

2012 Advanced Lithography

Exhibition Guide

Moving Technology to Market™

Exhibition Dates

14–15 February 2012

Conference and Courses

12–16 February 2012

San Jose Convention Center, San Jose, California, USA



SPIE®



Welcome

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Solid State Technology

SPIE would like to express its deepest appreciation to the symposium chairs, conference chairs, program committees, and session chairs 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

Thanks to the following sponsors for their generous support of SPIE Advanced Lithography

<p>Attendee Lunch</p>  <p>Electronic Materials www.dow.com</p>  <p>Accelerating Yield www.kla-tencor.com</p>	<p>Internet Pavilion</p>  <p>www.jeolusa.com</p>	<p>Metrology, Inspection and Process Control Conference</p>  <p>partnering for process control www.nova.co.il</p>
<p>Extreme Ultraviolet (EUV) Lithography Conference</p>  <p>www.cymer.com</p>	<p>WiFi Pavilion</p>  <p>TOKYO ELECTRON www.tel.com/eng</p>	<p>Breakfast Breads</p>  <p>Accelerating Yield www.kla-tencor.com</p>
<p>Coffee Break</p>  <p>www.asml.com</p>	<p>Optical Microlithography Conference</p>  <p>www.cymer.com</p>	<p>Panel Discussion</p>  <p>Accelerating Yield www.kla-tencor.com</p>
<p>Coffee/Dessert Break</p>  <p>www.asml.com</p>	<p>Advances in Resist Materials and Processing Technology Conference</p>  <p>www.tokamerica.com</p>	<p>Plenary Session</p>  <p>www.asml.com</p>
<p>Coffee/Dessert Break</p>  <p>www.asml.com</p>  <p>Accelerating Yield www.kla-tencor.com</p>	<p>Exhibitor Lounge</p>  <p>www.smt.zeiss.com/sms</p>	<p>Hotel Room Key</p>  <p>www.cymer.com</p>
<p>Poster Reception</p>  <p>TOKYO ELECTRON www.tel.com/eng</p>	<p>Lanyards</p>  <p>www.mentor.com</p>	<p>Luggage Tags</p>  <p>Lighting—Edge Technologies www.ushio.co.jp/</p>
<p>Meter Board</p>  <p>www.nikonprecision.com</p>	<p>Conference Bag</p>  <p>www.cymer.com</p>	<p>Banner</p>  <p>www.nikonprecision.com</p>  <p>www.sokudo.com</p>  <p>TOKYO ELECTRON www.tel.com/eng</p>
<p>Stairway Strips</p>  <p>www.fujifilm-ffem.com</p>	<p>Conference Bag Pen</p>  <p>www.nikonprecision.com</p>	
	<p>General Refreshments</p> <p>Micro Lithography Inc.</p>	

General Information

Exhibition Hours

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

Registration Hours

Convention Center, Concourse 2

Sunday 7:00 am to 5:00 pm
Monday 7:00 am to 4:00 pm
Tuesday 7:30 am to 5:00 pm
Wednesday 7:30 am to 4:00 pm
Thursday 7:30 am to 4:00 pm

SPIE Message Center

The SPIE Message Center telephone number is 408-759-7743. Urgent messages will be taken during registration hours Sunday through Thursday.

Coffee Breaks

Sponsored by



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

Breakfast Breads

Tuesday Breakfast Breads sponsored by



Breakfast breads and coffee will be served from 7:30 am to 8:30 am Monday through Thursday for Symposium attendees in the Convention Center, Ballroom Concourse Monday-Thursday.

Lunches

Tuesday Lunch sponsored by



Wednesday Lunch sponsored by



Full conference registrants will receive a lunch coupon redeemable towards a luncheon purchased Tuesday and Wednesday at designated areas of the Exhibition Hall 1. Coupons will be accepted from 11:30 am to 1:30 pm both days. Some restrictions apply; please refer to the coupons in your registration packet.

Cash Lunches and Exhibition Concessions

Exhibition Hall 1

A cash quick-lunch stand is available in the foyer of the Convention Center during the week.

Exhibition Concessions are located in the back of the exhibition halls on Tuesday-Wednesday, featuring domestic and international cuisine. Choices include hot and cold snacks, beverages, deli-type sandwiches, salads, hot entrees, and pastries. Concessions will be available during exhibition hours. Purchase tickets at the SPIE Cashier.

Desserts

Exhibition Hall

Tuesday and Wednesday

Sponsored by



Dessert snacks will be served from 3:00 to 3:30 pm. Complimentary tickets for the dessert snacks will be included in attendee registration packets.

Internet Pavilion

Sponsored by



SPIE will have a complimentary Internet Pavilion at the Convention Center from Sunday through Thursday during registration hours. Attendees can use provided workstations or hook up their laptop to an Ethernet connection to access the Internet.

Complimentary Internet Wireless Access

Sponsored by



SPIE is pleased to provide complimentary wireless access to the Internet for all conference attendees bringing 802.11b wireless-enabled laptops or PDAs. Coverage will be available Sunday through Thursday in the Convention Center Ballroom Concourse.

Properly secure your computer before accessing the public wireless network. Failure to do so may allow unauthorized access to your laptop as well as potentially introduce viruses to your computer and/or presentation.

SPIE Bookstore and Membership Services

Convention Center, Concourse 1

Open during registration hours

The SPIE Bookstore is your source for the latest SPIE Press books, Proceedings, and Educational and Professional Development materials. Become a Member of SPIE, explore the Digital Library, and take home a souvenir.

Underage Persons on Exhibition Floor

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

Unauthorized Solicitation

Any manufacturer or supplier who is not an exhibitor and is observed to be soliciting business in the aisles, or in another company's booth, will be asked to leave immediately. Unauthorized solicitation in the Exhibition Hall is prohibited.

Restaurant Reservations and Information Desk

The San Jose Convention and Visitors Bureau operates a Restaurant Reservations and Information Desk on the street level of the Convention Center near the main entrance. The desk will be open Sunday through Thursday during core hours of the convention. For more information visit their website <http://www.sanjose.org>

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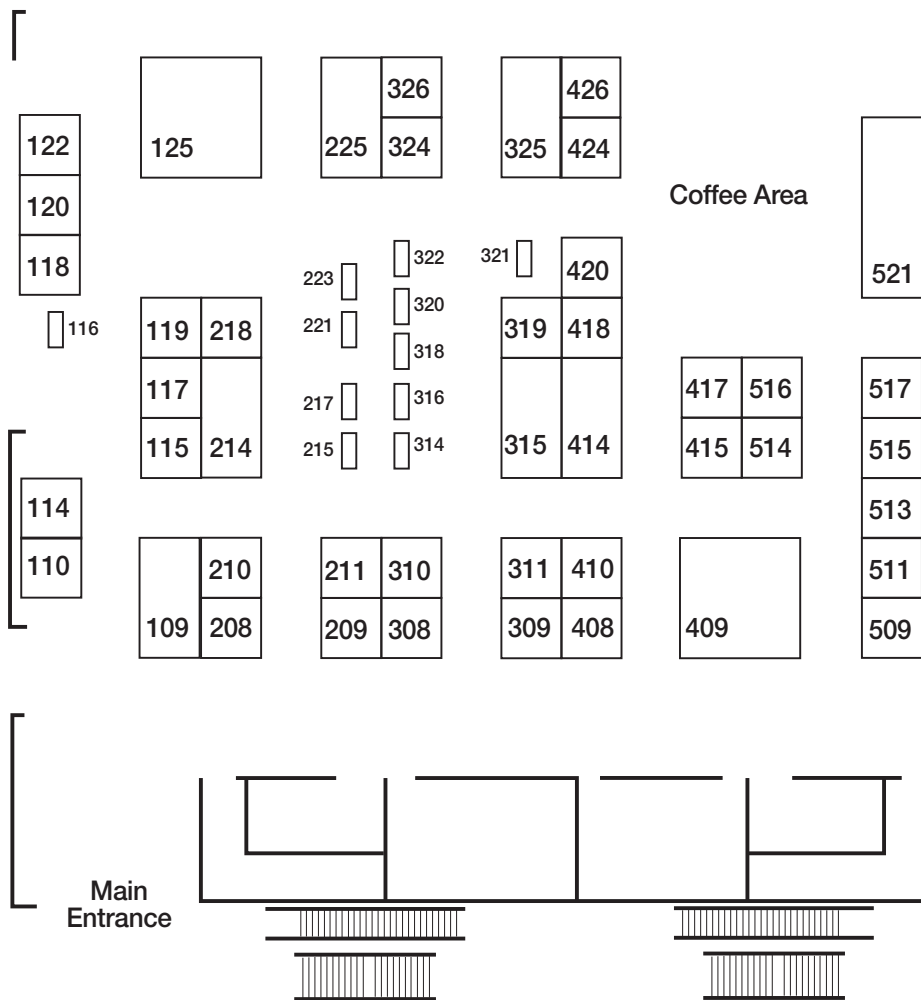
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Lunch and Seating Area



SPIE Courses

Relevant training, proven instructors.

The education you need to stay competitive

- Take advantage of the unique opportunity to learn directly from industry legends and other experts in lithography design and manufacturing
- New courses for 2012 include Directed Self-Assembly (DSA), Metrology with Atomic Force Microscopy (AFM), and Practical Modeling and Computational Lithography
- Earn CEUs to fulfill continuing professional education requirements

spie.org/education



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.

SUNDAY	MONDAY	THURSDAY
NEW SC956 Basics and Industrial Applications of AFM (<i>Ukrainsev</i>) 8:30 am to 12:30 pm, \$350 / \$405	SC1030 Interaction of Physical Design and Lithography (<i>Yuan</i>) 1:30 to 5:30 pm, \$350 / \$405	SC103 Chemically Amplified Resists (<i>Willson</i>) 8:30 am to 5:30 pm, \$575 / \$685
SC888 EUV Lithography (<i>Bakshi, Ahn, Naulleau</i>) 8:30 am to 5:30 pm, \$805 / \$915		SC616 Practical Photoresist Processing (<i>Dammel</i>) 8:30 am to 12:30 pm, \$350 / \$405
SC101 Introduction to Microlithography: Theory, Materials, and Processing (<i>Bowden, Willson</i>) 8:30 am to 5:30 pm, \$575 / \$685		
SC116 Lithographic Optimization: A Theoretical Approach (<i>Mack</i>) 8:30 am to 5:30 pm, \$625 / \$735		
SC992 Lithography Integration for Semiconductor FEOL & BEOL Fabrication (<i>Lin, Zhang</i>) 8:30 am to 5:30 pm, \$575 / \$685		
NEW SC1066 Practical Modeling and Computational Lithography (<i>Lai</i>) 8:30 am to 5:30 pm, \$575 / \$685		
SC885 Principles and Practical Implementation of Double Patterning (<i>Dusa, Hsu</i>) 8:30 am to 5:30 pm, \$575 / \$685		
NEW SC1067 Directed Self Assembly and its Application to Nanoscale Fabrication (<i>de Pablo, Nealey, Ruiz</i>) 1:30 to 5:30 pm, \$350 / \$405		
NEW SC1009 Electron Beam Inspection - Principles and Applications in IC and Mask Manufacturing (<i>Xiao</i>) 1:30 to 5:30 pm, \$350 / \$405		

Register for Courses onsite at the registration desk.



2012 Advanced Lithography Exhibition Directory

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

#215

5286 Dunnigan Ct, Castro Valley, CA, 94546-1612 United States
+1 510 538 4862
support@abeamtech.com; www.abeamtech.com

Featured Product: myCD: model based analysis of SEM images; TRAVIT: dry etch and double patterning optimization

Abeam Technologies Inc. develops software to simulate and optimize micro and nano-fabrication processes: CD-metrology, e-beam lithography, and dry etch. myCD is a model based software to automatically extract CDs, LER, wall angles from SEM images. CHARIOT is the world's most advanced Monte Carlo software to calibrate and optimize CD-SEM and EBL. Other products involve calibration chips for e-beam systems and CD-SEM; as well as simulation of double patterning. Contact: Sergey Babin, support@abeamtech.com

Amuneal Manufacturing Corp.

#309

4737 Darrah St, Philadelphia, PA, 19124 United States
+1 215 535 3000; fax +1 215 743 1715
info@amuneal.com; www.amuneal.com

Since 1965, Amuneal has been serving highly technical markets, working with leaders in aerospace, electronics, cryogenics, healthcare, and research to develop cost-effective 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.

■ Tuesday Coffee and Plenary Sponsor

ASML

SPIE Corporate Member

#119

8555 S River Pkwy, Tempe, AZ, 85284-2601 United States
+1 480 383 4422; fax +1 480 383 3987
information@asml.com; www.asml.com

ASML is the world's leading provider of lithography systems for the semiconductor industry, manufacturing complex machines that are critical to the production of integrated circuits or microchips. Headquartered in Veldhoven, the Netherlands, ASML designs, develops, integrates, markets and services these advanced systems, which continue to help our customers - the major chipmakers - reduce the size and increase the functionality of microchips, and consumer electronic equipment.

Benchmark Technologies

#209

7E Kimball Ln, Lynnfield, MA, 01940-2654 United States
+1 781 246 3303; fax +1 781 246 0308
info@benchmarktech.com; www.benchmarktech.com

Featured Product: OmniMatch – Litho Tool Overlay Optimization Software

Benchmark supplies a variety of test reticles for yield enhancement, throughput improvement and process monitoring. Benchmark's Universal Matching and Phase Shift Focus Monitor reticles continue to be the industry standards. Reticles are also available for lithography tool resolution assessment, polarization monitoring, defect monitoring, exposure dose optimization and alignment mark evaluation. Benchmark also provides electrostatic measurement and reduction systems for reticles. Contact: Andrew Zanzal, VP - Sales, azanzal@benchmarktech.com; Patrick Reynolds, President, preynolds@benchmarktech.com

Biolin Scientific, Inc.

#415

514 Progress Drive Ste G
Linthicum Heights, MD 21090 United States
+ 877 773 6730; fax + 866 415 8164
us@biolinscientific.com; www.biolinscientific.com

Brewer Science

SPIE Corporate Member

#225

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

Brewer Science is a global technology leader in creating, developing, and manufacturing specialty materials, equipment, and process solutions for applications in semiconductors, advanced packaging/3-D ICs, MEMS, sensors, displays, LEDs, and printed electronics. The company's 30 years of in-depth knowledge and expertise in materials science, chemistry, physics, optics, modeling, and process integration distinguish it from all other material suppliers worldwide. Visit us at www.brewerscience.com

Brion Technologies, Inc.

#119

4211 Burton Dr
Santa Clara, CA 95054-1512
+ 408 653 1500; fax + 408 653 1501
info@briontech.com; www.briontech.com

Brion Technologies is an ASML company and worldwide leader in computational lithography for integrated circuit Lithography-Driven Design and Manufacturing™. Brion's Tachyon™ platform, a highly accurate and ultra-fast OPC and OPC verification system, enables a unique set of capabilities that address the interrelated challenges of design, photomask making and wafer printing for semiconductor manufacturing.

Exhibitor Directory

Capitol Scientific Dallas, LLC #326

1711 Briercroft Ct Ste 140, Carrollton, TX, 75006 United States
+1 800 580 1167; fax +1 972 428 5838
www.capitolscientific.com

Featured Product: Photoresists, developers, and other lithography materials and ancillaries.

Distributors of photoresists and other lithography materials, process chemicals, clean room attire and consumables, liquid dispense equipment, laboratory equipment, and safety products. Contact: Brad Williams, CEO, brad.williams@capitolscientific.com; Ron Eakin, Business Development Manager, ron.eakin@capitolscientific.com

■ Exhibitor Lounge Sponsor

Carl Zeiss SMS GmbH #414

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

Featured Product: CDC, RegC, PROVE, AIMS EUV, AIMS, Closed-loop PROVE & RegC, Closed-loop WLCD & CDC

Carl Zeiss SMS is a leading global supplier of both semiconductor metrology and manufacturing equipment with the focus on the photomask. Core expertise in light and electron optics, complemented by a revolutionary femtosecond laser technology form the foundation of a product portfolio comprising in-die metrology, actinic qualification, repair and tuning of photomasks. The advanced mask solutions of Carl Zeiss SMS empower mask makers to develop and manufacture zero defect photomasks. Contact: James Polcyn, SMS Sales & Service, polcyn@smt.zeiss.com; Leila Hammad, Marketing Manager, hammad@smt.zeiss.com

Cyantek Corp #517

3055 Osgood Ct
Fremont, CA 94539-5612 United States
+ 510 651 3341; fax + 510 651 3398
sales@cyantek.com; www.cyantek.com

Featured Product: Nano-Strip™, Chrome Etchants, Resist Developers and Strippers, Emulsion Chemicals.

OMG—Cyantek a leading supplier to photo mask manufactures around the world, offers a full line of products used in mask manufacturing such as; etchants, resist developers and strippers including Nano-Strip™. We also offer specialty etchants for Cr, Al, Au, ITO, SiO2 and polysilicon films, along with glass and substrate cleaners, positive and negative resist strippers and other customized products. Our products are also used by FPD, IC, MEMS, LED, PV and Thin Film manufactures. Contact: Dale Deg, Sales & Marketing Manager, Dale.Deg@omgi

Donaldson Co., Inc. #115

PO Box 1299, Minneapolis, MN, 55440-1299 United States
+1 800 365 1331; fax +1 952 698 2479
Jeremy.Exley@Donaldson.com; www.donaldson.com

Featured Product: Filtration solutions for tool and track applications that increase product yields and uptime.

For 20 years, Donaldson has been a partner to Semiconductor manufacturers by delivering filtration solutions for tool and track applications that increase product yields and uptime. Donaldson focuses on reducing acid, base and organic airborne molecule

contamination (AMC) at the zone, tool and point-of-use levels. The benefits of owning Donaldson cabinets and filters include a refill program, extensive chemistry labs for the design and analysis of filters, and global AMC customer support. Contact: Jeremy Exley, Account Executive, Jeremy.Exley@donaldson.com

Energetiq Technology, Inc. #321

SPIE Corporate Member

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

Entegris, Inc. #324

129 Concord Rd, Billerica, MA, 01821-4600 United States
+1 508 951 9342
www.entegris.com

For more than 40 years, Entegris has been a provider of critical products and materials used in advanced high-technology manufacturing. These products and materials are often used to make the building blocks of many of the world's most complex microelectronic products, such as computers, mobile devices and phones, data storage components, televisions and monitors, and automobiles.

Envionics #418

1308 Continental Dr, Ste J, Abingdon, MD, 21009 United States
+1 410 612 1250; fax +1 410 612 1251
www.envionicsusa.com

■ Stairway Strip Sponsor

FUJIFILM Electronic Materials U.S.A., Inc. #315

SPIE Corporate Member

80 Circuit Dr, North Kingstown, RI, 02852-7404 United States
+1 800 769 1234; fax +1 401 435 2621
www.fujifilm-ffem.com/

Featured Product: FUJIFILM Electronic Materials

FUJIFILM Electronic Materials is a leading supplier of materials to the semiconductor industry. It has distinguished itself by serving the world leaders in these key markets with forward looking solutions to meet their advanced materials needs. Unique in the breadth of its product line, the company has major market positions in photoresists, polyimides, formulated products, thin film systems, e-beam resists and color filter array materials for image sensors. With state-of-the-art manufacturing and applications facilities in Asia, NA and Europe, local sales offices throughout the world and on-site applications support, FUJIFILM Electronic Materials delivers cutting-edge products tailored to meet the demands of the world's top tier semiconductor manufacturers.

Gudeng Precision Industrial Co., Ltd. #319

No 2 Sec 4 Jhongyang Rd, 9F, Tucheng City Taipei, 236 Taiwan
+886 2 2268 9141; fax +886 2 2269 1943
sales@gudeng.com; www.gudeng.com.tw

Halocarbon Products

#218

SPIE Corporate Member

887 Kinderkamack Rd, River Edge, NJ, 07661 United States
+1 201 262 8899; fax +1 201 262 0019
anigro@halocarbon.com; www.halocarbon.com

Halocarbon is one of the world's leading producers of specialty fluorochemicals. Halocarbon products include inert lubricants, aliphatic fluorochemicals for pharmaceutical and agricultural chemical manufacturing and the electronics industry. For more information, please contact the company at +1-201-262-8899 or at www.halocarbon.com

Hitachi High Technologies America, Inc.

#521

SPIE Corporate Member

5100 Franklin Dr, Pleasanton, CA, 94588-3355 United States
+1 925 218 2823; fax +1 925 218 3231
Sales-LS@hitachi-hta.com; www.hitachi-hta.com

Featured Product: New Product: CG5000

Hitachi metrology systems sets the technology pace in process control instrumentation by incorporating Hitachi's proven electron optics for controlling critical dimensions in next-generation semiconductor devices. The systems provide high-resolution imaging and high throughput with easy operation. Systems are fully network compatible, accommodate 200mm or 300mm wafers and are ideal for CD metrology, process development and defect review applications. Product List: CG5000, CG4100, DesignGauge. Contact: Lorena Ferry, Director, Technology Dept, lorena.ferry@hitachi-hta.com; Mary Tapia, Marketing Communications Specialist, mary.tapia@hitachi-hta.com

ibss Group, Inc.

#221

SPIE Corporate Member

1559B Sloat Blvd Ste 270, San Francisco, CA, 94132-1222 United States
+1 415 566 5774; fax +1 415 566 9779
admin@ibssgroup.com; www.ibssgroup.com

Featured Product: The GV10x Downstream Plasma Asher reduces carbon & hydrocarbons effectively & uniformly.

In 2007 ibss Group began cooperating with an inventor of a unique, patented IC plasma source. In that time ibss developed and produced the GV10x, next generation in situ downstream asher. Competitively priced the GV10x Downstream Asher reduces carbon & hydrocarbon [HC] contamination 10 to 20 times more effectively than traditional methods at vacuum pressure safe for TMP operation. Contact: Vince Carlino, President, vince.carlino@ibssgroup.com

Inko Industrial Corp.

#322

695 Vaqueros Ave, Sunnyvale, CA, 94085-3524 United States
+1 408 830 1041; fax +1 408 830 1058
sales@pellicle-inko.com; www.pellicle-inko.com

Featured Product: Pellicles for 193nm DUV lithography with minimized outgas available

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, Technical Support, ye@pellicle-inko.com

Inspectrology LLC

#116

144 North Rd Ste 1450
Sudbury, MA 01776 United States
+978 897 1775; fax +978 897 1787
info@inspectrology.com; www.inspectrology.com/

New Product: Refurbished CD and Overlay Metrology Equipment I4 Inspection Module, Frequency Metrology Module

Inspectrology provides sales, service, and support of new and refurbished CD and overlay metrology as well as patterned inspection systems with a focus on the 200mm and below wafer size market. Custom handling options make our systems ideal for MEMS, LED, Compound Semiconductor, as well as solar applications. Inspectrology also has cost effective wafer sorters. Contact: Mike Kessler, Vice President of Sales and Support, mkessler@inspectrology.com; Paul Knutrud, Vice President of Marketing and Finance, pknutrud@inspectrology.com

JA Woollam Co, Inc.

#117

645 M St Ste 102, Lincoln, NE, 68508 United States
+1 402 477 7501; fax +1 402 477 8214
sales@jwoollam.com; www.jwoollam.com

JSR Micro, Inc.

#109

Corporate Member
1280 N. Mathilda, Sunnyvale, CA, 94089 United States
+1 408 543 8800; fax +1 408 543 8872
sales@jsrmicro.com; www.jsrmicro.com/

JSR Micro supplies electronic materials to leading semiconductor manufacturers. JSR designs and manufactures the industry's most innovative photoresists, developers, and specialty chemicals for tri-layer, immersion and chemical shrink applications. With production facilities on three continents and a vast R&D program with fully-equipped technical support centers, JSR creates customized, cost-effective solutions with uncompromising quality to meet the most demanding product roadmaps. Contact: Mark Dennen, Vice President of Sales, mdennen@jsrmicro.com; Mark Slezak, Director of Technology, Lithogrpahy, mslezak@jsrmicro.com

KEYENCE Corporation

#310

1100 N Arlington Heights Rd Ste 210, Microscope Division, Itasca, IL, 60143 United States
+1 888 539 3623
microscopes@keyence.com; www.digitalmicroscope.com

Featured product listing: Digital Microscope: VHX-1000; 3D Laser Scanning Microscope: VK-X200

KEYENCE Corporation has pioneered the development of digital microscopy for over the past twenty years, specializing in all-in-one digital microscopes and 3D laser scanning microscopes. From materials imaging to advanced surface characterization, KEYENCE Corporation has the microscope products to meet nearly any requirements in the optics and electronics industries. Capture fully-focused images and perform roughness measurements with nanometer resolution on any material – without sample prep. Contact: Andrew Kominek, Sr. Marketing Specialist, microscopes@keyence.com; Becky Kaplan, Sr. Marketing Associate, marketing@keyence.com

L-3 Communications Tinsley Labs. Inc.

#509

4040 Lakeside Dr
San Pablo, CA 94806-1936 United States
+510 222 8110; fax +510 223 4534
sales@asphere.com; www.ssginc.com

Manufacturer of custom precision optical components, assemblies and sub-systems. Fabricates complex aspheric surfaces for reflective and refractive systems from 50mm to 1.5 meters in size and a wide variety of materials, including glass, Be, Al and SiC. Founded in 1926 and also known in the industry as the "Asphere Company", Tinsley has many years of experience fabricating precision optics in such areas as Space and Astronomy, Laser Fusion, Surveillance and Tactical applications. Contact: Clay Sylvester, Director of Marketing/Contracts; clay.sylvester@L-3com.com

Magma Design Automation, Inc.

#410

1650 Technology Dr
San Jose, CA 95110-3809 United States
+408 565 7500; fax +408 565 7501

Featured Product: Excalibur-Litho

Excalibur-Litho, a complete fab analysis framework that integrates real-time data from the manufacturing floor including defectivity, metrology and tool history with CAD information, enabling an unmatched level of data interpretation and inline monitoring.

■ Lanyard Sponsor

Mentor Graphics Corp.

#214

SPIE Corporate Member

8005 SW Boeckman Rd, Wilsonville, OR, 97070-7777
United States
+1 503 685 7000; fax +1 503 685 1039
www.mentor.com

Featured Product: Calibre nmOPC, Calibre nmMPC, Calibre MDP

The challenges of developing advanced litho flows require a partner that can deliver everything needed for success: tools for all data processing steps from design to mask prep; high accuracy and fast turnaround time; rapid flow development; flexibility; low cost of operation; interfaces to third party tools and equipment; and uncompromising support. 34 fabs choose Mentor as their partner. Find out how a partnership with Mentor can accelerate your success. Get more info at www.mentor.com. Contact: Gene Forte, Technology Communications Mgr., gene_forte@mentor.com

■ General Refreshment Sponsor

Micro Lithography Inc.

#424

1257 Elko Dr, Sunnyvale, CA, 94089 United States
+1 408 747 1769; fax +1 408 747 1978
mliusa.com; www.mliusa.com

Featured Product: Pellicles

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. Contact: Kevin Duong, Customer Service Manager, kevin.duong@mliusa.com; Diana Tjin, Sales Administrative Manager, diana.tjin@mliusa.com

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#513

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Berlin, Germany 12555
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mrt@microresist.de; www.microresist.de

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#308

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rhardman@microchem.com; www.microchem.com

Mitsui Chemicals America, Inc.

#217

2099 Gateway Pl Ste 300, San Jose, CA, 95110-1017
United States
+1 408 487 2889; fax +1 408 453 0684
m.bautista@mitsuichem.com; www.mitsuichemicals.com

Featured Product: Mask Pellicle

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 20 years accumulated expertise of non-dust structure, contributes to maximum production yields by eliminating pellicle related particle generations. Contact: Masanari Kitajima, General Manager, m.kitajima@mitsuichem.com

Molecular Imprints, Inc.

#325

1807 W Braker Ln, Bldg C-100, Austin, TX, 78758-3605
United States
+1 512 339 7760; fax +1 512 339 3799
sales@molecularimprints.com; www.molecularimprints.com

Molecular Imprints, Inc. (MII) is the technology leader for high-resolution, low cost-of-ownership nanoimprint lithography solutions for semiconductor, emerging market and hard disk drive (HDD) industries. MII is now leveraging its innovative Jet and Flash™ Imprint Lithography (J-FIL™) with IntelliJet™ Drop Pattern Generator material application technology to become the market leader in high-volume patterning solutions for storage, memory device and other industries. www.molecularimprints.com Contact: Paul Shaver, Director of Sales, pshaver@molecularimprints.com

NANO-UV SAS**#409**

16/18 Avenue du Quebec Silic 705
 Villebon Yvette, France 91160
 info@nanouv.com
 www.nanouv.com/

Opto Diode Corp.**#210**

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750 Mitchell Rd, Newbury Park, CA, 91320-2213 United States
 +1 805 499 0335; fax +1 805 499 8108
 sales@optodiode.com; www.optodiode.com

Featured Product: New IRD products include visible UV, extreme UV, and soft X-ray energy measurement photodetectors.

Opto Diode's U.S.-based fabrication facility manufactures radiation detectors, advanced standard and custom LEDs, LED arrays, IR-LEDs and photodetectors. New IRD radiation detectors include visible UV, extreme UV, and soft X-ray energy measurement photodetectors with 100-percent internal quantum efficiency and superior lifetime stability. One of the largest suppliers of high quality LEDs, Opto Diode offers customized LED wavelengths, power output, packaging, angle of emission and testing methods. Contact: Russ Dahl, General Manager, russdahl@optodiode.com

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 sales@optoalignment.com; www.optoalignment.com

Owens Design Inc.**#223**

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Owens Design provides integrated custom capital equipment design and manufacturing services for clients in the solar, semiconductor, HDD, and related markets. With over 27 years of experience in producing systems for 7x24 operation in fabs and manufacturing facilities, we are the right partner to reduce your risk and speed your time to market, whether you are an OEM or end product manufacturer. Contact: Lauren Ravenscroft, National Sales Manager, lravenscroft@owensdesign.com

Pall Corp.**#408**

25 Harbor Park Dr, Port Washington, NY, 11050-4605 United States
 +1 516 484 3600; fax +1 516 801 9711
 microelectronics@pall.com; www.pall.com

Featured Product: 5 nm all HDPE PE-Kleen filter designed for reduced defects in advanced chemistries.

Pall offers a complete line of filtration, purification and separation technologies for liquids and gases used in lithography applications. Pall has demonstrated that these innovative technologies can significantly reduce defectively. Find out how Pall can help you improve your lithography process. Contact: Michael Mesawich, V.P. of Electronics Marketing, michael_mesawich@pall.com

Pozzetta, Inc.**#516**

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Qoniac GmbH**#114**

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Fetscherstr. 72, Dresden, 01307 Germany
 +49 351 4189 3340; fax +49 351 4189 3341
 info@qoniac.com; www.qoniac.com

Featured Product: OVALiS Software Suite: the revolutionary approach to on-product overlay optimization and control

Qoniac's software solutions provide unprecedented features to improve yield and efficiency of lithography in a demanding production environment with a fast Return On Investment. Founded 2009, Qoniac has an installed base in the USA, Asia and Europe. This year, Qoniac introduces the Olivine module as part of the OVALiS Suite, thus delivering customers the most advanced solution for on-product overlay control, by calculating process corrections for every exposure field and lot separately. Contact: Adwin Timmer, CEO, adwin.timmer@qoniac.com; Guenter Janello, VP Marketing & Sales, guenter.janello@qoniac.com

SAES Pure Gas, Inc.**#208**

4175 Santa Fe Rd, San Luis Obispo, CA, 93401-8115
 United States
 +1 805 541 9299; fax +1 805 541 9399
 spg@saes-group.com; www.SaesPureGas.com

Featured Product: Microcontamination Inspection Service. For detecting contamination in optics purge gases.

SAES Pure Gas, Inc., a member of the SAES Getters Group, is the world leader in gas purification technology. SAES develops ultra-high pure gas-handling equipment from their San Luis Obispo, CA manufacturing facility. SAES has solutions for point-of-use or bulk gas purification. Contact: Steve Wallace, Sales, steve_wallace@saes-group.com

Sagem**#311**

Avenue de la Tour Maury, Saint Pierre Du Perray, 91280 France
 +1 33 1 69 89 72 00; fax +1 33 1 69 89 76 50
 reosc@sagem.com; www.sagem-ds.com/

Featured Product: IR/UV 1x Litho Tool; DUV high-tech optical equipment; DUV components & coatings; EUV optics

Capitilizing on its expertise in high performance optical assembly technology for astronomy, space and defense, Sagem designs and produces all kinds of optical systems dedicated to the semi-conductor industry. Sagem's skills in catadioptric and multi-mirror systems perfectly meet the new industrial needs in terms of manufacture (lithography, laser processing, etc.) and inspection of semi-conductor structures, LED, OLED, MEMS and all emerging micro and nano structures. Contact: Vincent PATOZ, Sales Manager, vincent.patoz@sagem.com; Roland GEYL, VP Sales, roland.geyl@sagem.com

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#417

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

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

Solid State Technology

#320

98 Spit Brook Rd, PennWell Corp, Nashua, NH, 03062-2801 United States
+1 603 891 0123; www.pennwell.com

Sumika Electronic Materials, Inc.

#211

3832 E Watkins St, Phoenix, AZ, 85034 United States
+1 602 659 2542; fax +1 602 438 2277
jhouston@sumikamaterials.com; www.sumitomo-chem.co.jp

Featured Product: Photoresists (i-line, KrF, ArF), EBR solvents, post CMP cleaners, Targets, and GaAs EPI wafers

Sumika Electronic Materials, Inc., a subsidiary of Sumitomo Chemical, is a leading supplier to the semiconductor, PV, thin film and MEMs industries. Products include photoresists (i-line, KrF, ArF, Immersion, Double Patterning, EUV, and E-Beam), EBR solvents, post CMP cleaners, and Targets. In addition, Sumika manufactures GaAs EPI wafers for the global Semiconductor market and supplies engineered resins to the electronics and automotive industries. Contact: Gary Smith, Western Regional Business Manager, gsmith@sumikamaterials.com; Joe Daggett, Eastern Regional Business Manager, jdaggett@sumikamaterials.com

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Manufacturer of Vacuum valves, gauges and pumps since 1958 Throttle valves from 25 to 600 mm, Gate valves up to 800 mm, Rectangular port valves up to 1500 mm wide, Poppet style valves with ISO or ANSI ports up to 32 inch. Aluminum, Stainless or mild steel. Electric motor, pneumatic and manual actuators. Pirani and Diaphragm gauges from 10 minus 5 Torr to 2 atmospheres. Rotary vane pumps from 3 to 64 CFM; 108 cubic meters /hr. Hydrocarbon or PFPE fluids.

Vistec Electron Beam Lithography Group #426

Goeschwitzer Str 25, Jena, 7745 Germany
 +49 3641 651900; fax +49 3641 651922
 electron-beam@vistec-semi.com; www.vistec-semi.com

Featured Product: Designs and manufactures electron beam lithography systems.

Vistec Electron Beam Lithography Group is a world leader in design and manufacture of ebeam lithography systems and provides cutting edge technology solutions for a wide range of applications, as existing and emerging semiconductor and nanotechnology applications (EBDW, mask making, advanced research, optics). The Group consists of two business units: Vistec Electron Beam, which produces Variable Shaped Beam systems and Vistec Lithography, manufacturing Gaussian Beam systems. Contact: Ines Stolberg, Marketing Manager, ines.stolberg@vistec-semi.com

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United States

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info@evactron.com; www.evactron.com

Featured Product: Evactron De-Contaminator

The Evactron De-Contaminator removes carbon from high vacuum systems and improves SEM performance by using remote RF plasma ashing to oxidize and remove carbon in electron microscopes and other vacuum chambers. Safe and compliant to CE, RoHS, c NRTL us, and SEMI –S2. XEI has products for cleaning localized areas, analytical specimens, and large and small vacuum chambers Over 1300 sold for scanning electron microscope cleaning. Visit XEI Scientific at www.Evactron.com and on Facebook. Contact: Tom Levesque, Sales Mgr., levesque@evactron.com

XYALIS

#515

World Trade Ctr Grenoble

BP 1510

Grenoble Cedex 01 38025 France

+33 476 706 475; fax + 33 476 282 849

info@xyalis.com; www.xyalis.com

Featured Product: GTmodus – universal mask data management database, for an error-free mask order process.

XYALIS is an EDA company offering a fully integrated Mask Data Preparation solution to eliminate the risk of error, reduce time to manufacturing, and increase manufacturing yield by automating frame generation, Multi-Project Wafers assembly, intuitive mask set creation, and wafer map optimization, and by streamlining the mask order process. XYALIS' solutions have been developed in cooperation with major semiconductor industry leaders and have been used in production for years. Contact: Sylvie Hurat, US Area Manager, sylvie@xyalis.com

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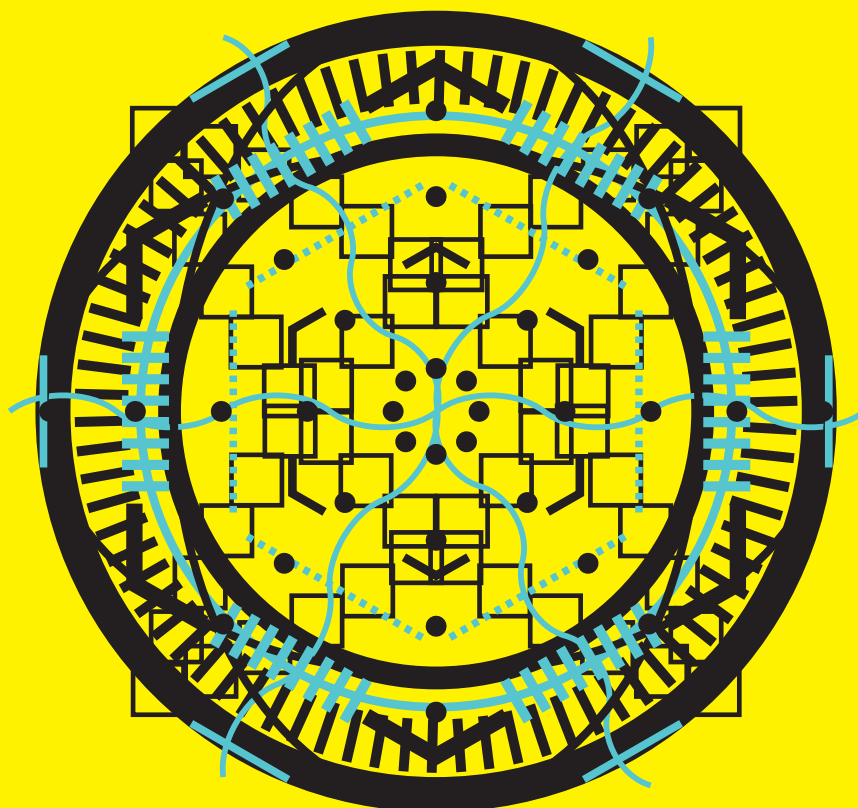
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OptoElectronic Components
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Photron USA, Inc.
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