales, david.gritz@heraeus.com; Robert Sawyer, Account Manager, robert.sawyer@heraeus.com

Hinds Instruments, Inc.

7245 NW Evergreen Pkwy, Suite 150, Hillsboro, OR, 97124-5822 USA
+1 503 690 2000; fax +1 503 690 3000
sales@hindsinstruments.com; www.hindsinstruments.com

Featured Product: Exicor MicroImager Birefringence Imaging Microscope, Polarimeters - Stokes Vector and Mueller Matrix

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: Connie Wimmer, Technical Sales, sales@hindsinstruments.com

HIWIN Corp.

1400 Madeline Ln, Elgin, IL, 60124 USA
+1 847 827 2270; fax +1 847 827 2291
info@hiwin.com; www.hiwin.com

Hiwin Corp. manufactures an extensive line of both linear motion components and complete solutions. With a goal of supplying superior quality at the most competitive prices, the company offers a variety of precision ground and rolled ballscs, linear guideways, electric actuators, ballsphere-driven stages, and linear motors, with many fully integrated value-added features. Contact: Shawn Lawrence, Product Marketing Manager, tradeshows@hiwin.com
HOYA Corp. USA  
680 N McCarthy Blvd Ste 120, Milpitas, CA, 95035 USA  
+1 408 654 2200; fax +1 408 654 2270  
opticsales.hoyausa@hoya.com; www.hoyaoptics.com  
**Featured Product:** W Series - Sharp Cut Filters, UV-VIS-NIR Color Glass Filters, Optical Glasses in various forms.  
HOYA CORP USA Optics Division is a leading supplier of filter, optical and specialty glasses in semi-finished and finished forms. We operate around a worldwide network of R&D, precision manufacturing and mass scale production facilities, enabling HOYA to offer End-to-End Solutions unmatched by our competitors. Large selection of standard stock and custom components. UV-VIS-NIR Color Filter, Optical & Specialty glasses in various forms: Lenses, blanks, strips & blocks.  
Contact: Paul Murphy, Sales Manager, paul.murphy@hoya.com; Lynn Brown, Division Manager, lynn.brown@hoya.com

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 residual stress in glass and plastics. Contact: Daniel Schreinert, Technical Sales Manager, daniel.schreinert@ilis.de; Henning Katte, Managing Director, henning.katte@ilis.de

Imagine Optic Inc.  
50 Milk St, 16th Floor, Boston, MA, 02109 USA  
+1 617 401 2198  
contact@imagine-optic.com; www.imagine-optic.com  
Contact: Philippe Clemenceau, Axiom Optics Div Manager

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 optical components that are designed for precision imaging and sensing systems. Our turn key production facility offers crystal growth, precision polishing, diamond turning, thin film coating, opto-mechanical assembly, metrology, and functional testing. Key products include polygons, beryllium mirrors, scintillations crystals, toroids, Pockels cells, and X-ray imaging crystals. Contact: Sales, sales@inradoptics.com

Intlvac Thin Film  
1845 Maryland Ave, Niagara Falls, NY, 14305 USA  
+1 716 284 0830; fax +1 716 284 0842  
www.intlvac.com

Infiniti Optics Inc.  
2 Technology Pl East Syracuse, NY, 13057-9714 USA  
+1 315 434 1100  
info@inficon.com; www.inficon.com  
Contact: Todd Anderson, VP Sales & Marketing, todd@irdglass.com

Infinite Graphics Inc.  
4611 E Lake St, Minneapolis, MN, 55406-2305 USA  
+1 612 721 6283; fax +1 612 721 3802  
sales@igi.com; www.igi.com  
Contact: Suzi McDonough

Promotional Partner  
**IOP Publishing**  
**Featured Product:** Custom Sapphire Windows and Mirrors; Silicon Mirrors  
IOP Publishing provides publications through which leading-edge scientific research is distributed worldwide. Beyond our traditional journals programme, we make high-value scientific information easily accessible through an ever-evolving portfolio of books, community websites, magazines, conference proceedings and a multitude of electronic services. Contact: Fiona Walker, Global Exhibition Manager, fiona.walker@iop.org; Chris Thomas, Advertising Sales Manager, chris.thomas@iop.org

**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:** Custom Sapphire Windows and Mirrors; Silicon Mirrors  
IRD Glass specializes in manufacturing custom precision components from optical and filter glass, ceramics, sapphire, and Zerodur. IRD partners closely with you, assuring you receive exactly what you need. IRD Glass currently supplies such components as laser components, medical filters, precision tubes, windows, mirrors, sub-assemblies, prisms, wedges, and thin-film coatings. Contact: Michelle deCastro, National Sales Manager, michelle.decastro@irdglass.com; Todd Anderson, VP Sales & Marketing, todd@irdglass.com
Isuzu Glass, Inc. #1322
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: Heat Absorbing Color Filter Glass, Molded Optics
Isuzu Glass is manufacturer of molded optics and color filter glass. Isuzu Glass has been around for 110 years and has been developing original techniques and know-how and supplying a variety of optronics products to customers using unique manufacturing methods. The products manufactured by our state-of-the-art technologies are used in various fields requiring high reliability, and our company supplies the products in a variety of markets such as projectors, lasers, medical devices, sensors, etc. Contact: Sean Wilson, Business Development, sean@isuzuglass.com; Hiro Yoki, Vice President,hiro@isuzuglass.com

JENOPTIK Optical Systems #711
16490 Innovation Dr, Jupiter, FL, 33478-6428 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 Coordinator- Defense, Beth.mcdonald@jenoptik-inc.com

JML Optical Industries, LLC #503
820 Linden Ave, Rochester, NY, 14625-2710 USA
+1 585 248 8900; fax +1 585 248 8924
jml@jmloptical.com; www.jmloptical.com

JML Optical Industries, LLC solves our customer’s imaging challenges through the design and manufacture of custom optical assemblies, components and systems. Our solutions encompass manufacturing of prototype and production volumes as well as flexible design and delivery options. We have an experienced design and engineering staff, vertically-integrated domestic manufacturing facility and network of off-shore manufacturing affiliates. Founded in 1972, we serve all industries that use imaging optics.

K&Y Diamond Ltd. #1002
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: Mono-Crystalline Diamond Tooling
K&Y Diamond provides premium diamond tooling for use on ultra-precision machines to leading manufacturers of diamond turned optics and optical mold inserts. Our comprehensive design, manufacturing and metrology capabilities enable us to produce diamond turning and milling tools, of virtually any configuration, with unmatched delivery and value. With over a century of combined industry specific experience, the K&Y Diamond experts are your ultimate partners in precision. Contact: Christopher Stroshine, Sales and Marketing Manager, cstroshine@kydiamond.ca. Rene Guillaume, V/P Operations, rguillaume@kydiamond.ca

Kaufman & Robinson, Inc. #905
1330 Blue Spruce Dr, Ft Collins, CO, 80524 USA
+1 970 495 0187; fax +1 970 484 9350
info@ionsources.com; www.ionsources.com

Kaufman & Robinson can assist you with thin film depositions, etching processes, material modifications, and ion beam figuring to name a few. KRI’s product technology includes high current gridless ion sources used for pre-cleaning and ion assisted deposition, RFICP/DC gridded ion sources, low energy plasma sources, and automated power supply controllers. With an extensive product line and over 50 years of experience in ion beam technology, KRI is the ion beam authority and ready to assist you. Contact: Kent Rennie, Sales and Marketing Manager, rennie@ionsources.com; Chris Griffith, Director of Sales, griffith@ionsources.com

Krell Tech #1201
1126 Campus Dr W Morganville, NJ, 07751-1261 USA
+1 732 617 7091; fax +1 732 617 7092
sales@krelltech.com; www.krelltech.com

Kreischer Optics, Ltd. #901
1729 Oak Dr, Mchenry, IL, 60050-0306 USA
+1 815 344 4220; fax +1 815 344 4221
optics@kreischer.com; www.kreischer.com

Featured Product: Aspheres
Kreischer Optics has utilized the technological advances in the optics industry to increase productivity while decreasing cost. Kreischer combines the skill and experience of its master opticians with state-of-the-art manufacturing methods to meet the exacting requirements you demand. Aspheres, cylindrical lenses, mirrors, prisms, spherical lenses and master test glasses are among some of the components produced. Contact: Cody Kreischer, President/Optical engineer, optics@kreischer.com; Daniel Charland, Sales, daniel@kreischer.com

Kugler of America Ltd. #806
48 South Rd Unit 1, Somers, CT, 06071-2160 USA
+1 860 749 6400; fax +1 860 749 6600
info@kuglerofamerica.com; www.kuglerofamerica.com

Featured Product: MicroMaster, 5 axis freeform Ultra precision Micro Machining System, repeatable accuracy < 250 nm.
We are the world’s leading manufacturer for Micro Machining Systems (Mechanical & Laser & Optical). Optical machining systems, for optical and structured surfaces. Microgantry 5 axis hydrostatic bearing / Air bearing Micromachining systems, Flycutters, Drum turning machines, and CNC-Measuring systems. Air bearing and Hydrostatic components, Metal optics & Beam delivery systems. Our World Class Job Shop manufacturing offers Metal Mirrors / OEM & Single Special mirrors. Contact: Meinrad Schirmeister, Manager, info@kuglerofamerica.com

3-5 axis micro machining with 0.25 micron accuracy in 3D

Kaufman & Robinson, Inc.
1330 Blue Spruce Dr, Ft Collins, CO, 80524 USA
+1 970 495 0187; fax +1 970 484 9350
info@ionsources.com; www.ionsources.com

Kaufman & Robinson can assist you with thin film depositions, etching processes, material modifications, and ion beam figuring to name a few. KRI’s product technology includes high current gridless ion sources used for pre-cleaning and ion assisted deposition, RFICP/DC gridded ion sources, low energy plasma sources, and automated power supply controllers. With an extensive product line and over 50 years of experience in ion beam technology, KRI is the ion beam authority and ready to assist you. Contact: Kent Rennie, Sales and Marketing Manager, rennie@ionsources.com; Chris Griffith, Director of Sales, griffith@ionsources.com

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

Kreischer Optics, Ltd.
1729 Oak Dr, Mchenry, IL, 60050-0306 USA
+1 815 344 4220; fax +1 815 344 4221
optics@kreischer.com; www.kreischer.com

Featured Product: Aspheres
Kreischer Optics has utilized the technological advances in the optics industry to increase productivity while decreasing cost. Kreischer combines the skill and experience of its master opticians with state-of-the-art manufacturing methods to meet the exacting requirements you demand. Aspheres, cylindrical lenses, mirrors, prisms, spherical lenses and master test glasses are among some of the components produced. Contact: Cody Kreischer, President/Optical engineer, optics@kreischer.com; Daniel Charland, Sales, daniel@kreischer.com

Kugler of America Ltd.
48 South Rd Unit 1, Somers, CT, 06071-2160 USA
+1 860 749 6400; fax +1 860 749 6600
info@kuglerofamerica.com; www.kuglerofamerica.com

Featured Product: MicroMaster, 5 axis freeform Ultra precision Micro Machining System, repeatable accuracy < 250 nm.
We are the world’s leading manufacturer for Micro Machining Systems (Mechanical & Laser & Optical). Optical machining systems, for optical and structured surfaces. Microgantry 5 axis hydrostatic bearing / Air bearing Micromachining systems, Flycutters, Drum turning machines, and CNC-Measuring systems. Air bearing and Hydrostatic components, Metal optics & Beam delivery systems. Our World Class Job Shop manufacturing offers Metal Mirrors / OEM & Single Special mirrors. Contact: Meinrad Schirmeister, Manager, info@kuglerofamerica.com

3-5 axis micro machining with 0.25 micron accuracy in 3D
EXHIBITOR LISTING

Kurt J. Lesker Company #1104
1925 Rte 51, Jefferson Hills, PA, 15025-3681 USA
+1 412 387 9200; fax +1 412 384 2745
salesus@lesker.com; www.lesker.com
KJLC® is on the cutting edge of thin film technology and innovation, while offering unparalleled customer support. R&D and batch production tools for the optical, photonics, & photovoltaic/solar industries. Automated vacuum systems for PVD and ALD, chambers, components, film deposition sources, & pure materials. Products include: e-beam sources; thermal evaporation sources, including low temp sources for organic films; R&D and production sputter sources; feedthroughs; pumps and oils; valves. Contact: Bill Zinn, Marketing Specialist, billz@lesker.com; Sean Armstrong, Operations Mgr, seana@lesker.com.

LaCroix Optical Co. #710
SPIE Corporate Member
50 Lacroix Dr, Batesville, AR, 72501 USA
+1 870 698 1881; fax +1 870 698 1880
lacroix@lacroixoptical.com; www.lacroixoptical.com
Featured Product: Custom precision aspheres manufactured in the US.
When you need a partner to take your optical designs from paper to prototype to high volume production, look to LaCroix Optical Co. Manufacturing optical components for more than 65 years, we specialize in fabrication and coating of achromats, lenses, aspheres, windows, prisms, wedges, and mirrors. ISO 9001:2008 and ITAR-registered, we are never more than 2 time zones away. Get off the drawing board and into production, on-time and on-budget with LaCroix Optical Co. Contact: Kirk Warden, Executive Vice President, kirk@lacroixoptical.com; Tom Cox, Manufacturing Sales Engineer, tom@ lacroixoptical.com
Custom manufactured optical components made in the USA

Larsen Equipment Design #706
AP OMA
1117 NW 52nd St, Seattle, WA, 98107-5130 USA
+1 206 789 5121; fax +1 206 789 7756
larsenequipment.com; www.larsenequipment.com
Featured Product: Come see our manual blocking machine. This machine is good for aligning and cementing doublets.
Larsen Equipment Design is your USA manufacturer of precision optical equipment for micro, miniature, and 3” (75mm) lenses. Since 1981 we have been recognized as the source for your optics manufacturing needs. All of our polishers are made with sturdy stainless steel cases and sealed spindles for worry free operation. Have tooling requirements? Our in house engineering department can help. Turn to us as your precision optics manufacturing resource.
Contact: Erik Larsen, President, erik@larsenequipment.com; Andrew Larsen, andrew@larsenequipment.com

Promotional Partner
Laser Focus World/Pennwell Corp. #208
98 Spit Brook Rd, PennWell Technology Div, Nashua, NH, 03062-5737 USA
+1 603 891 9126; fax +1 603 891 9328
info@laserfocus.com; www.laserfocusworld.com
Featured Product: Laser Focus World
Published since 1965, Laser Focus World has become the most trusted global resource for engineers, researchers, scientists and technical professionals by providing comprehensive coverage of photonics technologies, applications and markets. Laser Focus World reports on and analyzes the latest developments and significant trends in both the technology and business of photonics worldwide—and offers greater technical depth than any other publication in the field.

Lattice Materials LLC #1342
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: Custom machined silicon and germanium
Lattice Materials is the world’s leading silicon and germanium machining company. With capabilities ranging from optical elements to semiconductor handling components, Lattice Materials is the go-to for complex machining requirements in these hard, brittle materials. Processing capabilities include custom crystal growth, CNC machining, polishing and more. Contact: Ken Fichtler, Sr. Marketing Specialist

Leybold Optics USA, Inc. (Buhler) #1003
SPIE Corporate Member
539 James Jackson Ave, Cary, NC, 27513-8101 USA
+1 919 657 7100; fax +1 919 657 7101
sales.america@leyboldoptics.com; www.buhlergroup.com
Featured Product: STARpro Compact Sputter Tool for optical coating - small batch manufacturing, prototyping, and R&D.
Leybold Optics is a leading supplier of thin film coating systems and processes, using plasma ion assisted evaporation, sputtering, and PECVD technologies. Our machine portfolio includes sputtering tools (NESSY, HELIOS and STARpro), and evaporation systems (ARES and SYRUSpro). Key components are our Advanced Plasma Source (APS) and LION ion source, and the OMS5100 optical monitoring system which provides the ultimate accuracy in layer thickness control. Applications cover the EUV to the far Contact: Phil Hatchett, Regional Sales Manager, phil.hatchett@buhlergroup.com; George Kim, President, george.kim@buhlergroup.com

Lumetrics, Inc. #1320
1565 Jefferson Rd #420, Eagles Landing Business Park, Rochester, NY, 14623 USA
+1 585 214 2455; fax +1 585 214 2458
sales@lumetrics.com; www.lumetrics.com
Featured Product: OptiGauge II
Lumetrics is a manufacturer of precision optical measurement systems. For more than a decade, Lumetrics® has been providing installations of its measurement systems to companies throughout the world, including 50% of the top medical device companies, the top four ophthalmics companies, and three of the top four glass companies. Our systems are deployed in quality, R&D, and production, providing real-time measurements to improve yield, reduce costs, improve quality and meet compliance needs Contact: Steve Kelly, VP Sales, skelly@Lumetrics.com; Steve Heveron-Smith, VP Business Development, sheveron-smith@Lumetrics.com

www.spie.org/afb
Magnus Precision Mfg., Inc. #1007
1912 Rte 96, Phelps, NY, 14532-9705 USA
+1 315 462 2611; fax +1 315 548 8041
www.magnusprecision.com

Featured Product: MarForm MFU 200 Aspheric 3D machined components for the optical and aerospace markets.

Magnus Precision Manufacturing, a 100% employee-owned company, is a world leader specializing in producing some of the most precise and tightly tolerated parts used in various optics, photonics, aerospace and defense-related applications today. ITAR-registered, Magnus has both a CNC Machining production area as well as a dedicated prototype area incorporating numerous,000010" resolution machine tools. Included in both areas are simultaneous 5-axis vertical/horizontal machining centers. Contact: Don Miller, Director of Business Development, dmiller@magnusprecision.com

Mahr Federal Inc. #1115
1144 Eddy St, Providence, RI, 02905-4511 USA
+1 401 784 3100; fax +1 401 784 3246
information@mahr.com; www.mahr.com

Featured Product: MarForm MFU 200 Aspheric 3D

Mahr Federal Inc. is a leading manufacturer of measurement instruments. We offer surface roughness and contour measurement systems to help ensure the quality of optical components including aspheric and free-form. Solutions are available for measurement in both the grinding and polishing stages of production. Mahr Federal also manufactures and markets a wide variety of dimensional metrology solutions from simple and easy-to-use hand-held gages to technologically advanced measurement systems. Contact: Bethany Murphy, Marketing Research Assistant, bethany.murphy@mahr.com; Gail Ayliffe-Jessup, Marketing Assistant, gail.jessup@mahr.com

Meridian Mechatronics #1206
120 W Keegan St, Deerfield, MI, 49238 USA
+1 517 447 4587
info@meridianmechatronics.com

Micro Abrasives Corp. #207
720 Southampton Rd, Westfield, MA, 01085-1392 USA
+1 413 562 3641; fax +1 413 562 7409
sales@microgrit.com

Featured Product: Abrasive Grain, Lapping & Polishing Slurries

Founded in 1957 our company is a world wide leader in the manufacturing of abrasive products for lapping, polishing and slicing of exotic materials. We specialize in Aluminas, Silicon Carbides and Cerium Oxides in standard and custom sizes. Our dedication to quality has given us longevity in a very fast paced technical environment. Get to know us again! Contact: Scott Cervonayco, Sales Manager, scott@microgrit.com; Doug Stutz, Vice President, doug@microgrit.com

Micro-LAM Technologies #201
4950 W Dickman Rd Ste B5, Battle Creek, MI, 49037-5600 USA
+1 269 366 9212
info@microlamtechnologies.com; www.microlamtechnologies.com

Featured Product: innovative µ-LAM system

Micro-LAM Technologies offers cutting edge technology through its state of the art retrofitable system that aims to be a game changer in the manufacturing industry. The hybrid laser-diamond cutting tool system provides profitable solutions for machining hard and brittle materials.

Mindrum Precision, Inc. #704
10000 4th St, Rancho Cucamonga, CA, 91730-5723 USA
+1 909 989 1728; fax +1 909 987 3709
sales@mindrum.com; www.mindrum.com

Our objective is to provide our customers with integrated optical solutions from design to manufacturing. Our company prides itself in our capability to provide our customers with high quality optics, optical module and opto-mechatronics system at a competitive price. We produce optics for precision optical elements, as well as custom lens system, optic-mechatronics solution. Contact: Linda Kondris, Technical Sales, Linda@mindrum.com; Adam Pohl, VP Engineering, Adam@mindrum.com

ML Optic Corp. #1005
398 Pugang St, Jiangning Development Zone, Nanjing Jiangsu, 211100 China
+86 25 844 36288; fax +86 25 844 33188
info@mloptic.com; www.mloptic.com

Featured Product: Precision Asphere, Optical Coatings, MRF&SSI Service, Metrology, Optical Design

MLOptic is a leading customized optics manufacturer in China, which was founded in 1996. Our objective is to provide our customers with high quality optics, optical module and opto-mechatronics system at a competitive price. We produce optics for precision optical elements, as well as custom lens system, optic-mechatronics solution. Contact: Lukas Liu, Sales Engineer, lukas@mloptic.com; Kathy Wang, Account Manager, kathy@mloptic.com

Mindrum Precision, Inc.

Adam@mindrum.com

Magnus Precision Mfg., Inc.

Don Miller, Director of Business Development

dmiller@magnusprecision.com

Mahr Federal Inc.

Bethany Murphy, Marketing Research Assistant

bethany.murphy@mahr.com

Gail Ayliffe-Jessup, Marketing Assistant

gail.jessup@mahr.com

Meridian Mechatronics

Sergio Espinola, President

info@meridianmechatronics.com

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scott@microgrit.com

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dmiller@microlamtechnologies.com

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Moore Nanotechnology Systems, LLC #600
AP OMA
230 Old Homestead Hwy, Swanzey, NH, 03446-2120 USA
+1 603 352 3030; fax +1 603 352 3363
sales@nanotechsys.com; www.nanotechsys.com

Featured Product: New Nanotech 650v2 Y-axis Freeform Generator is the most versatile ultra-precision machining system.
Moore Nanotechnology Systems, LLC is a global supplier of ultra-precision machining systems for single point diamond turning, micro-milling, micro-grinding, and glass press molding. With machine installations in over 30 different countries, Nanotech’s 2 – 5 axes symmetric and freeform optical machining systems offer the flexibility and reliability to cover R&D or production needs in a broad range of current and emerging markets. All systems can achieve nanometer level surface finishes. Contact: Jeffrey Perra, Sales Engineer, perra@nanotechsys.com; Robert Cassin, VP of Sales, cassin@nanotechsys.com

Naked Optics Corp. #1352
SPIE Corporate Member
1090 Delacroix Cir, Nokomis, FL, 34275-4563 USA
+1 908 685 0352; fax +1 908 325 0250
sales@nakedoptics.com; www.nakedoptics.com

Featured Product: IR and optical glass blanks
Supplier of IR & visible optics, IR and glass blanks including IR chalcogenide glass, ZnS, Si, BaF2, CaF2, KRS-5 and optical glasses; Optical glass strip, molded and CNC-machined blanks of all optical materials. Contact: Buzz Nesti, buzz@nakedoptics.com; Glen Dunn, glen@nakedoptics.com

Nanophase Technologies Corporation #304; 305
1319 Marquette Dr, Romeoville, IL, 60446 USA
+1 630 771 6700; fax +1 630 771 0825
sales@nanophase.com; www.nanophase.com

Featured Product: Nanophase Cerium Oxide and Aluminum Oxide Optical Polishing slurries
Nanophase Technologies Corporation is a global provider of engineered nanomaterial solutions across a range of markets, including personal care, coatings, energy storage and surface finishing. The company’s patented Cerium Oxide and Aluminum Oxide optical polishing slurries offer improved longevity, faster time to surface finish, reduced defectivity, and reduced waste, saving customers time and money and allowing them to meet rigorous specifications. Nanophase is ISO 9001 and 14001 certified. Contact: Johnny Meyer, Senior Account Manager, jmeyer@nanophase.com; Kevin Cureton, VP Sales, Marketing, & Business Development, kcureton@nanophase.com

Navitar #108
SPIE Corporate Member
200 Commerce Dr, Rochester, NY, 14623-3506 USA
+1 585 359 4000; fax +1 585 359 4999
info@navitar.com; www.navitar.com

Featured Product: MicroMate 3X Zoom Lens System
Navitar designs, develops and manufactures innovative optical solutions for clients and enterprises across the globe. Solutions include complete optomechanical and optoelectronic assembly and sub-assembly systems. Our products range from high magnification motorized zoom imaging systems to fisheye projection lenses used in a wide variety of industries including Life Sciences, Industrial Imaging, Microscopy and Projection. Contact: Robert Prato, Account Representative, robert.prato@navitar.com; Brett Cannarozzo, Domestic Sales Manager, brett.cannarozzo@navitar.com

New Way Air Bearings #300
50 McDonald Blvd, Aston, PA, 19014 USA
+1 610 494 6700; fax +1 610 494 0911
sales@newwayairbearings.com; www.newwayairbearings.com

Newport Thin Film Laboratory, Inc. #707
SPIE Corporate Member
13824 Magnolia Ave, Chino, CA, 91710-7027 USA
+1 909 591 0276
sales@newportlab.com; www.newportlab.com

Featured Product: UV / VIS / IR Coatings
NTFL has been providing quality coatings worldwide for 35+ years, helping customers overcome engineering hurdles by designing and manufacturing coatings for commercial, aerospace, military, UV curing, germicidal, semiconductor, medical technology and scientific applications. Newport Thin Film Laboratory is a fully equipped coating facility with capabilities in the UV/VIS/IR spectrum. We work with customers in need of prototype to high volume production and Micro to Large (50”) optics. Contact: Ever Mata, Sales Manager, sales@newportlab.com; P. Scott Powers, Engineer, sales@newportlab.com

NGL Cleaning Technology SA #308
7 Chemin de la Vuarpilliere, Cleaning and Stripping chemicals, Nyon, 1260 Switzerland
+41 22 365 4666; fax +41 22 361 8103
contact@ngl-group.com; www.ngl-group.com

Featured Product: Cleaning and Stripping chemicals
NGL is a Swiss based manufacturer of high precision cleaning chemicals. The company has been developing eco friendly chemicals for more than 30 years and is considered as one of the world technical leader for cleaning processes. We are developing solutions for various industries such as Precision Optics, PVD/CVD coating, Jewelry, Ophthalmic optics, Watch production. We are also specialised in waste water treatment processes, developed internally by our team of specialists. Contact: Francois Benis, Area Sales Manager, f.benis@ngl-group.com; Huseyin Karaboga, Group Sales Manager, h.karaboga@ngl-group.com

Cleaning and stripping chemicals, ultrasonic application. Perfect surface preparation before coating
NiCoForm, Inc. #1205
72 Cascade Dr, Rochester, NY, 14614-1109 USA
+1 585 454 5530; fax +1 585 454 5167
sales@nicoform.com; www.nicoform.com

Featured Product: Cold Shields, NiColoy® Bellows, Nickel-Phosphorus Plating for Diamond Machining, Mini 3D Housings
NiCoForm, Inc., the world leader in net shape electroforming, produces engineering components using proprietary technology. Combining their trademark high strength alloy, NiColoy®, with Copper, Nickel and Gold, the Company manufactures mission-critical components for the defense, aerospace, instrumentation, medical devices, and other industries. ITAR registered. Contact: Joe Jachlewski, Vice President, jjachlewski@nicoform.com

North American Coating Laboratories #302
9450 Pineneddle Dr, Mentor, OH, 44060-1828 USA
+1 440 357 7000; fax +1 440 357 7001
info@nacl.com; www.nacl.com

North American Coating Laboratories provides optical coatings for a variety of customers in the polymer and glass optics markets. Our experience in both dip and vacuum-applied processes make NACL one of the most respected organizations in the optical coatings field. Our coating competencies include Protective, Scratch-resistant, Reflective, Anti-reflective, Filter, Conductive, ITO, and Chemically resistant coatings. North American Coating Laboratories is an ISO 9001:2008 certified organization. Contact: Dan Fiore, Director of Business Development, dfiore@nacl.com; Brian Wilson, President, bwilson@nacl.com

nPoint, Inc. #200
3030 Laura Ln Ste 100, Middleton, WI, 53562-1872 USA
+1 608 824 1770; fax +1 608 824 1774
info@npoint.com; www.npoint.com

Featured Product: NP Focus Series Objective Focusing Nanopositioning Piezo Stages
Designs & manufactures nanopositioning tools for OEM and research applications. Products include piezo actuated flexure stages and digital control electronics. Nanopositioning systems provide closed-loop translation in the X, XY, XYZ and tip/tilt. Enables high-speed, high-resolution, sub-nanometer precision for Optics, Semiconductor, Defense, Aerospace and Bio industries. Contact: Jim Litynski, Technical Sales, jim.litynski@npoint.com

OHARA CORPORATION #400
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: Optical Glass, Polished Substrates, Fused Silica, CaF2, UV/IR Materials, Index Measurement Services.
Ohara Corporation provides optical glass products, Fused Silica, CaF2 and other IR/UV crystalline materials in a variety of forms ranging from raw material to blanks to molded/pressed parts. plano-planar polished substrates are offered with industry leading roughness/cleanliness values as all polishing/cleaning work is done in a Clean Room environment. Precision index measurement services also available. On-time delivery and excellent quality records combine with excellent customer service. Contact: Chris Ghio, Sales Director, chrishgio@oharacorp.com; Rob Lee, Sales Manager, roblee@oharacorp.com

OPTEG GmbH #215
Föpplstr 9, Leipzig, 04347 Germany
+49 341 234935 10; fax +49 341 234935 29
info@opteg.de; www.opteg.de

optics.org #1103
Ffordd Pengam, 2 Alexandra Gate, Cardiff, CF24 2SA United Kingdom
+44 117 905 5330
sales@optics.org; optics.org

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Optikos Corporation #604
107 Audubon Rd, Bldg 3, Wakefield, MA, 01880-1245 USA
+1 617 354 7557; fax +1 617 354 5946
sales@optikos.com; www.optikos.com

Featured Product: Optical Metrology and Engineering Design
Optikos provides paths and solutions to test and measure your optical and imaging performance. We offer standard and customized metrology products and services for most any imaginable measurement of lens, camera or ophthalmic system as well as production test stations; and provide engineering concept, design and production services, applying our expertise in optical engineering, electro-optics, infrared-optics and opto-mechanics to your vision. Contact: Jim Scott, Key Account Manager, jscott@optikos.com; Yvonne Chao, International Sales Manager, ychao@optikos.com

Optimax #500
6367 Dean Pkwy, Ontario, NY, 14519-8939 USA
+1 585 265 1020
sales@optimaxsi.com; www.optimaxsi.com

Featured Product: The Freedom of Freeforms - fewer elements, lighter weight and increased flexibility.
Optimax is set-up to manufacture, test and deliver precision optics, including aspheres, cylinders, prisms, spheres, and now freeforms with the speed and quality your project demands. Our reliability has allowed us to become America’s largest prototype optics manufacturer, while remaining committed to small volume, high quality and quick delivery of your prototype optic needs. Contact: Joseph Spilman, Sales Manager, sales@optimaxsi.com; Joe Pinto, Sales Engineer, sales@optimaxsi.com

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+1 360 676 3290 · help@spie.org · (Twitter) #optifab
OptiPro Systems

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: Featuring seven all-new, American-made machines for high performance precision optics manufacturing. 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: Mike Bechtold, President, mike@optipro.com; Ron Colavecchia, Director of Optics Technology, rcolavecchia@optipro.com

OptiWorks, Inc.

1-2-4 Azuchi-chou, Chuou-ku Osaka, 541-0052 Japan
+81 6 6264 7310
sales@optiworks.jp; www.optiworks.jp

OPTIX Co.

Zahari Stoyanov Str 65, Panagyurishte, 4500 Bulgaria
+1 359 357 64
sales@optixco.com; www.optixco.com

Featured Product: OPTIX Co. has been developing technologies for single-point diamond turning of PMMA materials.

Diamond Turning Process of Glassy Polymers (PMMA)

Opto-Alignment Technology

1034-A Van Buren Ave, Indian Trail, NC, 28079-5632 USA
+1 704 893 0399
sales@optoalignment.com; www.optoalignment.com

Featured Product: OATi offers Distance Measurement Interferometer and Vertex Height Measurement modules for the LAS

OATi is a leading US manufacturer of precision lens alignment, assembly and inspection technologies. Our product line of MW/LWIR LASER 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: Sasha Pearlman, President, sasha.pearlman@optoalignment.com; Ron Garden, VP of Business Development, ron.garden@optoalignment.com

Diamond Turning Process of Glassy Polymers (PMMA)

OptoIndex

Papiermuhlenweg 74, Ratingen, 40882 Germany
+49 2102 1678 0; fax +49 2102 1678 28
info@opto-index.de/ot; www.opto-index.de/ot

Diamond Turning Process of Glassy Polymers (PMMA)
Non-toxic inert polymers nearly atomically clean System Manufacturer of First Contact Polymers™ coat available to clean & protect sensitive surfaces

Featured Product: First Contact Polymers™. Only no-residue strip sales@photoniccleaning

+1 608 467 5396; fax +1 608 467 5397

Photonic Cleaning Technologies

1895 Short Ln, Platteville, WI, 53818-8977 USA
+1 608 467 5396; fax +1 608 467 5397
sales@photoniccleaning.com; www.photoniccleaning.com

Featured Product: First Contact Polymers™. Only no-residue strip available to clean & protect sensitive surfaces

Manufacturer of First Contact Polymers™. THE Cleaning and Protection System. Apply liquid polymer and peel the dried film leaving the surface nearly atomically clean. Independent XPS/ESCA and Laser Damage Threshold testing shows no residue to the molecular level! Safe with high power laser optics. Remove Dust & Fingerprints. Reduce waste: non-toxic inert polymers. Clean Nanostructures, Gratings & Phase Masks! Protect and clean microscope objectives & CCD Sensors. Safe. Low Adhesion. No residue. Contact: David Giesen, Technical Sales and Manufacturing Manager, davidg@photoniccleaning.com; James Hamilton, CTO, hamilton@photoniccleaning.com

PHASICS Corp.

#1101

169 11th St, San Francisco, CA, 94103 USA
+1 415 610 9741

Featured Product: Easy-to-align and accurate wavefront sensors for fast lens quality control from UV to far IR

Phasics offers solutions for lens and assembly quality control from 193nm to 14μm based on its high resolution wavefront sensors. Phasics’ test benches provide MTF and WFE in a single shot. Our patented technology ensures accuracy, speed and ease of use. Moreover they stand out for their set-up with no relay lens that eases alignment and enables rigorous comparison to design. Phasics wavefront sensors also apply to laser beam testing, adaptive optics, quantitative phase imaging (plasma, biology). Contact@phasics.com; www.phasicscorp.com

Off-axis MTF and wavefront error measurement at multiple wavelengths

PI

#609

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

PI is a leading manufacturer of precision motion control equipment, piezo motors, air bearing stages and hexapod parallel-kinematics for semiconductor applications, photonics, bio-nano-technology and medical engineering. PI has been developing and manufacturing standard & custom precision products with piezoceramic and electromagnetic drives for 4 decades. The company has been ISO 9001 certified since 1994 and provides innovative, high-quality solutions for OEM and research. Contact: Sales Department, info@pi-usa.us

PI Hexapods: 6D optics alignment, image stabilization, motion simulation

Promotional Partner

Photonica Media

#702

100 W St, 2nd Fl, Pittsfield, MA, 01202-4949 USA
+1 413 499 0514; fax +1 413 443 0472
info@photonics.com; www.photonics.com

Photonics Media invites you to explore the world of light-based technology at www.photonics.com and our FREE mobile apps. As the publisher of Photonics Spectra, Industrial Photonics, BioPhotonics, and Europhotonics magazines as well as the Photonics Buyers’ Guide, Photonics.com, and more, we bring you the news, research and applications articles you need to succeed. Contact: Karen Newman, Group Publisher, editorial@photronics.com; Ryan Laurin, Vice President, info@photonic.com

Promotional Partner

Photonics Online

#1332

2591 Wexford-Bayne Rd Ste 305, Bldg II, Sewickley, PA, 15143-8676 USA
+1 724 940 7555; fax +1 724 940 7707
info@photonicsonline.com; www.photonicsonline.com

PI is a leading manufacturer of precision motion control equipment, piezo motors, air bearing stages and hexapod parallel-kinematics for semiconductor applications, photonics, bio-nano-technology and medical engineering. PI has been developing and manufacturing standard & custom precision products with piezoceramic and electromagnetic drives for 4 decades. The company has been ISO 9001 certified since 1994 and provides innovative, high-quality solutions for OEM and research. Contact: Sales Department, info@pi-usa.us

PI Hexapods: 6D optics alignment, image stabilization, motion simulation

piezosystem jena, Inc.

#1004

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

Piezosystem jena for 20+ years has provided high precision nano-positioning solutions in up to 5 axis of travel. X, XY, XYZ, tip/tilt positioning with sub-nm resolution can be achieved, with high resonant frequencies which allow for fast scanning. Using a closed loop feedback we can eliminate any hysteresis and drift. Complete digital systems are also readily available with micro manager and labview drivers. A leader for Research & OEM solutions. Contact: Peter Viglas, Sales Manager, pviglas@piezojena.com

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PLX Inc.
40 W. Jefryn Boulevard, Deer Park, NY, 11729-5761 USA
+1 631 586 4190; fax +1 631 586 4196
info@plxinc.com; www.plxinc.com

**Featured Product:** The PLX ACT-25 Electronic Autocollimator and Alignment Telescope robustly designed all-in-one unit.

PLX provides unique optical instruments, technologies and solutions to problems of achieving and maintaining state-of-the-art optical accuracy and stability under severe environmental conditions. Our unique, new multi-function Autocollimators are high-accuracy measurement instruments capable of high resolution and exceptional focusing range. They are designed for machinery alignment, optical testing and even boresighting applications. Included is a software suite for documenting measurements. Contact: Itai Vishnia, Director of Operations, iv@plxinc.com; Michael Rosen, Marketing Services, mike@tackleboxmarketing.com

*New PLX Act-25 All-In-One Electronic Autocollimator and Alignment telescope*

**Polaris Motion**
3-512 Frances Ave, Div of Precision MicroDynamics Inc, Victoria, BC, V8Z 1A1 Canada
+1 250 382 7249; fax +1 250 382 1830
sales@pmdi.com; www.pmdi.com

**Featured Product:** Polaris Motion Control System for micromachining, including CNC software, controls and drives.

Polaris is the world’s most advanced off-the-shelf platform for the control and synchronization of servo motors, Galvos, lasers and other high performance devices. Polaris delivers uncompromised speed and precision. Polaris was designed for: Ultra precision diamond tool machining; Precision and ultra precision grinding; Laser micro machining; Mills and Lathes with sub micron tolerance requirements. CNC machines with integrated tool and part measurement requirements. Contact: Tom Erlic, Co-Founder, terlic@pmdi.com; Mile Erlic, Co-Founder, merlic@pmdi.com

*Polaris motion control system for optics manufacturing*

**PR Hoffman Machine Products**
1517 Commerce Ave, Division of Amtech Systems, Incorporated, Carlisle, PA, 17015 USA
+1 717 243 9900; fax +1 717 243 4542
prhoff@prhoffman.com; www.prhoffman.com

**Featured Product:** PR-1 New & Improved; Servo Machines w/ Counter Rotating Bottom Plate; Carriers for lapping & polishing

Machines - PR Hoffman is widely recognized as a lapping machine innovator. Our double sided lapping and polishing machines are designed to help you achieve superior flatness, surface finish and parallelism. Carriers—PR Hoffman manufactures a full line of lapping and polishing carrier solutions for every application using a wide variety of raw materials and custom machining we can make carriers for any lap/polish machine. Templates—Manufacturer of polishing templates for any application. Contact: Kerry Woods, Sales Manager, kwoods@prhoffman.com; Mark Lehman, Sales, mlehman@prhoffman.com

*PR Hoffman's largest double sided lapping machine model 6600*

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

**Floor Graphic Sponsor**
**Precision Laser Technology LLC**
1001 Lexington Ave #4, Rochester, NY, 14606 USA
+1 585 458 6208; fax +1 585 458 6209
Sales@PLTemail.com; www.PrecisionLaserTech.com
Contact: Ron Natale, Business Development, RNatale@PLTemail.com

**Precision Optical**
320 Kalmus Dr, Costa Mesa, CA, 92626-6045 USA
+1 949 631 6800; fax +1 949 642 7501
sales@precisionoptical.com; www.precisionoptical.com
Manufacturer of laser-quality precision optical assemblies and components (VUV to IR) including prisms, mirrors, windows, retroreflectors, filters, plate-type beamsplitters, alignment cubes, polarizing and nonpolarizing cube beamsplitters and coatings. Contact: Jeremy Gordon, V.P. Sales and Marketing, jgordon@precisionoptical.com; James McClure, Sales Manager, jmcclure@precisionoptical.com

**Precitec USA**
28043 Center Oaks Ct, Wixom, MI, 48393 USA
+1 248 446 8100; fax +1 248 446 9409
info@precitec.com; www.precitec.us
Specialty fiber optics using the FIBO® 300 interferometer

Featured Product: Measure surface geometry of micro optics & specialty fiber optics using the FIBO® 300 interferometer

Promet Optics specializes in high precision sub-millimeter interferometry for Aerospace/Defense and Telecommunications fiber optic systems. Special applications include standard micro optics, 8° - 50° cleaved/polished fibers, laser cleaved ribbon fibers, MIL spec fiber termini; among others. Promet Optics also provides custom optical & opto-mechanical design, testing and production of precision optical systems. Contact: Austin Van Sickle, Engineering Sales Manager, austin@prometoptics.com; Peter Koudelka, President, peter@prometoptics.com

Interferometric solution for your sub-millimeter optics

QED Technologies

Featured Product: QED’s Q-flex 300 MRF polishing system - legendary MRF performance with unprecedented capabilities.

QED Technologies’ ASI(Q) high resolution, stitching metrology system enables in-process and final testing of precision optics. QED’s Q-flex 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 615, 511 to learn about the latest developments at QED. Contact: Scott Summers, Director of Operations and Worldwide Sales, summersson@qedmrf.com

Conference Bag Insert Sponsor

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R. Mathews Optical Works, Inc.

Manufacturer of custom aspheric optics from all glass types. Symmetric, off-axis and aclyindrical aspheric optics to specification. Made in the USA. Contact: Bob Mathews, President, bob@mathewsoptical.com

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Specializing in large to massive precision 5-axis grinding

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ClearDLC™—High Transmission and durable coating from visible to LWIR

Rostox-N Ltd.

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Roth & Rau AG - Business Unit MicroSystems

An der Baumschule 6-8, Gewerbegebiet Am Sachsenring II/ Microsystems, Hohenstein-Ernstthal, 09337 Germany

PremaTech Advanced Ceramics

461 Chatsworth St, Saint Paul, MN, 55126-5813 USA

+1 651 481 9661; fax +1 651 481 9565

info@promet.net; www.promet.net

QED Technologies

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Raytek Scientific

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Rostox-N Ltd.

info@rostopex.com

Roth & Rau AG - Business Unit MicroSystems

info@ microsystems.de

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+1 585 288 1600; fax +1 585 288 2481
info@rpfedder.com; www.rpfedder.com

S.I. Howard Glass Co., Inc.
379 Southwest Cutoff, Worcester, MA, 01604 USA
+1 508 753 8146; fax +1 508 797 4740
jason@howardglass.com; www.howardglass.com

Salem Advanced Surfacing Materials
5901 Gun Club Rd, Winston Salem, NC, 27103-9732 USA
+1 336 766 1104; fax +1 336 766 1119
sales@salemdist.com; www.salemdist.com

Sagem REOSC
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reosc@sagem.com; www.reosc.com

Savvy Optics Corp.
35 Gilbert Hill Rd, Chester, CT, 06412 USA
+1 860 878 0722
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Satisloh North America, Inc.
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lori.heller@satisloh.com; www.satisloh.com

Schneider Optical Machines Inc.
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+1 972 247 4000; fax +1 972 247 4060
info-usa@schneider-om.com; www.schneider-om.com

General Sponsor

Salem Advanced Surfacing Materials
5901 Gun Club Rd, Winston Salem, NC, 27103-9732 USA
+1 336 766 1104; fax +1 336 766 1119
sales@salemdist.com; www.salemdist.com
Featured Product: Precision Diamond Tools For Grinding and Polishing Sapphire
Salem Advanced Surfacing Materials is the product of distilling its five diverse fields of expertise into solutions for the Precision Optical industry. Its broadband knowledge combined with the ability to cross-pollinate technologies offers the Precision Optical manufacturing community a depth of capabilities unique from a single source. From precision abrasives and polishes to innovative pads and fixed diamond tooling, their products provide a proven track record of performance and value. Contact: Steve Albright, Product Engineer, salbright@salemdist.com

Sagem REOSC
# 1310
Ave de la Tour Maury, Saint Pierre Du Perray, 91280 France
+33 1 69 89 72 00; fax +33 1 69 89 76 50
reosc@sagem.com; www.reosc.com
Featured Product: High performances optical components and systems for science, space and industry
REOSC (subsidiary of SAGEM) aims to design and create high-performance optical components or systems for the semi conductor industry, space, astronomy and large-scale lasers (Ignition & Multi PW Facilities). We manufacture: high-performances, spherical, aspherical, on- or off-axis optic units or components; using glass ceramic, silicon carbide (SiC), silicon or metal lightweighted optics; active or adaptive optics; size up to 8m; precision: ångström; laser coatings (from DUV to IR). Contact: Slimane DJIDEL, Sales Manager, slimane.djidel@reosc.com

Savvy Optics Corp.
# 110
35 Gilbert Hill Rd, Chester, CT, 06412 USA
+1 860 878 0722
contact@savvyoptics.com; www.savvyoptics.com
Featured Product: Introducing the SavvyInspector™ SIF-4M— The motorized optics inspection solution.
Savvy Optics Corp is dedicated to improving the optics industry through better standardization, training, and equipment to address the problems of the industry today. Our focus right now is getting the entire industry on the same page regarding surface quality inspections and optics specifications. We offer products, services, and training in optics drawings and specifications, scratch and dig, ISO and ANSI surface imperfection and inspection. Contact: David Aikens, President, davidk@savvyoptics.com; Dana Takaki, Director, dtakaki@savvyoptics.com
New Motorized SavvyInspector SIF-4M for objective scratch and dig measurements

Satisloh North America, Inc.
# 415
N106 W13131 Bradley Way, Suite 200, Germantown, WI, 53022-2484 USA
+1 262 255 6001; fax +1 262 255 6002
lori.heller@satisloh.com; www.satisloh.com
Featured Product: C-300 Centering Machine for diameters 10-300 mm. Centers cylinders, plano & form bevels & for edging
The C-300 is equipped with several innovative processes for highest speed and best surface quality. Combining force controlled grinding with the full flexibility of CNC technology, it allows processing at highest speed. The innovative spindle concept, the precise cooling shoe technology and the unique, sensitive, air bearing clamping system contribute to best results in edge processing. The C-300 processes complex edge geometries as well as non-circular lens shapes. Contact: Tom Godin, Sales Director, tom.godin@satisloh.com; Lori Heller, Inside Sales Manager, lori.heller@satisloh.com
C-300 processes various geometries and a wide range of diameters

Schneider Optical Machines Inc.
# 1015
5916 Stone Creek Ste 120, The Colony, TX, 75056 USA
+1 972 247 4000; fax +1 972 247 4060
info-usa@schneider-om.com; www.schneider-om.com
Featured Product: The SCG 250 enables precision grinding of spherical, aspherical, and freeform optics up to 250 mm.
Designs and manufactures precision CNC equipment for optics fabrication and testing. Provides complete solutions for generating, polishing, centering, edging, diamond turning, and measuring of free form, aspheric, spherical, plano and other optics. Offers training, service, applications support and custom tooling for optimizing machine use and production. Contact: Thomas Danger, VP Sales, Precision Optics, tdanger@schneider-om.com
SCG 250 for grinding spherical, aspherical and freeform optics
SCHOTT North America, Inc.  #101

**Featured Product: ZERODUR®, Optical Filters, Optical Glass**

SCHOTT North America is a leading custom lens supplier with services including lens design and optimization, including opto-mechanical assembly in UV, VIS, NIR, and SWIR to LWIR applications. ISO:9001 certified with state-of-the-art metrology, our expert engineering team can optimize optical system with in-depth Design for Manufacturing knowledge. Our goal is to optimize your design with manufacturing input to bring your vision come to life with top cost-to-performance ratio w/o sacrificing quality or delivery. Contact: Joanna Lee, V.P. of Sales, joanna.lee@shanghai-optics.com

Sino-Crystal Micro Diamond Co., Ltd.  #1108

**Featured Product: Synthetic Diamond Micron Powder, Nano Diamond, Polycrystalline Diamond Powder, Mesh RVD and MBD etc.**

Sino-crystal Micro-diamond Co. is a high-tech enterprise specializing in designing, manufacturing and selling of synthetic diamond micron powder and related products. Our certifications include: ISO9001:2000, OHSAS 18001:1999 and ISO14001:2004. As a forerunner in the superabrasive industry, we implement a total quality management process and adopt comprehensive quality control instruments. Our goal is to service our clients with the utmost professionalism and quality. Contact: Annie Hui, Sales & Marketing Director, the Americas, anniehui@microndiamond.com

SlicingTech  #401

**Featured Product: Slicing Tech serves the needs of companies who require high precision, high volume wafer slicing.**

Along with a wide range of Meyer Burger wafer slicing systems, we now feature the world-renowned, state-of-the-art Meyer Burger DW 288 and Meyer Burger DW 265 Diamond Wire Slicing Systems for hard and brittle materials. Large table loading capabilities enable us to slice thousands of parts in as little as three hour cycle times, resulting in the lowest possible piece price. Excellent surface finishes often reduce or eliminate additional machining operations, such as grinding or lapping. Contact: Keith Robinson, President/CEO, krobinson@slicingtech.com; Mike Hartman, Plant Manager, mhartman@slicingtech.com

Solaris Optics S.A.  #1354

ul Sobieskiego 49, Józefów, 05-410 Poland
+48 22 789 43 54; fax +48 22 789 60 46
info@solariosoptics.com.pl; www.solariosoptics.com.pl

Spartan Felt Co.  #409

151 Felt Dr, Roebuck, SC, 29736 USA
+1 864 576 7919; fax +1 864 574 4507
info@spartanfelt.com; www.spartanfelt.com

**EXHIBITOR LISTING**

**SCHOTT North America, Inc.**

400 York Ave, Duryea, PA, 18642-2036 USA
+1 570 457 7485; fax +1 570 457 7330
info,optics@us.schott.com; www.us.schott.com

**Sino-Crystal Micro Diamond Co., Ltd.**

Export Processing Zone, the 9th Street, Zhengzhou, Sales & Marketing, Henan, Anhui, 450000 China
+1 514 929 8618; fax +1 877 281 7305
office@microndiamond.com; www.microndiamond.com/

**SlicingTech**

432 Mt Bethel Hwy, Bangor, PA, 18013 USA
+1 610 588 7884; fax +1 610 588 7885
krobinson@slicingtech.com; www.slicingtech.com

**Solaris Optics S.A.**

ul Sobieskiego 49, Józefów, 05-410 Poland
+48 22 789 43 54; fax +48 22 789 60 46
info@solariosoptics.com.pl; www.solariosoptics.com.pl

**Spartan Felt Co.**

151 Felt Dr, Roebuck, SC, 29736 USA
+1 864 576 7919; fax +1 864 574 4507
info@spartanfelt.com; www.spartanfelt.com

**SCHOTT North America, Inc.**

400 York Ave, Duryea, PA, 18642-2036 USA
+1 570 457 7485; fax +1 570 457 7330
info,optics@us.schott.com; www.us.schott.com

**Sino-Crystal Micro Diamond Co., Ltd.**

Export Processing Zone, the 9th Street, Zhengzhou, Sales & Marketing, Henan, Anhui, 450000 China
+1 514 929 8618; fax +1 877 281 7305
office@microndiamond.com; www.microndiamond.com/

**SlicingTech**

432 Mt Bethel Hwy, Bangor, PA, 18013 USA
+1 610 588 7884; fax +1 610 588 7885
krobinson@slicingtech.com; www.slicingtech.com

**Solaris Optics S.A.**

ul Sobieskiego 49, Józefów, 05-410 Poland
+48 22 789 43 54; fax +48 22 789 60 46
info@solariosoptics.com.pl; www.solariosoptics.com.pl

**Spartan Felt Co.**

151 Felt Dr, Roebuck, SC, 29736 USA
+1 864 576 7919; fax +1 864 574 4507
info@spartanfelt.com; www.spartanfelt.com
**Spectra Services Inc** #1312

**AP OMA**

6359 Dean Pky, Ontario, NY, 14519 USA

+1 585 265 4320; fax +1 585 265 4374

sales@spectraserVICES.com; www.spectraserVICES.com

**Featured Product:** Zeiss microscopes, Spectrometers, Micro Positioners, Schott Fiber Optics, Phaseview Profilers

Spectra Services distributes and integrates a comprehensive range of microscopy, laboratory instruments, imaging solutions, spectroscopy, vibration isolation solutions and optical micro-positioning equipment.

Spectra Services also offers the industry’s largest inventory of used/refurbished microscopes, digital cameras, and microscope accessories while configuring low-cost solutions to the specific needs of our customers. Contact: Michael Specht, Sales, mspecht@spectraserVICES.com

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**Spectrum Thin Films Corp.** #1348

**SPIE Corporate Member**

135 Marcus Blvd, Hauppauge, NY, 11788 USA

+1 631 901 1010; fax +1 631 236 4309

sales@spectrumthinfilms.com; www.spectrumthinfilms.com

**Spica Technologies, Inc.** #908

**SPIE Corporate Member**

18 Clinton Dr #3, Hollis, NH, 03049 USA

+1 603 882 8233

sales@spicatech.com; www.spicatech.com

Contact: Michael Thomas, President, sales@spicatech.com

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**SPIE Career Center** #1103

1000 20th St, Bellingham, WA, 98225-6705 USA

+1 360 685 5551; fax +1 360 647 1445

sales@spiecareercenter.org; www.spiecareercenter.org

**Featured Product:** Online Job Board; Recruitment Advertising; Job Fairs

The SPIE Career Center is the leading recruitment resource for companies and professionals in the optics and photonics community. Whether you’re looking for a new job or searching for top candidates, our resources will help you find the perfect match for your needs.

Job seekers can post their resumes, search our online job board and access additional resources for career advancement. Employers can advertise jobs online, access the SPIE searchable resume database and exhibit in SPIE Job Fairs. Contact: Lacey Barnett, Sales, Career Center Coordinator, laceyb@spie.org

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**Swift Glass Company** #504

**AP OMA**

131 W 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 parts from Borofloat, Fused Silica, Quartz, BK-7, Eagle XG, D-263, Schott and Kopp Filters.

Swift Glass Company is a premier fabricator of flat glass and ceramic components. Specializing in double side lapping and polishing, chemical strengthening, heat tempering, edge grinding and polishing, CNC machining, single side lapping and polishing down to 2mm thickness, and ink jet printing on glass. Swift Glass is also in the process of adding a comprehensive chem strengthening oven for extra large display glass market. Contact: Charles Burke, VP, cburke@swiftglass.com; Kevin Wheeler, kwheeler@swiftglass.com

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**Hotel Key Cards Sponsor**

**Sydor Optics, Inc.** #510

**SPIE Corporate Member**

31 Jetview Drive, Rochester, NY, 14624 USA

+1 585 271 7300; fax +1 585 271 7309

sales@sydor.com; www.sydor.com

**Featured Product:** Precision Glass Wafers: Diameters from 10mm - 450mm. Thickness down to 0.1mm (± 0.003mm)

Sydor Optics is a custom manufacturer of precision flat-surfaced, parallel and wedged glass optical components specializing in double-sided and single-sided grinding & polishing, CNC machining and laser machining. Custom optical components manufactured with a variety of optical glass substrates include wafers, windows, filters, beamsplitters, wedges, lightpipes, mirrors, optical flats and witness samples. ITAR Registered, ISO 9001:2008 Certified.

Contact: Michael Naselaris, General Manager, sales@sydor.com

Large Optical Windows ≤750mm Diameter. Precision TWE, Surface Roughness & Parallelism

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**Synopsys** #1330

**SPIE Corporate Member**

690 E Middlefield Rd, Mountain View, CA, 95037 USA

+1 650 584 5000; fax +1 650 584 4102

info@synopsys.com; www.synopsys.com

**Featured Product:** CODE V Optimizes Optical Design Performance for Cost-Effective Manufacturing

Synopsys’ Optical Solutions Group is a leading developer of optical design and analysis tools, with CODE V® imaging design software, LightTools® illumination design software, LucidShape products for automotive lighting, and RSoft products for photonic component and optical systems design. The group is also an independent supplier of optical engineering services. Contact: Stuart David, Senior Manager, Worldwide Sales, optics@synopsys.com

Code V Software Optimizes Optical Design Performance for Cost-Effective Manufacturing

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**Syntec Optics** #506

**SPIE Corporate Member**

7100 Junction Rd, Pavilion, NY, 14525-9749 USA

+1 585 768 2513; fax +1 585 768 0699

info@syntecoptics.com; www.syntecoptics.com

**Featured Product:** High Precision Polymer Optical Components and Sub-Systems

For over 30 years, Syntec Optics has built a solid foundation in new processes for producing various geometries and shapes of optical elements for both visible and IR light. Syntec focuses on custom polymer optics for the Medical, Defense & Security, and the Consumer/Industrial sectors. Syntec Optics has been spurring innovation in single point diamond turning for over a decade, and has been reinventing polymer optics applications and tolerances. Contact: Shauna Smith, Sales & Marketing, ssmith@syntecoptics.com

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<table>
<thead>
<tr>
<th>Name</th>
<th>#</th>
<th>Address</th>
<th>Phone</th>
<th>Website</th>
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<tbody>
<tr>
<td>Taylor Hobson-AMEK UPT</td>
<td>#608</td>
<td>1725 Western Dr, Chicago, IL, 60185 USA</td>
<td>+1 630 621 3099; fax +1 630 231 1739</td>
<td><a href="mailto:taylor-hobson@amek.com">taylor-hobson@amek.com</a></td>
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<tr>
<td>Featured Product: LuphoScan: Fast non-contact 3D form measurement of aspheric optics</td>
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<tr>
<td>Techmetals, Inc.</td>
<td>#803</td>
<td>345 Springfield St, Optics Div, Dayton, OH, 45403 USA</td>
<td>+1 937 253 5311; fax +1 937 253 5096</td>
<td><a href="mailto:sales@techmetals.com">sales@techmetals.com</a></td>
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<tr>
<td>Featured Product: Optic Nickel Alloys for Precision Machining and SPDT</td>
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<tr>
<td>Technodiamant USA Inc.</td>
<td>#804</td>
<td>35A Kennedy Rd Box 398, Tranquility, NJ, 07879 USA</td>
<td>+1 908 850 8505; fax +1 908 850 8506</td>
<td><a href="mailto:info@technodiamant.com">info@technodiamant.com</a></td>
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<tr>
<td>Featured Product: Precision diamond tools</td>
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<tr>
<td>Technotrade International</td>
<td>#910</td>
<td>7 Perimeter Rd, Manchester, NH, 03103 USA</td>
<td>+1 603 622 5011; fax +1 603 622 5211</td>
<td><a href="mailto:sales@technotradeinc.com">sales@technotradeinc.com</a></td>
</tr>
<tr>
<td>Tecport Optics</td>
<td>#405</td>
<td>6457 Hazeltine National Dr Ste 140, Orlando, FL, 32822-5162 USA</td>
<td>+1 407 855 1212; fax +1 407 855 1213</td>
<td><a href="mailto:sales@tecportoptics.com">sales@tecportoptics.com</a></td>
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<tr>
<td>Featured Product: Off-Axis Parabolic Mirrors, Aspheric Lenses, OEM Supplier</td>
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<tr>
<td>Telemark, Inc.</td>
<td>#112</td>
<td>1801 SE Commerce Ave, Battle Ground, WA, 98604 USA</td>
<td>+1 360 723 5360</td>
<td><a href="mailto:info@telemark.com">info@telemark.com</a></td>
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<td>Featured Product: Off-Axis Parabolic Mirrors, Aspheric Lenses, OEM Supplier</td>
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<tr>
<td>Tempo Clean Room Foam</td>
<td>#1326</td>
<td>PO Box 431, 1227 N. Miller Park Court, Visalia, CA, 93291 USA</td>
<td>+1 800 350 7711; fax +1 559 651 0123</td>
<td><a href="mailto:tempo@tempo-foam.com">tempo@tempo-foam.com</a></td>
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<td>Featured Product: static dissipative wafer boxes for round, square and rectangular shapes, new pocket slide packs</td>
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<td>Promotional Partner</td>
<td>The Optronics Co., Ltd.</td>
<td>#1215</td>
<td>5-5 Shin Ogawamachi, Sanken Bldg, Shinjuku-ku Tokyo, 162-0814 Japan</td>
<td>+81 3 3269 3550; fax +81 3 5229 7253</td>
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<tr>
<td>Thorlabs</td>
<td>#1208</td>
<td>56 Sparta Ave, Newton, NJ, 07860-2402 USA</td>
<td>+1 973 300 3000; fax +1 973 300 3600</td>
<td><a href="mailto:sales@thorlabs.com">sales@thorlabs.com</a></td>
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<tr>
<td>Featured Product: Off-Axis Parabolic Mirrors, Aspheric Lenses, OEM Supplier</td>
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<td>Technotrade International</td>
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**EXHIBITOR LISTING**

**SPIE OPTIFAB EXHIBITION: 13-15 OCTOBER 2015**
EXHIBITOR LISTING

Conference Bags and Conference Bag Insert Sponsor
TRIOPTICS GmbH #115

SPIE Corporate Member

Hafenstr 35-39, Wedel, 22880 Germany
+49 4103 18006 0; fax +49 4103 180062-20
sales@trioptics.com; www.trioptics.com

We have the largest spectrum of optical measurement technology and supply test systems for R&D and production for every manufacturing step in optics: From a system for refractive index measurement, via various lens test systems, up to MTF test systems and camera module testers, we can supply the appropriate optical measurement system for every process step. Our field of activity comprises the development and production of optical and precision instruments. Contact: Harvey Miller, East Coast Operations Manager, harvey.miller@trioptics-usa.com; Byron Seabolt, NW Regional Sales manager, byron.seabolt@trioptics-usa.com

ATS 200 - The Alignment Turning Station with Fully Integrated Measurement Technology

Valtech Corporation #1001

SPIE Corporate Member APOMA

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® epoxy adhesive systems, aqueous-based precision cleaning detergents, and molded polymers.

Valtech Corporation’s VALTRON® line of products include specialty epoxy adhesive systems for ingot and wafer processing, aqueous-based cleaning detergents for a variety of precision cleaning applications, and custom molded polymers. Valtech serves many high-tech industries, including photovoltaic (solar), semiconductor, ophthalmic lens, precision optics, medical device, precision metalworking, ceramics, HDD, LED and fiber optics. Contact: Thaddeus Pekula, Director of Marketing, t.pekula@valtechcorp.com

Vermont Photonics Technologies Corporation #1011

SPIE Corporate Member APOMA

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: The GONIOMAT M is a semiautomatic goniometer with robust, innovative, and easy to use software.

Vermont Photonics is the exclusive U.S. distributor of high quality optical test equipment and components by German manufacturer Möller-Wedel Optical GMBH. With over 25 years of experience supplying truly top-of-the-line equipment and service to the machine tool, aerospace, semiconductor manufacturing, and optical industries, as well as science, education, and standards laboratories, Vermont Photonics is in a unique position to solve measurement problems efficiently. Contact: Misha Mross, Engineering Physics, mbmross@vermontphotonics.com; Christian Guertin, Physicist, cguertin@vermontphotonics.com

VisiMax Technologies, Inc. #904

SPIE Corporate Member

9177 Dutton Dr, Twinsburg, OH, 44087-1981 USA
+1 330 405 8330; fax +1 330 405 8332
lestückatings@visimaxtechnologies.com; www.visimaxtechnologies.com

VisiMax acts as a valued partner to optical systems designers and manufacturers. We design and apply durable optical coatings that meet spectral performance specifications from near-IR to mid-UV using physical vapor deposition technology. VisiMax works closely with customers to understand performance requirements, develop prototypes, and manufacture coatings at commercial volumes. VisiMax is ISO 9001:2008 certified and ITAR registered and compliant. Let’s Talk Coatings! Contact: J Paul Van Wagenen, Sales Manager, jpv@visimaxtechnologies.com

Universal Photonics #315

SPIE Corporate Member APOMA

495 W John St, Hicksville, NY, 11801-1028 USA
+1 800 645 7173; fax +1 516 935 4144
www.universalphotonics.com

Two new LP UNALON pads for lapping and polishing sapphire

Tydex #1111

SPIE Corporate Member

Domostroitelnaya str 16, St Petersburg, 194292 Russian Federation
+7 812 331 87 02; fax +7 812 309 2958
optics@tydex.ru; www.tyDEX.ru

Featured Exhibitor and Lanyards Sponsor
United Lens Company #601

SPIE Corporate Member APOMA

259 Worcester St, Southbridge, MA, 01550-1376 USA
+1 508 765 5421; fax +1 508 765 0500
info@unitedlens.com; www.unitedlens.com

Featured Product: High power laser mirrors : Pulsed: 30J/cm², 20ns/20 Hz @ 1064nm

ULC is ITAR registered & ISO 9001:2008 certified, Optical component manufacturer in USA serving the Defense/Aerospace & Commercial Photonics Industry since 1916. Providing complete fabrication of precision Flats & Curved substrates, various shapes & sizes from 4mm to 600mm range. In house Thin film coatings for challenging spectral performance in UV- Mid IR, High-power Laser Mirrors & Windows, Debris Shields, Filters, Beam Splitters, Lenses. Contact: William Hill, Sales Representative, bhill@unitedlens.com; Tara King, Sales Manager, tking@unitedlens.com

High power laser mirrors and windows

Möller-Wedel Optical GMBH

We design and apply durable optical coatings that meet spectral performance specifications from near-IR to mid-UV using physical vapor deposition technology. VisiMax works closely with customers to understand performance requirements, develop prototypes, and manufacture coatings at commercial volumes. VisiMax is ISO 9001:2008 certified and ITAR registered and compliant. Let’s Talk Coatings! Contact: J Paul Van Wagenen, Sales Manager, jpv@visimaxtechnologies.com

VisiMax Technologies, Inc. #904

9177 Dutton Dr, Twinsburg, OH, 44087-1981 USA
+1 330 405 8330; fax +1 330 405 8332
lestückatings@visimaxtechnologies.com; www.visimaxtechnologies.com

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Universal Photonics #315

SPIE Corporate Member APOMA

495 W John St, Hicksville, NY, 11801-1028 USA
+1 800 645 7173; fax +1 516 935 4144
www.universalphotonics.com

Two new LP UNALON pads for lapping and polishing sapphire

Tydex #1111

SPIE Corporate Member

Domostroitelnaya str 16, St Petersburg, 194292 Russian Federation
+7 812 331 87 02; fax +7 812 309 2958
optics@tydex.ru; www.tyDEX.ru

Featured Exhibitor and Lanyards Sponsor
United Lens Company #601

SPIE Corporate Member APOMA

259 Worcester St, Southbridge, MA, 01550-1376 USA
+1 508 765 5421; fax +1 508 765 0500
info@unitedlens.com; www.unitedlens.com

Featured Product: High power laser mirrors : Pulsed: 30J/cm², 20ns/20 Hz @ 1064nm

ULC is ITAR registered & ISO 9001:2008 certified, Optical component manufacturer in USA serving the Defense/Aerospace & Commercial Photonics Industry since 1916. Providing complete fabrication of precision Flats & Curved substrates, various shapes & sizes from 4mm to 600mm range. In house Thin film coatings for challenging spectral performance in UV- Mid IR, High-power Laser Mirrors & Windows, Debris Shields, Filters, Beam Splitters, Lenses. Contact: William Hill, Sales Representative, bhill@unitedlens.com; Tara King, Sales Manager, tking@unitedlens.com

High power laser mirrors and windows

Möller-Wedel Optical GMBH

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VisiMax Technologies, Inc. #904

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+1 330 405 8330; fax +1 330 405 8332
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