



Advanced Lithography 2018

EXHIBITION GUIDE

Exhibition

27-28 February 2018

Conferences + Courses

25 February-1 March 2018

San Jose Convention Center
San Jose, California, USA

www.spie.org/al

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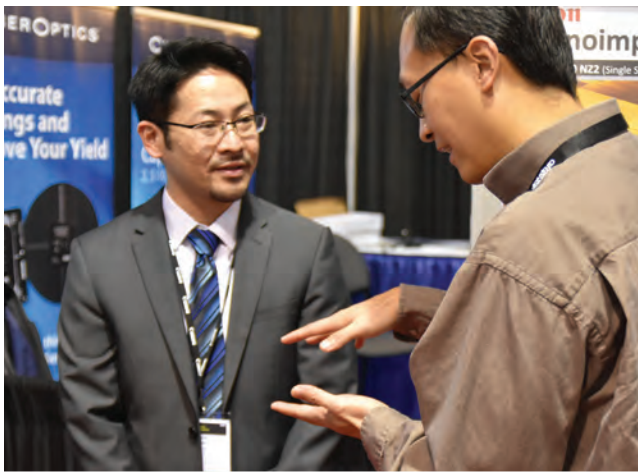
ADVANCED LITHOGRAPHY 2018

TECHNOLOGIES FOR LITHOGRAPHY R&D, DEVICES, TOOLS,
FABRICATION, AND SERVICES.

Exhibition: 27-28 February 2018
Conferences + Courses: 25 February-1 March 2018
San Jose Convention Center · San Jose, California, USA

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50-COMPANY EXHIBITION

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WELCOME TO THE EXHIBITION

SPIE. ADVANCED LITHOGRAPHY

Tuesday 27 February · 10:00 AM to 5:00 PM
 Wednesday 28 February · 10:00 AM to 4:00 PM

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SPIE would like to express its deepest appreciation to the symposium chairs, conference chairs, program committees, session chairs, and authors who have so generously given their time and advice to make this symposium possible.

The symposium, like our other conferences and activities, would not be possible without the dedicated contribution of our participants and members. This program is based on commitments received up to the time of publication and is subject to change without notice.

For information about exhibiting, sponsorship, and advertising opportunities at future Advanced Lithography events, contact: SPIE Sales at spiesales@spie.org

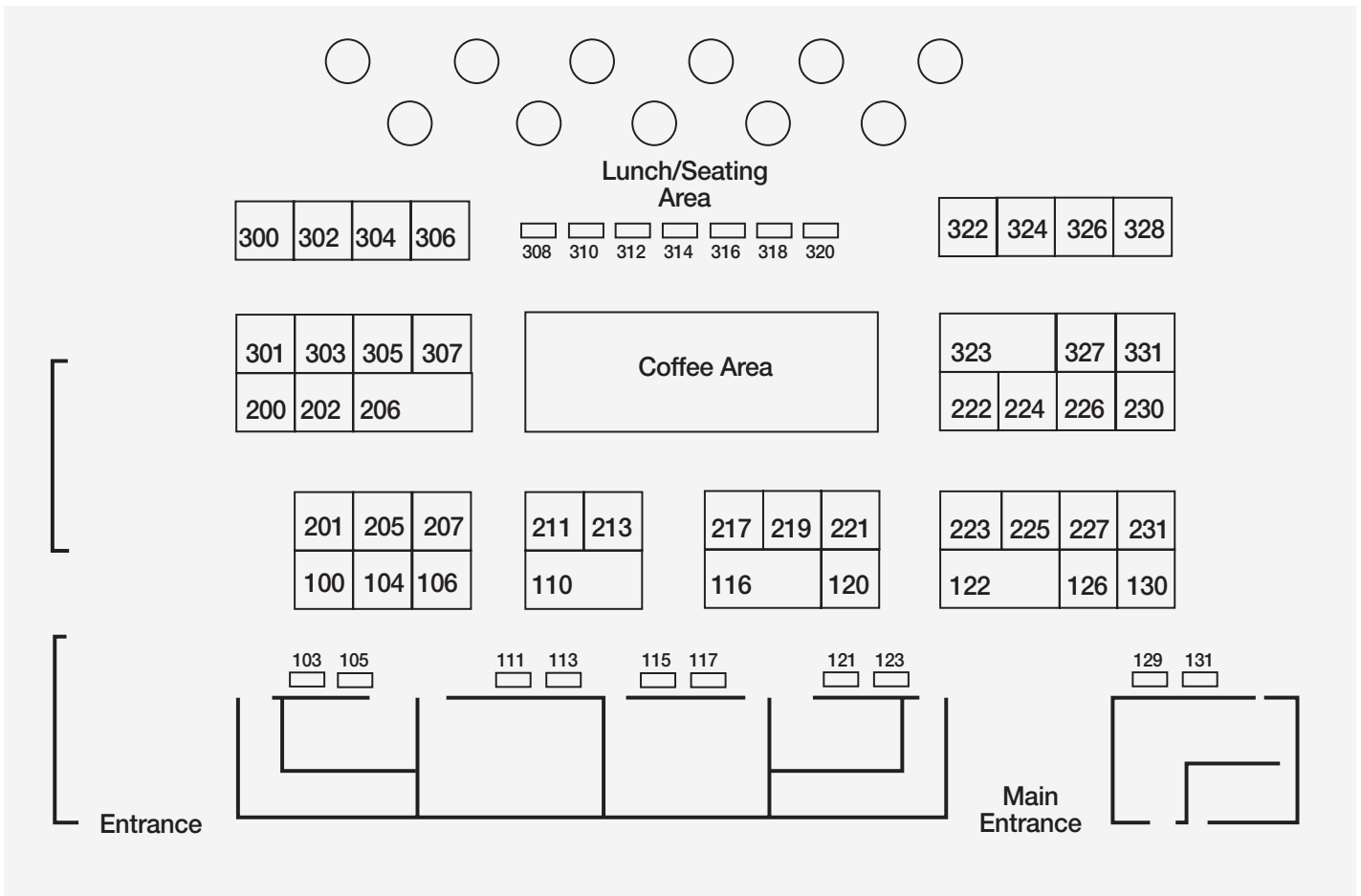
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SAN JOSE CONVENTION CENTER · EXHIBITION FLOOR



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GENERAL INFORMATION

Exhibition Hours

Tuesday 27 February · 10:00 am to 5:00 pm
Wednesday 28 February · 10:00 am to 4:00 pm

Registration

ONSITE REGISTRATION AND BADGE PICK-UP HOURS

San Jose Convention Center

Sunday 25 February · 7:15 am to 5:00 pm
Monday 26 February · 7:15 am to 4:00 pm
Tuesday 27 February · 7:30 am to 5:00 pm
Wednesday 28 February · 7:30 am to 4:00 pm
Thursday 1 March · 7:45 am to 4:00 pm
(Thursday is conference registration only)

Coffee Breaks

Served daily – 7:30 am, 10:00 am and 3:00 pm
Check individual conference listings for exact times and locations.
Sponsors:



Breakfast Breads

Convention Center, Ballroom Concourse
Monday – Thursday, 7:30 am

Sponsors:



Food and Refreshments for Purchase

Convention Center, Ballroom Concourse
Monday – Thursday, 7:30 am to 4:00 pm

Hot and cold snacks, hot entrees, deli sandwiches, salads, and pastries are available for purchase. Cash and credit cards accepted.

Exhibition Hall Concession Stand

Tuesday – Wednesday, 11:00 am to 2:00 pm

Hot and cold snacks, hot entrees, deli sandwiches, salads, and pastries are available for purchase. Cash and credit cards accepted.

SPIE Hosted Lunches

Exhibition Hall
Tuesday – Wednesday, 11:30 am to 1:00 pm

Complimentary tickets for these lunches will be included with full conference registrations. Students may purchase tickets at the Cashier Desk.

Desserts

Exhibition Hall 1 · Tuesday & Wednesday
Complimentary tickets for the dessert snacks will be included in conference attendee registration packets.

Internet Options

Wireless Access – Convention Center Upper Level Concourse
Complimentary wireless access is available; instructions will be posted onsite.

West end WiFi sponsored by



East end WiFi sponsored by



SPIE Conference and Exhibition App

Search and browse the program, special events, participants, exhibitors, courses, and more. Free Conference App available for iPhone and Android phones.

SPIE Bookstore

Convention Center Lobby near Registration

Stop by the SPIE Bookstore to browse the latest SPIE Press Books, proceedings, and educational materials. While there, get a t-shirt or educational toy to bring home to the family.

SPIE Education Services

Course Materials Pick-Up—located near SPIE Registration and open during registration hours

Sunday: Course Desk

Monday-Thursday: Bookstore

If you have registered to attend a course, please stop by the Course Materials Desk (Sunday) or Bookstore (Monday-Thursday) AFTER you pick up your badge. Turn in your course ticket to get your course materials and location of your course.

Browse course offerings and the other education services available: SPIE courses at conferences, online courses, DVDs, and customized in-company courses.

Advance your career.



- Learn from the best. This is your opportunity for direct instruction from legends in the semi/litho industry, many of whom are pioneers in their fields
- Course topics are aligned with current industry needs and trends
- Earn CEUs for professional continuing education requirements
- SPIE offers online courses and in-company training, www.spie.org/education

**· 14 ·
SPIE
COURSES**

SUNDAY

SC101 **Introduction to Microlithography: Theory, Materials, and Processing** (Willson, Bowden), 8:30 am to 5:30 pm, \$625 / \$735 / \$369

SC1099 **Chemistry and Lithography (Okoroanyanwu)**, 8:30 am to 5:30 pm, \$725 / \$835 / \$409

SC1100 **Scatterometry in Profile, Overlay and Focus Process Control (Cramer, Turovets)**, 1:30 pm to 5:30 pm, \$390 / \$445 / \$253

SC1132 **Computational Basis for Advanced Lithography Techniques (Lai)**, 8:30 am to 12:30 pm, \$390 / \$445 / \$253

SC1133 **Metrology Toolset Monitoring, Matching, Maintenance and Management (Solecky, Adan)** 8:30 am to 12:30 pm, \$390 / \$445 / \$253

SC1158 **Metrology of Image Placement (Starikov)**, 1:30 pm to 5:30 pm, \$395 / \$450 / \$255

SC1173 **How and Why: The big ideas in semiconductor lithography (Mack, Petersen)**, 8:30 am to 5:30, \$710 / \$820 / \$403

SC1209 **Data Analytics and Machine Learning in Semiconductor Manufacturing: Applications for Physical Design, Process and Yield Optimization (Cain, Capodiec)**, 1:30 pm to 5:30 pm, \$390 / \$445 / \$253

SC885 **Principles and Practical Implementation of Multiple Patterning (Dusa, Hsu)**, 8:30 am to 5:30 pm, \$625 / \$735 / \$369

SC888 **EUV Lithography (Bakshi, Ahn, Naulleau)**, 8:30 am to 5:30 pm, \$855 / \$965 / \$461

SC992 **Lithography Integration for Semiconductor FEOL & BEOL Fabrication (Lin, Zhang)**, 8:30 am to 5:30 pm, \$625 / \$735 / \$369

MONDAY

SC1030 **Interaction of Physical Design and Lithography (Yuan)**, 1:30 pm to 5:30 pm, \$390 / \$445 / \$253

TUESDAY

SC1187 **Understanding Design-Patterning Interactions for EUV and DSA (Gupta, Torres, Mallik)**, 1:30 pm to 5:30 pm, \$390 / \$445 / \$253

THURSDAY

SC616 **Practical Photoresist Processing (Dammel)**, 8:30 am to 12:30 pm, \$390 / \$445 / \$253

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 is accredited by the International Association for Continuing Education and Training (IACET) and is authorized to issue the IACET CEU.

SPIE Student members receive discounted course prices.

See full course descriptions and register for courses at the SPIE Cashier.

Course descriptions also available online. www.spie.org/ALCourses.

Price key: SPIE Member / Non-Member / SPIE Student Member

EXHIBITOR DIRECTORY



SPIE ADVANCED LITHOGRAPHY EXHIBITION

Tuesday · 10:00 am to 5:00 pm
Wednesday · 10:00 am to 4:00 pm

Exhibitors are listed in alphabetical order with details about products or services each is exhibiting. Companies are additionally cross-indexed by technology areas. The address of each exhibitor is also listed, making this Exhibition Guide an excellent reference tool to take back to your office and share with your colleagues.

Abeam Technologies, Inc. #213

22290 Foothill Blvd Ste 2, Hayward, CA, 94541 (USA)
+1 510 497 0222; fax +1 510 279 0076
support@abeamtech.com; www.abeamtech.com

Featured Product: myCD model based contours CDs and wall angles from SEM aSEM fast advanced simulator of SEM images

aBeam Technologies Inc. develops software to simulate and optimize e-beam technologies: CD-metrology, DI and EBL. myCD is a model based extraction of contours, CDs, LER, and SWA from SEM images. CHARIOT is the world's most advanced Monte Carlo software to simulate SEM and EBL. aSEM is a fast simulator of SEM images including charging, e-fields and detectors. qSEM is a software to monitor CD-SEM. Displace corrects placement error in EBL.

amcoss GmbH #310

Leusbundtweg 49a, Feldkirch, 6800 Austria
+43 5522 20950; fax +43 5522 209509
office@amcoss.com; www.amcoss.com

Featured Product: Supply and/or repair of filters, lenses and mirrors for Canon, Nikon, ASML and Ultratech equipment

amcoss GmbH is a small, innovative high-tech company with expert knowledge in wafer and substrate coating as well as in optics and mechatronics. amcoss designs and builds equipment for substrate coating (spin coaters) not only for standard, but also for complex, specialized applications. Furthermore, we design, manufacture and repair high-quality components, including refurbishment of special coatings for optics and mechatronics (photolithography, RTP, CVD, EPI, coating, metrology and plasma). Contact: David Erne, CEO, david.erne@amcoss.com; Jeffrey Wake, Sales, jeffwake@semisola.com

Amuneal Manufacturing Corp. #200

4737 Darrah St, Philadelphia, PA, 19124-2705 (USA)
+1 215 535 3000; fax +1 215 743 1715
info@amuneal.com; www.amuneal.com

Featured Product: Magnetic Shielding Design and Fabrication

Since 1965, Amuneal has been serving highly technical markets, working with leaders in aerospace, electronics, cryogenics, healthcare, and research to develop cost-effective magnetic shielding strategies and products that outperform the most demanding requirements. We offer a number of standard component shields to our clients, however, our culture and capabilities allow us to manufacture and install unique custom shields ranging from prototypes and models to full-scale assemblies. Contact: Michael Adolf, Director, Technical Products, mikea@amuneal.com; Stuart Koch, VP, Technical Products, stuartk@amuneal.com

attocube systems Inc. #207

SPIE Corporate Member
2020 Stuart St, Berkeley, CA, 94703 (USA)
510 649 9245
info@attocube.com; www.attocube.com

attocube is technology leader for high precision piezo positioning solutions, optical displacement sensors with picometer resolution and cryogenic measurement systems, all optimized for the use in extreme environmental conditions such as cryogenic temperatures, high magnetic fields and vacuum. The attoDRY800 cryo-optical table is the perfect platform for optical measurements at low temperatures and seamlessly integrates an ultra low vibration cold breadboard system into the optical table.

Benchmark Technologies #217

Bldg E, 7 Kimball Ln, Lynnfield, MA, 01940-2654 (USA)
+1 781 246 3303; fax +1 781 246 0308
contact@benchmarktech.com; www.benchmarktech.com

Featured Product: Grayscale Masks and Reticles, Lithography Monitoring Solutions

Benchmark is a leading supplier of test and setup reticles for lithography systems. The company also offers overlay software for in fab monitoring and analysis, general design and layout services, grayscale mask design, mask making services, imprint stamps and other custom fabrication services. Contact: Andrew Zanzal, VP Sales, azanzal@benchmarktech.com; Patrick Reynolds, President, preynolds@benchmarktech.com

SPONSOR

Brewer Science, Inc. #110

SPIE. Corporate Member

2401 Brewer Dr, Rolla, MO, 65401-7003 (USA)
+1 573 364 0300; fax +1 573 364 6880
info@brewerscience.com; www.brewerscience.com

Featured Product: Directed Self-Assembly, Multilayer Systems, ARC(R) Anti-reflective Coatings

Brewer Science is a global technology leader in developing and manufacturing innovative materials, and processes for the fabrication of semiconductors and microelectronic devices. Today, we continue to expand our technology portfolio to include products that enable advanced lithography, 3-D integration, chemical and mechanical device protection, nanotechnology, and thin wafer handling. Contact: Alex Smith, Director, Sales, asmith@brewerscience.com; Brent Scott, Senior Account Manager, bscott@brewerscience.com

Cadence Design System, Inc #106

2655 Seely Ave, San Jose, CA, 95134-1931 (USA)
+1 408 943 1234
events@cadence.com; www.cadence.com

Featured Product: Litho Physical Analyzer, Cadence CMP Predictor, Litho Electrical Analyzer, Cadence Pattern Analysis, LD

Cadence enables global electronic design innovation and plays an essential role in the creation of today's integrated circuits and electronics. Customers use Cadence software, hardware, IP, and services to design and verify advanced semiconductors, consumer electronics, networking and telecommunications equipment, and computer systems. In particular, Cadence® DFM solutions address both designer and manufacturer challenges resulting in improved design manufacturability and reduced time to yield. Contact: Philippe Hurat, Product Management Director, SSV, phurat@cadence.com

SPONSOR

Canon U.S.A., Inc. #202

SPIE. Corporate Member

Industrial Products Division, 3300 N First St, San Jose, CA, 95134-1900 (USA)
+1 408 468 2000
semi-info@cusa.canon.com; usa.canon.com/industrial

Featured Product: FPA-6300ES6a DUV Scanner

Canon USA Industrial Products Division provides advanced wafer & panel process equipment for applications including semiconductor, Advanced Packaging & display. Canon provides cost-effective wafer processing solutions including i-line & KrF optical lithography, nanoimprint lithography & Canon Anelva deposition equipment. Canon also has a variety of panel based lithography & deposition solutions that can be extended to a variety of applications. Contact semi-info@cusa.canon.com for more info. Contact: Doug Shelton, Marketing Manager, sshelton@cusa.canon.com

SPONSOR

Carl Zeiss SMT GmbH #219

Carl Zeiss Promenade 10, Jena, 07745 Germany
+49 3641 64 2563; fax +49 3641 64 2938
info.sms@zeiss.com; www.zeiss.com/mask-solutions

The ZEISS strategic business unit Semiconductor Metrology Systems (SMS) specializes in a key process in semiconductor manufacturing: the photomask. Core expertise in light and electron optics, complemented by a pioneering femto-second laser technology form the foundation of a product portfolio comprising in-die metrology, actinic qualification, repair, and tuning of photomasks. To increase automation and enhance tool capabilities, SMS also offers advanced software applications. Contact: Carl Zeiss SMT GmbH, Strategic Business Unit SMS, info.smt@zeiss.com

Cosmotec, Inc. #104

229 Polaris Ave Ste 3, Mountain View, CA, 94043-4579 (USA)
+1 408 428 9741; fax +1 408 428 9742
ask@cosmotec.us; www.cosmotec.us

Featured Product: UHV Feedthrough, Ultra Precision Parts, Aperture, Emitter, Filament, EDM, Wehnelt, Suppressor

The highest quality ceramic-to-metal over 25 Years of Excellence. Now in Silicon Valley. Quality: Highest quality components available. Leak-tested, inspected and quality assured. Our products come with a 1-year, 100% satisfaction guarantee. Custom Products: Perfection you can count on. Customized ceramic-to-metal components for your every need that will exceed your expectations. Delivery: Large inventory in Silicon Valley, make your business run smoothly. Contact: Taku Sekiguchi, President and CEO, sekiguchi@cosmotec.us

Coventor, Inc. #323

1000 Centre Green Way, Suite 200, Cary, NC, 27513 (USA)
+1 919 854 7500; fax +1 919 869 1472
sales@coventor.com; www.coventor.com

Featured Product: SEMulator3D, a 3D semiconductor virtual fabrication and process modeling platform

Coventor®, a Lam Research company, is a market leader in automated solutions for developing semiconductor process technology, as well as micro-electromechanical systems (MEMS). Coventor serves a worldwide customer base of integrated device manufacturers, memory suppliers, fabless design houses, independent foundries, and R&D organizations. Its SEMulator3D modeling and analysis platform is used for fast and accurate 'virtual fabrication' of advanced manufacturing processes. Contact: Dinesh Bettadapur, Director of Business Development, sales@coventor.com

CyberOptics Corp. #314

5900 Golden Hills Dr, Minneapolis, MN, 55416 (USA)
+1 763 542 5000; fax +1 763 542 5100
info@cyberoptics.com; www.cyberoptics.com

Featured Product: WaferSense® and ReticleSense® Measurement Portfolio including APS3, APSRQ and AMSR

CyberOptics Corporation is a leading global developer and manufacturer of high precision sensing technology solutions. CyberOptics sensors are being used in general purpose metrology and 3D scanning, surface mount technology (SMT) and semiconductor markets to significantly improve yields and productivity. Headquartered in Minneapolis, Minnesota, CyberOptics conducts worldwide operations through its facilities in North America, Asia and Europe. Contact: Allyn Jackson, Sales Manager & Sr. FAE, ajackson@cyberoptics.com




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DJ MicroLaminates, Inc.

#111

490 Boston Post Rd, Sudbury, MA, 01776-3367 (USA)
+1 978 261 3188
info@djmicolaminates.com; www.djmicolaminates.com

Featured Product: Thick Epoxy Dry Film Resist Sheets

DJ MicroLaminates researches, develops and markets innovative dry film resist materials for MEMS, plating molds for metal microparts, polymer MEMS, multilayer microfluidics structures, BioMEMS, medical devices, wafer level packaging processes, and displays. We provide a ready-to-use epoxy based resin formulation coated between two throwaway carrier layers. Sheets or rolls with uniform thicknesses of 5µm to 1mm are quickly laminated to most substrates and are ready to expose within minutes.

Energetiq Technology, Inc.

#308

SPIE. Corporate Member

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

Featured Product: Revolutionary Laser-Driven Light Sources

Energetiq Technology is the world's leading developer and manufacturer of ultra-bright broadband light sources for a wide variety of advanced applications in life and materials sciences, semiconductor manufacturing, and R&D. Energetiq's Laser-Driven Light Sources (LDLS) are based on a revolutionary technology that generates high brightness across the spectrum, with high reliability and long life. Contact: Karen Scammell, Vice President of Sales, kscammell@energetiq.com; Samuel Gunnell, Technical Sales Engineer, sgunnell@energetiq.com

Entegris, Inc.

#304

129 Concord Rd, Billerica, MA, 01821-4600 (USA)
+1 978 436 6500; fax +1 978 436 6735
www.entegris.com

Featured Product: Clean Chemical Delivery, Liquid Filtration and Purification, Advanced Wafer Handling

Look to us to reduce operating costs, maximize operational efficiency and improve the value of your chemical product. We offer a variety of liquid, air and liquid packaging, photochemical dispense pumps, gas filters and purifiers, reticle handling, and wafer process and shipper products in photolithography solutions.

GenlSys Inc.

#322

SPIE. Corporate Member

PO Box 410956, San Francisco, CA, 94141-0956 (USA)
+1 812 322 4554
info@genisys-gmbh.com; www.genisys-gmbh.com/

Featured Product: LAB All-in-One Lithography Simulation. Enable next generation products and faster development cycles

Based in Munich, Germany, with offices in Tokyo, Japan and San Francisco, California, GenlSys develops, markets and supports flexible, high-performance software solutions for the optimization of micro and nano fabrication processes. Addressing the market for lithography and inspection, GenlSys combines deep technical expertise in layout data processing, process modeling, correction and optimization with world class software engineering and a strong focus on ease of use. Contact: Roger McCay, Director of Sales North America, mccay@genisys-gmbh.com; Nezhil Unal, Vice President, unal@genisys-gmbh.com

Gudeng Precision Industrial Co., Ltd.

#205

9F. No 2 Sec 4 Jhongyang Rd, Tucheng Dist., New Taipei City, 23678 Taiwan
+886 2 2268 9141; fax +886 2 2269 1943
sales@gudeng.com; www.gudeng.com

Featured Product: Extreme Ultraviolet (EUV) Reticle Pod

Gudeng's mask and wafer handling solutions already have high market share internationally and become main source for many leading companies. Our trusted sales achievement could assure you 1. High quality products with ESD, ultra-low outgassing and particle-free protection 2. competitive market price to save your budget 3. exceptional customer service Visit our website for further understanding about the full range of our products: <http://www.gudeng.com/index.php/en/>. Contact: Ellen Wu, Product Assistant Manager, ellen.wu@gudeng.com; Kevin Su, International Sales Executive, kevin.su@gudeng.com

Heidelberg Instruments Inc.

#227

SPIE. Corporate Member

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

Featured Product: uPG 101, MLA100, MLA150, DWL 66+, DWL 2000/4000, VPG+ 200/400, VPG+ 800/1100/1400

Heidelberg Instruments Mikrotechnik GmbH is the world leader in the production of high precision photolithography systems and Maskless Aligners. Heidelberg Instruments has an installation base of over 800 systems in more than 50 countries. Our optical direct write lithography systems are installed in academic and industrial sites and are used in research, development and production. Applications Include Photomask Manufacturing, MEMS, MOEMS, Micro-fluidics, CMOS, LED and Display Technologies. Contact: Niels Wijnaendts van Resandt, Director of Sales - North and South America, nie@himt.us; Gregg Moore, Technical Sales Engineer - North and South America, gm@himt.us

ibss Group, Inc.

#123

SPIE. Corporate Member

111 Anza Blvd Ste 110, Burlingame, CA, 94010 (USA)
+1 650 513 1488; fax +1 650 513 1884
admin@ibssgroup.com; www.ibssgroup.com

Featured Product: GV10x DS Asher & Mobile Cubic DS Asher - effective in & ex situ hydrocarbon contamination removal.

Develops and produces GV10x downstream plasma cleaner models and related products used successfully in EM and Synchrotron labs around the world. The GV10x Downstream Asher reduces carbon & hydrocarbon contamination 10 to 20x more effectively than traditional methods at vacuum pressure safe for TMP operation. The MCA is a portable downstream plasma center for ex-situ specimen cleaning and in-situ e-beam chamber cleaning. Contact: Andrew Villegas, Marketing Communications, andrew.villegas@ibssgroup.com

SPIE Education

“The instructor was skilled and clear in his presentation. In contrast to some other courses I have taken there is value in using the higher definition of the videos where the video is available as the presenter actually gestures and contributes to the presentation.”

– Online course taker on Mounting of Optical Components



SPIE COURSES

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- Online courses

Learn from the best. Solve problems. Get ahead.



For more information, visit:
www.spie.org/courses



SPIE is accredited by the International Association for Continuing Education and Training (IACET) and is authorized to issue the IACET CEU

INKO Industrial Corp.

#316

695 Vaqueros Ave, Sunnyvale, CA, 94085-3524 (USA)
+1 408 830 1040; fax +1 408 830 1058
sales@pellicle-inko.com; www.pellicle-inko.com

Featured Product: Pellicle, KrF pellicle, ArF pellicle

INKO, a U.S. based company, manufactures a complete line of pellicles for applications ranging from ASIC production to high volume memory production. From 248nm/193nm DUV lithography to I/G line lithography, we have the right pellicles for your needs. Contact: Joe Mac, Customer Service Manager, joemac@pellicle-inko.com; Feng Ye, QA Manager, ye@pellicle-inko.com

Inspectrology LLC

#320

SPIE Corporate Member

142 North Rd Ste N, Sudbury, MA, 01776 (USA)
+1 978 212 3100; fax +1 978 610 2622

info@inspectrology.com; www.inspectrology.com

Featured Product: IVS 200 CD and Overlay Metrology System

Inspectrology's IVS Overlay and CD Metrology Systems have been the gold standard for reliability in fabs for over 35 years. With rock solid reliability, accuracy, repeatability, and reproducibility, the IVS product line has evolved into the premier system for 75mm-200mm fabs. Compound Semiconductors in particular have unique challenges that require a different approach. An approach that includes a high level of flexibility, capability, and customer service. Contact: Paul Knutrud, VP Marketing, pknutrud@inspectrology.com

Integrated Micro Materials

#300

8141 Gateway Dr Ste 240, Argyle, TX, 76226 (USA)
+1 940 228 2219; fax +1 940 228 2234

sales@imicromaterials.com; www.imicromaterials.com

Featured Product: Lithography materials, ancillary products, process chemicals

Providers of lithography materials, process chemicals, and micro manufacturing consulting services. Contact: Brad Williams, General Manager, bwilliams@imicromaterials.com; Ron Eakin, Business Development Manager, roneakin@imicromaterials.com

J.A. Woollam Co.

#231

645 M St Ste 102, Lincoln, NE, 68508-2243 (USA)
+1 402 477 7501; fax +1 402 477 8214

sales@jawaollam.com; www.jawaollam.com

For all your ellipsometry needs, from measuring your thin film sample to the installation and training of your very own ellipsometer, the J.A. Woollam Company is here for you every step of the way. We offer a wide variety of ellipsometers to help you characterize your thin films, covering spectral ranges from vacuum ultra-violet to far infrared. We have 30+ years of experience and offer unrivaled customer support. Contact us today to learn more about our products lineup at sales@jawaollam.com.

JENOPTIK Optical Systems, LLC #306

SPIE Corporate Member

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 incorporating precision assemblies and wafer scale microoptics for DUV through infrared applications. In-house expertise in system design, modeling, test and fabrication of optics and microoptics enables Jenoptik to deliver cutting-edge solutions for your inspection and metrology OEM applications. We combine design and engineering with high volume manufacturing to deliver from facilities in the US, Germany and Asia. Contact: Ron Moore, Vice President, Sales and Marketing, ronald.moore@jenoptik-inc.com; Tamara Whittaker, Marketing and Communications Mgr, tamara.whittaker@jenoptik-inc.com

JEOL USA Inc.

#130

SPIE Corporate Member

11 Dearborn Rd, Peabody, MA, 01960-3823 (USA)
+1 978 535 5900; fax +1 978 536 2205
salesinfo@jeol.com; www.jeolusa.com

Featured Product: Advanced EBL Systems

JEOL has supplied a complete line of systems since its first Lithography system in 1967. JEOL is the world's top supplier of EBL systems. Our applications range from mask/reticle production for high-end devices and nano-lithography research to ultrafine, direct write exposures for communication devices. JEOL continuously pursues higher writing accuracy, and throughput, with easier operation. We offer unsurpassed technical reliability and service expertise. Contact: Zane Marek, E-BEAM Product MGR / Salesman, marek@jeol.com; Hitoshi Kato, Technical Sales Manager, hkato@jeol.com

JSR Micro, Inc.

#122

SPIE Corporate Member

1280 N Mathilda Ave, Sunnyvale, CA, 94089-1213 (USA)
+1 408 543 8800; fax +1 408 543 8996
marketing@jsrmicro.com; www.jsrmicro.com

Featured Product: Leading-edge photoresists, developers, packaging materials and specialty chemicals

JSR Micro, Inc. is an innovation partner to its customers manufacturing the industry's most innovative family of photoresists, developers, and specialty chemicals. JSR is also a leader in Advanced Cleans Technology and materials for packaging. Our unique THB series of negative tone resists and WPR series of dielectric materials are ideal for next generation packaging technologies that facilitate higher performance. Contact: Joe Ritter, Sales, jritter@jsrmicro.com; Rowland Wong, Sales, rwong@jsrmicro.com

KBTEM-OMO JSC

#324

SPIE Corporate Member

ALK Bldg, 2 Partizansky Ave., Minsk, 220033 Belarus
+375 17 223 7128; fax +375 17 226 1207
office@kbtem-omo.by; www.kb-omo.by

Featured Product: Laser Pattern Generator, Evap/Depo Mask Repair, Automatic Mask/Wafer Defects Inspection, Stepper

KBTEM-OMO performs R&D and manufacturing of special opto-mechanical process systems, inspection and measurement equipment used in back end and front end microelectronics manufacturing: single and multibeam optoelectronic laser pattern generators; wafer stepper; large-area stepper; mask aligner; laser-based mask repair tool; automatic mask & wafer inspection systems with high detection threshold; in-house OEM manufacturing of hi-precision optical and mechanical parts Contact: Syarhei Avakaw, Director, office@kbtem-omo.by; Volha Sych, Marketing Manager, mar@kbtem-omo.by

LouwersHanique

#318

Energieweg 3A, Hapert, 5527 AH Netherlands
+31 497 339 696; fax +31 497 386 372
info@louwershanique.com; www.louwershanique.com

Featured Product: Technical ceramic and glass assemblies including UHV electrical and fiber optic feedthroughs.

LouwersHanique specializes in thermal forming of glass and the processing of technical glass, quartz glass and technical ceramics (such as aluminum oxide, silicon carbide, silicon, and Macor). The company activities also include the bonding and [clean room] assembly of unique material combinations based on an extensive range of bonding and integration technologies. The primary company focus and strength lies with low-volume high-mix niche solutions for high-end semiconductor capital equipment. Contact: Carel van de Beek, Sales Manager, carel.van.de.beek@louwershanique.com; Paul Meyer, Sales Engineer, paul.meyer@louwershanique.com

SPONSOR

Mentor, a Siemens Business

#222

8005 SW Boeckman Rd, Wilsonville, OR, 97070-7777 (USA)
+1 503 685 7000; fax +1 503 685 1543
mentor@calibre.com; www.mentor.com

Featured Product: Calibre

The challenges of developing advanced lithography flows require a strong partner. With a complete design-to-manufacturing platform for Immersion Lithography, EUV and DSA, Mentor, a Siemens Business, is the ideal partner for semiconductor manufacturing success. We offer best-in-class technology, comprehensive solutions, development and production support, and continuous innovation. That is why more than 30 fabs choose Mentor as their partner. Get more info at www.mentor.com. Contact: Gandharv Bhatara, Product Marketing Manager - OPC, gandharv_bhatara@mentor.com

EXHIBITOR DIRECTORY

Meyer Tool & Manufacturing, Inc. #201

4601 W Southwest Hwy, Oak Lawn, IL, 60453-1822 (USA)
+1 708 425 9080; fax +1 708 425 2612
sales@mtm-inc.com; www.mtm-inc.com

Featured Product: Custom Vacuum Chambers, Pressure Vessels, Cryogenic Systems, and Process Vessels

Meyer Tool & Mfg. is a custom design and fabrication service provider specializing in high complexity prototype to production development of pressure, vacuum, and cryogenic systems. We have been servicing the particle industry for nearly 50 years. We apply the unique skills required to build one of a kind particle collider equipment to a wide variety of industries. Our hardware is in advanced research facilities around the world from telescope cryostats to semiconductor process chambers. Contact: Mike Tortorello, General Manager, m.tortorello@mtm-inc.com

MGN International, Inc. #302

41984 Rio Nedo Ste 200, Temecula, CA, 92590 (USA)
+1 951 719 2910; fax +1 951 719 2920
sales@mgnintl.com; www.mgnintl.com

Featured Product: RION KS-41B &KS-19F liquid particle counters enabling EUV solvent & photoresist measurement

MGN International is RION's exclusive partner in North America. Rion's liquid particle counting systems use highly reliable and technologically superior laser technology, photo-detectors, & flow cells that allow for higher detection efficiency than competitive models. All Rion systems are user friendly, versatile, and simple to operate for inline and batch modes, offering compatible options for all liquids including solvent and photoresist and a wide range of refractive indices as low as 0.03um. Contact: Mike Bender, VP Sales, mbender@mgnintl.com; Joe Chen, Sales Mgr, JChen@mgnintl.com

Micro Lithography, Inc. #224

1257 Elko Dr, Sunnyvale, CA, 94089-2211 (USA)
+1 408 747 1769; fax +1 408 747 1978
www.mliusa.com

MLI is featuring pellicles formulated to yield high rates of transmission and long lifetimes for UV exposure. Our complete line of pellicle films ranges from broadband, g-/i-line to DUV (KrF-248nm and ArF-193nm). MLI's DUV pellicles have the lowest outgassing materials available in the market today.

MicroChem Corp. #221

200 Flanders Rd, Westborough, MA, 01581-1040 (USA)
+1 617 965 5511; fax +1 617 965 5818
mcc@microchem.com; www.microchem.com

MicroChem Corp, a leading manufacturer of electronic materials for over 26 years, focuses on providing innovative chemicals solutions to the MEMS, microelectronic, and semiconductor markets. Along with our exclusive distribution partnership with Dow electronic materials, MicroChem specializes in photoimagable epoxy, eBeam and PMGI Bi-layer resists and a suite of ancillary lithography materials. MicroChem is a wholly owned subsidiary of Nippon Kayaku Co. Ltd., Tokyo, Japan.

Mitsui Chemicals America, Inc. #103

61 Metro Dr, San Jose, CA, 95110 (USA)
+1 408 487 2891; fax +1 408 453 0684
www.mitsuichemicals.com

Since 1986, Mitsui has been the industry leader in providing pellicles to the semiconductor industry. Mitsui's ISO 9001 certified full automated plant produces Mitsui Pellicle, which transmits more than 99% of exposed light with excellent uniformity and longevity. Mitsui Pellicle, manufactured by rigorous selection of all materials and with more than 30 years accumulated expertise of non-dust structure, contributes to maximum production yields by eliminating pellicle related particle generations. Contact: Yurie Mizuno, Asst. Sales Manager, y.mizuno@mitsuichem.com; Hiromi Tsuboi, Sales Manager, h.tsuboi@mitsuichem.com

Nanotronics #303

SPIE Corporate Member

2251 Front St Ste 109-111, Cuyahoga Falls, OH, 44221-2577 (USA)
+1 330 926 9809
sales@nanotronics.co; www.nanotronics.co

Featured Product: nSPEC®

Nanotronics designs and manufactures autonomous microscopes to fill gaps in and enhance existing inspection and process control equipment. nSpec® is used by many of the world's leading semiconductor and electronics manufacturers. nSpec® is powered by advanced computer vision, machine learning, and artificial intelligence software analyzers to deliver maximum value and capability at lower cost. Contact: Julio Coppo, Senior Sales Director, julio@nanotronics.co; Ed Sandke, Sales Director, esandke@nanotronics.co

NTT Advanced Technology Corp. #115

1950 University Ave Ste 600, East Palo Alto, CA, 94303-2250 (USA)
+1 408 392 4280; fax +1 408 573 7721
bizdevelop@ntt-at.com; www.ntt-at.com

NTT Advanced Technology Corporation (NTT-AT) delivers optical solutions for EUV lithography and related technologies including Multilayer mirrors, Nano-scale test patterns, Ultra-thin SiN/SiC membranes and Fresnel zone plates. These leading-edge custom design components are fabricated for R&D solutions of light sources, inspection systems, photo resist and other fields. NTT-AT's optics are corresponding to LPPs, SRs/XFELs, HHGs and soft x-ray lasers.

Pall Corp. #120

25 Harbor Park Dr, Port Washington, NY, 11050-4605 (USA)
+1 516 484 5400; fax +1 516 801 9711
microelectronics@pall.com; www.pall.com

Featured Product: Pall is introducing the latest retention and cleanliness improvements for our lithography filters.

Pall offers a complete line of filtration, purification and separation technologies for all lithography processes. These include advanced Nylon 6,6, High density polyethylene and PTFE media. Pall has demonstrated that our innovative filter technologies can significantly reduce defectivity, decrease filter start up time and improve overall cost of ownership. Find out how Pall can help you improve your lithography process. Contact: Glenn Dado, Product Marketing Manager, Glenn_Dado@pall.com; Michael Mesawich, VP Product Marketing, michael_mesawich@pall.com

SPONSOR

PCAS

#225

SPIE Corporate Member

725 Trotter, St-Jean-sur-Richelieu, QC, J3B8J8 Canada
+1 450 348 0901; fax +1 450 349 1528
contact@pcas.com; www.pcas.com

Featured Product: Taylor-made manufacturing of polymers and complexe molecules for Advanced Lithography.

PCAS is a technology-oriented fine chemical group serving global industrial customers since 1962. Our core expertise is the development and production of high quality materials (polymers and small molecules) for Life Sciences and Specialty Chemicals markets, such as Lubricant, Cosmetics and Electronics. Our customers within the Electronic industry use our products in Photolithography/Microelectronics (Resist, ARC, Additives) and Printed Electronics (OLED, OFET, OPV) applications. Contact: Francis Belanger, Global Electronic Market Manager, francis.belanger@pcascanada.com; Dominique Juillet, Product Manager, dominique.juillet@pcas.com

POLLEN Metrology

#312

9 rue Rocher du Lorzier, Moirans, 38430 France
+33 662537789
johann@pollen-metrology.com; www.pollen-metrology.com

Featured Product: PLATYPUS software platform

POLLEN Metrology is a premier supplier of smart process-control software to accelerate the manufacturing of high performing materials. We propose a full software infrastructure dedicated to smart factory for yield enhancement and defect tracking.

Our breakthrough software technology powered by machine learning and data fusion accelerate the development of new processes which include advanced materials. The applications are in semiconductor, powders and nanomaterials industries. Contact: Johann Foucher, CEO, johann@pollen-metrology.com

Pozzetta, Inc.

#223

3121 S Platte River Dr, Englewood, CO, 80110-2139 (USA)
+1 303 783 3172; fax +1 303 374 7342
sales@pozzetta.com; www.pozzetta.com

Featured Product: Photomask Boxes & Cassettes, SMIF Pods, Reticle Storage Solutions, Wafer Carriers, Fittings & Valves

We help our customers reduce costs with customized in-process solutions such as reticle boxes and reticle storage solutions, wafer carriers, and critical device shipping solutions. We help optimize fab space by personally reviewing the storage and processing of critical devices and delivering complete solutions that include asset tracking tags, reticle pods and custom cleanroom racks. We also help our customers manage maintenance programs for pods, cassettes, and high purity fluid applications. Contact: Artemis Vasiliades, Account Executive, artemis@pozzetta.com; Scott Reese, Account Executive, scott.reese@pozzetta.com

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Qoniac GmbH

#100

SPIE Corporate Member

Königsbrücker Str 34, Dresden, 01099 Germany
+49 351 4189 3340; fax +49 351 41893341
exhibition@qoniac.com; www.qoniac.com

Featured Product: The OVALiS Suite provides unprecedented improvements of on-product optimization.

Qoniac is the premier supplier of on-product process optimization and control solutions for leading-edge semiconductor lithography & patterning. Founded in 2009 in Dresden (Germany), Qoniac is a fast growing company with customers and representatives currently in the USA, Europe, Singapore, Taiwan, China, Korea and Japan. Our international team represents decades of experience in process optimization for lithography and patterning as well as international experience in software development.

Raith America, Inc.

#226

1377 Long Island Motor Parkway Ste 101, Islandia, NY, 11749 (USA)
+1 631 738 9500; fax +1 631 738 2055
sales@raithamerica.com; www.raith.com

Featured Product: Electron Beam Lithography, EBL, EBPG, FIB Nanofabrication, ChipScanner, Large Area SEM imaging, EBID

Raith is a leading precision technology manufacturer for electron beam lithography (EBL), focused ion beam (FIB) nanofabrication and precise, large area SEM imaging. With sub-5 nm patterning performance, our instruments are enabling researchers in both academic and industry environments to continuously advance their applications in applied nanotechnological research and areas of industry that use nanotechnology for product applications or produce components from compound semiconductors. Contact: Andre Linden, Sales Manager and Applications Scientist, andre.linden@raithamerica.com

RASIRC

#113

7815 Silverton Ave, San Diego, CA, 92126 (USA)
+1 858 259 1220; fax +1 858 259 0123
info@rasirc.com; www.rasirc.com

Featured Product: H2O2 Delivery Systems for High Throughput ALD & Cleaning: Multiple Patterning & Residue Removal

RASIRC specializes in products that generate & deliver gas to fabrication processes. Each unit is a dynamic gas plant in a box—converting common liquid chemistries into safe & reliable gas flow for most processes. First to generate ultra-high purity (UHP) steam from de-ionized water, RASIRC technology can now also deliver hydrogen peroxide gas & hydrazine gas in controlled, repeatable concentrations. RASIRC gas delivery systems are critical for low temperature ALD, barrier layers & passivation. Contact: Lisa Collins-Sheffield, Account Executive, lcollinssheffield@rasirc.com; Dan Alvarez, Chief Technology Officer, dalvarez@rasirc.com

Rigaku Innovative Technologies, Inc.

#305

SPIE Corporate Member

1900 Taylor Rd, Auburn Hills, MI, 48326-1740 (USA)
+1 248 232 6400; fax +1 248 232 5000
optics@rigaku.com; www.RigakuOptics.com

Featured Product: MaxEuv High Efficiency Multilayer Optics and Optical systems for 13.5 nm, 6.x nm, and XUV

Rigaku Innovative Technologies (RIT) is a global supplier of high performance thin film coatings and optics used in commercial and academic institutions and government research facilities. RIT's state of the art coating facility and dedicated metrology equipment ensures the highest quality. RIT utilizes its staff of 10 PhD Scientists and 10 Engineers with over 250 years combined experience to provide the customer with the best solution to their coating and optics needs. Contact: Alex Sedlacek, Sales Engineer, alex.sedlacek@rigaku.com; Nick Grupido, VP Sales and Marketing, nick.grupido@rigaku.com

Sage Design Automation, Inc.

#129

SPIE Corporate Member

2075 de La Cruz Blvd Ste 105, Santa Clara, CA, 95050-3035 (USA)
+1 408 727 6294; fax +1 508 727 6288
info@sage-da.com; www.sage-da.com

Featured Product: iDRM: Software platform for design-process-technology co-development and co-optimization

iDRM from Sage-DA is a unique software platform that enables technologists to quickly capture design rules, analyze interactions and explore tradeoffs between technology and design constraints. With iDRM you can develop a complete design rule manual and automatically generate a full DRC runset. iDRM also automatically generates a correct-by-construction set of test layouts for systematic coverage of DRC runsets. The platform also provides pattern extraction, classification and characterization. Contact: Coby Zelnik, President, c.zelnik@sage-da.com; Kristen Frederick, Office Manager, k.frederick@sage-da.com

SPONSOR

SCREEN SPE USA, LLC

#126

820 Kifer Rd Ste B, Sunnyvale, CA, 94086-5214 (USA)
+1 408 523 9140; fax +1 408 523 9150
inquiries@screen-spe.com; www.screen.co.jp/eng/spe

Featured Product: SOKUDO DUO (DT-3000) lithography resist coat / develop, spin-on coat films and DSA track systems

SCREEN SPE USA, LLC is a subsidiary of SCREEN Semiconductor Solutions Co., Ltd., Kyoto, Japan; a manufacturer of semiconductor production equipment such as wafer cleaning, scrubbers, lithography coat/develop track equipment and flash/laser anneals is among the world's top 10 semiconductor equipment suppliers.

Fight Bias, Embrace Diversity



SPIE seeks to cultivate a culture of openness and inclusivity. Help us eradicate bias and make the world of optics and photonics a shining example of all minds coming together to innovate regardless of gender, race, nationality, culture, educational background, politics, sexuality, body-type and age, for the betterment of life.

Educate yourself on the issues faced by a diverse workforce, challenge your own assumptions, and tap into the rich pool of talent, perspectives, and ideas offered by people different from you.

SPIE. DIVERSITY+ INCLUSION

Seiwa Optical America Inc. #117

SPIE Corporate Member

3042 Scott Boulevard, Santa Clara, CA, 95054 (USA)
+1 408 844 8008; fax +1 408 844 8944
info@seiwaamerica.com; www.seiwaamerica.com

Featured Product: 1:1 Projection Exposure System

For over 50 years, SEIWA OPTICAL has been a provider of standard and customizable optical solutions for machine vision, inspection, and industrial processing. We have offices established worldwide and are also a distributor for industrial vision products. Contact: info@seiwaamerica.com

Shin-Etsu MicroSi, Inc. #116

SPIE Corporate Member

10028 S 51st St, Phoenix, AZ, 85044-5203 (USA)
+1 480 893 8898; fax +1 480 893 8637
info@microsi.com; www.microsi.com

Featured Product: photomask blanks, EB resists, pellicles, synthetic quartz, advanced resists

Shin-Etsu, the world's No. 1 supplier of semiconductor silicon wafers and a leading supplier of essential electronic materials. Shin-Etsu's product portfolio includes, photomask blanks, EB resists, pellicles, synthetic quartz, semiconductor advanced resists along with numerous specialized thermal interface materials. Contact: Edwin Nichols, Marketing Manager, enichols@microsi.com

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Solid State Technology #105

1786 18th St, San Francisco, CA, 94107-2343 (USA)
+1 415 255 0390; fax +1 415 255 9214
info@extensionmedia.com; solid-state.com

Solid State Technology reaches the largest, most qualified community of decision makers for semiconductor and electronics manufacturing through the magazine, email newsletters, website, webcasts and The ConFab Conference & Networking event. Topics include Advanced Packaging, MEMS, LEDs and Displays as well as current trends in the industry. Visit us here www.solid-state.com Contact: Kerry Hoffman, Director of Sales, info@extensionmedia.com

Synopsys, Inc. #206

SPIE Corporate Member

690 E Middlefield Rd, Mountain View, CA, 94043-4010 (USA)
+1 650 584 5000; fax +1 650 584 4102
info@synopsys.com; www.synopsys.com

Featured Product: DTCO, Proteus ILT, Proteus LRC, CATS, Sentaurus Lithography

Synopsys provides industry-proven EDA solutions to meet the demands of today's advanced IC manufacturing processes while setting the standard in platform flexibility to enable innovative solutions for next generation technology nodes. Synopsys comprehensive Mask Synthesis, Mask Data Preparation, TCAD and Yield Management tools provide leading-edge performance, accuracy, quality, and cost of ownership for all your production and development needs.

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TEL #121

2400 Grove Blvd, Austin, TX, 78741-6500 (USA)
+1 512 424 1152
www.tel.com

As a leading global company of semiconductor and flat panel display (FPD) production equipment, Tokyo Electron Limited (TEL) engages in development, manufacturing, and sales in a wide range of product fields. All of TEL's semiconductor and FPD production equipment product lines maintain high market shares in their respective global segments. TEL provides outstanding products and services to customers through a global network of approximately 75 locations in 16 countries in the U.S., Europe, and Asia. <http://www.tel.com> Contact: Katy Crist, marketing@us.tel.com

Vistec Electron Beam GmbH #211

Ilmstr 4, Jena, 07743 Germany
+49 3641 799 80; fax +49 3641 7998 222
electron-beam@vistec-semi.com; www.vistec-semi.com

Featured Product: Vistec SB250 series & Vistec SB3050 series Variable Shaped Beam Lithography

Vistec Electron Beam GmbH provides leading technology solutions for advanced electron-beam lithography. Based on the Variable Shaped Beam (VSB) principle, the electron-beam lithography systems are mainly utilized for semiconductor applications and advanced research as silicon direct write, compound semiconductor, mask making as well as integrated optics and several new emerging markets. The company is located in Jena, Germany and maintains service & support centers in Europe, Taiwan & in the US. Contact: Ines Stolberg, Manager Product Management & Marketing, ines.stolberg@vistec-semi.com; Kevin Grens, Business Development Manager

Zygo Corporation #307

SPIE Corporate Member

21 Laurel Brook Rd, Middlefield, CT, 06455-1291 (USA)
+1 860 347 8506; fax +1 860 347 8372
inquire@zygo.com; www.zygo.com

Zygo Corporation is a customer-focused technology leader well known for developing yield-enhancement solutions for precision manufacturing industries. Zygo Corporation's solutions employ process measuring instruments, automation technology, and precision optical components and assemblies to benefit a wide variety of industries including aerospace, defense, semiconductor capital equipment and components, automotive, optical, and R&D. Contact: Kurt Redlitz, Vice President, kredlitz@zygo.com; Michael Cumbo, Vice President, mcumbo@zygo.com

PRODUCT CATEGORIES

ASTRONOMY

Cosmotec, Inc.
Meyer Tool & Manufacturing, Inc.
Rigaku Innovative Technologies, Inc.
XEI Scientific, Inc.

BASIC RESEARCH, SCIENCE

attocube systems Inc.
Coventor, Inc.
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POLLEN Metrology
Raith America, Inc.
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Synopsys, Inc.
Vistec Electron Beam GmbH
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Seiwa Optical America Inc.

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Rigaku Innovative Technologies, Inc.
Seiwa Optical America Inc.

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COMMUNICATIONS & NETWORKING

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Cadence Design System, Inc
LouwersHanique
POLLEN Metrology
Raith America, Inc.

COMPUTING, DATA PROCESSING HARDWARE

Cadence Design System, Inc

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Benchmark Technologies
Coventor, Inc.
Synopsys, Inc.

CONSUMER ELECTRONICS

Cadence Design System, Inc

DEFENSE, SECURITY, LAW ENFORCEMENT

Raith America, Inc.

DETECTORS, SENSORS

Canon U.S.A., Inc.
CyberOptics Corp.

DISPLAYS

Gudeng Precision Industrial Co., Ltd.

DISPLAYS: CONSUMER, INFORMATION, ENTERTAINMENT

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XEI Scientific, Inc.

EDUCATION AND TRAINING

Coventor, Inc.

ELECTRONIC COMPONENTS

LouwersHanique

ELECTRONIC, DIGITAL IMAGING

KBTEM-OMO JSC
POLLEN Metrology

EMERGING PHOTONICS TECHNOLOGIES

Coventor, Inc.

FIBER OPTICS AND ACCESSORIES

LouwersHanique

INDUSTRIAL SENSING AND MEASUREMENT

attocube systems Inc.
Canon U.S.A., Inc.
POLLEN Metrology
XEI Scientific, Inc.

LASER COMPONENTS AND ACCESSORIES

LouwersHanique
NTT Advanced Technology Corp.
Shin-Etsu MicroSi, Inc.

LASER INDUSTRY

Meyer Tool & Manufacturing, Inc.
NTT Advanced Technology Corp.

LASERS AND SYSTEMS

NTT Advanced Technology Corp.

LED, OLED, NON-LASER LIGHT SOURCES

Seiwa Optical America Inc.



International Day of Light

16 May

Following the highly successful International Year of Light and Light-based Technologies 2015, The International Day of Light was proclaimed at the General Conference of UNESCO in November 2017 and the first celebration will take place on 16 May 2018.

The broad theme of light will allow many different sectors of society around the world to participate in activities every 16 May to raise awareness of science and technology, art and culture, and their importance in achieving the goals of UNESCO — education, equality and peace.

SPIE supports the International Day of Light to promote awareness of life-saving, life-enhancing light.

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LouwersHanique
MGN International, Inc.
Raith America, Inc.
Rigaku Innovative Technologies, Inc.
SCREEN SPE USA, LLC
Vistec Electron Beam GmbH

MACHINE VISION, FACTORY AUTOMATION

Canon U.S.A., Inc.
Gudeng Precision Industrial Co., Ltd.
Seiwa Optical America Inc.

MATERIALS PROCESSING, LASERS IN MANUFACTURING

attocube systems Inc.
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NTT Advanced Technology Corp.

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Brewer Science, Inc.
Meyer Tool & Manufacturing, Inc.
Rigaku Innovative Technologies, Inc.

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Canon U.S.A., Inc.
LouwersHanique
NTT Advanced Technology Corp.
Rigaku Innovative Technologies, Inc.
XEI Scientific, Inc.

OPTICAL COMPONENTS - LENSES

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KBTEM-OMO JSC
Rigaku Innovative Technologies, Inc.
Seiwa Optical America Inc.

OPTICAL DESIGN AND ENGINEERING

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Coventor, Inc.
Rigaku Innovative Technologies, Inc.
Vistec Electron Beam GmbH

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KBTEM-OMO JSC
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Rigaku Innovative Technologies, Inc.
Seiwa Optical America Inc.

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attocube systems Inc.
Raith America, Inc.

SEMICONDUCTOR DEFENSE SECURITY

Inspectrology LLC
Meyer Tool & Manufacturing, Inc.

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Cosmotec, Inc.
Coventor, Inc.
Entegris, Inc.
GenSys Inc.
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Onsite at an SPIE meeting, contact any SPIE Staff with concerns or questions for thorough follow-up. If you feel in immediate danger, please dial the local emergency number for police intervention.

SPIE has established a confidential reporting system for staff and all meetings participants to raise concerns about possible unethical or inappropriate behavior within our community. Complaints may be filed by phoning toll-free to +1-888-818-6898 from within the United States and Canada, or online at www.SPIE.ethicspoint.com and may be made anonymously.

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To verify registered participants and provide a measure of security, SPIE will ask attendees to present a government-issued photo identification at registration to collect registration materials.

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All conference technical and networking events require a badge for admission. Registered attendees may bring children with them as long as they have been issued a badge. Registration badges for children under 18 are free and available at the SPIE registration desk onsite. Children under 14 years of age must be accompanied by an adult at all times, and guardians are asked to help maintain a professional, disturbance-free conference environment.

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Personal belongings should not be left unattended in meeting rooms or public areas. Unattended items are subject to removal by security. SPIE is not responsible for items left unattended.

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At most events, SPIE provides wireless access for attendees. Properly secure your computer before accessing the public wireless network. SPIE is not responsible for computer viruses or other computer damage.

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

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PO Box 10
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Tel: +1 360 676 3290
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help@spie.org • www.SPIE.org

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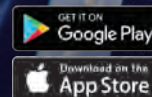
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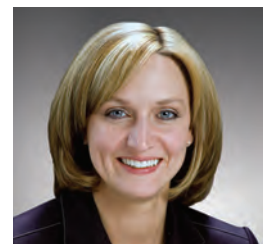
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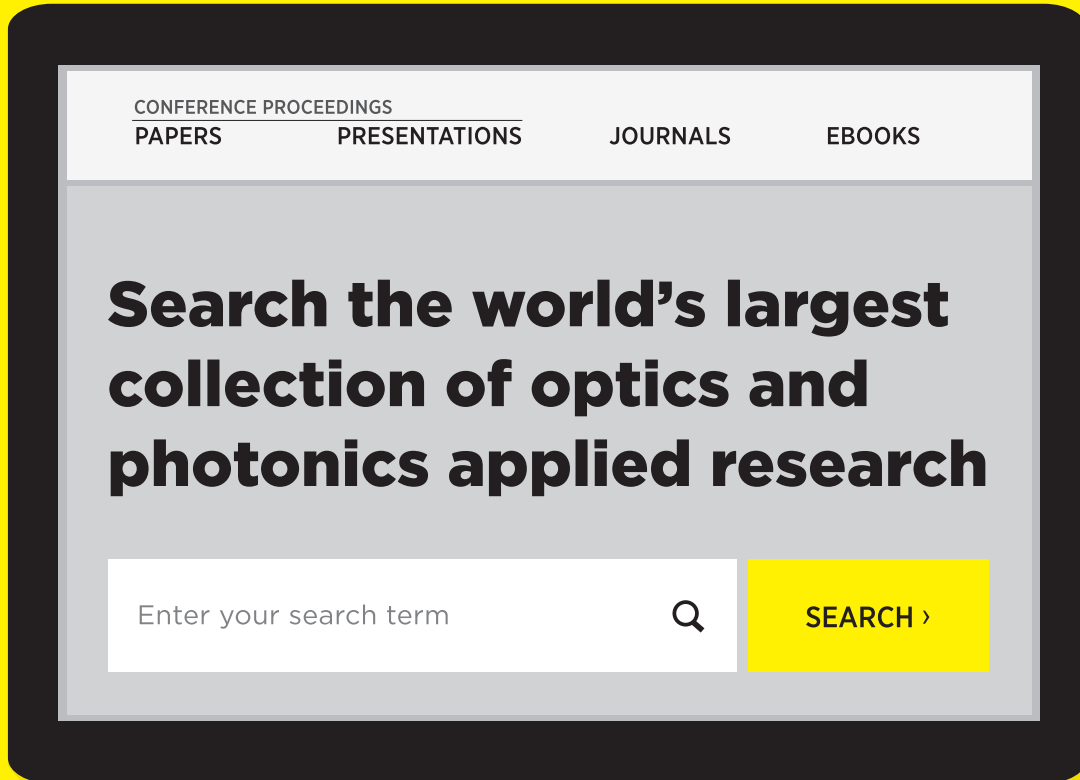
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