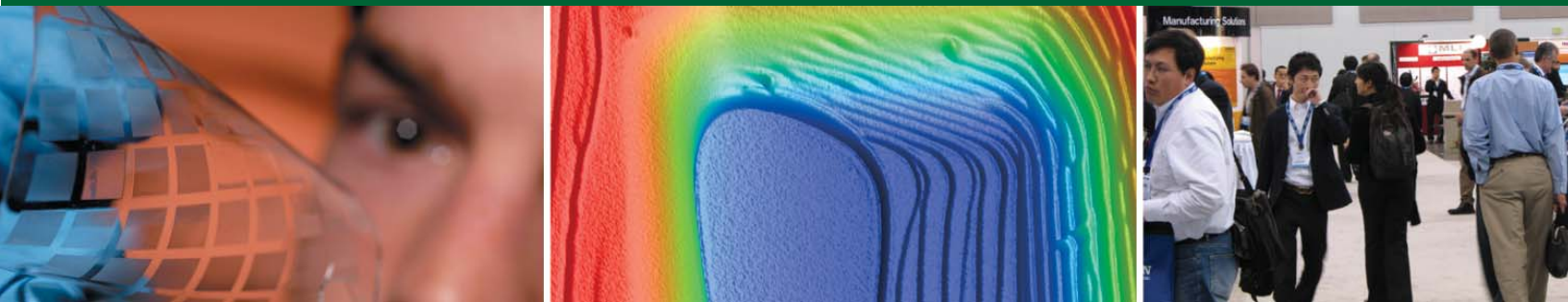


# Exhibition Guide

## SPIE Advanced Lithography

**Exhibition: 26–27 February 2008**  
**Conferences + Courses: 24–29 February 2008**

San Jose Convention Center and San Jose Marriott  
San Jose, California USA



**SPIE**

Connecting minds. Advancing light.

# VENDORS SELL TOOLS... PARTNERS DELIVER SUCCESS.



**Mentor – the complete partner  
for manufacturing success...**

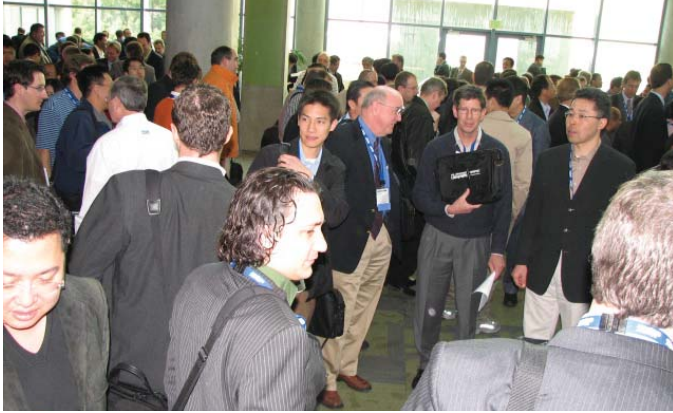
- **Best in class technology**
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solutions based on open standards**
- **Process/flow development support**
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**INTEGRATED SYSTEM DESIGN + DESIGN FOR MANUFACTURING + ELECTRONIC SYSTEM LEVEL DESIGN + FUNCTIONAL VERIFICATION**

The challenges of developing advanced litho flows require a partner that can deliver everything needed for success: Tools for all data processing steps from physical design to mask prep. State-of-the-art accuracy and turnaround time. Fast flow development. Flexibility. Low cost of operation. Interfaces to third party tools and equipment. Award-winning support. 34 fabs have chosen Mentor as their partner. Talk to us at booth #306 about how a partnership with Mentor can accelerate your success. View Mentor SPIE papers at [www.mentor.com/go/spiepubs](http://www.mentor.com/go/spiepubs) and get more info at [www.mentor.com/go/litho](http://www.mentor.com/go/litho).

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THE EDA TECHNOLOGY LEADER

# Welcome to the Exhibition!



Promotional Partners  
**Laser Focus World**  
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## **SPIE** Advanced Lithography

**Exhibition: 26–27 February 2008**

**Conferences + Courses: 24–29 February 2008**

San Jose Convention Center and San Jose Marriott  
San Jose, California USA

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For information about exhibiting, sponsorship and advertising opportunities at future Advanced Lithography events, contact: SPIE Sales; E-mail: [spiesales@spie.org](mailto:spiesales@spie.org); Web: [www.spie.org/exhibitions](http://www.spie.org/exhibitions)

Plan now to be part of next year's Advanced Lithography Exhibition  
24-25 February 2009 \* San Jose Convention Center  
San Jose, California USA



## *A special thank you to the following sponsors!*

### BACUS and Photolithography Panel



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Booth 327, [www.pixertech.com](http://www.pixertech.com)

### Breakfast Breads/Coffee



Booth 701, [www.cymer.com](http://www.cymer.com)

### Coffee Breaks



Booth 412, 413, [www.asml.com](http://www.asml.com)



Booth 713, [www.jsrmicro.com](http://www.jsrmicro.com)



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### Nanotechnology in Microlithography Panel



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Booth 520,

[www.molecularimprints.com](http://www.molecularimprints.com)



Booth 919, [www.photronics.com](http://www.photronics.com)

### Plenary Address



Booth 727, [www.cadence.com](http://www.cadence.com)

### Conference Bags



Booth 813, [www.synopsys.com](http://www.synopsys.com)

### Poster Receptions



[www.luminescent.com](http://www.luminescent.com)



Booth 306, [www.mentor.com](http://www.mentor.com)



Booth 114, [www.semiconductor.net](http://www.semiconductor.net)



Booth 707, [www.microsi.com](http://www.microsi.com)

### Technical Conference Notepads



Booth 401, [www.newfocus.com](http://www.newfocus.com)

### Wi-Fi Pavilion



TOKYO ELECTRON

[www.tel.com](http://www.tel.com)

### General Refreshments

Corning Inc., Booth 405

Mercury Computer Systems,  
Booth 628

Micro Lithography Inc., Booth 504

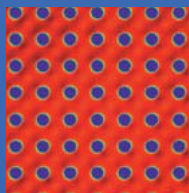
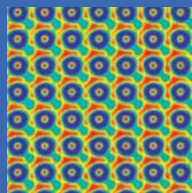
Micronic Laser Systems AB

Mitsui Chemicals America, Inc.,  
Booth 2007

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Conference,  
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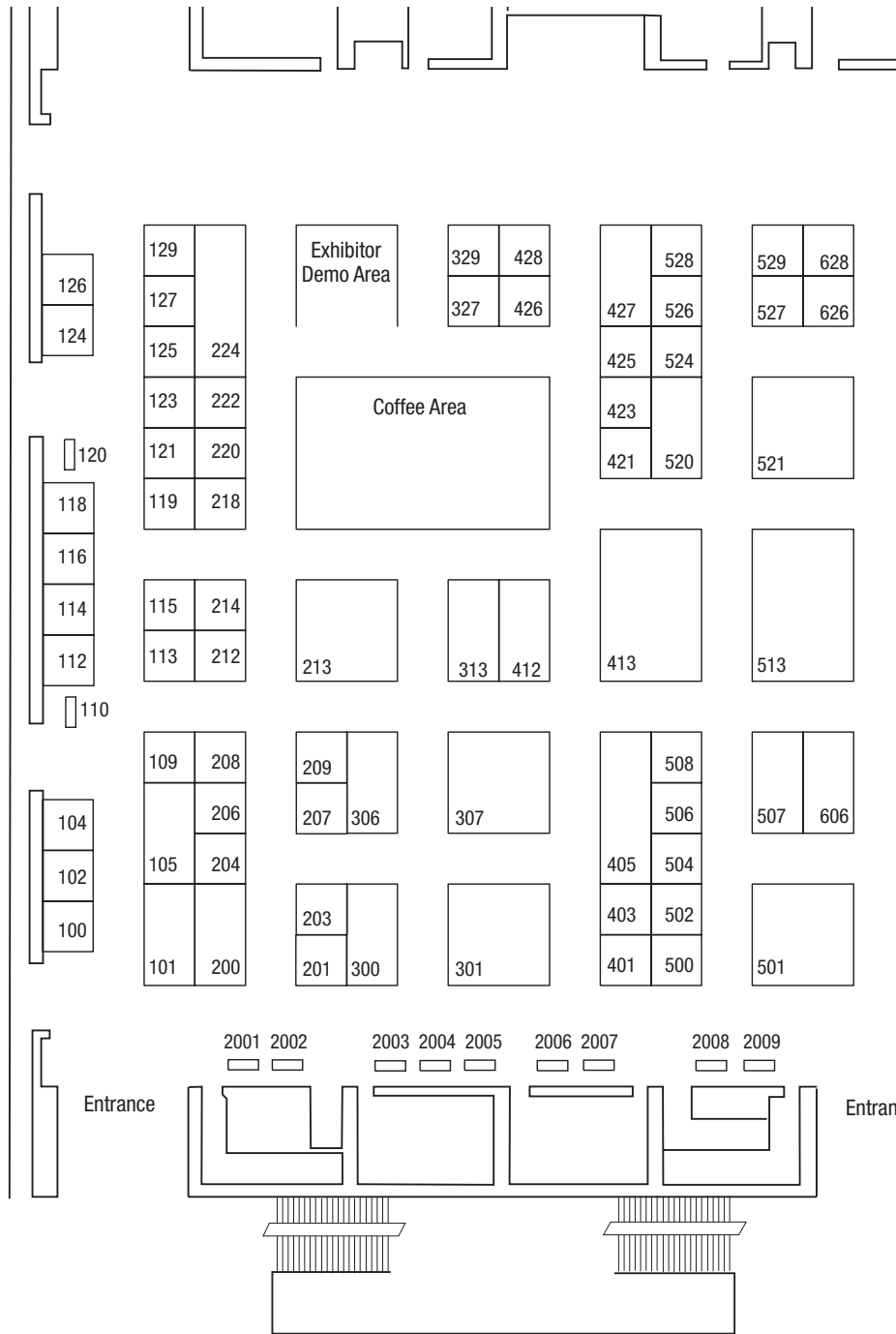
Semiconductor Metrology Systems Division  
Carl-Zeiss-Promenade 10  
07745 Jena  
Germany

Tel. +49 36 41 / 64 25 63  
Fax +49 36 41 / 64 29 38  
info-sms@smt.zeiss.com  
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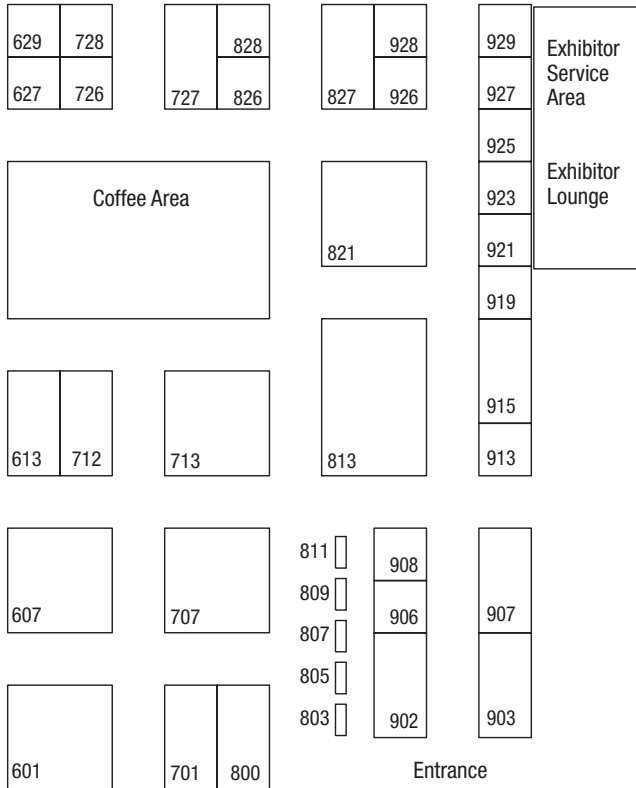
# Exhibitor Booth List

Company	Booth Number
Abeam Technologies	2002
Aerotech, Inc.	2009
Anchor Semiconductor, Inc.	925
Applied Materials	607
ASML	412, 413
ATMI, Inc.	507
AZ Electronic Materials USA Corp.	213
Benchmark Technologies, Inc.	101
Brewer Science	613
Brion Technologies, Inc.	412
Cadence Design Systems, Inc.	727
Canon USA, Inc.	113
Carl Zeiss SMT	105
CMPC Surface Finishes	425
Corning Inc.	405
CUNO Inc.	526
CVI Melles Griot - Albuquerque	421
Cyantek Corp.	116
CyberOptics Semiconductor	214
Cymer, Inc.	701
Donaldson Co., Inc.	502
Dongjin Semichem Co., Ltd.	821
Dow Corning Corp.	112
Energetiq Technology, Inc.	2008
Entegris, Inc.	712
EV Group Inc.	100
Foothill Instruments	222
FUJIFILM Electronic Materials, Inc.	301
GenlSys GmbH	428
Gigaphoton Inc.	115
Gudeng Precision Industrial Co., Ltd.	104
Hakuto Co., Ltd.	915
Halocarbon Products	2006
Hitachi High Technologies America, Inc.	307
Honeywell Electronic Materials	201
HORIBA STEC	109
Inko Industrial Corp.	803
International Radiation Detectors, Inc.	627
J.A. Woollam Co.	403
JCMwave GmbH	807
JSR Micro, Inc.	713
King Industries, Inc.	207
KLA-Tencor Corp.	902, 903
Laser Focus World	921
Lasertec U.S.A., Inc.	204
LINOS Photonics, Inc.	203
Litel Instruments	908
Luxel Corp.	121
Media Lario Technologies	102
Mentor Graphics	306
Mercury Computer Systems, Inc.	628
MetroBoost	508
MGN International, Inc.	329
Micro Lithography Inc.	504
MicroChem Corp.	800
<i>Microolithography World</i>	921
Mitsui Chemicals America, Inc.	2007
Molecular Imprints, Inc.	520
n&k Technology, Inc.	626
NANO-MASTER, Inc.	726
Nanonometrics Inc.	513
Nanonex Corp.	926
NANO-UV	118
National Institute of Standards & Technology (NIST)	524
New Focus, Inc.	401
Nikon Precision Inc.	601
NIL Technology	2001
OBDUCAT AB	220
Olympus Industrial America	209
Olympus Integrated Technologies America, Inc.	119
Osram Sylvania Products, Inc.	212
Owens Design, Inc.	2005
Pall Corp.	826
Particle Measuring Systems, Molecular Contamination Products	206
<i>Photonics Spectra - Laurin Publishing</i>	208
Photronics, Inc.	919
piezosystem jena	120
Pixar Technology Ltd.	327
Pozzetta Products, Inc.	300
RAVE LLC	218
Rohm and Haas Electronic Materials	501
Rudolph Technologies	313
SAES Pure Gas, Inc.	527
SAGEM Defense Security	906
Semiconductor Fabtech	2003
<i>Semiconductor International Magazine</i>	114
Shanghai Optics	2004
Shin-Etsu MicroSi, Inc.	707
<i>Small Times</i>	921
Smart Imaging Technologies	805
SOKUDO Co., Ltd.	200
<i>Solid State Technology</i>	921
SPIE Industry Resources	827
Star Tech Instruments, Inc.	110
Sumika Electronic Materials, Inc.	224
Synopsys, Inc.	813
Technical Manufacturing Corp.	811
Tela Innovations	828
Tessera North America	427
TOK America	521
Toppan Photomasks, Inc.	606
TopScan	913
ULTRA + Equipment Co., Inc.	528
USHIO America, Inc.	728
Veeco Instruments	426
Vistec Semiconductor Systems Inc.	423
VLSI Standards, Inc.	506
XEI Scientific, Inc.	809
XYALIS	923
Yield Engineering Systems, Inc.	907
Zygo Corp.	500

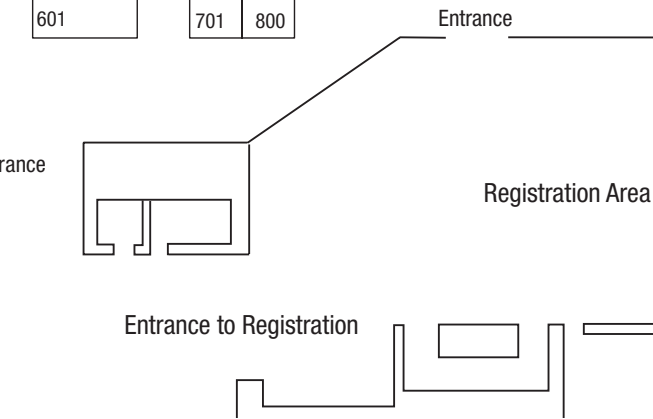


# Convention Center Exhibition Floor

## Lunch and Seating Area



## Lunch and Seating Area



## Advertisers Index

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<b>Mentor Graphics Corp.</b> .....	inside front cover
<b>Nano-Master, Inc.</b> .....	10

# General Information

## Exhibition Hours

Convention Center, Exhibit Halls 1-2

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

## Registration and Information Hours

Convention Center, Exhibit Hall 2

Sunday . . . . . 7:00 am to 6:00 pm  
Monday . . . . . 7:00 am to 4:00 pm  
Tuesday . . . . . 7:30 am to 5:00 pm  
Wednesday . . . . . 7:30 am to 5:00 pm  
Thursday . . . . . 7:30 am to 5:00 pm  
Friday . . . . . 7:30 am to 11:00 am

## Breakfast Breads

Sponsored by 

Convention Center, Concourse 2

Breakfast breads and coffee will be served from 7:30 to 8:30 am Monday through Friday for Symposium attendees.

## Children on the Show Floor

For safety and insurance reasons, no person under 16 years old will be allowed on the exhibit floor during move-in and move-out. During open exhibition hours, only children over 12 years old accompanied by an adult will be allowed on the exhibit floor.

## Coffee Breaks

Sponsored by



Convention Center, Exhibit Halls 1-2

Tuesday – Wednesday . . . . . 10:00 to 11:00 am; 3:00 to 4:00 pm

## Desserts

Sponsored by  

Convention Center, Exhibit Halls 1-2

Tuesday and Wednesday . . . . . 3:00 to 3:30 pm  
(ticket required)

## Exhibition Concessions

Visit the Exhibition Concessions located in the back of the exhibition halls on Tuesday-Wednesday featuring Domestic and International Cuisine. They will serve hot and cold snacks, beverages, deli-type sandwiches, salads, hot entrees, and pastries and will be open during exhibition hours.

## Internet Pavilion

Sponsored by 

SPIE will have a complimentary Internet Pavilion at the Convention Center on Sunday through Friday where attendees can use provided workstations or hook up their laptop to an Ethernet connection to access the Internet.

## Complimentary WiFi

Sponsored by  TOKYO ELECTRON

SPIE is pleased to provide complimentary wireless access to the Internet for all conference attendees bringing 802.11b wireless-enabled laptops or PDAs. Coverage located in Convention Center Ballroom Concourse (east end) near the SPIE Marketplace and Internet Pavilion.

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.

## Message Center

The SPIE Message Center telephone number is 408-271-6200 Messages will be taken during registration hours Sunday through Thursday. Please check the message board at the message center near SPIE registration daily to receive your messages.

## Parking

For the city: <http://www.sjdowntownparking.com/>

At the Convention Center, 150 W. San Carlos St.  
Max \$16 per day. (\$1 for each 20 min to max \$16.)  
There are approximately 650 spaces for the public to use.  
Alternate Parking Downtown San Jose - River Park Tower Garage, located on the corner of San Carlos and Woz Way, 333 W. San Carlos St. \$1.25 per each 20 minutes, \$18 daily maximum. Rates and hours subject to change without notice. Approx. 1,000 spaces available each day of the event. Hrs of operation:  
Mon-Fri - 6:30 am to 12:00 midnight, Sat - 8:00 am to 12 midnight  
Sun - 8:00 am - may close at 10pm if event over



## Photography/Video Policy

In the Exhibition Hall: For security and courtesy reasons, photographing or videotaping individual booths and displays in the exhibit hall is allowed ONLY with explicit permission from on-site company representatives. Individuals not complying with this policy will be asked to surrender their film and to leave the exhibition hall.

## Quicklunch Coupons

Tuesday lunch sponsored by **TOPPAN**

Wednesday lunch sponsored by **tok**

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

## SPIE Copy Center

Sunday through Thursday during registration hours San Diego Copy will provide a copy service during the week for symposium attendees. The rates are 5 cents per copy. The Copy Center will be located near registration.

## SPIE Marketplace

Open during Registration hours

The SPIE Marketplace 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.

## No Unauthorized Solicitation

Please note that while all meeting attendees are invited to the exhibition, any attendee who is observed to be soliciting business in the aisles or other public spaces, in another company's booth, or in violation of any portion of the SPIE Exhibition Policy, will be asked to leave immediately. Additional penalties may be applied. Please report any violations you may observe to show management.

# Product Demonstrations

## Tuesday

---

10:30 am

### Custom Fabrication of Components for Semiconductor Tooling

**William Ackerman**, CMPC Surface Finishes

Achieving nanoscale tolerances and superior surface properties over large areas on a broad array of hard ceramics, metals, and glasses used in semiconductor and lithography tooling.

11:30 am

### Laser-Driven Light Source. High-Brightness from DUV to Vis

**Paul Blackborow**, Energetiq Technology, Inc.

Brighter than the brightest arc-lamps and deuterium lamps, The Laser-Driven Light Source™ provides broadband spectral output or is filtered for 193nm, 248nm, 365nm or any band from DUV to vis.

12:30 pm

### Improving Time to Volume Manufacturing by Design Including Double Patterning

**Bob Naber**, Cadence Design Systems, Inc.

As consumer products increasingly drive the semiconductor industry, time to volume manufacturing is critical in the success of a product. Witness the benefits of preventing, analyzing, and optimizing manufacturability variations in the design space to ensure that your design is correct by construction. Find out about a more streamlined flow to implement double patterning techniques.

1:30 pm

### MX 61A Automated Failure Analysis Microscope

**Matt Smith**, Olympus Industrial America

Fully automated microscope systems. Includes full three-axis control for wafers up to 300 mm in diameter along with the integration of digital imaging with complete image analysis capabilities.

2:30 pm

### Parallel Processing of the Manufacturing Flow

**George E. Bailey**, Synopsys

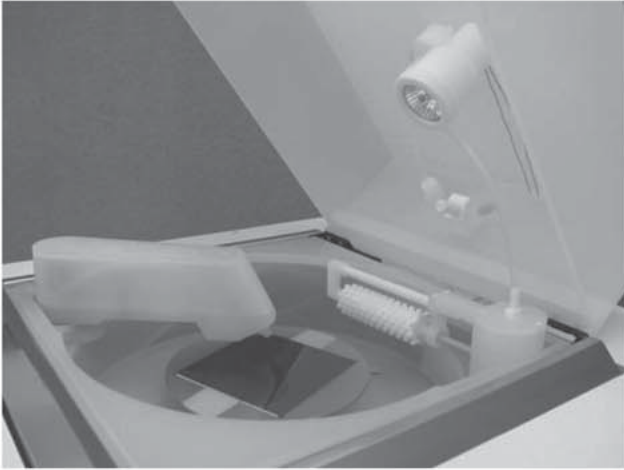
Witness Synopsys' latest parallel processing capability (Proteus++). This new concept will revolutionize the manufacturing flow by enabling parallel processing of OPC, LRC, MDP and MRC. This solution reduces the I/O bottleneck, eliminates memory spikes, maximizes CPU utilization, and provides unmatched TAT with general purpose hardware.

# Daily Course Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday
<b>Advances in Resist Materials and Processing Technology</b>				
<p>SC101 <b>Introduction to Microlithography: Theory, Materials, and Processing</b> (Bowden, Thompson, Willson) 8:30 am to 5:30 pm, \$595 / \$695</p>				<p>SC103 <b>Chemically Amplified Resists</b> (Willson) 8:30 am to 5:30 pm, \$530 / \$630</p> <p>SC616 <b>Practical Photoresist Processing</b> (Dammel) 1:30 to 5:30 pm, \$315 / \$365</p>
<b>Design for Manufacturability through Design-Process Integration</b>				
<p>SC540 <b>Applying Optical Proximity Correction and Design for Manufacturability to Product Designs</b> (Capodiecici, Lucas) 8:30 am to 5:30 pm, \$530 / \$630</p>		<p><b>NEW</b> SC855 <b>Introduction to Design for Manufacturability</b> (Liebmann, Wong) 1:30 to 5:30 pm, \$315 / \$365</p>	<p><b>NEW</b> SC889 <b>Layout-Aware Circuit Analysis</b> (Singh, Heng, Bansal) 8:30 am to 12:30 pm, \$315 / \$365</p>	
<p>SC105 <b>CD Metrology and Image Formation in the Scanning Electron Microscope (SEM)</b> (Wells, Postek) 8:30 am to 5:30 pm, \$580 / \$680</p>			<p><b>NEW</b> SC856 <b>Computational Lithography</b> (Mansfield, Wong) 1:30 to 5:30 pm, \$315 / \$365</p>	
<p>SC116 <b>Lithographic Optimization: A Theoretical Approach</b> (Mack) 8:30 am to 5:30 pm, \$570 / 670</p>				
<p>SC833 <b>Lithography Integration for Semiconductor Back-End-Of-The-Line (BEOL)</b> (Lin) 8:30 am to 12:30 pm, \$315 / \$365</p>				
<p><b>NEW</b> SC885 <b>Principles and Practical Implementation of Double Patterning</b> (Dusa) 8:30 am to 12:30 pm, \$315 / \$365</p>				
<p><b>NEW</b> SC887 <b>Modeling of Exposure Tools</b> (Lai) 1:30 to 5:30 pm, \$315 / \$365</p>				
<b>Emerging Lithographic Technologies</b>				
<p><b>NEW</b> SC890 <b>Electron-Beam Lithography - Current Use and Recent Advances</b> (Pfeiffer, McCord) 8:30 am to 5:30 pm, \$530 / \$630</p>				<p><b>Register for courses onsite at the SPIE Cashier!</b></p>
<p>SC888 <b>EUV Lithography</b> (Bakshi, Soufli, Ahn, Naulleau) 8:30 am to 6:30 pm, \$740 / \$840</p>				
<p>SC101 <b>Introduction to Microlithography: Theory, Materials, and Processing</b> (Bowden, Thompson, Willson) 8:30 am to 5:30 pm, \$595 / \$695</p>				
<p>SC622 <b>Nano-Scale Patterning with Imprint Lithography</b> (Sreenivasan, Willson, Resnick) 6:00 to 10:00 pm, \$315 / \$365</p>				
<b>Intellectual Property &amp; Patents</b>				
	<p>WS619 <b>Intellectual Assets for Micro/Nano Electronics and Lithography</b> (Cole) 1:30 to 5:30 pm, \$315 / \$365</p>			

Sunday	Monday	Tuesday	Wednesday	Thursday	
<h2>Metrology, Inspection, and Process Control for Microlithography</h2>					
<p>SC105 <b>CD Metrology and Image Formation in the Scanning Electron Microscope (SEM)</b> (Wells, Postek) 8:30 am to 5:30 pm, \$530 / \$630</p> <p>SC101 <b>Introduction to Microlithography: Theory, Materials, and Processing</b> (Bowden, Thompson, Willson) 8:30 am to 5:30 pm, \$595 / \$695</p> <p>SC831 <b>Introduction to Scatterometry Metrology: Theory and Application</b> (Bao, Barry) 1:30 to 5:30 pm, \$315 / \$365</p> <p><b>NEW</b> SC886 <b>Line Edge Roughness</b> (Gallatin) 1:30 to 5:30 pm, \$315 / \$365</p>					
<h2>Optical Microlithography</h2>					
<p>SC120 <b>193-nm Photoresist Materials</b> (Dammel) 8:30 am to 12:30 pm, \$315 / \$365</p> <p>SC540 <b>Applying Optical Proximity Correction and Design for Manufacturability to Product Designs</b> (Capodieci, Lucas) 8:30 am to 5:30 pm, \$530 / \$630</p> <p>SC707 <b>Basics of Optical Imaging in Microlithography: A Hands-on Approach</b> (Milster, Brooker, Socha) 8:30 am to 12:30 pm, \$315 / \$365</p> <p>SC105 <b>CD Metrology and Image Formation in the Scanning Electron Microscope (SEM)</b> (Wells, Postek) 8:30 am to 5:30 pm, \$530 / \$630</p> <p>SC101 <b>Introduction to Microlithography: Theory, Materials, and Processing</b> (Bowden, Thompson, Willson) 8:30 am to 5:30 pm, \$595 / \$695</p> <p>SC116 <b>Lithographic Optimization: A Theoretical Approach</b> (Mack) 8:30 am to 5:30 pm, \$570 / 670</p> <p>SC833 <b>Lithography Integration for Semiconductor Back-End-Of-The-Line (BEOL)</b> (Lin) 8:30 am to 12:30 pm, \$315 / \$365</p> <p>SC579 <b>Photomask Fabrication and Technology Basics</b> (Duff) 8:30 am to 5:30 pm, \$530 / \$630</p> <p><b>NEW</b> SC885 <b>Principles and Practical Implementation of Double Patterning</b> (Dusa) 8:30 am to 12:30 pm, \$315 / \$365</p> <p>SC723 <b>The Limits of Optical Lithography</b> (Pierrat) 8:30 am to 12:30 pm, \$315 / \$365</p> <p>SC706 <b>Imaging and Optics Fundamentals in Microlithography</b> (Flagello) 1:30 to 5:30 pm, \$315 / \$365</p> <p><b>NEW</b> SC886 <b>Line Edge Roughness</b> (Gallatin) 1:30 to 5:30 pm, \$315 / \$365</p> <p><b>NEW</b> SC887 <b>Modeling of Exposure Tools</b> (Lai) 1:30 to 5:30 pm, \$315 / \$365</p> <p>SC724 <b>Optical Lithography Extension: Design for Manufacturing and New Resolution Enhancement Techniques</b> (Pierrat) 1:30 to 5:30 pm, \$315 / \$365</p> <p>SC779 <b>Polarization for Lithographers</b> (Kye, McIntyre) 1:30 to 5:30 pm, \$315 / \$365</p> <p>SC102 <b>Optical Lithography Modeling</b> (Neureuther, Smith) 6:00 to 10:00 pm, \$315 / \$365</p>			<p><b>Register for courses onsite at the SPIE Cashier!</b></p>		
			<p><b>NEW</b> SC855 <b>Introduction to Design for Manufacturability</b> (Liebmann, Wong) 1:30 to 5:30 pm, \$315 / \$365</p>	<p><b>NEW</b> SC889 <b>Layout-Aware Circuit Analysis</b> (Singh, Heng, Bansal) 8:30 am to 12:30 pm, \$315 / \$365</p> <p><b>NEW</b> SC856 <b>Computational Lithography</b> (Mansfield, Wong) 1:30 to 5:30 pm, \$315 / \$365</p>	<p>SC118 <b>Anti-Reflective Coatings: Theory and Practice</b> (Dammel) 8:30 am to 12:30 pm, \$315 / \$365</p>

# Damage Free Megasonic Chemical Cleaning



SWC-4000



Patent 6,730,176 on  
Uniform Megasonic Cleaning

Wafer / Mask  
Patterned , Un-Patterned  
Pelliclized Reticles  
GaAs, ITO, Wafer Frame

Uniform Energy  
Megasonic Nozzle  
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- RIE
- Deep RIE
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- Ion Beam Etcher

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**NANO-MASTER, Inc.**

3019 Alvin Devane Blvd. Suite 300, Austin, TX 78741  
Ph. 512-385-4552; Fax 512-385-4900; [info@nanomaster.com](mailto:info@nanomaster.com)



## Abeam Technologies

#2002

5286 Dunnigan Ct, Castro Valley, CA, 94546  
510/538-4862  
www.abeamtech.com

**New Product: CHARIOT: CD-SEM simulation and calibration; BEAMETR: automatic beam size measurement; NTegra: AFM.**

Abeam Technologies Inc. develops calibration tools for e-beam systems and modeling software used in microelectronic industry to optimize fabrication processes. The company has its headquarters in California, representative companies in Japan, Europe and Korea and a group of software developers and mathematicians in Russia. Contact: Sergey Babin, sb@abeamtech.com.

## Aerotech, Inc.

#2009

**SPIE** Corporate Member

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

**New Product: ABL1500 Series Linear Air-Bearing Stage for High-Performance Scanning and Inspection Applications.**

Aerotech manufactures a variety of products, from motors, drives and controllers to fully integrated mechanical and air-bearing stage systems. Our systems and components are used in applications including lithography, high-precision wafer processing, flat-panel display fabrication and laser micromachining. Aerotech also specializes in vacuum applications like reticle manufacturing, direct-write systems and wafer inspection. Contact: John Lindell, Product Manager, Positioning Systems Division, jlindell@aerotech.com.

## Anchor Semiconductor Inc.

#925

**SPIE** Corporate Member

5403 Betsy Ross Dr, Santa Clara, CA, 95054  
408/986-8969; fax 408/986-8999  
www.anchorsemi.com

 **METER BOARD SPONSOR**

## Applied Materials

#607

3050 Bowers Ave, Santa Clara, CA, 95050  
408/727-5555  
www.amat.com

Applied Materials, Inc. is the global leader in Nanomanufacturing Technology™ solutions for the electronics industry with a broad portfolio of innovative equipment, service and software products. At Applied Materials, we apply nanomanufacturing technology to improve the way people live.

 **COFFEE BREAK SPONSOR**

## ASML

#412, 413

**SPIE** Corporate Member

8555 S River Pky, Tempe, AZ, 85284  
480/383-4422; fax 480/383-3987  
information@asml.com; www.asml.com

ASML is the world's leading provider of lithography systems for the semiconductor industry. We are committed to providing customers with the right technology that is production-ready at the right time. The TWINSCAN lithography platform and our advancements with our immersion lithography systems show our technology leadership and enable our customers and their customers to sustain their competitive edge. ASML operates sales and service in over 60 locations in 14 countries.

## ATMI, Inc.

#507

10851 Louisiana Ave S, Minneapolis, MN, 55438  
952/942-0855; fax 952/942-8474  
www.atmi.com

**New Product: NOWTrak™ Network - a consumable material management system brings control to critical manufacturing.**

ATMI delivers smart and active materials-delivery solutions. Our NOWPak® product line offers liner-based containment and dispensing systems to maintain the purity and cleanliness of critical chemicals. The chemical key-coding of the closures and connectors ensures chemical misconnect prevention, while NOWTrak™ Network a consumable material management system brings control to critical manufacturing. Our solutions enhance process yields and reduced costs. Contact: Rick Wilson, Sales, rwilson@atmi.com; Brad Williams, Sales, bwilliams@atmi.com.

 **COFFEE BREAK SPONSOR**

## AZ Electronic Materials USA Corp.

#213

70 Meister Ave, Branchburg, NJ, 08876-3440  
908/429-3538; fax 908/429-3631  
www.az-em.com

AZ Electronic Materials is an independent specialty chemicals business with plants in Taiwan, Korea, China, Japan, France, Germany and the United States and provides anti-reflective coatings, other specialty coatings and photoresists for the integrated circuits and devices industries. Contact: Kathryn Durham, Director, Marketing, Quality and Sales Support. kathryn.durham@az-em.com

## Benchmark Technologies, Inc.

#101

7E Kimball Ln, Lynnfield, MA, 01940  
781/246-3303; fax 781/246-0308  
info@benchmarktech.com; www.benchmarktech.com

**New Product: Nano-Imprint Test Template**

Benchmark Technologies is the premier provider of test reticles for all aspects of lithography tool monitoring and characterization, including: monitoring of focus, polarization, resolution and defects, and matching of overlay from tool to tool. Reticles for double patterning process development are also available. The company also offers turnkey services to supply CAD and fabrication of photomasks, relief structure masters and replicas for nano-imprint, and patterned test wafers.

## Brewer Science

#613

**SPIE** Corporate Member

2401 Brewer Dr, Rolla, MO, 65401  
573/364-0300; fax 573/364-6880  
www.brewerscience.com

**New Product: Providing 193 ARC® Solutions for low defectivity, immersion, fast etch and high Na applications.**

Brewer Science is a leading-edge material supplier to the semiconductor, advanced packaging, MEMS, nanotechnology, optoelectronic and compound semiconductor industries. Product lines include ARC® (Anti-Reflective Coating) spin-on coatings for microlithography applications, carbon nanotube solutions and materials that enable thin wafer handling, TSV formation, wafer thinning, wafer etching and bulk micromachining. Contact: Rick Miller, Global Sales Manager, rmiller@brewerscience.com.

# Exhibitor Directory

## Brion Technologies, Inc.

#412

**SPIE** Corporate Member

4211 Burton Dr, Santa Clara, CA, 95054  
408/653-1500; fax 408/653-1531  
info@briontech.com; www.briontech.com

Brion, an ASML company, is the pioneer and worldwide leader in computational lithography for integrated circuits. Brion leads the global market for optical proximity correction (OPC) verification and is rapidly expanding in the OPC market with Tachyon OPC+. Brion's Tachyon products deliver both speed and accuracy for advanced process nodes. By combining image-based computing and hardware-accelerated co-processing, Brion enables exceptional design and verification accuracy without compromising the speed or productivity of the circuit manufacturing process.



**PLENARY SPONSOR**

## Cadence Design Systems, Inc.

#727

2655 Seely Ave, San Jose, CA, 95134  
408/943-1234  
www.cadence.com

**New Product: DFM, RET, OPC products to improve time to volume production in the pre and post GDS tapeout flow.**

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 and hardware, methodologies and services to design and verify advanced semiconductors, consumer electronics, networking and telecommunications equipment and computer systems. Contact: Bob Naber, Product Marketing Director, naber@cadence.com.

## Canon USA, Inc.

#113

**SPIE** Corporate Member

3300 N First St, San Jose, CA, 95134  
408/468-2000; fax 408/468-2219  
semi-info@cusa.canon.com ; www.usa.canon.com

Canon supplies step-and-repeat and step-and-scan photolithography tools for high volume manufacturing of a wide range of leading edge semiconductor device, read/write heads for magnetic storage systems and microelectromechanical systems (MEMS).

## Carl Zeiss SMT

#105

**SPIE** Corporate Member

One Corporation Way, Peabody, MA, 01960  
978/826-1500; fax 978/532-5676  
info@smt.zeiss.com; www.smt.zeiss.com

**New Product: The high-resolution metrology system Phame allows for in-die phase-shift measurement on all PSMs.**

The Semiconductor Metrology Systems Division of Carl Zeiss SMT is a leading supplier of metrology and manufacturing equipment for the semiconductor industry. Core expertise in light and electron optics is the foundation for a product portfolio spanning from photomask metrology and photomask repair to structural modification of semiconductor substrates. The AIMST<sup>™</sup>, MeRiT<sup>®</sup> and Phame<sup>®</sup> product families provide our customers with a comprehensive solution for photomask defect verification and repair. Contact: Jim Polcyn, United States Sales Director, polcyn@smt.zeiss.com.

## CMPC Surface Finishes

#425

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

**New Product: Low scatter aluminum mirrors.**

Since 1949, Surface Finishes has been a leader in precision lapping, grinding and optical polishing techniques specializing in flat, cylindrical, perpendicular and parallel surfaces with extremely demanding geometry. These capabilities produce Angstrom level tolerances on components such as: mirrors for optical imaging and scanning, air bearings, vacuum chucks, optical disc molds, large area reference surfaces and custom gauging. Free engineering advice for your most challenging applications. Contact: David Patterson, Account Manager, david\_patterson@cabotcmp.com; Daniel McMullen, Director, Business Development, daniel\_mcmullen@cabotcmp.com.



**GENERAL REFRESHMENT SPONSOR**

## Corning Inc.

#405

**SPIE** Corporate Member

1 Riverfront Plaza, Corning, NY, 14831  
607/974-9000  
www.corning.com

Corning Incorporated is a premier supplier of advanced optical solutions for the world's leading semiconductor equipment manufacturers. World-class materials manufacturing, a long heritage in optical design and manufacturing and state of the art metrology enable Corning to keep pace with the toughest optical requirements of today and the next generation. Contact: Dave Young, Marketing Communications, youngdj@corning.com; Elijah Baity, Market Analyst, baityea@corning.com.

## CUNO Inc.

#526

400 Research Pkwy, Meriden, CT, 06450  
203/237-5541; fax 203/630-4530  
www.cuno.com

CUNO filter systems deliver premium performance for process water treatment, electronics chemical and photoresist production and CMP slurry distribution. Utilizing a patented charge modification technology, CUNO's membrane filters remain the most effective deterrent to contamination in water applications. PTFE membrane and stainless steel media for chemical and gas filtration and 316L stainless steel housings complete a comprehensive range of products for the semiconductor industry. Contact: Bob Gieger, Market Manager, Electronics, bgieger@mmm.com.

## CVI Melles Griot - Albuquerque

#421

**SPIE** Corporate Member

200 Dorado Pl SE, Albuquerque, NM, 87123  
800/296-9541; fax 505/298-9908  
www.cvimellesgriot.com

CVI Melles Griot gets you what you need, when you need it. From the UV to the IR we offer unmatched breadth and flexibility in lasers, optical components, and electro-optical assemblies. Our extensive catalog, along with our custom and build-to-print capabilities deliver solutions from prototype to high-volume, OEM quantities. Providing solutions for semiconductor, biotechnology, industrial, and basic research applications, CVI Melles Griot manufactures on three continents, and maintains sales and engineering centers in 11 countries worldwide. Contact: Rich Drake, Sales Manager, West Coast, rdrake@cvimellesgriot.com

**Cyantek Corp.**

SPIE Corporate Member

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

Whether your needs are for specialty etchants, positive resist developers, organic strippers or mask cleaners, Cyantek has a broad range of products that can meet your requirements. We also offer customized blends to help you address your most demanding process needs. Our products are utilized in photo mask, IC, thin film, FPD, nanotechnology and PV manufacturing technologies. Call us or visit our website for more information. Contact: Dale Deg, Sales and Marketing Manager, daled@cyantek.com.

#116

**Dongjin Semichem Co., Ltd.**

SPIE Corporate Member

625-3 Yodang-ri, Yanggam-Myun, Hwasung-kun, Kyungki-si, South Korea, 445-930  
82 31 350 5557; fax 82 31 353 6459  
www.dongjin.com

DONGJIN SEMICHEM CO., LTD. offers photoresists, bottom ARC, CMP slurries, colored resists, column spacer, organic insulator designed to meet the requirements of the semiconductor and the flat-panel display industry. Our product line includes thinner, stripper, developer, rinsing solution and etchants. Contact: Jaehyun Kim, Executive director, jaehkim@dongjin.com; Hyun-Jin Kim, Manager, hjkim1@dongjin.com.

#821

**CyberOptics Semiconductor**

#214

13555 SW Millikan Way, Beaverton, OR, 97035  
503/495-2200; fax 503/495-2201  
csinfo@cyberoptics.com; www.cyberopticssemi.com

**New Product: WaferSense® AVS wirelessly monitors vibrations that may impact photolithography process yields.**

Innovating measurement technology: EX-Q / EX-QS wafer mapper sensors. WaferSense® ALS Auto Leveling System for level, co-planarity and inclination; WaferSense ATS Auto Teaching System for robot handoff maintenance; WaferSense AGS Auto Gapping System for PE-CVD and Etch setup; WaferSense AVS Auto Vibration System for wafer acceleration and Automatic Material Handling Systems AMHS FOUF optimization. Contact: Craig Ramsey, General Manager, cramsey@cyberoptics.com; Mark Hannaford, Sales Manager, mhannaford@cyberoptics.com.



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**Cymer, Inc.**

#701

17075 Thornmint Ct, San Diego, CA, 92127  
858/385-7300; fax 858/385-6601  
www.cymer.com

Cymer, Inc. is the world's leading supplier of deep ultraviolet (DUV) laser illumination sources, the essential light source for DUV photolithography systems. DUV lithography is a key enabling technology, which has allowed the semiconductor industry to meet the exacting specifications and manufacturing requirements for volume production of today's advanced semiconductor chips.

**Donaldson Co., Inc.**

#502

PO Box 1299, Minneapolis, MN, 55440  
952/887-3325; fax 952/887-3612  
www.donaldson.com

**New Product: ChemCore filters, awarded Controlled Environments Magazine 2007 Experts' Choice Award.**

Donaldson provides Semiconductor manufacturers with filtration solutions that increase product yields and uptime. We focus on the comprehensive elimination of gas-phase and particulate airborne molecular contamination at the zone, tool, and point-of-use levels. Contact: Kent Hemminger, Semiconductor Sales Manager, kent.hemminger@donaldson.com; Dan Lynch, Semiconductor Salesperson, dan.lynch@donaldson.com.

**Dow Corning Corp**

#112

Electronics, 2200 W Salzburg Rd, Midland, MI, 48686  
989/496-4000; fax 989/832-0781  
electronics@dowcorning.com; www.dowcorning.com

Dow Corning Silicon Lithography Solutions, a segment of Dow Corning Electronics Solutions business, is your source for silicon photoresists and antireflective coatings. We provide customized silicon resins for advanced lithography applications. Our proven capabilities of silicon materials development, commercialization and global supply enable leading lithography material suppliers and integrated circuit manufacturers to innovate and excel. To learn more, go to www.dowcorning.com/lithography. Contact: Jeff Bremmer, Global Marketing Manager, j.n.bremmer@dowcorning.com; Ken Seibert, Marketing, ken.seibert@dowcorning.com.

**Energetiq Technology, Inc.**

#2008

7 Constitution Way, Woburn, MA, 01801  
781/939-0763; fax 781/939-0769  
info@energetiq.com; www.energetiq.com

**New Product: EQ-1000, Ultra high brightness, broadband DUV-vis 180nm-800nm Laser-Driven Light Source™.**

Energetiq is a leader in advanced short-wavelength light sources. Products include the EQ-10 series of EUV and Soft X-ray sources, Saturn 10kW high-power DUV lamps for wafer processing and the new range of ultra high brightness broadband Laser-Driven Light Sources. Contact: Debbie Gustafson, Vice President Sales and Support, dgustafson@energetiq.com; Bob Angeli, Global Sales Manager, rangeli@energetiq.com.

**Entegris, Inc.**

#712

3500 Lyman Blvd, Chaska, MN, 55318  
952/556-3131; fax 952/556-4078  
webrequest@entegris.com; www.entegris.com

Entegris is a global leader in materials integrity management, purifying, protecting and transporting critical materials used in the semiconductor and other high tech industries. Entegris provides solutions that protect photoresist processes, exposure tool optics and reticles from particle and airborne molecular contamination. These solutions chemically filter, purify and condition the environment around critical lithography components, as well as dispense and purify photoresists and coatings. Contact: Customer Service; Rose Larson, Promotions Specialist, North America, salesresponse@entegris.com.

# Exhibitor Directory

## EV Group Inc.

#100

7700 S River Pkwy, Tempe, AZ, 85284  
480/727-9600; fax 480/727-9700  
www.evgroup.com

Founded in 1980, EV Group is a global supplier of wafer bonders, aligners, thin wafer-, temporary bonding and debonding-equipment, photoresist coaters, cleaners and inspection systems for semiconductor, MEMS and emerging nanotechnology markets. Headquartered in St. Florian, Austria, EVG has subsidiaries in Tempe, Arizona; Albany, New York; Yokohama and Fukuoka, Japan; and Chung-Li, Taiwan. For more information, visit [www.EVGroup.com](http://www.EVGroup.com) and our EVG-TShop "Click, Stop - the new way to shop". Contact: David Owens, Regional Sales Manager, [d.owens@evgroup.com](mailto:d.owens@evgroup.com); Renae Bellah, Regional Sales, [r.bellah@evgroup.com](mailto:r.bellah@evgroup.com).

## Foothill Instruments

#222

5011 Jarvis Ave, La Canada, CA, 91011  
818/952-5600  
[sales@foothill-instruments.com](mailto:sales@foothill-instruments.com); [www.foothill-instruments.com](http://www.foothill-instruments.com)

Foothill Instruments manufactures film and wafer thickness metrology solutions for packaging, MEMS, semiconductor and related markets. Our film thickness tools are capable of measuring dielectrics such as SU-8 of thickness greater than 500 microns and layers on difficult Cu substrates. Our wafer thickness products use breakthrough optical technology to enable wafer thickness measurements from 20 - >500 microns. This includes Si, GaAs, SOI and bumped wafers. Contact: Glenn Houser, President.

## FUJIFILM Electronic Materials, Inc.

#301

80 Circuit Dr, North Kingston, RI, 02852  
401/431-2487; fax 401/432-3799  
[www.fujifilm-ffem.com](http://www.fujifilm-ffem.com)

**New Product: Email exhibitor to set up meeting at their booth or receive product literature.**

Successful semiconductor manufacturers move quickly, demand quality and require leading technology. We offer the broadest line worldwide of photoresists, polyimides, thin film systems and other high purity chemicals and services to technologically demanding semiconductor customers. Contact: FUJIFILM Electronic Materials, Customer Satisfaction, [SPIE\\_Contact@fujifilm-ffem.com](mailto:SPIE_Contact@fujifilm-ffem.com).

## GeniSys GmbH

#428

Eschenstr 66, Taufkirchen, Germany, 82024  
49 89 3309197 60; fax 49 89 3309197 61  
[info@genisys-gmbh.com](mailto:info@genisys-gmbh.com); [www.genisys-gmbh.com](http://www.genisys-gmbh.com)

**New Product: Layout BEAMER provides a new, innovative GUI for complex ebeam data preparation and simulation.**

Based in Munich, Germany, GeniSys GmbH develops, markets and supports flexible, high-performance software solutions for the highly efficient processing of large layout data and the optimization of microstructure fabrication processes. Contact: Paul DePesa, Director, [depesa@genisys-gmbh.com](mailto:depesa@genisys-gmbh.com); Nezhil Unal, Vice President, Sales, [unal@genisys-gmbh.com](mailto:unal@genisys-gmbh.com).

## Gigaphoton Inc.

#115

Yokokurashinden 400, Oyama Tochigi, Japan, 323-8558  
81 285 28 8410; fax 81 285 28 8439  
[sales@gigaphoton.com](mailto:sales@gigaphoton.com); [www.gigaphoton.com](http://www.gigaphoton.com)

**New Product: ArF excimer laser, GT62A provides 90W output and 6kHz repetition rate and spectrum (E95%) <0.35 pm.**

Based in Japan, Gigaphoton Inc. is a worldwide supplier of lithographic light sources (248 nm, 193 nm, EUV) for the semiconductor industry. Founded in 2000, Gigaphoton has grown steadily in Asia and became the leading supplier in Japan. In 2005, Gigaphoton entered strategically the United States and European markets where it is now enjoying rapid growth, offering semiconductor Fabs state-of-the-art technology for mass manufacturing coupled with innovative support and cost management solutions. Contact: Kenji Takahisa, Marketing Manager, [kenji\\_takahisa@gigaphoton.com](mailto:kenji_takahisa@gigaphoton.com); Olivier Semprez, United States Marketing Director, [osemprez.gigaphoton@verizon.net](mailto:osemprez.gigaphoton@verizon.net).

## Gudeng Precision Industrial Co., Ltd.

#104

SPIE Corporate Member

No 428 Bade St, Shulin City, Taipei, Taiwan, 23857  
886 2 2680 0980; fax 886 2 2680 0960  
[sales@gudeng.com](mailto:sales@gudeng.com); [www.gudeng.com](http://www.gudeng.com)

**New Product: Mask Package, Mask Shipping Box, RSP150, Equipment, Peek Cassette, CMP Ring, TFT-LCD Mask Package**

Gudeng Precision Industrial Co., Ltd. focus on the field of semiconductor front-end equipment manufacturing in 2000 and has been assisting customers to enhance their product yield and reduce their production cost by providing custom-made products with innovative design concepts. Presently, Gudeng is the world's leading photomask total solution provider and our product is widely accepted by customers around the world. Contact: Poshin Lee, Technical Manager, [poshin@gudeng.com](mailto:poshin@gudeng.com); Larry Liu, Sales Manager, [larryliu@gudeng.com](mailto:larryliu@gudeng.com).

## Hakuto Co., Ltd.

#915

1-13 Shinjuku 1-Chome, Shinjukuku Tokyo, Japan, 160-8910  
81 3 3225 8910; fax 81 3 3225 8937  
[www.hakuto.co.jp](http://www.hakuto.co.jp)

**New Product: Solution for Haze, RSP150, RSP6025: Mask case, PureAID: Chemical absorber, AdIT: Non-outgas info. sheet.**

Since its establishment in 1953, Hakuto, as an engineering trading company, is still agilely delivering the latest information and cutting-edge technologies. Hakuto has continuously developed thanks to our customers' patronage and support. With our belief in the capability of new technologies to energize and enrich our lives and the earth, we will go forward to realize a more enriched society.

## Halocarbon Products

#2006

887 Kinderkamack Rd, River Edge, NJ, 07661  
201/262-8899; fax 201/262-0019  
[info@halocarbon.com](mailto:info@halocarbon.com); [www.halocarbon.com](http://www.halocarbon.com)

Halocarbon Products Corporation has been putting fluoro-chemicals to work for customers since 1950 in the agriculture and pharmaceutical industries. Halocarbon is one of the world's leading producers of specialty aliphatic fluoro-chemicals. Recently, Halocarbon has introduced a new product line for the semiconductor industry. These products include fluorinated monomers which can be used in the production of photo resist coatings. We can also custom make these materials to meet your needs. Contact: Ron Epstein, Sales Director, [repstein@halocarbon.com](mailto:repstein@halocarbon.com).



## Hitachi High Technologies America, Inc. #307

5100 Franklin Dr, Pleasanton, CA, 94588  
925/218-2800; fax 925/218-2900  
www.hitachi-hta.com

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. The systems are fully network compatible, accommodate 200mm or 300mm wafers and are ideal for CD metrology, process development and defect review applications. Product List: CG4000, RS5000, DesignGauge. Contact: Lorena Page, Manager Metrology Products Dept, lorena.page@hitachi-hta.com.

## Honeywell Electronic Materials #201

1349 Moffett Park Dr, Sunnyvale, CA, 94089  
408/962-2098  
www.electronicmaterials.com

Honeywell Electronic Materials is a global leader in the supply of critical materials to the semiconductor industry, enabling our customers to develop innovative technologies and overcome manufacturing challenges. Honeywell's unparalleled expertise and commitment to disciplined quality processes result in the development of superior, cutting-edge technologies that are now being introduced to the flat panel display, photovoltaic and printable electronics marketplaces. Contact: Lance Chapman, lance.chapman@honeywell.com.

## HORIBA STEC #109

9701 Dessau Rd Ste 605, Austin, TX, 78754  
512/836-9560; fax 512/836-8054  
shi\_sale@horiba.com; www.horibastec.com

## Inko Industrial Corp. #803

**SPIE** Corporate Member

695 Vaqueros Ave, Sunnyvale, CA, 94085  
408/830-1041; fax 408/830-1055  
sales@pellicle-inko.com; www.pellicle-inko.com

INKO, a U.S. based company, manufactures a complete line of pellicles for applications ranging from ASIC production, high volume memory production. From broadband to I/G line to 248 nm/193nm DUV lithography. We have the right pellicles for your needs. Contact: Joe Mac, Sales and Customer Service; Sherry Chi, Marketing, sherry@pellicle-inko.com.

## International Radiation Detectors, Inc. #627

2527 W 237th St Unit A, Torrance, CA, 90505-5243  
310/534-3661; fax 310/534-3665  
sales@ird-inc.com; www.ird-inc.com

**New Product: Vacuum compatible electronics and photodiodes for beamline and space applications.**

Manufacturer of UV/VUV/EUV/X-ray photodiode sensors and electronics. Products include photodiodes for high-stability UV/EUV applications and for high-precision absolute X-ray/UV measurements. IRD also has radiometric device characterization facilities spanning in wavelengths from 190nm to 2500nm. Contact: Raj Korde, President, rajkorde@ird-inc.com; Jacob Sprunck, Device Physicist, jsprunck@ird-inc.com.

## J.A. Woollam Co. #403

645 M St Ste 102, Lincoln, NE, 68508-2243  
402/477-7501; fax 402/477-8214  
sales@jawoollam.com; www.jawoollam.com

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

## JCMwave GmbH #807

**SPIE** Corporate Member

Haarer Str 14a, Putzbrunn/Munich, Germany, 85640  
49 89 460 6568; fax 49 89 460 5925  
info@jcmwave.com; www.jcmwave.com

**New Product: Rigoros Simulation Tools for Advanced Lithography.**

JCMwave offers software for precise and fast electromagnetic simulations. Application areas include DUV and EUV lithography, optical metrology, surface plasmons, resonance phenomena, meta-materials, photonic crystals and others. In lithography simulation benchmarks with competing methods JCMwave's products were superior in accuracy and speed by orders of magnitude. JCMwave is a spin-off company from Zuse Institute Berlin, a leading research institute for applied mathematics. Contact: Lin Zschiedrich, Chief Technical Officer, lin.zschiedrich@jcmwave.com; Sven Burger, Marketing Director, sven.burger@jcmwave.com.



**COFFEE BREAK SPONSOR**

## JSR Micro, Inc. #713

**SPIE** Corporate Member

1280 N Mathilda Ave, Sunnyvale, CA, 94089  
408/543-8800; fax 408/543-8872  
www.jsrmicro.com

JSR Micro supplies electronic materials to the world's leading semiconductor manufacturers. The company designs and produces advanced materials including performance photoresists, immersion materials, CMP consumables, low-k dielectrics and packaging materials. 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.

## King Industries, Inc. #207

Science Rd, Norwalk, CT, 06852  
203/866-5551; fax 203/866-1268  
smg@kingindustries.com; www.kingindustries.com

**New Product: King will feature technical information on its latest line of K-PURE CRR resin modifiers.**

King is a specialty chemical manufacturer established in 1932. It supplies the electronic industry with products for photoresists and back end applications including; thermal acid generators, catalysts, resin modifiers and corrosion inhibitors. Contact: Dan Miller, Market Development Manager, dmiller@kingindustries.com; Michel Hourani, Vice President Commercial Development, MHourani@kingindustries.com.

# Exhibitor Directory

## KLA-Tencor Corp.

#902, 903

**SPIE** Corporate Member

160 Rio Robles, San Jose, CA, 95134  
408/875-3000; fax 408/875-3030  
info@kla-tencor.com; www.kla-tencor.com

KLA-Tencor Corporation is the world's leading supplier of inspection, measurement products and solutions used for advanced process control and yield management in the semiconductor, photomask manufacturing and related industries. The company's comprehensive portfolio of tools, software, analysis, services and expertise is designed to help customers optimize yield throughout the entire process from R&D to final yield analysis in production.

 **PROMOTIONAL PARTNER**

## Laser Focus World

#921

98 Spit Brook Rd, Nashua, NH, 03062  
603/891-9231; fax 603/891-9290  
www.laserfocusworld.com

## Lasertec U.S.A., Inc.

#204

**SPIE** Corporate Member

2025 Gateway Pl Ste 480, San Jose, CA, 95110  
408/437-1441; fax 408/437-1430  
www.lasertec.co.jp

Lasertec's Confocal Laser Scanning Microscopes display high resolution images in real time. The new 410nm laser system allows line width measurements down to 0.15 microns. Non contact surface profiling with 0.03 microns resolution is possible. Contact: Tom Pomposo, Director of Sales.

## LINOS Photonics, Inc.

#203

**SPIE** Corporate Member

459 Fortune Blvd, Milford, MA, 01757-1723  
800/334-5678; fax 508/478-5980  
info@linos.com; www.linos.com

For over 100 years LINOS has offered an industry leading selection of catalog and custom optical products for the leading edge industries. LINOS develops and manufactures sophisticated optical components, mounts and precision positioning systems. We also offer high quality lenses, objectives, electro-optical and opto-mechanical for the semiconductor industry. These products are used in equipment for lithographic production, wafer positioning and inspection as well as chip bonding and packaging. Contact: David Butler, Business Division Manager, david.butler@linos.com.

## Litel Instruments

#908

6142 Nancy Ridge Dr Ste 102, San Diego, CA, 92121  
858/546-3788; fax 858/693-8889  
sales@litel.net; www.litel.net

**New Product: Litel introduces the Hyper NA ISI designed for the 45nm and below Immersion Scanners.**

Litel designs and builds reticles for Steppers/Scanners to monitor lens aberrations, NA, transmission, sigma, pole balance, lens/stage distortion and others. Litel products can be used on most all types of lithography tools and require approximately 10 minutes of tool exposure time saving valuable production time. Our products are used to monitor some of the worlds most critical IC made. Stop by Litel's booth #908 to find out more how Litel products can improve your yields. Contact: Glen Cooley, Global Account Manager, gcooley@litel.net; Yuji Yamaguchi, Manager, yyamaguchi@litel.net.

## Luxel Corporation

#121

**SPIE** Corporate Member

PO Box 1879, Friday Harbor, WA, 98250-1879  
360/378-4137; fax 360/378-4266  
luxel@luxel.com; www.luxel.com

**New Product: Spectral Purity Filters for EUV Lithography.**

Luxel Corporation is the preeminent supplier of sub-micron thin films used in EUV Lithography. In addition, for over 30 years we have supplied mission-critical films for EUV and X-ray space missions, synchrotron radiation experiments and fusion energy research. We pride ourselves on the highest quality standards and responsiveness to our customers' needs. We seek long term relationships with our business partners. Contact: Travis Ayers, President, travis.ayers@luxel.com; Alison Engle, Accounts Manager, alison.engle@luxel.com.

## Media Lario Technologies

#102

Localita' Pascolo, Bosisio Parini, Italy, 23842  
39 31 867 111; fax 39 31 876 595  
info@media-lario.com; www.media-lario.com

Based on 15+ years experience in optical design, optical coatings, and electroforming, MLT provides customized high-precision reflective optical solutions enabling cost-effective technology for diverse applications (space, semiconductor, scientific) from infrared to X-ray.

 **LANYARDS • DPT PANEL DISCUSSION • POSTER RECEPTION HORS D'OEUVRES SPONSOR**

## Mentor Graphics

#306

8005 SW Boeckman Rd, Wilsonville, OR, 97070-7777  
503/685-7000; fax 503/685-1903  
www.mentor.com

Mentor Graphics is a world leader in EDA and IC manufacturing software. The Calibre product line provides flexible, comprehensive solutions for computational lithography and mask data preparation. New OPC products offer dense simulation with co-processor acceleration using the Cell Broadband Engine™ for unprecedented accuracy, speed and low cost of ownership. Calibre also models lithographic process variability in devices and interconnects to enable layout enhancements to ensure higher yield. Contact: Rosie Marte, Tradeshow Manager, Rosalin\_marte@mentor.com.

 **GENERAL REFRESHMENT SPONSOR**

## Mercury Computer Systems, Inc.

#628

199 Riverneck Rd, Chelmsford, MA, 01824-2820  
866/627-6951; fax 978/256-0852  
webinfo@mc.com; www.mc.com

Mercury Computer Systems (www.mc.com) is the leading provider of computing systems and software for data-intensive applications that include image processing, signal processing and visualization. We work closely with customers to architect comprehensive, purpose-built solutions that capture, process and present data for medical, defense, seismic, scientific and other computationally challenging markets. Contact: James McKibben, Director, Market Development, jmckibbe@mc.com.

## MetroBoost

#508

1750 Halford Ave Ste 218, Santa Clara, CA, 95051  
408/243-1067; fax 408/516-9435  
info@metroboost.com; www.metroboost.com

**New Product: Software: Web-based Viewer for databases of critical dimension, films and overlay metrology results.**

MetroBoost provides calibration wafers and analysis software for metrology and lithography operations in semiconductor manufacturing. Products include 200-mm and 300-mm MetroCal patterned wafers for calibration and periodic monitoring of critical dimension metrology tools and Overlay Booster, an overlay analysis software package for control and optimization of scanner and stepper lithography tools. Contact: Farid Askary, President, farid.askary@metroboost.com.



GENERAL REFRESHMENT SPONSOR

**Micro Lithography Inc.**

#504

1257 Elko Dr, Sunnyvale, CA, 94089-2211  
408/747-1769; fax 408/747-1978  
www.mliusa.com

**New Product: DUV pellicles with Silicone adhesive yield lowest outgassing for 248nm and 193nm applications.**

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 mid (g-line, 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; Corbin Imai, Sales Representative, zysanincorporation@aol.com.

**MicroChem Corp.**

#800

1254 Chestnut St, Newton, MA, 02464-1418  
617/965-5511; fax 617/965-5818  
sales@microchem.com; www.microchem.com

**New Product: KMPR, SU-8 3000.**

Manufacturer of photoresists and ancillary products for niche and emerging markets. Our products include SU-8, SU-8 2000 and SU-8 3000 epoxy thick film resists for permanent applications. KMPR for thick, high aspect ratio plating and DRIE. PMGI and LOR for lift off applications. PMMA for e-beam lithography. Contact: Jack Ross, Technical Sales Representative, jross@microchem.com; Rob Hardman, Technical Sales Representative, rhardman@microchem.com.



PROMOTIONAL PARTNER

**Microlithography World**

#921

98 Spit Brook Rd, Nashua, NH, 03062  
603/891-9231; fax 603/891-9290



GENERAL REFRESHMENT SPONSOR

**Mitsui Chemicals America, Inc.**

#2007

2099 Gateway Pl Ste 260, San Jose, CA, 95110  
408/487-2889; fax 408/453-0684  
www.mitsuichemicals.com

**New Product: High NA Pellicle.**

Contact: Masanari Kitajima, General Manager, m.kitajima@mitsuichem.com.

**MGN International, Inc.**

#329

41636 N Enterprise Cir Ste B, Temecula, CA, 92590  
951/719-2910; fax 951/719-2920  
sales@mgnintl.com; www.mgnintl.com

**New Product: RION KS-41A Photoresist Particle Counter. Redesigned with increased functionality and detection.**

MGN International, Inc., exhibiting RION Particle Counters including the KS-41A Photoresist Particle Counter. Also offering other newly redesigned Liquid and Air particle counters with detection from 0.05 - 100µm. Other environmental sensors also available. Visit us for a technical discussion. Contact: Mike Bender, Sales Mgr, sales@mgnintl.com; Mike Naggar, Technical Applications, mnaggar@mgnintl.com.



NANOTECHNOLOGY TECHNICAL GROUP PANEL SPONSOR

**Molecular Imprints, Inc.**

#520

**SPIE** Corporate Member

1807-C W Baker Ln Ste 100, Austin, TX, 78758-3605  
512/339-7760; fax 512/339-3799  
info@molecularimprints.com; www.molecularimprints.com

Molecular Imprints is the technology and market leader of high-resolution imprint systems for nano patterning. The company has commercialized proprietary imprint lithography technologies (S-FIL® and Drop-on-Demand™) and demonstrated sub-20-nanometer resolution patterning capability. Molecular Imprints provides enabling lithography technology for manufacturing applications in the areas of semiconductors, nanodevices, solid state lighting, micro optical components and data storage applications. Contact: John Doering, Vice President Marketing and Sales, sales@molecularimprints.com.

**n&k Technology, Inc.**

#626

**SPIE** Corporate Member

80 Las Colinas Lane, San Jose, CA 95119  
408/850-7300; fax 408/850-7350  
sales@nandk.com; www.nandk.com

**New Product: n&k Technology's photomask scatterometer measures CD non-uniformity and degree of corner rounding.**

n&k Technology, Inc., of Santa Clara, California, manufactures advanced metrology tools for semiconductor, photomask, flat panel display and data storage industries. The company's high resolution optical metrology systems are used for film thickness, n and k, phase shift, trench depth, CD and profile measurements. Contact: Allan Deyto, Account Manager, adeyto@nandk.com; Dina Alieva, Sales Support Administrator, dalieva@nandk.com.

**NANO-MASTER, Inc.**

#726

3019 Alvin Devane Blvd #300, Austin, TX, 78741  
512/385-4552; fax 512/385-4900  
info@nanomaster.com; www.nanomaster.com

**New Product: LSC-4000 and SWC-4000 Mask, Wafer and Display Panel Cleaners: chemical, megasonic, brush, ozone.**

NANO-MASTER, Inc. manufactures and custom designs Thin Film Processing Tools. NANO-MASTER products include PECVD systems for SiO<sub>2</sub>, Si<sub>3</sub>N<sub>4</sub>, DLC and CNT; Sputtering Systems (reactive, co-sputtering, combinatorial); Thermal and E-beam Evaporators, Ion Beam Etching Systems; PE-MOCVD; Megasonic Wafer/Mask Cleaners. NANO-MASTER also distributes PLASMA CONSULT Hollow Cathode, Microwave and ICP Sources, Langmuir Probe, Microwave Interferometer and SHEN CHANG Pulse DC Power Supplies. Contact: Birol Kuyel, b.kuyel@nanomaster.com; Rosalba Andrade, r.andrade@nanomaster.com.

**Nanometrics Inc.**

#513

1550 Buckeye Dr, Milpitas, CA, 95035  
408/435-9600; fax 408/232-5910  
sales@nanometrics.com; www.nanometrics.com

Supplier of advanced integrated and standalone process control equipment to semiconductor manufacturers worldwide. Primary products and technologies include film analysis, optical CD (linewidth and profiling) measurement, overlay metrology and FTIR for CMP, CVD, etch and lithography process monitoring. Nanometrics also offers advanced lattice metrology systems for specialized processes on high performance logic, wireless communications, optoelectronics and high brightness LED manufacturing.

# Exhibitor Directory

## Nanonex Corp.

#926

1 Deer Park Dr Ste O, Monmouth Junction, NJ, 08852  
732/355-1600; fax 732/355-1608  
sales@nanonex.com; www.nanonex.com

Nanonex NIL solution offer low-cost, high throughput, large-area patterning of 3D nanostructures with sub-10 nm resolution and accurate overlay alignment for all forms of nanoimprinting, such as thermoplastic, uv-curable, thermal curable and direct imprinting (embossing). Nanonex NIL solution can meet the needs of a broad spectrum of markets, such as optical devices, displays, data storage, biotech, semiconductor ICs, chemical synthesis and advanced materials. Contact: Larry Koecher, Chief Operating Officer, lkoecher@nanonex.com; John Pong, Sales Director, jpong@nanonex.com.

★ ★ ★ ★ ★  
CONFERENCE BAG INSERT SPONSOR

## NANO-UV

#118

16 Av du Quebec Silic 706, Courtaboeuf, France, 91961  
33 169 07 2414; fax 33 1 69 07 2850  
info@nanouv.com;

**New Product: NANO-UV introduces new generation EUV sources for HVM and metrology to serve the EUVL industry.**

NANO-UV announces the arrival of a revolutionary EUV source products line. Building on a disruptive technology developed by EPPRA over the past 10 years, the source is equipped with an inbuilt collector based on a damage proof plasma lens. Based in France, NANO-UV has acquired total rights to commercialize this intrinsic SoCoMo technology, in partnership with RAK Investment Authority from the UAE. NANO-UV will deliver the first EUV source to CEA Leti and is readying a 200W HVM source for 2010. Contact: Serge Montacq, Chief Executive, smontacq@nanouv.com; Dr. Peter Choi, President and Director of Technology, pchoi@nanouv.com, +33 6 06 68 16 68.

## National Institute of Standards & Technology (NIST)

#524

Bldg 225 Rm A317, 100 Bureau Dr, Gaithersburg, MD, 20899  
301/975-4400; fax 301/975-6513  
www.nist.gov/omp

Founded in 1901, NIST is a non-regulatory federal agency within the United States Department of Commerce. NIST's mission is to promote United States innovation and industrial competitiveness by advancing measurement science, standards and technology in ways that enhance economic security and improve our quality of life. NIST has an operating budget of about \$843 million and operates in two locations: Gaithersburg, Maryland and Boulder, Colorado. Contact: Stephen Knight, Director, Office of Microelectronics Programs, stephen.knight@nist.gov; Michele Buckley, Office Manager, michele.buckley@nist.gov.

★ ★ ★ ★ ★  
TECHNICAL CONFERENCE NOTEPAD SPONSOR

## New Focus, Inc.

#401

**SPIE** Corporate Member

A division of Bookham, 2584 Junction Ave, San Jose, CA, 95134-1902  
408/919-1500; fax 408/919-1501  
contact@newfocus.com; www.newfocus.com

New Focus™, a leading supplier of photonics components and systems for semiconductor lithography, inspection and metrology, offers an extensive line of lasers, optomechanics, detectors and high-resolution actuators. Our products are OEM-proven in 24/7, ultraclean, DUV and UHV applications. Our OEM solutions include integrated subsystems for precision alignment and control of laser beams and custom designed photonics subassemblies built to meet your most demanding requirements.

## Nikon Precision Inc.

#601

**SPIE** Corporate Member

1399 Shoreway Rd, Belmont, CA, 94002-4105  
650/508-4674; fax 650/508-4600  
npicom@nikon.com; www.nikon.com

Nikon is a worldwide leader in lithography equipment for the microelectronics manufacturing industry with more than 7,800 exposure systems installed worldwide. Nikon offers the most extensive selection of production-class steppers and scanners in the industry. These products serve the semiconductor, flat panel display (LCD) and thin-film magnetic head (TFH) industries. Contact: Tracie Vollgraf, tvollgraf.tmp@nikon.com; Teresa Chaidez, Marketing Assistant, tchaidez@nikon.com.

## NIL Technology

#2001

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

NIL Technology manufactures and sells stamps for nanoimprint lithography (NIL), provides imprint service, production by NIL, consultancy and enters into joint development of novel applications benefiting from nano-scale structures. Our stamps are engineered to order from customer defined specifications regarding patterns materials and formats. Contact: Lars Hansen, Director of Sales, lars.hansen@nilt.com; Theodor Nielsen, Chief Executive Officer, theodor.nielsen@nilt.com.

## OBDU CAT AB

#220

PO Box 580, Malmö, Sweden, 201 25  
46 40 36 2100; fax 46 40 36 21 60  
info@obducat.com; www.obducat.com

Obducat is the world-leading supplier of lithography solutions for manufacturing and replication of advanced micro- and nano- scale structures applicable for Optoelectronics, Storage Media, Displays, MEMS and NEMS, Optical Storage and Bio-devices. Products include Nanoimprint Lithography (NIL) equipment and Electron-Beam Recorders (EBR). With the largest installed base of NIL systems, Obducat is also the only company that has supplied NIL equipment used in volume production of commercial devices. Contact: Ken Mason, Business Development Manager, ken.mason@obducat.com; Erik Marnung, Sales Manager, erik.marnung@obducat.com.

## Olympus Industrial America

#209

One Corporate Dr, Orangeburg, NY, 10962  
845/398-9400; fax 845/398-9443  
info@olympusindustrial.com; www.microimaging.com

## Olympus Integrated Technologies America #119

180 Baytech Dr, San Jose, CA, 95134  
408/514-3900; fax 408/946-3841  
info@olympus-ita.com; www.olympus-ita.com

## Osram Sylvania Products, Inc.

#212

100 Endicott St, Danvers, MA, 01923  
512/288-9433; fax 978/750-2089  
www.sylvania.com

OSRAM manufactures lamps for the semiconductor industry including low wattage mercury and xenon short arc lamps for mask alignment, wafer inspection and microscopy. High wattage HBO mercury short arc lamps (i-line and g-line) for use in most lithography tools used in microchip production. XERADEX excimer (172 nm radiation) lamp system for surface cleaning and ozone production. Infrared halogen lamps 200-3000 watts for annealing, surface treatment and process heating (RTP). Contact: David Dorman, Product Marketing Manager, Semiconductor, david.dorman@sylvania.com; Jeremy Pymonto, Business Unit Manager, Semiconductor/Medical, jeremy.pymonto@sylvania.com.



## Owens Design Inc.

47427 Fremont Blvd, Fremont, CA, 94538  
510/659-1800; fax 510/659-1896  
rcurtis@owensdesign.com; www.owensdesign.com

#2005

## Pall Corp.

25 Harbor Park Dr, Port Washington, NY, 11050  
800/360-7255; fax 516/625-3610  
micro@pall.com; www.pall.com

#826

**New Product: The latest advances in filtration and purification including 10 and 20 nm filters will be on display.**

Pall offers a complete line of filtration, purification and separation technologies for lithography applications. The latest generation of our PhotoKleen EZD-3 filter offers up to one fourth the pressure drop of the previous generation. Pall will also be discussing the latest purification technologies. Contact: Don Stevens, Vice President Sales, DSJ@pall.com; Michael Mesawich, Vice President Marketing, michael\_mesawich@pall.com.

## Particle Measuring Systems, Molecular Contamination Products

5475 Airport Blvd, Boulder, CO, 80301  
800/238-1801; fax 303/449-6870  
info@pmeasuring.com; www.pmeasuring.com

#206

**New Product: Point-of-Use Ion Mobility Spectrometer: AirSentry II.**

Particle Measuring Systems designs, develops and manufactures contamination monitoring devices to detect airborne molecular contamination. Contact: Ed Terrell, Molecular Contamination Sales, eterrell@pmeasuring.com; Steven Rowley, Product Line Manager, Molecular Contamination, srowley@pmeasuring.com.



## Photonics Spectra - Laurin Publishing

Berkshire Common, 2 South St, Pittsfield, MA, 01201-6109  
413/499-0514; fax 413/442-3180  
photonics@laurin.com; www.photonics.com/spectra

#208

*Photonics Spectra* is the leading photonics magazine serving industries that use photonic technology: lasers, imaging, fiber optics, optics, electro-optics and photonic component manufacturing. It presents the latest news articles and in-depth reports on photonics technology. It is distributed free to those who use or apply photonics. Contact: Breck Hitz, Senior Technical Editor, pseditorial@laurin.com; Joseph Wholley, Regional Manager, advertising@photonicsgroup.com.



## Photronics, Inc.

15 Secor Rd, PO Box 5226, Brookfield, CT, 06804  
203/775-9000; fax 203/740-5618  
www.photronics.com

#919

## piezosystem jena

**SPIE** Corporate Member

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

#120



## Pixer Technology Ltd.

44 Maale Camon, Karmiel, Israel, 21613  
972 4 908 8636; fax 972 4 908 8666  
sales@pixertech.com; www.pixertech.com

#327

## Pozzetta Products, Inc.

3121 S Platte River Dr, Englewood, CO, 80110  
303/783-3172; fax 303/761-8625  
www.pozzetta.com

#300

**New Product: New products and services designed to protect against particles, ESD, outgassing and high costs.**

Companies around the world trust Pozzetta to create secure environments for the handling, storage and transport of photomasks and wafers. Pozzetta will protect your valuable products from particles, ESD damage, out gassed components and high costs. Contact: Natalie Baker, Global Sales Executive, natalie.baker@pozzetta.com; Scott Reese, Sales Executive, scott.reese@pozzetta.com.

## RAVE LLC

**SPIE** Corporate Member

430 S Congress Ave Ste 7, Delray Beach, FL, 33445  
561/330-0411; fax 561/330-8795  
www.ravenano.com

#218

**New Product: RAVE Nanomachining is now delivering the new nm450 and fp650 Advanced Photomask Repair Systems.**

Over the last 8 years, RAVE has introduced 4 generations of nanomachining mask repair tools. RAVE delivered the first nm450 in Q4 2006 and continues to deliver additional systems for production level 45nm mask repairs on all mask materials. RAVE is also shipping its new fp650 femtopulse laser system for 65nm high volume mask repairs. RAVE systems are recognized as a leading global standard for value contribution to company profitability, operational ease of use and world class reliability. Contact: Dave Lee, Vice President Sales and Marketing, Dave.Lee@ravenano.com.

## Rohm and Haas Electronic Materials

MicroelectronicsTechnologies, 455 Forest St, Marlboro, MA, 01752-3902  
800/832-6200; fax 508/480-0853  
www.rohmhaas.com

#501

Rohm and Haas Electronic Materials, through its Microelectronic Technologies business, develops, manufactures and supplies innovative chemistry solutions to the semiconductor market that drive advances in lithography and enable the improved performance of semiconductor devices. We specialize in advanced lithography, patterning and ancillary materials necessary for the most advanced semiconductor devices, at the latest nodes in high-volume production and currently in development. Contact: Raj Saini, Sales Administration, rsaini@rohmhaas.com.

## Rudolph Technologies

One Rudolph Rd, Flanders, NJ, 07836  
973/691-1300; fax 973/691-4863  
info@rudolphtech.com; www.rudolphtech.com

#313

**New Product: All-surface Explorer Inspection System.**

Rudolph Technologies provides high-performance process characterization solutions for fab-wide yield management. Products include macro defect (<0.5 micron) inspection systems, process control metrology systems and data analysis software.

# Exhibitor Directory

## SAES Pure Gas, Inc.

#527

4175 Santa Fe Rd, San Luis Obispo, CA, 93433  
805/541-9299; fax 805/541-9399  
www.saes-group.com

### New Product: Microcontamination Inspection Service.

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, supplying gas purifiers for a wide range of bulk and speciality gas applications. Located on the California Central Coast, approximately half way between San Francisco and Los Angeles, our three-building facility serves as the world wide headquarters for the Pure Gas Technology Business Area of the SAES Getters Group. Contact: Greg Perry, Sales, greg\_perry@saes-group.com; Cristian Landoni, Product Manager, cristian\_landoni@saes-group.com.

## SAGEM Defense Security

#906

Avenue de la Tour Maury, St. Pierre du Perray, France, 91280  
33 1 69 89 72 00; fax 33 1 69 89 72 20  
http://www.sagem-ds.com/optics

Sagem Defense Security is a global provider of highly accurate optics of any size. Sagem provides OEM optical systems and custom precision components for the semi-conductor industry. Sagem products include EUV and DUV optics and coatings, illumination systems, lens assemblies. Contact: Roland Geyl, Vice President Sales, REOSC Optics, roland.geyl@sagem.com; Renaud Mercier Ythier, Product Manager, renaud.mercierythier@sagem.com.

 **PROMOTIONAL PARTNER**

## Semiconductor Fabtech

#2003

Transworld House, 100 City Rd, London, United Kingdom, EC1Y 2BP  
44 207 871 0123; fax 44 207 871 0101  
info@fabtech.org; www.fabtech.org

### New Product: Announcing the launch of www.pv-tech.org a resource for Solar Manufacturing!

Featuring real world manufacturing editorial, we target leading-edge IC manufacturing decision makers, worldwide. The highest standards in commissioned editorial written by leading experts in their field provide unrivalled content for a demanding readership. Each section offers focused, in-depth technical papers that provide an unmatched resource for semiconductor professionals. Distributed every quarter *Semiconductor Fabtech* is the leading technical journal in the semiconductor industry. Contact: Mark Osborne, Editor in Chief, mosborne@fabtech.org; Adam Morrison, Publication Manager, amorrison@fabtech.org.

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## Semiconductor International Magazine

#114

2000 Clearwater Dr, Oak Brook, IL, 60523  
630/288-8000; fax 630/288-8843  
sisales@reedbusiness.com; www.semiconductor.net

*Semiconductor International* is the world's leading trade publication serving the semiconductor manufacturing industry. The print and digital editions reach 40,000 qualified buyers of semiconductor manufacturing equipment and materials around the world. SI is "the Official Magazine of SEMI." Additional products include *Semiconductor Packaging*, online Buyers Guide, *SI Product Showcase*, *SI Japan*, *SI China*, electronic newsletters and the industry's leading website, www.semiconductor.net. Contact: John Bold, Publisher, jbold@reedbusiness.com; Pete Singer, Editor-in-Chief, sieditor@aol.com.

## Shanghai Optics

#2004

**SPIE** Corporate Member

148 Main St, Metuchen, NJ, 08840  
732/321-6915; fax 732/875-0298  
sales@shanghai-optics.com; www.shanghai-optics.com

### New Product: CaF<sub>2</sub>, MgF<sub>2</sub>, ZnSe, Silicon and Ge optics and blanks for IR and UV applications.

Shanghai Optics is a full service manufacturer of high precision optical flats, lenses, beamsplitters, light pipes, telecom filters, precision laser optics and filters for digital imaging, aspheric surfaces, plastic optics, miniature optics and excimer laser optics. Materials include: fused silica, BK7, crystal quartz, sapphire, CaF<sub>2</sub>, MgF, GaAs, Germanium, Zinc Selenide, Zinc Sulfide, Silicon and more. Contact: Joanna Lee, Vice President of Sales, jlee@shanghai-optics.com; Brad Lewis, Director of Sales, blewis@shanghai-optics.com.

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## Shin-Etsu MicroSi, Inc.

#707

10028 S 51st St, Phoenix, AZ, 85044-5203  
480/893-8898; fax 408/893-8637  
info@microsi.com; www.microsi.com

## Small Times

#921

98 Spit Brook Rd, Nashua, NH, 03062  
603/891-9231; fax 603/891-9290  
www.smalltimes.com

## Smart Imaging Technologies

#805

1770 Saint James Pl Ste 414, Houston, TX, 77056  
713/589-3500; fax 713/589-3252  
info@simagis.us; www.smartimtech.com

### New Product: SIMAGIS® Semi is automated image metrology software suite for semiconductor applications.

Smart Imaging Technologies Co. (www.smartimtech.com) is a Houston-based company specializing in automated image analysis software for science and industry. The company's flagship product SIMAGIS® Smart Imaging Spreadsheet is a software platform for automated analysis of 2D and 3D images that features Natural Automation™ and enables users without programming skills to automate extraction of information from digital images. The product received the R&D100 Award in 2007 from R&D Magazine. Contact: Vitali Khvatkov, Founder; Evgenia Harris, Assistant, em@simagis.us.

## SOKUDO Co., Ltd.

#200

3303 Scott Blvd M/S 10856, Santa Clara, CA, 95052  
408/496-8000; fax 408/496-8095  
www.sokudospeed.com

### New Product: RF3T Platform - world-class 200 wph throughput.

SOKUDO Co., Ltd. (Headquarters: Kyoto, Japan) is a joint venture company owned by Dainippon Screen Mfg. Co., Ltd. and Applied Materials, Inc. SOKUDO was established on July 3, 2006 for the development, manufacturing, sales and service of advanced coat/develop track equipment for semiconductor production. Contact: Mike Mulholland, Vice President United States and Europe Sales, mike.mulholland@usa.sokudospeed.com.



## **Solid State Technology**

**#921**

PennWell Publishing, 98 Spit Brook Rd, Nashua, NH, 03062  
603/891-0123; fax 603/891-9290  
www.solid-state.com

## **SPIE Industry Resources**

**#827**

PO Box 10, Bellingham, WA, 98227-0010  
360/676-3290; fax 360/647-1445  
customerservice@spie.org; http://spie.org

SPIE provides valuable resources to industry that support your marketing, R&D, training and recruiting efforts. For example, exhibitions, advertising and sponsorships increase visibility of your organization and help you educate the market about your offerings. Access to scientific and engineering information published in the SPIE Digital Library and on the SPIE Newsroom help your R&D team to discover the innovations and breakthroughs that lead to successful new products. Leadership in this fast-evolving, knowledge-driven environment requires continuous learning and education of technical staff to retain your competitive advantage, making SPIE In-Company Training invaluable. And when growth drives demand for new skilled employees, the SPIEWorks job site is the place to find the specialized talent you want to hire.

## **Star Tech Instruments, Inc.**

**#110**

PO Box 1822, New Fairfield, CT, 06812  
203/312-0767  
info@startechinst.com; www.startechinst.com

STI manufactures energy probes, imaging systems and position sensors for the EUV and DUV spectral bands. Contact: Bill Fricke. [tzatzen@att.net](mailto:tzatzen@att.net).

## **Sumika Electronic Materials, Inc.**

**#224**

3832 E Watkins St, Phoenix, AZ, 85034  
602/659-2590; fax 602/438-2277  
customerservice@sumikamaterials.com; www.sumikamaterials.com

Sumika Electronic Materials, a U.S. subsidiary of Sumitomo Chemical Company Ltd., is a leading supplier of advanced photoresists, EBR solvents, post CMP cleaners and Aluminum Targets. Sumitomo lithography related products include leading edge 193nm, 248nm, i-line and e-beam photoresists designed exclusively to meet customer specific applications.



## **Synopsys, Inc.**

**#813**

**SPIE** Corporate Member  
700 E Middlefield Rd, Mountain View, CA, 94043-4024  
650/584-5000; fax 650/584-4249  
info@synopsys.com; www.synopsys.com

Synopsys offers the most comprehensive Design for Manufacturability (DFM) solution for current and advanced technology nodes enabling customers to reach 32nm and beyond. Our highly scalable and accurate mask synthesis, mask data preparation, TCAD and Yield Management solutions make intelligent use of data throughout the flow so designs at 32nm and beyond can be achieved with faster turnaround time and improved yield. Visit us in booth #813. Contact: Tracy Weed, Manufacturing Products Group, [tweed@synopsys.com](mailto:tweed@synopsys.com).

## **Technical Manufacturing Corp.**

**#811**

15 Centennial Dr, Peabody, MA, 01960  
978/532-6330; fax 978/531-8682  
sales@techmfg.com; www.techmfg.com

TMC manufactures a complete line of Active and Passive Vibration Isolation Tables and TableTops. Products include the Gimbal PistonT isolator for vertical and horizontal vibration isolation and the patented CleanTopT II spill-proof steel-honeycomb optical top. New products include Acoustic enclosures and the Active TableTop PZT, Faraday Cages and other accessories as well as full custom capabilities. Contact: Steve Ryan, Vice President, Marketing, [sryan@techmfg.com](mailto:sryan@techmfg.com).

## **Tela Innovations**

**#828**

655 Campbell Pkwy, Campbell, CA, 95008  
408/558-6300; fax 408/559-6300  
neal@tela-inc.com; www.tela-inc.com

Tela Innovations offers a next-generation solution for designing advanced semiconductors in the 'sub wavelength,' low k1 era – 45nm and beyond. The Tela solution uses gridded, straight line, one dimensional layout structures to produce a lithography-optimized layout. It is applicable for use in logic, embedded memory, analog and I/O functions. The result of using Tela's pre-defined, predictable topologies is significant improvements in variability, performance, leakage and area. The solution is complementary to existing SoC design flows using synthesis and conventional cell-based design methodologies. Tela was founded in 2005 and is bringing its technology and services to market in the first half of 2008.

## **Tessera North America**

**#427**

**SPIE** Corporate Member

9815 David Taylor Dr, Charlotte, NC, 28262  
704/887-3100; fax 704/887-3101  
info@tessera.com; www.tessera.com

Tessera develops technology that meets the demand for smaller, faster, feature-rich electronic products. The company offers industry-leading optics capabilities including diffractive, refractive and wafer-level solutions; its innovative micro-optic products are used in a variety of highly-specialized applications including photonics, photolithography, telecommunications, aerospace/defense, vision and data storage.



## **TOK America**

**#521**

190 Topaz St, Milpitas, CA, 95035  
408/956-9901; fax 408/956-9995  
user@tokamerica.com; www.tok.co.jp

Contact: Alan Kozlowski, General Manager Business Development, [alan.kozlowski@tokamerica.com](mailto:alan.kozlowski@tokamerica.com); Naoki Watanabe, Deputy General Manager, [naoki.watanabe@tokamerica.com](mailto:naoki.watanabe@tokamerica.com).



## **Toppan Photomasks, Inc.**

**#606**

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131 Old Settlers Blvd, Round Rock, TX, 78664  
512/310-6500; fax 512/310-6853  
www.photomask.com

Together, Toppan Printing, TCE and Toppan Photomasks provide a broad array of technology options to fit the imaging needs of any fabless, foundry or IDM company. Our global network of sales offices, data centers and manufacturing sites provide local service and support for every step of the photomask production process. Contact: Don Needham, United States Sales, [Don.Needham@photomask.com](mailto:Don.Needham@photomask.com).

# Exhibitor Directory

## TopScan

17a Butlerova St 205, Moscow, Russia, 117342  
7 495 739 5529; fax 7 495 739 5529  
www.topscanprobes.com

**New Product: CD-AFM tips at 65nm, 45nm, 32nm nodes.**

TopScan is producer of hi-end probes for R&D and CD-AFM (65nm, 45nm, 32nm nodes). Contact: Alex Ovchinnikov, Sales and Marketing, alex@topscanprobes.com; Artem Gruzdev, Sales and Marketing Manager, gruzdev@topscanprobes.com.

## Ultra t Equipment Company

41980 Christy St. Fremont, CA, 94538  
510/440-3900; fax 510/440-3920  
enamek@ultrat.com; www.ultrat.com

## USHIO America, Inc.

5440 Cerritos Ave, Cypress, CA, 90630  
714/236-8600; fax 714/229-3180  
www.ushio.com

**New Product: ArF Excimer Lamp System. USHIO introduces the Non-Laser 193nm monochromatic ArF Excimer Lamp System.**

USHIO, the leading specialty lighting manufacturer of energy sources for Photolithography, low-k curing, RTP, EPI, CVD, PVD and inspection applications. USHIO, known as the industry benchmark for quality, service and innovative technologies, remains the semiconductor manufacturer's choice for light energy since the dawn of the industry. USHIO continues to support and create new products and applications, improve existing process productivity; all with an environmentally conscious direction. Contact: David Guidry, Senior Sales Manager, dguidry@ushio.com.

## Veeco Instruments

**SPIE** Corporate Member

100 Sunnyside Blvd, Woodbury, NY, 11797  
516/677-0200; fax 513/677-0248  
info@veeco.com; www.veeco.com

**New Product: InSight 3DAFM, an automated 3DAFM for production-based CD Reference Metrology at 45nm and 32nm.**

Veeco provides Production based metrology solutions for 3D, Depth and CMP metrology. Veeco recently introduced the InSight™ 3DAFM; a fully automated 3DAFM for production based CD Reference Metrology for 45nm and 32nm technology nodes. InSight 3DAFM provides unique 3D Metrology capability for CD, Sidewall angle, Line edge roughness for characterization of Gate, Via, trench and other critical features. Visit us to see how we can speed up your development process with AFM technology. Contact: Dominic Paszkeicz, Product Sales Manager, dpaszkeicz@veeco.com; Dean Dawson, Senior Director Marketing, ddawson@veeco.com.

## Vistec Semiconductor Systems Inc.

48073 Fremont Blvd, Fremont, CA, 94538-6541  
510/623-3000; fax 512/623-3011  
info@vistec-semi.com; www.vistec-semi.com

#913

## VLSI Standards, Inc.

3087 N First St, San Jose, CA, 95134-2006  
408/428-1800; fax 408/428-9555  
sales.support@vlsistd.com; www.vlsistd.com

**New Product: See the new Silica Reticle Contamination Standard!**

VLSI Standards designs and manufactures an extensive array of products to assist you with your calibration efforts. VLSI Standards provides a complete offering of NIST Traceable Advanced Lithography products for users of CD-SEM and CD-AFM. Ask us about the New Silica Reticle Contamination Standards for Mask Inspection Tools! Contact: Marc Helvey, Global Sales; Marco Tortonese, President, marco.tortonese@vlsistd.com.

#506

## XEI Scientific, Inc.

1755 E Bayshore Rd Ste 17, Redwood City, CA, 94063  
650/369-0133; fax 650/363-1659  
info@evactron.com; www.evactron.com

#809

## XYALIS

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5 PI Robert Schuman, Grenoble, 38000, France  
33 476 70 6475; fax 33 476 48 4697  
info@xyalis.com; www.xyalis.com

XYALIS offers advanced EDA software targeting Design for Manufacturing and Mask Preparation. XYALIS main tools includes dummies-fill tools for the most advanced processes (65nm and below) and MPW floorplan and Frame generation. XYALIS is the only independent company offering a full line of products dedicated to the reticle assembly teams for wafer optimization and management. The current toolset encompasses MPW optimization and placement plus the overall wafer frame management.

#923

## Yield Engineering Systems, Inc.

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203 A Lawrence Dr, Livermore, CA, 94551-5152  
925/373-8353; fax 925/373-8354  
info@yieldengineering.com; www.yieldengineering.com

Yield Engineering Systems manufactures engineering process control equipment, including high temperature cure ovens, chemical vapor deposition (CVD) systems and plasma etching tools. YES equipment is used for precise surface modification and thin film coating of semiconductor wafers, MEMS and bioMEMS devices, biosensors, medical slides and silicon chips used for microarrays (DNA, protein, gene, tissue and antibody). Call 1-888-YES-3637 to arrange a demo using your samples and your chemicals. Contact: Lori Cantrell, Vice President Sales and Marketing, lcantrell@yieldengineering.com; Bill Moffatt, Chief Executive Officer, bmoffatt@yieldengineering.com.

#907

## Zygo Corp.

**SPIE** Corporate Member

Laurel Brook Rd, Middlefield, CT, 06455-0448  
860/347-8506; fax 860/347-8372  
inquire@zygo.com; www.zygo.com

Zygo Corporation is a worldwide developer and supplier of high-performance metrology instruments and systems, high-precision optics, optical assemblies and automation for the semiconductor and industrial markets. ZYGO's products raise production yields and productivity for our customers, thereby increasing their profits and enabling their success. Our status as an industry leader is due to continuous innovation, technology implementation and a close working relationship with our customers.

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JSR Micro, Inc.  
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## **Astronomy**

SAGEM Defense Security

## **Cameras and CCD Components**

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Yield Engineering Systems, Inc.

## **Clinical, Chemical and Biological Instrumentation**

Communications  
Semiconductor Fabtech

## **Displays**

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NANO-MASTER, Inc.  
OBDUCAT AB

## **Distributor or Reseller**

Micro Lithography Inc.  
Mitsui Chemicals America, Inc.

## **Electron-Beam Lithography**

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Cadence Design Systems, Inc.  
Dow Corning Corp  
EV Group Inc.  
FUJIFILM Electronic Materials, Inc.  
Hitachi High Technologies America, Inc.  
JCMwave GmbH  
KLA-Tencor Corp.  
Mercury Computer Systems, Inc.  
MicroChem Corp.  
NIL Technology  
OBDUCAT AB  
TOK America

## **Electronic Imaging Components, Equipment, Systems**

Aerotech, Inc.  
Mercury Computer Systems, Inc.  
Smart Imaging Technologies  
Star Tech Instruments, Inc.

## **Electronics, Signal Analysis Equipment**

Mercury Computer Systems, Inc.

## **EUV Lithography**

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Cadence Design Systems, Inc.  
Canon USA, Inc.  
Cymer, Inc.  
Dongjin Semichem Co., Ltd.  
Dow Corning Corp  
Energetiq Technology, Inc.  
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SAGEM Defense Security  
Infrared Sources, Detectors, Systems  
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Osram Sylvania Products, Inc.  
Shanghai Optics

## **Ion-Beam Lithography**

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Dow Corning Corp  
FUJIFILM Electronic Materials, Inc.  
MicroChem Corp.  
RAVE LLC

## **Lasers and Other Light Sources, Laser Accessories, Laser Systems**

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GigaPhoton  
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Foothill Instruments  
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J.A. Woollam Co.  
KLA-Tencor Corp.  
MetroBoost  
n&k Technology, Inc.  
Nanometrics Inc.  
NANO-UV  
National Institute of Standards & Technology (NIST)  
Particle Measuring Systems, Molecular Contamination Products  
Smart Imaging Technologies  
TopScan  
Veeco Instruments  
VLSI Standards, Inc.  
Zygo Corp.

## **Nanotechnology**

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EV Group Inc.  
Hitachi High Technologies America, Inc.  
JCMwave GmbH  
Litel Instruments  
MicroChem Corp.  
Molecular Imprints, Inc.  
NANO-MASTER, Inc.  
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NANO-UV  
NIL Technology  
OBDUCAT AB  
Pall Corp.  
Particle Measuring Systems, Molecular Contamination Products  
RAVE LLC  
Toppan Photomasks, Inc.  
Veeco Instruments

VLSI Standards, Inc.  
Yield Engineering Systems, Inc.

## Non-Optical Lithography

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Nanonex Corp.  
OBDUCAT AB  
SAES Pure Gas, Inc.

## Optical Components

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New Focus, Inc.  
Pozzetta Products, Inc.  
SAGEM Defense Security  
Shanghai Optics  
USHIO America, Inc.  
Zygo Corp.

## Optical Detectors

International Radiation Detectors, Inc.  
Star Tech Instruments, Inc.  
Optical Fibers  
Yield Engineering Systems, Inc.

## Optical Materials and Substrates

Corning Inc.  
CVI Melles Griot - Albuquerque  
LINOS Photonics, Inc.  
Micro Lithography Inc.  
National Institute of Standards & Technology (NIST)  
Pozzetta Products, Inc.  
SAES Pure Gas, Inc.  
Shanghai Optics

## Optical Test and Measurement Equipment, Interferometer

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NANO-UV  
National Institute of Standards & Technology (NIST)  
New Focus, Inc.  
Particle Measuring Systems, Molecular Contamination Products  
Smart Imaging Technologies  
VLSI Standards, Inc.  
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## Optical/Laser Microlithography

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ASML

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Donaldson Co., Inc.  
GigaPhoton  
Hitachi High Technologies America, Inc.  
International Radiation Detectors, Inc.  
JCMwave GmbH  
Litel Instruments  
Micro Lithography Inc.  
Molecular Imprints, Inc.  
Osram Sylvania Products, Inc.  
SAES Pure Gas, Inc.  
Semiconductor Fabtech  
Toppan Photomasks, Inc.

## Optics Manufacturing

ASML  
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Molecular Imprints, Inc.  
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## Photonics Equipment Manufacturer

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Pall Corp.  
Rohm and Haas Electronic Materials  
SOKUDO Co., Ltd.

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## Sensor & Sensor Systems

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International Radiation Detectors, Inc.  
National Institute of Standards & Technology (NIST)  
New Focus, Inc.  
Particle Measuring Systems, Molecular Contamination Products  
Star Tech Instruments, Inc.  
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## Services and Publications (Including Professional Societies)

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Cadence Design Systems, Inc.  
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JCMwave GmbH  
Mentor Graphics  
Smart Imaging Technologies  
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## Solar and Alternative Energy

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Pall Corp.  
Semiconductor Fabtech  
Shanghai Optics  
VLSI Standards, Inc.

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Entegris, Inc.

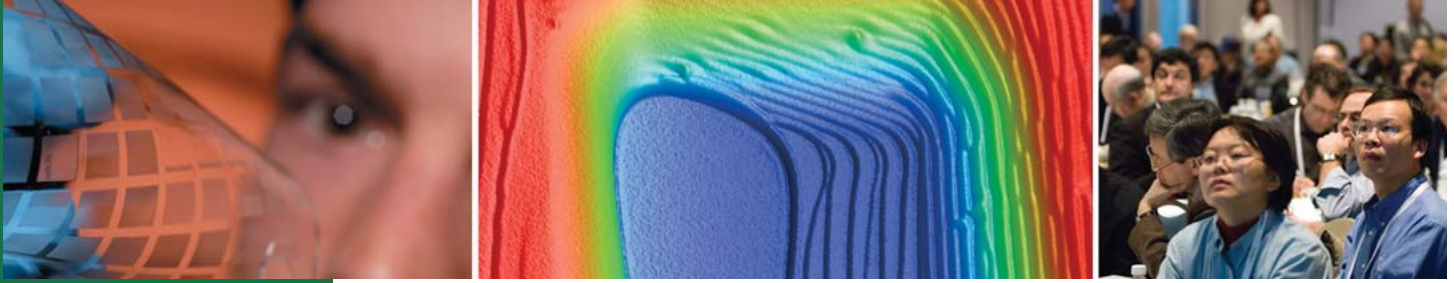
## Wafer Handling Automation

Aerotech, Inc.  
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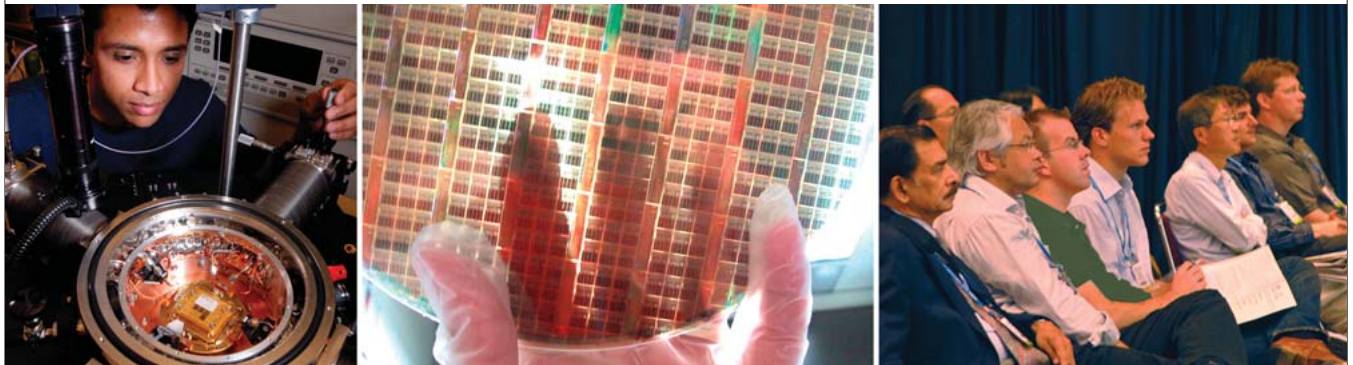
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