

Preview: 2007 MRS Fall Meeting

Hynes Convention Center and Sheraton Boston Hotel, Boston, Massachusetts
Meeting: November 26–30 • Exhibit: November 27–29

www.mrs.org

Meeting Chairs:

Duane Dimos

Sandia National Laboratories

Mary Galvin

Air Products and Chemicals, Inc.

David Mooney

Harvard University

Konrad Samwer

Universitaet Goettingen

The Materials Research Society will hold its 2007 Fall Meeting at the Hynes Convention Center and the Sheraton Boston Hotel in Boston, Mass., November 26–30, 2007. The meeting will include a technical program, tutorials, a plenary session, an awards ceremony, an equipment exhibit, poster sessions, a career center, funding seminars, and other special activities. Symposium proceedings will be published on the MRS Web site, where they will be available free online to MRS members.

Forty-three topical symposia—divided into seven clusters—will comprise the technical core of the meeting. The clusters are:

- Characterization Approaches: State-of-the-art characterization techniques and modeling;
- Electronics, Optics, and Magnetics: New materials, integration issues, device physics, and applications;
- Energy and Environment: Materials innovations for nuclear energy, hydrogen storage, thermoelectrics, water purification, and life-cycle analysis;
- Engineered Materials: Surface phenomena to bulk behavior;
- Nanosystems: Synthesis approaches to unique properties;
- Soft Matter and Bioscience: Bio-inspired materials to materials for bio-applications; and
- General Interest: Including education and art/archaeology.

Symposium X, which provides a lunch-time series of overviews on topics of general interest delivered by the nonspecialist, includes a presentation by P. Heremans of IMEC, Belgium, on "Materials Challenges in Nano-electronics"; J.J. Collins of Boston University on "Synthetic Biology: The X Factor for Biomaterials Research"; and J.S.

Nelson of Sandia National Laboratories on "Widespread Adoption of Renewable Energy: Challenges and Material Science Opportunities."

Poster sessions will be held Monday through Thursday beginning at 8:00 p.m. in the Hynes Convention Center, second level. The meeting chairs will sponsor a Best Poster Award competition, selecting recipients each night on the basis of technical content, appearance, graphic excellence, and presentation quality.

Set for Tuesday through Thursday and scheduled to complement the technical program, the Equipment Exhibit will feature more than 225 exhibitors from around the world and from all sectors of the materials science and engineering communities. Attendees will have the opportunity to learn about the latest techniques and advances in the swiftly evolving world of materials research directly from the manufacturers, suppliers, and developers. Complimentary refreshment breaks will provide an enjoyable mid-afternoon treat.

Special Sessions

The Plenary session will be held on Monday, Nov. 26, 6:00 p.m. in the Grand Ballroom of the Sheraton Boston Hotel, at which **Steven Chu** of Lawrence Berkeley National Laboratory will present a talk on "The World's Energy Problem and What We Can Do About It."

The President's Forum, to be held on Tuesday, Nov. 27, at 6:00 p.m., offers a presentation by **Bill Joy** (Kleiner Perkins Caufield & Byers), who has been described as the "Edison of the Internet" by *Fortune Magazine*.

Together with the Kavli Foundation, MRS is sponsoring the inaugural Kavli Lecture. This late-afternoon presentation focusing on nanoscience will be given by an invited speaker nominated by the symposium organizers and selected by the Meeting Chairs.

Government seminars will be held, offering attendees information on funding available for materials research.

Awards Ceremony

The awards ceremony will convene on Wednesday, Nov. 28, at 6:00 p.m. in the Grand Ballroom of the Sheraton Boston Hotel, at which **William Nix** of Stanford University will receive the Von Hippel Award and present the Von Hippel

address. **Ramamoorthy Ramesh** of the University of California, Berkeley is the recipient of the David Turnbull Lecture-ship. He will present his lecture on Nov. 27 at 5:05 p.m. in the Grand Ballroom, Sheraton Boston Hotel. The MRS Medal will be presented to **Omar M. Yaghi** of the University of California, Los Angeles, who will also give a presentation during the Meeting.

Featured Events

Among the featured events at the meeting will be MRS Energy Day–2007 and the Science as Art competition.

The **MRS Energy Day–2007**, held on Monday, Nov. 26, presents a special outreach activity highlighting the importance of energy and the environment to Boston-area high school students. The day kicks off with the Hydrogen Fuel Cell Model Car Challenge in which student teams race their model cars from 10:00 a.m. to noon, and finals to determine the winners will be held during the 12:00–1:30 lunch break. Following the races, the high-school teams will move on to the Materials Science Fair, where they will work alongside students from the Massachusetts Institute of Technology and other universities on experiments and interactive activities related to green science and engineering. Meeting attendees will be able to watch the races on Monday and see the results of the science fair at the Poster session on Wednesday.

The **Science as Art** competition is open to all meeting attendees, with entries to be on display in the Hynes Convention Center. Multiple first-place and second-place awards of \$500 and \$300, respectively, will be presented to the winning entries at the meeting.

Career Services, Student Events, and Networking Opportunities

MRS will present gold and silver **Graduate Student Awards** to graduate students for symposium papers that exemplify significant and timely research. All finalists will be honored at the awards ceremony on Wednesday evening.

Graduate students and members of MRS University Chapters are invited to attend the **student mixer** on Monday night, Nov. 26, 7:00–8:00 p.m. Also, chapter officers and faculty advisors are invited to attend a **meeting of MRS University**

Chapter representatives on Wednesday, Nov. 28, at noon to compare notes on recent activities and brainstorm new projects and issues of common concern. Those interested in starting new chapters are also welcome.

MRS will host a **Career Center** for meeting attendees. Services include access to current job postings, a resume file for prospective employers, and onsite interview opportunities.

An **Entrepreneurship Challenge Information Session** will be held on Thursday, Nov. 29, at 5:00 p.m. Atten-


dees will also learn more about the team that won last year.

Locations of these activities will be announced closer to the meeting.

For More Information

See the following pages for a matrix of symposium sessions, a list of tutorials, profiles of exhibitors, and information on hotel and transportation arrangements. Details of various events and activities will be published in the *Meeting Guide* onsite. Travelers from outside the United States are reminded to allow ample time

to obtain a visa, if necessary; more information is available on the MRS Web site. For additional details about the meeting, contact MRS Member Services, Materials Research Society, 506 Keystone Drive, Warrendale, PA 15086-7573, USA; e-mail info@mrs.org, tel. 724-779-3003, and fax 724-779-8313.

The deadline to pre-register for the meeting is **November 9, 2007**. The MRS Web site can be accessed for updated information on confirmed talks and details of special events, and for pre-registration: www.mrs.org. 





NOVEMBER 26-30 • BOSTON, MA

2007 MATERIALS RESEARCH SOCIETY FALL MEETING

www.mrs.org/fall2007

MEETING CHAIRS	SYMPOSIA	MEETING ACTIVITIES
<p>Duane Dimos Sandia National Laboratories Tel 505-844-6385 Fax 505-844-1583 dbdimos@sandia.gov</p> <p>Mary Galvin Air Products and Chemicals, Inc. Tel 610-481-1524 Fax 610-481-7719 galvinme@airproducts.com</p> <p>David Mooney Harvard University Tel 617-384-9624 Fax 617-495-9837 mooneyd@deas.harvard.edu</p> <p>Konrad Samwer Universitaet Goettingen I. Physikalisches Institut Tel 49-551-397601 Fax 49-551-3912229 ksamwer@gwdg.de</p> <p style="font-size: 0.8em; text-align: center;">For additional meeting information, visit the MRS Web site at www.mrs.org/meetings/ or contact:</p> <div style="text-align: center;">  <p>Member Services Materials Research Society 506 Keystone Drive Warrendale, PA 15086-7573 Tel 724-779-3003 Fax 724-779-8313 info@mrs.org www.mrs.org</p> </div>	<p>CHARACTERIZATION APPROACHES</p> <p>A: Combinatorial Methods for High-Throughput Materials Science B: Nanoscale Phenomena in Functional Materials by Scanning Probe Microscopy C: Quantitative Electron Microscopy for Materials Science D: Materials in Transition—Insights from Synchrotron and Neutron Sources E: Theory, Modeling, and Numerical Simulation of Multiphysics Materials Behavior</p> <p>ELECTRONICS, OPTICS, AND MAGNETICS</p> <p>F: Interfaces in Organic and Molecular Electronics III G: Large-Area Processing and Patterning for Active Optical and Electronic Devices H: Nanostructured Solar Cells I: Nanoscale Magnetic Materials and Applications J: Spin-Injection and Spin-Transfer Devices K: Ferroelectrics, Multiferroics, and Magnetoelectrics L: Zinc Oxide and Related Materials M: Materials and Hyperintegration Challenges in Next-Generation Interconnect Technology N: Materials, Integration, and Technology for Monolithic Instruments II O: Nuclear Radiation Detection Materials P: Diamond Electronics—Fundamentals to Applications II Q: Nitrides and Related Bulk Materials</p> <p>ENERGY AND ENVIRONMENT</p> <p>R: Life Cycle Analysis for New Energy Conversion and Storage Systems S: Materials and Technology for Hydrogen Storage T: Materials Innovations for Next-Generation Nuclear Energy U: Thermoelectric Power Generation V: Materials Science of Water Purification</p> <p>GENERAL</p> <p>W: Forum on Materials Science and Engineering Education for 2020 X: Frontiers of Materials Research Y: Materials Issues in Art and Archaeology VIII</p> <p>ENGINEERED MATERIALS</p> <p>Z: Bulk Metallic Glasses AA: Fundamentals of Nanoindentation and Nanotribology IV BB: Magnetic Shape Memory Alloys CC: Materials for New Security and Defense Applications DD: Microelectromechanical Systems—Materials and Devices EE: Phonon Engineering—Theory and Applications FF: Synthesis and Surface Engineering of Three-Dimensional Nanostructures</p> <p>NANOSYSTEMS</p> <p>GG: Excitons and Plasmon Resonances in Nanostructures HH: Nanophase and Nanocomposite Materials V II: Nanotubes and Related Nanostructures JJ: Nanowires—Novel Assembly Concepts and Device Integration KK: Nanoscale Pattern Formation</p> <p>SOFT MATTER AND BIOSCIENCE</p> <p>LL: Bioinspired Polymer Gels and Networks MM: Biomolecular and Biologically Inspired Interfaces and Assemblies NN: Protein and Peptide Engineering for Therapeutic and Functional Materials OO: Solids at the Biological Interface PP: Quantum-Dot and Nanoparticle Bioconjugates—Tools for Sensing and Biomedical Imaging QQ: Electroactive and Conductive Polymers and Carbon Nanotubes for Biomedical Applications</p>	<p>Symposium Tutorial Program</p> <p>Available free to meeting registrants, the symposium tutorials will concentrate on new, rapidly breaking areas of research.</p> <p>Exhibit</p> <p>A major exhibit encompassing the full spectrum of equipment, instrumentation, products, software, publications, and services is scheduled for November 27–29 in the Hynes Convention Center. Convenient to the technical session rooms and scheduled to complement the program, the MRS Fall Exhibit offers everything you need all under one roof.</p> <p>Publications Desk</p> <p>A full display of over 1000 books will be available at the MRS Publications Desk. Symposium Proceedings from both the 2006 MRS Fall Meeting and the 2007 MRS Spring Meeting will be featured.</p> <p>Career Center</p> <p>A Career Center for MRS members and meeting attendees will be open Tuesday through Thursday.</p>

2007 MRS FALL MEETING LODGING AND TRAVEL

The 2007 MRS Fall Meeting in Boston will be held at the Hynes Convention Center and Sheraton Boston Hotel. For your convenience, special room rates have been arranged at the hotels listed below. Rooms are limited at these rates, so make your reservations early. Your patronage of the official hotels enables MRS to secure the meeting space at a greatly reduced rate.

Rooms are limited—reserve yours early!
Reservations can be made online at www.mrs.org.

Sheraton Boston Hotel and Towers

39 Dalton Street
Boston, MA 02199
617-236-2000
Fax 617-236-1702

Room Rate:
\$169 Single*
\$180 Double*

Deadline November 4

Boston Marriott/Copley Place

110 Huntington Avenue
Boston, MA 02116
617-236-5800
Fax 617-937-5685

Room Rate:
\$164 Single*
\$179 Double*

(*\$10 each for additional persons in guest room)

Deadline October 31

Westin Hotel/Copley Place

10 Huntington Avenue
Boston, MA 02116
617-262-9600
Fax 617-424-7502

Room Rate:
\$166 Single*
\$186 Double*

(*\$20 each for additional persons in guest room)

Deadline November 5

Hilton Boston Back Bay

40 Dalton Street
Boston, MA 02115
617-236-1100
Fax 617-568-6739

Room Rate:
\$162 Single or Double*
\$173 Triple or Quad*

Deadline November 2

Boston Park Plaza Hotel

64 Arlington Street
Boston, MA 02116
617-426-2000
Fax 617-423-1708

Room Rate:
\$154 Single*
\$154 Double*

Deadline November 16

*plus Massachusetts tax, currently 12.45%

Transportation

Check the MRS Web site at www.mrs.org for information on airport subway service to MRS hotels.

Taxis are available around the clock. The average fare to the Back Bay area hotels is approximately \$30-40.

Shuttle service is available beginning at 7:00 a.m. each day. The average fare to the Back Bay area hotels is \$12.00 per person.

For more information on other ground transportation to and from Logan International Airport, call MASSPORT, 24 hours a day, at 1-800-23-LOGAN.

Parking

Parking in the public parking garages in the city costs approximately \$40 per day. Parking is available in the garage between the Boston Marriott and the Westin Hotels at Copley Place. There is also parking at the Prudential Center Complex. Parking in hotel parking garages costs approximately \$50 per day for overnight parking.

Child Care

Check with the Concierge Desk at the individual hotels for a comprehensive roster of licensed and bonded sitters.

2007 MRS FALL SYMPOSIUM TUTORIALS

Details available on the MRS Web site. Tutorials are open to all meeting attendees at no extra charge.

SUNDAY • NOVEMBER 25

SYMPOSIUM I

Magnetic Nanoparticles and Nanocomposite Magnets

8:30 am-12:00 noon, Room 206

SYMPOSIUM BB

Magnetic Shape Memory Alloys—From Fundamentals to Applications

1:30-5:00 pm, Room 209

SYMPOSIUM GG

Optics of Nanostructures

9:00 am-4:00 pm, Room 201

SYMPOSIUM K

Ferroelectrics and Multiferroics with New Functionality

9:00 am-5:00 pm, Room 203

SYMPOSIUM FF

Atomic Layer Deposition—Fundamentals and Applications in Nanotechnology and 3D Structures

1:30-5:00 pm, Room 200

SYMPOSIUM MM/PP

Interfacing Quantum Dots, Metallic and Magnetic Nanoparticles with Biology

1:30-5:30 pm, Room 210

SYMPOSIUM Z

ANSWER Tutorial Series—Materials Characterization of Bulk Metallic Glasses

1:30-5:00 pm, Room 202

2007 MRS FALL MEETING SESSION LOCATOR

SYMP.	TITLE	LOCATION	MONDAY, NOVEMBER 26			TUESDAY, NOVEMBER 27		
			a.m.	p.m.	eve.*	a.m.	p.m.	eve.*
A	Combinatorial Methods for High-Throughput Materials Science	Indep. E (Sheraton)					A1: Combinatorial Development of Energy-Related Materials	
B	Nanoscale Phenomena in Functional Materials by Scanning Probe Microscopy	Back Bay A (Sheraton)	B1: Scanning Probe Microscopies at the Limits of Resolution	B2: Novel SPM Methods I B3: Novel SPM Methods II		B4: SPM in Biology & Soft Condensed Matter	B5: NSOM & Nano Optics B6: Nanofabrication & Manipulation	B7: Posters
C	Quantitative Electron Microscopy for Materials Science	Back Bay D (Sheraton)	C1: Mapping of Electronic States & Local Bonding & Elemental Mapping I	C2: <i>In-situ</i> Measurements of Properties, Reaction Rates, & Mechanisms	C3, C4, C5: Posters	C6: Grand Challenges for Electron Microscopy I C7: Diffractive Imaging & Diffraction	C8: Electron Tomography & STEM	C9, C10, C11: Posters
D	Materials in Transition—Insights from Synchrotron & Neutron Sources	Liberty (Sheraton)	D1: Stress, Strain, & Deformations	D2: Transitions I	D3: Posters	D4: Transitions II	D5: Growth & Crystallization	D6: Posters
E	Theory, Modeling, & Numerical Simulation of Multiphysics Materials Behavior	Const. B (Sheraton)	E1: Diffusion I E2: Diffusion II	E3: Microstructural Evolution E4: Evolution of Microstructure & Properties		E5/T5: Modeling Defects in Nuclear Materials I E6/T6: Modeling Defects in Nuclear Materials II	E7/T7: Modeling Microstructural Evolution in Irradiated Materials I E8/T8: Modeling Microstructural Evolution in Irradiated Materials II	
F	Interfaces in Organic & Molecular Electronics III	Back Bay C (Sheraton)	F1: Charge Transport & Injection	F2: Organic Thin-Film Transistors	F3: Posters	F4: Interfacial Electronic Properties	F5: Organic Light-Emitting Diodes	
G	Large-Area Processing & Patterning for Active Optical & Electronic Devices	Fairfax A (Sheraton)	G1: Materials & Substrates	G2: Processing I	G3: Posters	G4: Processing II	G5: Integrated Processes I	G6: Posters
H	Nanostructured Solar Cells	Republic B (Sheraton)	H1: Intermediate Band Solar Cells H2: Inorganic Quantum Dot & Nanowire Solar Cells	H3: Multiexciton Generation H4: Organic Solar Cells I		H5: Organic Bulk Heterojunctions H6: Organic Solar-Cell Device Physics I	H7: Organic Solar-Cell Device Physics II H8: Hybrid & Dye-Sensitized Solar Cells	H9: Posters
I	Nanoscale Magnetic Materials & Applications **Tutorial Sunday	C'wealth (Sheraton)	I1: Nanomagnetism, Theoretic Aspects I2: Magnetoresistance, Principles, & Devices	I3: Exchange Coupling & Exchange Bias	I4: Posters	I5: Magnetic Recording Media	I6: Magnetic Thin Films, Processing, & Applications	
J	Spin-Injection & Spin-Transfer Devices	Republic A (Sheraton)	J1: Spin Transfer & Magnetization Dynamics	J2: Spin Injection into Silicon		J3: Spin Injection into GaAs & GaN	J4: Graphene & Organic Semiconductors	
K	Ferroelectrics, Multiferroics & Magnetoelectrics **Tutorial Sunday	Gr. Ballroom (Sheraton)	K1: Multiferroics I	K2: Multiferroics II	K3: Posters	K4: Magnetoelectrics, Piezoelectrics, & Strain Effects	K5: Size Effects Turnbull Award Talk Presentation	
L	Zinc Oxide & Related Materials	Const. A (Sheraton)	L1: ZnO Nanowires for Applications	L2: ZnO Nanowire Synthesis & Properties		L3: ZnO Doping & Defects	L4: ZnO Crystal Growth & Properties	L5: Posters
M	Materials & Hyperintegration Challenges in Next-Generation Interconnect Technology	Hampton (Sheraton)					M1: Broad Interconnect Issues	

2007 MRS FALL MEETING SESSION LOCATOR

SYMP.	WEDNESDAY, NOVEMBER 28			THURSDAY, NOVEMBER 29			FRIDAY, NOVEMBER 30	
	a.m.	p.m.	eve*	a.m.	p.m.	eve*	a.m.	p.m.
A	A2: High Throughput Measurements & Infomatics	A3: Infomatics & Library Design		A4: High Throughput for Polymers, Organics, & Biomaterials	A5: Combinatorial Electronics & Oxides	A6: Posters	A7: Combinatorial Structural Analysis/Mechanical Properties A8: High Throughput Optimization of Metals & Alloys	
B	B8: Nanomechanics & Tribology	B9: Electromechanics on the Nanoscale B10: Thermal Phenomena on the Nanoscale	B11, B12: Posters	B13: Transport on the Nanoscale	B14: Single Molecule Studies by SPM B15: Semiconductors	B16: Posters		
C	C12: Grand Challenges for Electron Microscopy II C13: Mapping of Electronic States & Local Bonding & Elemental Mapping II	C14: Grand Challenges for Electron Microscopy III C15: SEM/LEEM II C16: Aberration Correction II	C17, C18: Posters	C19: Grand Challenges for Electron Microscopy IV C20: HRTEM & Quantitative Comparison of Experiment & Theory I	C21: HRTEM & Quantitative Comparison of Experiment & Theory II C22: Mapping of Magnetic & Electric Fields & Electron Holography			
D	D7: Surfaces & Particles							
E	E9: Electronic & Atomistic Methods E10: Atomistic Methods I	E11: Atomistic Methods II E12: Atomistic Methods III		E13: Evolution of Nanostructures E14: Structure & Properties of Nanostructured Materials I	E15: Structure & Properties of Nanostructured Materials II E16: Properties of Defects	E17: Posters	E18: Dislocations & Plasticity I E19: Dislocations & Plasticity II	E20: Interface Behavior E21: Thermodynamics & Phase Transitions
F	F6: Electrode Modification	F7/H11: Interfacial Issues in Organic Photovoltaics F8: Interfacial Issues in Nanocomposites	F9: Posters	F10: Thin-Film Growth	F11: Molecular Junctions			
G	G7: Integrated Processes II	G8: Systems, Devices, & Applications						
H	H10: Organic Solar Cells II	H11/F7: Interfacial Issues in Organic Photovoltaics H12: Device Issues—Light Trapping, Electrodes, Device Structures	H13: Posters	H14: New Materials for Nanostructured Photovoltaics I				
I	I7: Magnetic Nanoparticles & Novel Nanostructures	I8: Spintronic Materials & Devices I9: Magnetic Oxides & Multiferroics	I10: Posters	I11: Bulk Magnets, Processing & Applications	I12: Magnetic Nanowires I13: Magnetic Imaging	I14: Posters	I15: Magnetic Materials for Biomedical Applications	
J								
K	K6: Special Session in Honor of George Samara	K7: Domains & Domain Walls		K8: Characterization Techniques	K9: Theory	K10: Posters	K11: Thin Films, Crystals, & Ceramics	
L	L6: Magnetically Doped ZnO	L7: P-Type Doping	L8: Posters	L9: Epitaxial Growth of ZnO	L10: Issues with Optical & Electronic Devices	L11: Posters	L12: ZnO Thin-Film Devices	L13: ZnO Defects & Surfaces
M	M2: Optical Interconnect Systems & Advanced Interconnects	M3: Growth & Characterization of Interconnect Materials	M4: Posters	M5: Nanoscale Interconnects	M6: Carbon Nanotube-Based Interconnects			

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			a.m.	p.m.	eve.*	a.m.	p.m.	eve.*
N	Materials, Integration, & Technology for Monolithic Instruments II	Fairfax B (Sheraton)				N1: Opto-Electronics & Imaging N2: Architecture & Integration	N3: Microfluidics N4: Chemical Sensing	
O	Nuclear Radiation Detection Materials	Republic A (Sheraton)						
P	Diamond Electronics—Fundamentals to Applications II	Indep. W (Sheraton)	P1: Keynote Session	P2: Diamond Electrochemistry P3: Biotechnology I		P4: Growth P5: Doping I	P6: Detectors I	
Q	Nitrides & Related Bulk Materials	Back Bay B (Sheraton)	Q1:	Q2:		Q3:	Q4:	
R	Life Cycle Analysis for New Energy Conversion & Storage Systems	Room 301 (Hynes)	R1: PV Energy Conversion	R2: Nanomaterials & Hydrogen Storage	R3: Posters	R4: Environmentally Friendly Batteries	R5: Energy LCA Methodology	
S	Materials & Technology for Hydrogen Storage	Room 309 (Hynes)	S1: Metal-Hydride Hydrogen Storage I	S2: Metal-Hydride Hydrogen Storage II	S3: Posters	S4: Metal-Hydride Hydrogen Storage III	S5: Complex Chemical Hydrides for Hydrogen Storage	
T	Materials Innovations for Next-Generation Nuclear Energy	Gardner (Sheraton)	T1: Structural Materials I T2: Carbides	T3: Inert Matrix Fuels & Waste-forms I T4: Fuels I		T5/E5, T6/E6: Modeling Defects in Nuclear Materials I & II Constitution B (S)	T7/E7, T8/E8: Modeling Micro-structural Evolution in Irradiated Materials I & II Constitution B (S)	T9: Posters
U	Thermoelectric Power Generation	Room 311 (Hynes)	U1: Nanocomposites I	U2: Nanocomposites II & Theory	U3: Posters	U4: Chalcogenides	U5: Bulk Thermoelectrics I	U6: Posters
V	Materials Science of Water Purification	Room 308 (Hynes)				V1: Challenges & Opportunities in Water Treatment	V2: Organic Fouling & Fundamentals	V3: Posters
W	Forum on Materials Science & Engineering Education for 2020	Room 300 (Hynes)				W1: Bringing Materials Science & Nano to the General Public	W2: Increasing the STEM Pipeline	
X	Frontiers of Materials Research	Grand Ballroom (Sheraton)		X1			X2	
Y	Materials Issues in Art & Archaeology V	Berkeley	Y1: Archaeological Science	Y2: Ancient Technology	Y3: Posters	Y4: Conservation Science I	Y5: Conservation Science II	
Z	Bulk Metallic Glasses **Tutorial Sunday	Room 202 (Hynes)	Z1: Glass Physics & Deformation Mechanisms	Z2: Structure, Fragility, Relaxation		Z3: Shear Localization, Plastic Deformation	Z4: Processing	Z5: Posters
AA	Fundamentals of Nanoindentation & Nanotribology IV	Room 208 (Hynes)	AA1: <i>In-situ</i> Methods I	AA2: Nanomechanics, Tribology, & Nanostructures		AA3: Size Effects & Indentation of Thin Films	AA4: Nanotribology & Friction	AA5: Posters
BB	Magnetic Shape Memory Alloys **Tutorial Sunday	Room 209 (Hynes)	BB1: MSM & Magnetocaloric Effects BB2: Twin Micro-structure & Mobility	BB3: Theory BB4: Applications	BB5: Posters	BB6: NiMnGa BB7: Alternative MSM Materials	BB8: MSM Thin Films BB9: Micro-structural Characterization	
CC	Materials for New Security & Defense Applications	Gardner (Sheraton)				CC1: Materials for New Security & Defense Applications I	CC2: Materials for New Security & Defense Applications II	

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	a.m.	p.m.	eve*	a.m.	p.m.	eve*	a.m.	p.m.
N								
O	O1: Material Development for Security & Defense Applications O2: Materials Theory & Modeling	O3: Other Materials O4: CZT & CdTe	O5: Posters	O6: Scintillators I O7: Scintillators II	O8: Characterization I O9: Characterization II			
P	P7: Biotechnology II & Carbon Devices P8: Industrial Perspectives	P9: Emission Devices P10: Detectors II		P11: Nanocrystalline Diamond P12: Quantum Information Processing	P13: Applications P14: Surfaces	P15: Posters	P16: Biotechnology III P17: Doping II	
Q	Q5:	Q6:		Q7:	Q8:	Q9: Posters	Q10:	Q11:
R								
S	S6: Hydrogen Storage in Chemical Hydrides & Porous Materials	S7: Hydrogen Storage in Carbon & Porous Materials						
T	T10: Structural Materials II T11: Nanomaterials	T12: Inert Matrix Fuels & Wasteforms II T13: Fuels II						
U	U7: Nanocomposites III & Bulk Thermoelectrics II	U8: Chalcogenides II, Thin Films, & Thermionics	U9: Posters	U10: Thin Films & Devices	U11: New & Emerging Materials & Standards			
V	V4: Interfacial Properties & Catalysts	V5: Disinfection & Adsorbents						
W	W3: Incorporating New Research into New Teaching Strategies	W4: Implementing New Course Materials & Strategies						
X		X3			X4:			
Y	Y6: Technical Art History I	Y7: Technical Art History II						
Z	Z6: Glass Formation, Solidification, Thermodynamics, Deformation	Z7: Toughening Strategies	Z8: Posters	Z9: Modeling	Z10: Mechanical Properties			
AA	AA6: Modeling, Simulation, & Analysis of Indentation Data	AA7/OO8: Nanomechanics & Tribology of Biological Materials	AA8: Posters	AA9: Nanomechanics of Polymers AA10: Temperature & Time-Dependent Characterization	AA11: <i>In-situ</i> Methods II			
BB								
CC								

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DD	Microelectromechanical Systems—Materials & Devices	Room 313 (Hynes)	DD1: Micromechanics I	DD2: Micromechanics II	DD3: Posters	DD4: MEMS Devices I	DD5: MEMS Devices II	DD6: Posters
EE	Phonon Engineering—Theory & Applications	Room 209 (Hynes)						
FF	Synthesis & Surface Engineering of Three-Dimensional Nanostructures **Tutorial Sunday	Room 200 (Hynes)	FF1: Lithography	FF2: Photonic Crystal		FF3: Atomic Layer Deposition	FF4: Porous Materials	FF5: Posters
GG	Excitons & Plasmon Resonances in Nanostructures **Tutorial Sunday	Room 310 (Hynes)	GG1: Self-Assembled Quantum Dots & Quantum Phenomena I	GG2: Self-Assembled Quantum Dots & Quantum Phenomena II GG3: Colloidal Nanocrystals—Plasmons, Excitons, & Thermal Effects I		GG4: Colloidal Nanocrystals—Plasmons, Excitons, & Thermal Effects II	GG5: Exciton-Plasmon Resonances in Hybrid Structures I	GG6: Posters
HH	Nanophase & Nanocomposite Materials V	Room 302 (Hynes)	HH1: Carbon Nanotubes & Polymer & Metals Nanoparticles	HH2: Multi-Energy/Field Processing of Nanomaterials	HH3: Posters	HH4: Properties & Applications of Nanophases & Nanocomposites	HH5: Processing of Nanomaterials & Thin Films	
II	Nanotubes & Related Nanostructures	Room 312 (Hynes)	II1: Carbon Nanostructures I II2: Optical Spectroscopy I	II3: Carbon Nanostructures II II4: Carbon Nanostructures III	II5: Posters	II6: Noncarbon Nanostructures I II7: Carbon Nanostructures IV	II8: Noncarbon Nanostructures II II9: Optical Spectroscopy II	II10: Posters
JJ	Nanowires—Novel Assembly Concepts & Device Integration	Room 306	JJ1: Nanowire Growth	JJ2: Nanowire Device Integration	JJ3: Posters	JJ4: Hierarchical Growth	JJ5: Strategies for Directed Assembly of Nanowires	JJ6: Posters
KK	Nanoscale Pattern Formation	Room 304 (Hynes)	KK1: Ion Irradiation of Metals & Insulators	KK2: Ion Irradiation of Metals & Alloys KK3: Growth & Annealing	KK4: Posters	KK5: Group IV Heteroepitaxy KK6: III-V Heteroepitaxy	KK7: Strain Effects	
LL	Bioinspired Polymer Gels & Networks	Room 207 (Hynes)	LL1: Thermodynamics & Modeling	LL2: Synthesis & Characterization of Hydrogels	LL3: Posters	LL4: Molecular Conformation & Self-Assembly	LL5: Biological & Biomimetic Networks	LL6: Posters
MM	Biomolecular & Biologically Inspired Interfaces & Assemblies **Tutorial Sunday	Room 210 (Hynes)	MM1/NN1:	MM2/NN2:	MM3: Posters	MM4: Interfaces	MM5: Viral Nanomaterials	MM6: Posters
NN	Protein & Peptide Engineering for Therapeutic & Functional Materials	Room 201 (Hynes)	MM1/NN1: Room 210 (H)	NN2/MM2: Room 210 (H)		NN3:	NN4:	NN5: Posters
OO	Solids at the Biological Interface	Room 206 (Hynes)	OO1: Interface Science & Engineering I	OO2: Biological Adhesion & Cohesion OO3: Cells & Interfaces		OO4: Interface Science & Engineering II	OO5: Tissue Scaffolds & Implant Materials	OO6: Posters
PP	Quantum-Dot & Nanoparticle Bioconjugates—Tools for Sensing & Biomedical Imaging **Tutorial Sunday	Room 203 (Hynes)	PP1: Synthesis, Functionalization, & Bio-Interfacing of QDs & Nanoparticles	PP2: Interfacing QDs with Bioreceptors, Cells, & Redox Complexes	PP3: Posters	PP4: Toxicity of & Sensing with Biocompatible Nanoparticles	PP5: Nanoparticle-Nanoparticle & Nanoparticle-Bioreceptor Interactions	PP6: Posters
QQ	Electroactive & Conductive Polymers & Carbon Nanotubes for Biomedical Applications	Room 204 (Hynes)				QQ1: Electroactive & Conductive Polymers for Biomedical Applications	QQ2: Electroactive & Conductive Polymers for Biomedical Applications—Actuators & Tissue Engineering	QQ3: Posters

*Poster Sessions: All Evening Poster Sessions Located in Exhibition Hall D (Hynes)

**Refer to Tutorial Schedule

Shaded Blocks: No Session

2007 MRS FALL MEETING SESSION LOCATOR

SYMP.	WEDNESDAY, NOVEMBER 29			THURSDAY, NOVEMBER 30			FRIDAY, DECEMBER 1	
	a.m.	p.m.	eve*	a.m.	p.m.	eve*	a.m.	p.m.
DD	DD7: MEMS Materials & Processes I	DD8: MEMS Materials & Processes II						
EE	EE1: Phonon Transport EE2: Phonon-Engineered Systems	EE3: Phonon Interactions	EE4: Posters	EE5: Applications				
FF	FF6: Self Assembly	FF7: Layer-by-Layer Deposition FF8: Electro-deposition		FF9: Fibers FF10: Composite Materials	FF11: Nano- & Microparticle	FF12: Posters	FF13/GG15/HH12: Particle-Based Functional Materials Republic A/B (S)	
GG	GG7: Exciton-Plasmon Resonances in Hybrid Structures II	GG9: Plasmonics—Antennas II		GG10: Plasmonic Device Components, SERS Applications & Imaging	GG12: Nano-crystals—Optical Properties GG13: Optical Properties of Two-	GG14: Posters	GG15/FF13/HH12: Particle-Based Functional Materials Republic A/B (S)	
HH	HH6: Nanoporous Materials	HH7: Processing & Properties of Nanomaterials	HH8: Posters	HH9: Nanocomposite & Nanostructured Materials	HH10: Nanocomposites	HH11: Posters	HH12/FF13/GG15: Particle-Based Functional Materials Republic A/B (S)	
II	II11: NEMS & Related Properties II12: Electronics & Related Properties I	II13: Noncarbon Nanostructures III II14: Carbon Nanostructures V	II15: Posters	II16: Biology & Chemistry of Carbon Nanotubes I II17: Device Integration I	II18: Device Integration II II19: Biology & Chemistry of Carbon Nanotubes II	II20: Posters	II21: Electronic & Related Properties II II22: Electronic & Related Properties III Back Bay C (S)	
JJ	JJ7: Integrated Nanowire Devices	JJ8: Novel Nanowires & Assembly						
KK	KK8: Dewetting & Energetic Beams	KK9: Chemically-Driven & Phase-Stabilized Patterning	KK10: Posters	KK11: Templating & Nanopositioning I	KK12: Templating & Nanopositioning II			
LL	LL7: Drug & Gene Delivery	LL8: Biological Gels & Tissue Engineering		LL9: Functional Biopolymer Assemblies				
MM	MM7: DNA Assemblies	MM8: Designer Biomaterials I	MM9: Posters	MM10: Designer Biomaterials II				
NN	NN6:							
OO	OO7: Tissue Mechanics & Interfaces	OO8/AA7: Nanomechanics & Tribology of Biological Materials Room 208 (H)	OO9: Posters	OO10: Nanomaterials Interfaced with Biology	OO11: Nanomaterials Interfaces with Biology			
PP	PP7: Biointerfacing of Metallic Nanostructures	PP8: Nanoparticles for Magnetic Resonance Imaging, Therapy, & Other Applications						
QQ	QQ4: Carbon Nanotubes for Biomedical Applications	QQ5: Electroactive & Conductive Polymers for Biomedical Applications—Sensors						

*Poster Sessions: All Evening Poster Sessions Located in Exhibition Hall D (Hynes)

**Refer to Tutorial Schedule

Shaded Blocks: No Session

WELCOME TO THE 2007 MRS FALL EXHIBIT

The MRS Exhibit, held in conjunction with the 2007 MRS Fall Meeting, will feature more than 240 international exhibitors from all sectors of the materials science and engineering communities. Meeting attendees are invited to visit the exhibit to learn more about the latest techniques and advances in the swiftly evolving world of materials research directly from the manufacturers, suppliers and developers. Convenient to the technical session rooms and scheduled to complement the program, the MRS Fall Exhibit offers everything you need all under one roof.

**HYNES CONVENTION CENTER
SECOND LEVEL
NOVEMBER 27–29, 2007**

EXHIBIT HOURS:

Tuesday, November 2711:00 pm – 5:30 pm

Wednesday, November 28 . . .11:00 am – 8:30 pm

Thursday, November 2910:00 am – 1:30 pm

Join us for a Society Reception on Wednesday from 7:00 to 8:00 pm.

2007 MRS FALL EXHIBITORS

(as of September 19, 2007)

5N PLUS INC.
info@5nplus.com
www.5nplus.com

BOOTH 221

Key Products: II-VI Metals and Compounds; Precursors for Opto-electronics; Recycling

5N Plus is a manufacturer of high purity metals and compounds used in electronic applications. Metals such as tellurium, cadmium, zinc and selenium are offered in purities from 99.99% to 99.99999% as well as all related compounds such as CdTe, CdS, CZT, ZnTe. 5N Plus activities also include recycling of various by-products resulting from our customer's production such as CdTe, CZT, and Se, thus encouraging sound environmental practices.

ADVANCED MAGNET LAB, INC.
sales@magnetlab.com
www.magnetlab.com

BOOTH 523

Key Products: "Perfect Field" Magnets; Accelerator, Solenoid, Custom; Programmable 3D "Field" Direction; Superconducting

Since 1995, the Advanced Magnet Lab (AML) has been providing revolutionary technology for the design and manufacture of advanced normal and superconducting magnets. Technology is the most advanced coil and magnet technology available; proven and differentiated with unmatched capability, performance, reliability, lead-time and cost competitiveness. Markets include Medical, Energy, Research, Space and Defense.

A & N CORPORATION
orders@ancorp.com
www.ancorp.com

BOOTH 212

Key Products: Vacuum Valves; Vacuum Hardware; Vacuum Chambers

A&N Corporation, manufacturer of high vacuum components since 1965, offers researchers and laboratories an extensive line of standard high and ultra high vacuum components, as well as custom valves and process chambers. A&N products are designed to meet or exceed the standards required by industrial and academic users, such as those involved with thin film disposition, surface analysis, laser devices, cryogenics and the aerospace industry. Visit us at www.ancorp.com for more information on all of our high vacuum components.

ADVANCED RESEARCH SYSTEMS, INC.
ars@arscryo.com
www.arscryo.com

BOOTH 416

Key Products: Closed and Open Cycle Cryogenic Systems

ARS manufactures, services and designs the ARS Displex 1.7K, 4K, 6K and 9K closed cycle cryocoolers (DE-202, DE-204 and DE-210) and the ultra low vibration Helitran LT-3 open cycle cryostats that operate in the 1.7 to 800K temperature range. ARS integrates the cryostats, providing standard and custom interfaces, instrumentation, vacuum shrouds, radiation shields, sample holders, temperature controllers, and vacuum systems for each cryocooler.

ACCELRY'S, INC.
solutions@accelrys.com
www.accelrys.com

BOOTH 425

Key Products: Materials Studio; Pipeline Pilot

Accelrys has over twenty years of innovation and technology leadership in delivering software and service solutions that transform research and development. Accelrys' Materials Studio® provides software for multiscale materials modeling and simulation, from electronic to atomistic to mesoscale, via an easy-to-use desktop environment. Materials Studio enables users to solve a wide range of critical research problems in the areas of nanotechnology, catalysis, polymers, and crystallization. For more information about Accelrys, visit the website at <http://www.accelrys.com/>.

AGILENT TECHNOLOGIES
afm-info@agilent.com
www.agilent.com

BOOTH 308



Key Products: Atomic Force Microscopes; Scanning Probe Microscopes; Automated Materials Test Systems

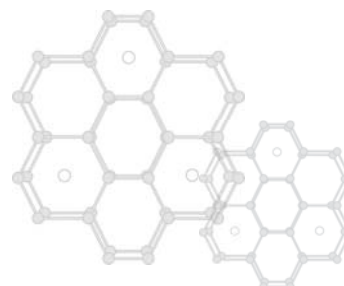
Agilent Technologies offers a wide range of high-precision atomic force microscopes (AFM) to meet your unique research needs. Agilent's highly configurable AFM instruments allow you to expand the system's capabilities as your needs occur. Agilent's industry-leading environmental/temperature systems and liquid imaging enable superior control for materials science, polymer and life-science applications. Agilent takes the challenge out of measuring dielectric and magnetic properties of materials. Agilent's new 85072A Split Cylinder Resonator takes the challenge out of measuring permittivity and loss tangent of low loss and thin film materials. Come see what's new in automated materials measurement test systems, software and atomic force microscopy.

ACE GLASS INC.
sales@aceglass.com
www.aceglass.com

BOOTH 319

Key Products: Lab Glass Ware; Pilot Plant Reactors; Temperature Controllers

Ace Glass has been manufacturing innovative research glass and equipment for over 70 years. We are exhibiting our probes, power supplies and glassware for mixing and sonication of materials. We have our famous Photochemistry products on display for application in Nanotechnology. We are also displaying our bench scale glass reactors, catalysis reactors and equipment. Ace fabricates pilot plant reactors from 150 mL up to 300 Liters in size and can make custom pilot plants and other glassware.



2007 MRS FALL EXHIBITORS

AIST-NT/NANOTECH-AMERICA

info@aist-nt.com
www.aist-nt.com



BOOTH 805

Key Products: AFM, AFM-NanoRaman, SPM Probes and Accessories

AIST-NT, Inc. is focused on the innovative research and development of Advanced Integrated Scanning Systems for NanoTechnology. With more than 65 years of combined experience in the Scanning Probe Microscopy industry, AIST-NT, Inc. will be introducing a new line of low noise, fast scanning, extremely stable, AFMs and AFM-NanoRaman™ Systems. Our new family of products, the latest in SPM imaging technology, is ideal for making quantitative measurements on the nanoscale level and using our new XYZ flexure scanner, we offer significantly faster scanning than most commercially available SPM systems. We also offer from stock delivery of a wide range of SPM accessory products including high quality cantilevers from NIIFF and Micro Masch, plus a wide variety of test gratings and test samples.

AIXTRON AG

info@aixtron.com
www.aixtron.com

BOOTH 317

Key Products: MOCVD and CVD Equipment; OVPD Equipment; AVD and ALD Equipment

AIXTRON is a leading provider of deposition equipment for the semiconductor industry. The company's technology solutions are used by a diverse range of customers worldwide to build advanced components for electronic and opto-electronic applications based on compound, silicon, or organic semiconductor materials. Such components are used in fiber optic communication systems, wireless and mobile telephony applications, optical and electronic storage devices, computing, signaling and lighting, as well as a range of other leading-edge technologies.

AJA INTERNATIONAL, INC.

topgun@ajaint.com
www.ajaint.com



BOOTH 307

Key Products: Magnetron Sputtering Systems; Magnetron Sputtering Sources; Substrate Holders/Heaters

Sputtering and E-beam Systems for R&D and Pilot Production. Static and Rotating Magnetron Sputter Sources for HV and UHV, Substrate Holders with Rotation, RF Biasing, Heating and Cooling; Sputter Targets, Microwave, RF and DC Power Supplies, Microwave Components and Plasma Sources, RF Ion/Plasma Sources.

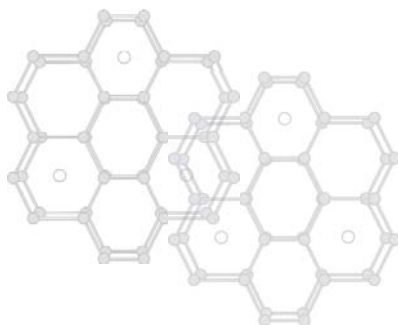
ALCATEL VACUUM PRODUCTS, INC.

inquiry@adixen-usa.com
www.adixen-usa.com

BOOTH 619

Key Products: Vacuum Pumps; Leak Detectors; Vacuum and Process Measurement

Alcatel manufactures a complete range of Adixen™ brand vacuum products including dry vacuum pumps and dry pumping systems, rotary vane pumps, ceramic bearing turbomolecular pumps, full 5 axis maglev turbomolecular pumps, molecular drag pumps, vacuum valves, vacuum gauges as well as vacuum flanges/fittings. Alcatel is also the world leader in helium leak detectors.



ALFA AESAR, A JOHNSON MATTHEY COMPANY

info@alfa.com
www.alfa.com

BOOTH 206

Key Products: High-Purity Metals; Evaporation Materials; Ceramics

Alfa Aesar, a Johnson Matthey Company is pleased to present a new line of nanoparticle and dispersion products from Nanophase Technologies. Stop by our booth to learn more and pick up the new Nanoparticles and Dispersions brochure. Alfa Aesar is a leading manufacturer and supplier of research chemicals, metals and materials. Our product line includes fabricated metals from aluminum to zirconium, provided in a comprehensive range of forms (sheet, wire, rod, targets, etc.). The full range of over 27,000 products includes inorganic and organic research chemicals, pure elements, alloys, precious metal compounds and catalysts, rare earths, precious metal labware, analytical products and more. Our Specialty Group supplies larger quantities or products that are not listed in the catalog. Visit our booth for a copy of the complete 2007/08 catalog or the High Purity Metals and Materials Catalog featuring high purity metals from A to Z.

ALFRED UNIVERSITY, NYS COLLEGE OF CERAMICS

cact.alfred.edu

BOOTH 825

Key Products: Ceramics; Nanotechnology; Energy

The Kazuo Inamori School of Engineering (SOE) at Alfred University, housed in the New York State College of Ceramics, is a leader in undergraduate and graduate education of ceramic engineers, glass scientists, material scientists, electrical and mechanical engineers. SOE faculty conduct research focusing on a variety of materials and disciplines including advanced materials (nanostructured ceramics and composites), glass, electronic and photonic materials, whitewares, biomaterials, energy and environmental systems, sensors and solid-state circuitry, and automotive and manufacturing systems.

AMBIOS TECHNOLOGY, INC.

Part of the Nanotechnology Group
sales@ambiostech.com
www.ambiostech.com



BOOTH 608

Key Products: Surface Profilers; Non-Contact Optical Profiler; AFM/STM

Ambios Technology, Inc. manufactures high performance, state-of-the-art, surface metrology equipment. Our product line includes stylus profilometers, non-contact optical profilers, and AFM and SPM instruments. The Ambios line is designed for the researcher who is interested in getting fast repeatable data that is not encumbered by unneeded levels of complication.

AMERICAN CHEMICAL SOCIETY, PUBLICATIONS

help@acs.org
pubs.acs.org

BOOTH 932

Key Products: Journals (Web and Print); Magazines; Books

ACS Publications will be showcasing its newest journal—*ACS Nano*—publishing comprehensive articles on nanoscience and nanotechnology. *ACS Nano* complements *Nano Letters*—#1 in Impact Factor and citations in nanoscience and nanotechnology. Other ACS journals include *Chemistry of Materials*—#1 in citations in materials science; *Crystal Growth & Design*—#1 in Impact Factor in crystallography; and the leading journals in physical chemistry—*The Journal of Physical Chemistry A, B and C, and Langmuir*.

AMERICAN INSTITUTE OF PHYSICS

mktg@aip.org
www.aip.org



BOOTH 833

Key Products: Journals; Conference Proceedings; Complete Publishing Services

AIP offers an open-access publishing option, Author Select, to contributors to any AIP journal. In addition, RSS feeds are available for AIP journal content by topic and for the journals' full content. Our new service, AIP Articles On Demand, lets your company prepay for a set number of articles from any AIP journal or online Conference Proceedings and enjoy immediate online delivery of any article, at savings of more than 50%.

2007 MRS FALL EXHIBITORS

AMERICAN PHYSICAL SOCIETY

assocpub@aps.org
www.aps.org

Key Products: Physics Journals; Online Journals; PROLA (Online Archive)

The American Physical Society is the publisher of the world's most prestigious and widely-read physics research journals: *Physical Review A, B, C, D, E, Physical Review Letters, Reviews of Modern Physics, PROLA (Physical Review Online Archive), PR-Special Topics-Accelerators and Beams, PR-Special Topics-Physics Education Research* and *PR Focus*. PROLA's fully searchable content and full-text articles includes everything published by APS back to 1893.

ANDEEN-HAGERLING, INC.

info@andeen-hagerling.com
www.andeen-hagerling.com

Key Products: Capacitance/Loss Bridges; Precision Reference Capacitors

Manufacturers of the most precise capacitance/loss bridges and capacitance standards available commercially. Bridges are fully automatic and can resolve measurements to sub-attofarad levels. Operation at fixed or variable frequencies (50 Hz to 20 KHz). Loss (dissipation factor) measured down to $1.5 \times 10^{-8} \tan \delta$. A-H bridges are ideal for many capacitance-based, precision sensor applications. AH capacitance standards available from 0.1 pF to 115 pF. Standards have stability < 0.3 ppm/year, temperature coefficient of .01 ppm/deg C, and are NIST traceable to an accuracy of 2 ppm.

ANFATEC INSTRUMENTS AG

mailbox@anfatec.de
www.anfatec.de

Key Products: AFM and STM; LockIn Amplifiers; SPM Controller

Anfatec Instruments AG is an established German company producing and distributing instrumentation for surface science. The product range implies scanning probe instruments like AFM (Atomic Force Microscopes) systems and STM (Scanning Tunneling Microscopes); PC-based, affordable SPM controllers as well as parts and accessories for scanning probe microscopes. The product range is completed with digital LockIn amplifiers. Anfatec is the German distributor for MikroMasch and other cantilever and grating suppliers.

ANGSTROM SCIENCES

info@angstromsciences.com
www.angstromsciences.com

Key Products: Circular Magnetrons; Linear Magnetrons; PVD Materials

Angstrom Sciences designs, engineers and manufactures high-performance magnetron sputtering sources and materials for R&D and production applications. The patented Angstrom Advantage™ design in our circular, linear, and cylindrical magnetrons provides the unique combination of high target utilization and deposition rates with uncompromised film. In addition, Angstrom Sciences offers a comprehensive selection of high-purity vacuum-deposition materials. Using a variety of specialized processes, we provide the kind of homogenous, fine-grained, high-density materials that conform to the strictest quality control.

ANGSTROM SUN TECHNOLOGIES, INC.

info@angstec.com
www.angstec.com

Key Products: Film Thickness Test System; Microspectrophotometer; Reflectometer/Ellipsometer

Angstrom Sun Technologies provides advanced but affordable TFProbe series optical instruments for thin film applications: 1) Desktop Film Thickness Mapping System with capability to handle 300 mm wafer; 2) Microspectrophotometer and film thickness measurement system for MEMS and patterned wafer with a sampling region as small as 1 μm ; 3) Simple and easy-to-use thin film thickness measurement station; 4) Photoluminescence Mapping system for Semiconductor materials; 5) Spectroscopic ellipsometer system; 6) Digital camera eyepiece for various microscopes and vision system; 7) Software for thin film and digital imaging analysis; and 8) Advanced analytical service for film thickness and optical constants.

BOOTH 832

APPLIED NANOSTRUCTURES, INC.

info@appnano.com
www.appnano.com

Key Products: SPM Probes; AFM Probes; Nanopores

Located in the heart of Silicon Valley, California, USA, Applied NanoStructures' mission is to provide high quality AFM probes for all applications. Typical tip radius of curvature is 5–6 nm. MFM and EFM probes give superior performance due to specialized metal coating techniques. A wafer of probes contains about 7% more probes making it the best combination of probe and quality. Applied NanoStructures leverages its in-house clean room to invent new technologies, to provide complete solution to their customers for standard as well as exclusive AFM probes from design to nanofabrication and to expand the product line for research in nanotechnology.

APPLIED SURFACE TECHNOLOGIES

co2clean@co2clean.com
www.co2clean.com

Key Products: CO₂ Cleaning; Surface Cleaning

The CO₂ Snow Jet cleaning process will be demonstrated. The Snow Jet cleaning process is a simple, yet novel surface cleaning process that can remove particles of all sizes (down to 0.03 microns) and also organic residues from surfaces. The process works well for many substrates, wafers, thin films, optics of all kinds, vacuum parts, analytical samples (AFM), and many other applications. The Snow Jet process is, nondestructively, residue-free with no environmental limitations. Bring samples for a demo!

ARKALON CHEMICAL TECHNOLOGIES, LLC

contact@arkalonllc.com
www.arkalonllc.com

Key Products: Custom Synthesis Services; Organometallics; Reactive Monomers

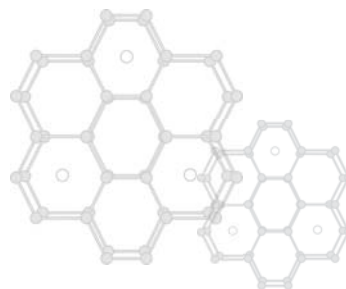
Arkalon Chemical Technologies, LLC is a dynamic, young company dedicated to helping its customers develop robust supply chains for their chemical requirements. Arkalon is a full service chemical supplier supporting its customers with capabilities in custom synthesis, process development, and full scale production. We are staffed by business and technical professionals with significant industry experience. We work collaboratively with customers to define needs, evolve specifications and develop timelines for supply. All our work is undertaken with strict attention to confidentiality to ensure that our customers' intellectual property remains protected.

ASEMBLON, INC.

sales@asemblon.com
www.asemblon.com

Key Products: Alkane Thiols; Gold Substrates; Surface Testing Services

Asemblon, Inc. is the leader in self-assembled monolayers with 30 years of experience in thiol-on-gold surface assembly and science. Asemblon's compounds are the purest (99+%). Our new products and services include: 1) Noble metal substrates, 2) Surface functionalization, 3) Surface testing with ESCA (XPS) and other methodologies, 4) Consultation on surface modification, 5) Custom synthesis of thiols, 6) Wide range of large and small order quantities of chemistry, and 7) Educational kits for high school and above.



BOOTH 1212

BOOTH 408

BOOTH 1206

BOOTH 624

BOOTH 320

BOOTH 724

BOOTH 121

BOOTH 722

ASYLUM RESEARCH
sales@AsylumResearch.com
www.AsylumResearch.com



BOOTH 511

Key Products: Atomic Force Microscopes; Scanning Probe Microscopes

Asylum Research manufactures advanced Atomic Force Microscopes for nanoscale science. Featured is the MFP-3D AFM with unprecedented precision while maintaining image clarity. The MFP-3D features the NPS™ Nanopositioning System for precision and accuracy with closed-loop operation in all three axes; a low noise, fully-digital controller; MicroAngelo built-in nanolithography and manipulation; IGOR Pro open software for customized experiments including advanced 3D rendering; ORCA for conductive AFM measurements, and advanced optical capabilities for simultaneous AFM and fluorescence imaging. Other capabilities include the NanoIndenter for quantitative mechanical properties measurements; ferroelectric imaging capabilities and environmental accessories. The new iDrive allows effortless cantilever tunes for fluid imaging.

ATTOCUBE SYSTEMS AG
 Part of the Nanotechnology Group
info@attocube.com
www.attocube.com

BOOTH 604

Key Products: Nanopositioning Systems; Low Temperature Microscope; SPM Controller

attocube systems AG offers a wide range of high-precision nanopositioning systems, easy-to-use scanning probe microscopes and probe stations. Temperatures down to 10 mK, high magnetic fields up to 28 T, and ultra-high vacuum conditions—the nanopositioners solve experimental tasks at the cutting edge. attocube's instruments enable users to analyze samples in various ways with atomic precision, even at Milli-Kelvin-temperatures.

AZONETWORK
info@azom.com
<http://www.azom.com>

BOOTH 1310

Key Products: Online Materials Knowledgebase; A to Z of Materials; Supplier and Expert Directory

www.AZoM.com, the A to Z of Materials, is now widely recognized as the number one online engineering materials knowledgebase, supplier and expert directory. Providing free open access to materials information, case histories, news and materials science journal papers. AZoM.com now serves over 1 million monthly visitor sessions to a global audience of designers, engineers and scientists. Reach your customers online by promoting your material business on AZoM.com.

BANDWIDTH SEMICONDUCTOR, LLC
sales@bandwidthsemi.com
www.bandwidthsemi.com

BOOTH 207

Bandwidth Semiconductor provides custom III-V epi wafers, device processing services and thin film products, such as back contact chip resistors and custom hybrid circuits. Bandwidth Semiconductor operates out of a new state-of-the-art facility in Hudson, NH, equipped with the most advanced MOCVD and device fabrication equipment. We have a superb staff of multi-talented professionals, who bring to you over 25 years of experience in III-V epitaxial wafer growth and device process.

BEDE SCIENTIFIC INSTRUMENTS LIMITED
info@bede.co.uk
www.bede.com

BOOTH 1308

Bede Scientific, the global X-ray metrology company, supplies X-ray diffractometry, reflectometry, and topography instruments for industrial and scientific applications. Their laboratory diffractometers consist of the versatile D1 family of instruments and the BedeMetrix-L. These instruments are multi-configurable and capable of a wide variety of X-ray measurements in both high resolution and polycrystalline measurement modes. The BedeMetrix-L has the ability to map 300 mm wafers, a robot loading option and measures small pads on patterned wafers.

BLUE WAVE SEMICONDUCTORS, INC.
info@bluewavesemi.com
www.bluewavesemi.com

BOOTH 102

Key Products: Wafer/Substrate Heaters; Epitaxial Thin Films; Thin Film Deposition Tools

Bluewave Semiconductors, Inc. (BWS) is proud to present its line of wafer/substrate heating products for controlled and precise process heating which is essential in thin film synthesis in device manufacturing, and research and development. BWS provides innovative wafer/substrate heating assemblies including the electronics. The heater product lines are available for use in vacuum ($\leq 5 \times 10^{-4}$ torr) and other gaseous ambient. These heaters have been proven by our valued customers in basic research laboratories as well as in manufacturing. Backed by years of experience and expertise, BWS has the unique ability to extend technical support and work closely with customers to provide system solutions and custom designs by request. Additional product lines include radiation hard transparent coatings and low cost oxide UV photodetectors. BWS has also developed a novel low cost PVD method for growing epitaxial aluminum nitride and AlN alloys for LED III-nitride and RF MEMS technology.

BRUKER AXS INC.
info@bruker-axs.com
www.bruker-axs.com



BOOTH 300

Key Products: X-Ray Diffraction Instruments; Detectors; Microanalysis Instruments

Bruker AXS specializes in high-end X-ray diffraction solutions performing a wealth of applications in materials analysis. Our technology is used to investigate complex samples ranging from wafers, thin films, and powders to amorphous materials. We are the market leader in XRD, offering the largest, highest quality portfolio of cutting edge diffraction components and software. Our products include the D8 product line, Super Speed Solutions, NanoStar, Multex Area, Leptos, NanoFit and Topas.

EDMUND BUEHLER GMBH
info@edmund-buehler.de
www.edmund-buehler.de

BOOTH 211

Key Products: Arc Melters; Melt Spinners; High Temperature Furnaces

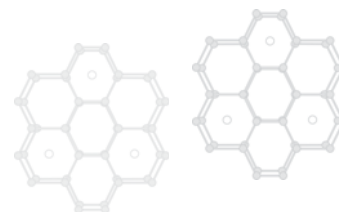
Edmund Buehler GmbH is a leading manufacturer of laboratory instruments and customized solutions in the field of research and technical development for materials science. Founded in 1880, the company has more than 30 years of experience in high temperature, high vacuum, high pressure R&D and has a worldwide reputation for quality and service. Cooperations with leading institutes and universities ensure new developments, up-to-date with scientific research.

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BOOTH 836

Key Products: Books; Journals; CD-ROMs

Please stop by the Cambridge University Press booth to peruse the latest in materials science, including *Volume 2 of Crystallization of Polymers* by Leo Mandelkern; *Physical Properties of Polymers* by James Mark et al.; *Thin Film Materials* by Ben Freund and Subra Suresh; *Some Modern Methods of Organic Synthesis* by William Carruthers and Iain Coldham; *The Art of Molecular Dynamics Simulation* by Dennis Rapaport; and *Electronic Structure* by Richard Martin. Buy now and enjoy a special 20% discount!





CAPOVANI BROTHERS INC.

Exhibiting within the NY Loves Nanotech Pavilion
cbi@capovani.com
www.capovani.com

BOOTH 325

Key Products: Used Semiconductor Equipment; High-technology Equipment; Equipment for Nanotechnology

Capovani Brothers Inc. is a buyer and reseller of semiconductor manufacturing and related high technology equipment. Our inventory is derived from MEMS, nanotechnology, and compound semiconductor industries. All equipment sold is refurbished by our engineers and guaranteed. For the past nineteen years, we have been successful in our mission of providing quality used equipment at a great value. Our entire inventory is located in our Scotia, New York facility and available on the Internet.

CARL ZEISS SMT INC.

info-usa@smt.zeiss.com
www.smt.zeiss.com

BOOTH 501

Key Products: Electron Microscopes; FIB

Carl Zeiss SMT's Nano Technology Systems Division offers industry leading analytical EVO® SEMs, a complete range of ultra high resolution GEMINI® FESEMs, energy filtering TEMs and FIB workstations, featuring the NVision, the only tool capable of simultaneous imaging and milling. Its newly invented helium ion microscope, ORION™, provides high resolution images and contrast mechanisms which are complimentary to the traditional SEM or FIB. SMT solutions are perfect for nanotechnology applications in semiconductor technology, materials research and the life sciences.

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CASTING ANALYSIS INC.

info@castinganalysis.com
www.castinganalysis.com

BOOTH 119

Key Products: Solidification Monitor; Conductivity Profiling of Semiconductors; Low Frequency Spin Wave Resource Kit

The corporation was formed in 1982 to sell instrumentation monitoring high temperature processes in metals and semiconductors using multi-frequency eddy currents. Systems to examine growth and cooling of Si, Ge and GaAs, induction heating of steels, CdTe CdZnTe and HgCdTe crystal growth and thermal treatment and many other material and alloys were produced. These measurement systems have been used as a basis in the design of a number of NDT eddy current tools that provide the most sensitive industrial eddy current flaw measuring tools for the wire, bar and tube industry and are used worldwide.

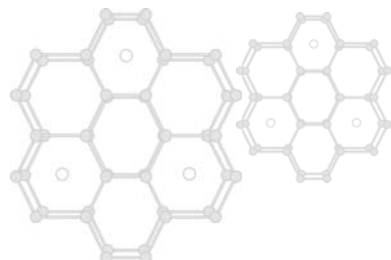
CENTER FOR TRIBOLOGY, INC.

sales@cetr.com
www.cetr.com

BOOTH 705

Key Products: Universal Nano+Micro+Macro Materials Testers

CETR is a world leading manufacturer of nano, micro and macro precision mechanical testers for coatings, thin films and bulk materials, with measurements of adhesion, delamination, scratch-resistance, nano- and micro- hardness, elastic modulus, friction, reciprocating and rotary wear, fatigue, elasticity, plasticity and other mechanical properties, including in controlled temperature (-25C to +1,000C), humidity or vacuum, for biomedical, microelectronics, data storage and other industries, as well as for basic materials research on nano and micro levels.



CERAC, INC.

Subsidiary of Williams Advanced Materials
ceracinfo@beminc.com
www.cerac.com

Key Products: Specialty Inorganic Chemicals and Thin Film Materials

CERAC is a global manufacturer of inorganic chemicals and thin-film materials for photovoltaics, precision optics, medical, aerospace and other rapidly advancing markets. In partnership with customers, and parent company Williams Advanced Materials, CERAC is developing new products for thin-film solar cell applications. We supply materials for the entire cell assembly, including transparent conducting oxides (AZO, ZnO, GZO, Zn₂SnO₄) positive, negative junction materials (CdTe, CdS, ClGS, Cu/Ga Alloys), antireflective (AR) layers, conducting interconnects (Ag) and protective barrier film materials.

CERAMTEC NORTH AMERICA CORP.

sales@ceramtec.com
www2.ceramtec.com

BOOTH 916

Key Products: Hermetic Feedthroughs; Connectors; Technical Ceramics

CeramTec North America designs and manufactures ceramic-to-metal and glass-ceramic hermetically sealed electrical and optical components. These products include: feedthroughs, multipin connectors (Circular and Sub D Type), coaxial connectors, viewports/windows, thermocouples, isolators, baseplate feedthroughs, cables and custom assemblies. CeramTec has more than 55 years of experience behind our hermetically sealed components, which include both standard and CUSTOM designs for use in vacuum, ultra-high vacuum, high-pressure, cryogenic and high-temperature applications. ISO 9001:2000 quality system certified.

CHEAP TUBES, INC.

www.cheaptubesinc.com

BOOTH 1200

Key Products: Carbon Nanotubes; Chiral Compounds

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CHEMAT TECHNOLOGY, INC.

marketing@chemat.com
www.chemat.com

BOOTH 100

Key Products: Spin Coater; Coating Equipment; Chemical Precursors

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CHENGDU ULTRA PURE APPLIED MATERIALS CO., LTD.

sales@upam.cn
www.upam.cn

BOOTH 1204

Key Products: Sputtering Targets; Evaporation Materials; Vacuum Chamber

Chengdu Ultra Pure Applied Materials Co., Ltd. (UPAM) is the leading Laser/Infrared thin film coating maker and the major manufacturer of Sputtering Targets and Evaporation Materials and Optical Elements OEM in China. UPAM is also a major infrared coating and laser films manufacturer. We supply the kind of films and accordingly Si/Ge chips to the world, and our targets and evaporation materials are used by optical and semiconductor manufacturers. UPAM always supplies high quality products and has a very strict inspection equipment policy and programme to guarantee quality. UPAM warmly welcomes you to visit our booth.

COMSOL, INC.
info@comsol.com
www.comsol.com

BOOTH 108

Key Products: COMSOL Multiphysics

COMSOL provides COMSOL Multiphysics®, a modeling package for the simulation of any physical process you can describe with partial differential equations (PDEs). To deal with the increasing demand for realistic representations of the world around us, you can easily model systems of coupled physics phenomena. Our state-of-the-art solvers, ease of use, and unprecedented flexibility make COMSOL Multiphysics the ideal modeling and simulation software for research, product development, and education.

CRYOGENIC CONTROL SYSTEMS, INC.
sales@cryocon.com
www.cryocon.com

BOOTH 905

Key Products: Temperature Controllers; Temperature Monitors; Sensors

Cryogenic Control Systems (Cryo-con) is a manufacturer of precision electronic instrumentation for both laboratory and industrial process control applications. Cryo-con offers a full line of cryogenic temperature controllers, monitors, scanners, cryogenic accessories and temperature sensors. We will be displaying our new Model 42/44 cryogenic temperature controllers, perfect for He3 applications as well as our new Model 18, 8 channel cryogenic monitor. Both have Ethernet connectivity and support a wide range of sensors.

CRYSTALMAKER SOFTWARE LTD.
info@crystallmaker.com
www.crystallmaker.com

BOOTH 1208

Key Products: CrystalMaker; CrystalDiffract; SingleCrystal

CrystalMaker Software Ltd. develops software for working with crystalline materials and their diffraction patterns, including the award-winning CrystalMaker® (interactive structures visualization) with its real-time photo-realistic graphics. This works seamlessly with our other products: CrystalDiffract™ (x-ray and neutron powder diffraction) and SingleCrystal™ (electron diffraction and stereographic projections). All products feature elegant, easy-to-use interfaces plus cross-platform compatibility for Windows XP/Vista and Mac OS X (PowerPC/Intel).

CSM INSTRUMENTS INC.
Part of the Nanotechnology Group
usinfo@csm-instruments.com
www.csm-instruments.com

BOOTH 601

Key Products: Scratch Testers; Indentation Testers; Tribometers; Calotest

CSM Instruments offers a wide range of instruments and testing services for surface mechanical properties characterization, including: nano and micro indentation (for hardness and modulus); Revetest, nano and micro scratch (thin film adhesion, fracture and deformation); tribometers (also high temperature and linear reciprocating options); and Calotest. 3D-imaging options are available with the ConScan or AFM objective. The new Compact and Open Platforms allow several measurement modules to be combined on an automated sample stage for high throughput quality control (multi-sample) applications. The new Nano Tribometer allows simulation of low load tribological contacts; e.g., in MEMS, microsystems and other devices. CSM Instruments offers complete contract testing and consulting services.

DCA INSTRUMENTS, INC.
dcausa@optonline.net
www.dca.fi

BOOTH 522

Key Products: MBE Systems; Effusion Cells; UHV Sputtering Systems; PLD

DCA Instruments specializes in the design and manufacture of high-quality UHV deposition systems, offering standard systems for the following deposition techniques: III-V, II-VI, CMT-MBE, metal MBE, UHV sputtering, UHV laser ablation, and UHV CVD. DCA Instruments also offers a wide range of MBE components which are retrofittable to the majority of existing systems. Components include effusion cells, soft-action magnetically driven linear shutters, a 'zero-wobble' substrate manipulator and a self-regulating mercury source.

DELONG AMERICA INC.
info@lv-em.com
www.lv-em.com

BOOTH 1006

Key Products: Benchtop Combined TEM, SEM and STEM

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DELTANU, INC.
sales@deltanu.com
www.deltanu.com

BOOTH 723

Key Products: Raman Spectrometers; Raman Microscopes; Portable/Hand-Held Raman

DeltaNu manufactures Raman spectrometers and accessories for academics, industry, and OEM. The *ExamineR* Raman microscope has outstanding imaging and spectral characteristics. The latest addition to DeltaNu and the *Advantage Series* bench-top systems is the *Advantage 1064* featuring DNIR Raman. The *Inspector Raman* and *RockHound* are handheld spectrometers used for field work. The *NuScope* digital microscope can be added to any bench top or portable system for fine laser positioning on a solid specimen.

DENTON VACUUM, LLC
info@dentonvacuum.com
www.dentonvacuum.com

BOOTH 917

Key Products: Sample Preparation Tools; High Vacuum Carbon Evaporators; Thin Film Deposition Systems

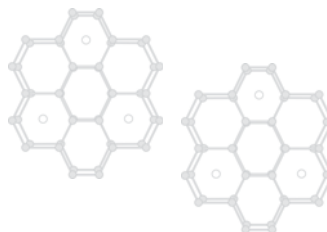
Denton Vacuum is a leading U.S. manufacturer with over four decades of leadership in design, manufacture and support of thin film deposition systems for science and industry. Reliability and support are assured—spare parts are always available for rapid delivery. We carry a full line of EM systems and accessories. Stop by to see our newest generation of sample preparation systems. Ask about our special show promotion. Quality products, dependable customer service and a commitment to your satisfaction and success.

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www.diamondwiretech.com

BOOTH 1033

Key Products: Diamond Impregnated Wire; Multi-Wire Saws; Single Wire Saws

Diamond Wire Technology—the World's Largest and Oldest producer of Diamond Wire and Diamond Wire Saws. Diamond Wire produces the smallest kerf, highest throughput and Precision Quality Surface Finishes for all wafering and cutting needs. Introduction of HyperWire means slurry saws can now be converted to Diamond Wire for the highest finishes and lowest cost enjoyed by existing Diamond Wire customers. Multi-Wire Saws, Single Wire Saws and Custom Saws are designed and manufactured by highly experience Engineers. Diamond Wire—Being Better Tomorrow... Than You Are Today!



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DIGITAL SURF SARL
contact@digitalsurf.fr
www.digitalsurf.com

BOOTH 118

Key Products: Surface Analysis Software; Confocal Optical Distance Gauges; Electronic Control Systems for Surface Profilometers

Surface analysis software based upon Digital Surf's Mountains® technology is a leading solution for intelligent visualisation and analysis of 3D surface topography. Integrated by instrument manufacturers, it complies with international and national standards and is used in thousands of laboratories and industrial facilities worldwide. Mountains® version 5, released in autumn 2007, contains innovative features for SPM applications, including 4D image analysis. Digital Surf also provides controllers and chromatic confocal gauges for multi-gauge multi-axis 3D profilometers.

DUNIWAY STOCKROOM CORPORATION
info@duniway.com
www.duniway.com

BOOTH 1201

Key Products: Vacuum Pumps; Vacuum Gauges; Vacuum Supplies

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ECOPIA CORP.
sales@ecopia21.co.kr
www.ecopia21.co.kr

BOOTH 906

Key Products: Hall Effect Measurement System; Probe Station; Heat Treatment System

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EDAX INC. /TSL
info.edax@ametek.com
www.edax.com



BOOTH 113

Key Products: Energy Dispersive X-ray; EBSD; X-ray Detectors

EDAX raises the standard as the technical innovator with high performance and functionality that gives you "Confidence in Your Results." For many years EDAX has lead the industry as the world's largest supplier of EDS, EBSD and WDS systems and as the technical and performance leader. EDAX-TSL integrated products provide a powerful and unique combination of elemental information from EDS and structural information from EBSD in the EDAX Pegasus, while the EDAX Trident combines the EDS and EBSD capabilities with WDS to provide a complete solution.

ELECTRON MICROSCOPY SCIENCES
sgkck@aol.com
www.emsdiasum.com

BOOTH 1020

Key Products: Microscopy Supplies; Chemicals; Materials Prep

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ELSEVIER
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BOOTH 730

Key Products: Books; Journals; Electronic Products

Elsevier/Academic Press delivers world-class print and electronic content to the scientific and technical communities from textbooks to corporate and laboratory research references, and journals in materials science and technology. Conference discounts apply and free sample journals are available.

EVANS ANALYTICAL GROUP
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www.eaglabs.com

BOOTH 708

Key Products: Analytical Services

Evans Analytical Group® (EAG) is the world's leading, fully integrated and independent materials characterization lab network delivering world class testing services and expertise in surface analysis, trace elemental analysis, electron microscopy, failure analysis and circuit edit. EAG offers a comprehensive suite of over 30 analytical techniques and services supported by a fleet of 150 major instruments via 15 EAG locations across Asia, Europe and the U.S. Techniques/Services include: SIMS, TOF-SIMS, XPS, AES, FTIR, GDMS, IGA, ICP-OES/MS, LA-ICP-MS, LEXES, TEM/STEM, SEM, EDS, Dual Beam FIB/SEM, XRF, XRD, XRR, TXRF, AFM/SPM, RBS, HFS, NRA, PIXE, Raman, GC/MS, Chip Decapsulation/Deprocessing, Electrical Localization (Photon Emission, OBIRCH, TIVA, Liquid Crystal), RTX, SAM, FIB Circuit Edit, ESD & Latchup.

FEI COMPANY
sales@feico.com
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BOOTH 410

Key Products: SEM; TEM; DualBeam

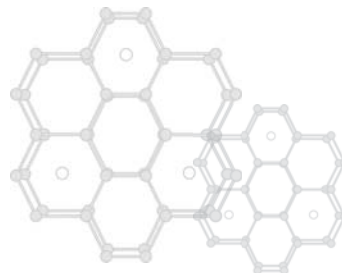
New Titan™ S/TEM breaks the Ångström barrier, enabling the highest resolution characterization of nanostructures and functional materials. Nova NanoSEM™ dedicated field emission, high resolution, low vacuum SEM is ideal for ultra-high resolution characterization of charging or contaminating samples such as organic materials, glass substrates, porous materials, plastics and polymers. Nova NanoLab™ and Quanta 3D™ both offer high resolution SEM imaging and FIB cross-sectioning for the most comprehensive characterization of materials, while Tecnai TEMs delivers atomic scale resolution for advanced materials research.

FIRST NANO
Div. of CVD Equipment Corporation
Exhibiting within the NY Loves Nanotech Pavilion
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www.firstnano.com

BOOTH 324

Key Products: EasyTube 2000; EasyTube 3000; EasyTube 6000; EasyGas 1000; Easy Gas 1500

First Nano is pleased to announce the introduction of several new products and the Open Lab. The EasyTube 2000/3000/4000/6000 process development platforms lead the way in optimized nanomaterials synthesis using various CVD techniques. The Open Lab gives researchers unprecedented access to equipment, processes, and capabilities. With over 25 years of industry experience and the largest install base, no other company has the experience and knowledge in nanotube and nanowire growth. Come visit Booth 324 to find out more or contact Gary Dyal at gdyal@firstnano.com or visit www.firstnano.com.



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FISCHIONE INSTRUMENTS

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www.fischione.com



BOOTH 313

Key Products: Electron Microscope Accessories; Plasma Cleaner; Ion Mill

Fischione Instruments features a full line of Electron Microscopy Instrumentation. TEM Specimen Preparation Instruments include the Twin-Jet Electropolisher, Dimpling Grinder, Ultrasonic Disk Cutter, Ion Mill, and the Plasma Cleaner which eliminates contamination in TEM and SEM applications. The NanoMill combines ultra-low ion energies and a concentrated beam for artifact-free preparation. The Automated Sample Prep (ASaP) System (Patent Pending) significantly enhances the image quality and analytical data derived from SEM specimens. Imaging Instruments include the high angle Annular Dark Field (ADF) detector for high resolution STEM imaging. The Model 2000 TEM Tomography Holder series includes specimen holders that allow high tilt and extended fields of view and are available in single-, dual- and on-axis versions.

FUJIFILM DIMATIX, INC.

info@dimatix.com
www.dimatix.com

BOOTH 924

Key Products: Materials Deposition Printer; Materials Deposition Cartridge; Other Printheads and Systems

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GATAN, INC.

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www.gatan.com



BOOTH 701

Key Products: TEM and SEM Instruments; Nanotechnology Holders; Material Science EM Instruments

Gatan designs and manufactures instruments and products for electron microscopes that enable and advance EM applications. Gatan is the recognized leader in the industry and our products set the industry standards. Our engineers understand the application criteria of our customers and provide them with the right solutions. GATAN GETS IT!

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www.gelest.com



BOOTH 913

Key Products: Organosilanes; Organometallics; Silicones

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GOODFELLOW CORPORATION

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www.goodfellow.com



BOOTH 625

Key Products: Materials for Research & Development

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HALCYONICS GMBH

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www.halcyonics.de

BOOTH 806

Key Products: Active Vibration Isolation Systems; Laboratory Tables

Halcyonics is the global market leader in compact active vibration isolation. The anti-vibration specialists manufacture seven product lines with more than 25 different standard versions, offering the greatest competence and flexibility in customized active vibration isolation technology. Halcyonics is represented through their own sales organizations in Germany and the USA; a global network of distributors offers support to customers worldwide.

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www.sales.hamamatsu.com

BOOTH 707

Key Products: PMTs

Hamamatsu Corporation is one of the world leaders in photo detector and light source manufacturing. Hamamatsu Corporation is introducing a new advanced detector for the near infrared region. The R3809U-68/69 has a response range to 1.4 μm or 1.7 μm . These detectors feature extremely fast response time such as 100 picoseconds as well as single photon counting performance allowing weak light detection in the near infrared region. Hamamatsu Corporation will also feature the NIR PMT module.

HEATWAVE LABS INC.

techsales@cathode.com
www.cathode.com

BOOTH 116

Key Products: Substrate Heaters; Dispenser Cathodes; Ion Pumps and Controllers

HeatWave Labs is an engineering, design and manufacturing company that specializes in components and assemblies for the vacuum tube and vacuum equipment industries. Our expertise lies in the areas of thermionic cathodes and ion emitters and guns, ion sources and ionizers, ion pumps and controllers, vacuum tube design, processing and rebuilding, specialized high purity and refractory materials, UHV sample heating and filament products, temperature controllers and power supplies, ceramics and vacuum envelope assemblies and other related products.

HERZAN LLC

Part of the Nanotechnology Group
sales@herzan.com
www.herzan.com

BOOTH 606

Key Products: Vibration Isolation; Acoustic Enclosures; Site Surveys

Herzan (www.herzan.com) is a comprehensive environmental solutions provider for the high precision research market. We specialize in high performance acoustic enclosures and cutting edge active vibration isolation technology. We also provide site survey services, EMI solutions, and passive vibration isolation options. Herzan is the leading solutions provider to AFM makers and end users. We also serve the SPM, STM, SEM, TEM, and optical microscopy communities. We offer off-the-shelf and custom solutions for OEMs and end users. No application is too sensitive or environment too noisy for our high performance solutions to overcome!

HIELSCHER USA, INC.

usa@hielscher.com
www.hielscher.com

BOOTH 1028

Key Products: Ultrasonic Processor

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HIGH VOLTAGE ENGINEERING EUROPA B.V.

info@highvolteng.com
www.highvolteng.com

BOOTH 1012

Key Products:

Accelerators
High Voltage Engineering, an engineering-oriented company, designs, manufactures, sells and markets custom-made, high-tech capital equipment for the world market. Specializing in the development and manufacture of ion beam technology-based equipment, High Voltage Engineering is the largest and most diverse manufacturer of particle accelerator systems for the scientific, educational and industrial research communities. Major product lines include: ion accelerator systems, research ion implanters, systems for ion beam analysis and systems for accelerator mass spectrometry. Recent developments include extension of the terminal voltage range from 5.0 MV to 6.0 MV and increase of the output power from 10 kW to 50 kW for the range of Tandetron (tandem) and Singletron (single-ended) accelerators.

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HITACHI HIGH TECHNOLOGIES AMERICA, INC.

emdwebsite@hitachi-hta.com
www.hitachi-hta.com/emd

BOOTH 201

Key Products:

Scanning Electron Microscopes
Hitachi High Technologies America, a global leader serving the needs for material science and nanotechnology development, provides a wide array of advanced electron microscopes. Our product line-up includes Scanning Electron Microscopes (SEM), Transmission Electron Microscopes (TEM), Variable Pressure SEM (VP SEM), Field Emission SEM (FE SEM), Focused Ion Beam Systems (FIB) and the new TM-1000 Tabletop SEM (now available with EDS). Our customers can expect more experience, reliability and customer support when choosing Hitachi electron microscopes.

HORIBA JOBIN YVON, INC.

info@jobinyvon.com
www.jobinyvon.com



BOOTH 801

Key Products:

Spectroscopic Ellipsometers; Raman Spectroscopy; Fluorimeters
HJY is a World Leading Manufacturer of Spectroscopic Instrumentation for all applications from Research and Development to routine analysis. We manufacture Spectroscopic Ellipsometers, End Point Detectors, Raman Systems, GDS, and ICP Spectrometers, Steady State and Lifetime Spectrofluorimeters with both TCSPC and phase capability and EDXRF Microscopes. Ellipsometry measures film thickness and optical constants for all types of materials. End Point Detectors are used for plasma analysis and trench depth monitoring. Raman systems for materials analysis, stress measurement and defect/contaminant identification offer maximum flexibility with options such as Raman micro, macro and probe based sampling options, and combined Raman-FTIR and Raman-AFM on the same microscope. We also provide imaging spectrometers and high performance CCDs for Photoluminescence (PL) measurements.

HREM RESEARCH INC.

support@hremresearch.com
www.hremresearch.com



BOOTH 1211

Key Products:

Software for Electron Microscopy
HREM Research Inc. is a software company for quantitative electron microscopy. The company is directed by Dr. Kazuo Ishizuka, who has established a procedure for HREM image simulation based on the FFT multislice technique. We are now offering software for exit wave reconstruction/Cs-correction, EELS and STEM-HAADF Deconvolution, Magnetic or Electric Field Observation, Strain Mapping strain and optimal noise filtering. Please check our web site at www.hremresearch.com for more details.



HUNTINGTON MECHANICAL LABORATORIES, INC.

vacman@huntvac.com
www.huntvac.com

BOOTH 1001

Key Products:

Manipulations; Chambers; Positioning Devices
The industry's largest selection of vacuum valves, flanges, fittings, and feedthroughs is available when you need it at Huntington. Also available are a wide assortment of roughing components including flexible hoses, traps, thermocouple and ionization gauge tubes, sorption and jet roughing pumps. Standard, custom, or modified UHV positioning and motion devices can be provided to meet your special needs. Stainless steel custom chambers, tees, and crosses are supported by 35 years of experience in vacuum chamber design and fabrication. Our electrical feedthrough product line has been dramatically increased. We also now offer a Pulse Laser Deposition System! See all of our products on our website at www.huntvac.com.

See Ad in this Issue

HVA, LLC

sales@highvac.com
www.highvac.com

BOOTH 719

Key Products:

Gate Valves; Rectangular Valves; Pendulum Valves
HVA is the premier manufacturer of high and ultrahigh vacuum valves for the semiconductor, scientific, and high-technology industries. Gate valves and rectangular valves are constructed out of 304 Stainless Steel, vacuum furnace brazed at 1100°C at 10⁻⁶ for maximum joint integrity. Product line includes stainless-steel gate valves, 3-position valves, angle valves, complete throttle/isolation gate valve systems, stainless-steel/aluminum rectangular valves, pendulum valves, new rapid service slit valves for easy maintenance, and more.

HYSITRON, INC.

info@hysitron.com
www.hysitron.com



BOOTH 417

Key Products:

TribolDenter; TriboScope II; PicoDenter
Hysitron systems provide multiple analysis techniques for customized materials testing solutions of bulk materials, thin films and nanostructures (MEMS); from tribological films to biological materials. Stop by and learn about our new products, such as nanoECR™, which permits simultaneous measurements of Current-Voltage and Force-Displacement letting you correlate electrical and mechanical properties of materials at the nanoscale and our nanoTensile™ 5000, which redefines nanoscale tensile and pull testing with an extended force and displacement range enabled by dual-mode and dynamic operation.

IEEE

customer-service@ieee.org
www.ieee.org

BOOTH 737

IEEE, a leading authority in electrical engineering and computing technologies, offers online resources vital to engineers and researchers worldwide. IEEE is the world's largest technical professional society and publishes the leading journals in the field, sponsors more than 300 conferences, and has developed over 1,600 industry standards. Additional information is available at www.ieee.org/pubsonline.

IMAGE METROLOGY A/S

Part of the Nanotechnology Group
sales@imagemet.com
www.imagemet.com

BOOTH 607

Key Products:

Image Software
Image Metrology provides the Scanning Probe Image Processor, SPIP, software package. SPIP is an image processing and data processing program with specialized utilities for microscopy, metrology, visualization and automation. The main purpose of the program is to provide tools that can correct for random and systematic errors and achieve the most correct measurements automatically.

2007 MRS FALL EXHIBITORS

IMAGO SCIENTIFIC INSTRUMENTS CORPORATION
information@imago.com
www.imago.com



BOOTH 422

Key Products: Atom Probe Microscope

Imago Scientific Instruments provides solutions for 3D, atomic resolution, compositional imaging and analysis. Materials are examined by removing and analyzing individual atoms. Material systems studied using Imago's technology include metal precipitates, Nanomagnetic interfaces, High-k dielectric/Si interfaces, and the 3D distribution of dopants in semiconductors.

INEL, INC.
inelinc@aol.com
www.inel.fr

BOOTH 225

Key Products: X-ray Powder Diffractometers; X-ray Tubes; X-ray Generators

Serving the x-ray diffraction community for over 30 years, Inel is one of the world's leading suppliers of quality x-ray diffractometer systems incorporating curved or linear position sensitive detectors. Applications include powders, texture analysis, thin films, combinatorial, chemistry and materials analysis, reflectometry, microdiffraction, polymers, capillaries, *in situ*, on-line, transmission and reflection, small angle scattering, and variable temperature dynamic studies. We offer new systems and also hardware and software upgrades to existing instruments. Please inquire about our new Equinox diffractometer line.

INFICON
reachus@inficon.com
www.inficon.com

BOOTH 219

INFICON thin film deposition controllers and monitors control deposition rate and thickness of the most complex processes with unsurpassed measurement speed and precision. INFICON quartz crystals offer the highest reliability for millions of successful process runs. Available in 5 or 6 MHz with gold, silver or alloy electrodes, INFICON crystals are 100% factory tested to ensure quality. INFICON also provides residual gas analyzers, particle detectors, leak detectors, RF sensors, sensor integration and analysis software, vacuum gauges, valves, fittings and feedthroughs.

INNOVATIVE COATINGS LLC
innovativellc@att.net
www.innovativecoatingsllc.com

BOOTH 1209

Key Products: Vacuum Coating; Equipment and Process; Consulting

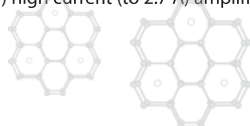
Innovative Coatings provides sputter coating services for coating powders and other substrate forms. A wide variety of coating materials can be provided, either elemental or compound, by DC, PDC or reactive deposition. Development and research projects are welcomed. Innovative provides process and equipment development, including equipment building for research, prototype and production applications. Visit our Web site at www.innovativecoatingsllc.com.

INSTECH INC.
sales@instec.com
www.instec.com

BOOTH 1021

Key Products: Hot Cold Microscope Stage; Hot Cold Chuck; Thermal Plate

Since 1984, Instec has designed, manufactured and provided microscope hot and cold stages (-190°C to 700°C and above) with temperature controllers (precision better than 0.01°C), microscope accessories (e.g., C-mount microscope digital cameras with sample temperature overlay and long working distance condensers), hot and cold chucks and plates (-190°C to 600°C) with low leakage and low noise, high voltage (>100V) high frequency (to 5 MHz) function generators, and high voltage (to 800 V) high current (to 2.7 A) amplifiers.



INSTITUTION OF ENGINEERING AND TECHNOLOGY
postmaster@theiet.org
www.theiet.org

BOOTH 733

Key Products: IET Digital Library; Journals; Magazines; Books; Inspec Database

The Institution of Engineering and Technology is Europe's largest professional society for engineers, and a leading international scientific and technical publisher. The IET offers a wide range of publications in many areas of engineering, science and technology, including the journal *Micro & Nano Letters*, which specializes in rapid publication of short research papers derived from fundamental and applied research conducted at the forefront of micro- and nanoscale science and technology.

INTERNATIONAL CENTRE FOR DIFFRACTION DATA (ICDD)
info@icdd.com
www.icdd.com



BOOTH 306

Key Products: Powder Diffraction File (PDF-4+; PDF-2, PDF-4/Organics)

ICDD's material identification databases are designed for rapid materials identification and interfaced with diffractometers and data analysis systems of the world's leading software developers and manufacturers of X-ray equipment. The File is available in PDF-2, Release 2007 (199,574 entries), PDF-4+ 2007 (272,232 entries), PDF-4/Minerals 2007 (25,861 entries) and PDF-4/Organics 2008 (341,540 entries). ICDD promotes the application of materials characterization methods by sponsoring the Denver X-ray Conference; its proceedings, *Advances in X-ray Analysis* and the journal, *Powder Diffraction*.

INTLVAC
sales@intlvac.com
www.intlvac.com

BOOTH 120

Key Products: Nanoquest Ion Beam Systems; Thin Film Coating Services; Specializing in Precious Metals

Intlvac's line of Nanoquest Ion Beam Etch and Deposition systems range from R&D small batch to large production tools. Ion Beam technology is ideal for depositing magnetic materials, metals and insulators. Etch any material, even precious metals with an inert gas beam. All systems are available with manual or automatic substrate load locks. Intlvac's systems use a new generation of R.F. Ion Sources developed by Dr. Harold Kaufman.

ION-TOF USA, INC.
sales@iontofusa.com
www.iontofusa.com

BOOTH 209

Key Products: TOF-SIMS; Materials Analysis; Surface Analysis

ION-TOF is the leading European manufacturer of TOF-SIMS (time-of-flight secondary ion mass spectrometry) instruments used for surface analysis. TOF-SIMS is used in all areas of surface characterization including adhesives, thin films, electronic materials, polymers and biological studies. ION-TOF's revolutionary Bi source enables the optimum analysis of any material. The ability to generate 3D chemical maps with 100 nm resolution on a wide range of samples makes our TOF-SIMS instruments a desirable addition to any laboratory.

IOP PUBLISHING
info@ioppubusa.com
www.iop.org



BOOTH 729

Key Products: Leading journals, such as Nanotechnology, JPCM, MSMSE

IOP Publishing is an international, not-for-profit, learned society publisher of leading journals like *Nanotechnology*, *Journal of Physics: Condensed Matter*, *Modelling and Simulation in Materials Science and Engineering*, Magazines and Community Websites. Stop by our booth for a free sample copy of one of our printed publications, or for a personal demonstration of our award-winning electronic journals service and websites such as nanotechweb.org. Visit IOP at www.iop.org.

IXRF SYSTEMS, INC.
info@ixrfsystems.com
www.ixrfsystems.com

BOOTH 208

Key Products: Microanalysis Systems; XRF for SEM

iXRF's integrated EDS systems combine the SEM and iXRF EDS user interfaces into a single application. The EDS Toolbar is accessed directly from the SEM user interface allowing advanced microanalysis features to be performed directly on the live SEM image. Spectra, x-ray maps, and line scans can be directly acquired from the selected regions of the SEM image with a single click on the EDS toolbar. The EDS and SEM user interfaces combine to provide the only seamless, integrated, microanalysis tool, including a fully automated particle analysis package. iXRF also introduced the first commercially available Micro-XRF tube adapted to the scanning electron microscope. By the addition of XRF to the microanalysis industry, customers can now take advantage of their existing EDS detector and use their SEM as a small-spot or bulk XRF analyzer. iXRF fully integrated the XRF quantitative software into the EDS2000 software allowing for trace analysis for all non-conductive samples as well as thickness coating measurements for the semiconductor industry.

JANIS RESEARCH COMPANY, INC.
sales@janis.com
www.janis.com

BOOTH 407

Key Products: Continuous Flow and Reservoir Cryostats; 4 K and 10 K Mechanical Closed-Cycle Refrigerators; Micromanipulated Probe Systems

Janis combines over 40 years of manufacturing experience with extensive engineering capabilities to provide cryogenic systems for all research applications. Application-specific products include cryostats for optical microscopy, FTIR and Mössbauer spectroscopy, UHV-compatible systems, continuous-flow and Helium-3 cryostats, 4 K and 10 K closed-cycle refrigerators, dilution refrigerators, superconducting magnet systems and micro-manipulated probe stations. Our staff of physicists and engineers is on hand to tailor cryogenic systems to meet specific experimental requirements and budgets.

See Ad in this Issue

JEOL USA, INC.
eod@jeol.com
www.jeolusa.com



BOOTH 700

Key Products: TEM; SEM; FIB; Sample Prep; AFM; E-beam; Ion Beam; FE-SEM; LV-SEM

JEOL is a global provider of high performance electron microscopy, ion beam, e-beam lithography, and analytical instrumentation and technology for scientific and industrial R&D. Core markets include nanotechnology, materials science, biological science, and the semiconductor industry. Innovative, sub-angstrom developments enable customers to advance scientific research and manufacturing applications. Stop by for information on our full line of electron microscopes and precision tools for sample preparation. JEOL also sells novel mass spectrometers and NMR spectrometers.

See Ad in this Issue

JOHNSEN ULTRAVAC INC.
juvinfo@ultrahivac.com
www.ultrahivac.com



BOOTH 1010

Key Products: UHV Instruments; UHV Chambers; Surface/Cryo Products

Johnsen Ultravac manufactures a complete line of vacuum products for R&D, production and light sources including: six axis manipulators featuring maximum ± 4.00 inch XY motion; heating/cooling stages with 10 K to 1500 K temperature range; ultra-long stroke linear motion translators; UHV XYZ translators with 500 lbs. payload capacity; XYZ stages for *in situ* analysis; 5×10^{-11} Torr UHV chambers; beam line components; monochromators; and a wide range of vacuum systems for surface analysis, semiconductor, optoelectronics and coating. We specialize in unique, one-of-a-kind projects.

K-SPACE ASSOCIATES, INC.
requestinfo@k-space.com
www.k-space.com



BOOTH 507

Key Products: Thin-Film Stress Measurement; Analytical RHEED; Semiconductor Wafer Temperature; Real-Time Thin Film Deposition Monitors

Since 1992, k-Space Associates has been a leading supplier of advanced instrumentation and software for the surface science and thin-film technology industry. k-Space sets the standard for analytical RHEED with the kSA400. kSA MOS yields *in situ* curvature, stress, and strain while the new kSA MOS Ultra-Scan provides full two-dimensional stress mapping of samples up to 200mm. kSA RateRat monitors real-time deposition rate and optical constants. Our kSA BandIT, for monitoring semiconductor substrate wafer temperature during film growth, now works for GaN!

KEITHLEY INSTRUMENTS, INC.
info@keithley.com
www.keithley.com

BOOTH 716

Key Products: Test and Measurement Equipment

Keithley Instruments, the leader in solutions for emerging measurement needs, continues its tradition of providing industry-leading sensitive and precision electrical measurement tools for a wide range of research applications in physics and materials, including nanotechnology, semiconductors, polymers, superconductivity, optoelectronics, organics, and biomaterials. New and featured products include Series 3400 pulse and pattern generators, additions to the Series 2600 System SourceMeter® line, and integrated instrumentation options for the Model 4200 Semiconductor Characterization System.

KIMBALL PHYSICS, INC.
info@kimphys.com
www.kimballphysics.com

BOOTH 616

Key Products: Electron Guns; Ion Guns; Electron Sources; Cathodes; UHV Vacuum Fittings and Chambers; Faraday Cups

Electron Guns and Ion Guns: Energies 5 eV to 100 keV, electron sources, cathodes, Faraday cups. Options: Energy sweeping, rastering, pulsing, blanking, emission current feedback stabilization, computer control. UHV Components: Multi-CF Fittings, vacuum chambers, eV Parts. Applications: Surface physics, vacuum physics, charge neutralization, cathodoluminescence, phosphor testing, semiconductor processing, RHEED, ESD, custom.

KION SPECIALTY POLYMERS, A CLARIANT BUSINESS **BOOTH 109**
www.kioncorp.com

Key Products: KION Polysilazane 20; KiON Ultra; KiON HTT 1800

KiON® Specialty Polymers, a world leader in silazane polymer technology, specializes in the design and manufacturing of polysilazane, polyureasilazane, and polysiloxazane intermediates for the coatings, adhesives, electronics, ceramics, and defense industries. Using novel, patented chemical processes, which enable simple, bulk manufacture of a variety of silazanes at high purity levels, KiON Specialty Polymers has been able to offer performance polymeric silazanes at affordable prices. This breakthrough has now allowed the widespread use of the polysilazanes in the world of industry.

KLA-TENCOR CORPORATION
info@kla-tencor.com
www.kla-tencor.com

BOOTH 216

Key Products: Surface Metrology, P-16 Profiler; Alpha Step IQ, HRP 340

At KLA-Tencor's SMD product group, our market segments span semiconductor and data storage manufacturing, MEMS, optoelectronics, material science and general scientific research—a range of industries that measure surface topography to control their process. SMD's products range from benchtop stylus profilers used in research environments to automated high resolution profilers for advanced IC production fabs.

2007 MRS FALL EXHIBITORS

KP TECHNOLOGY LTD.
info@kptechnology.ltd.uk
www.kelvinprobe.com

BOOTH 1207

Key Products: Scanning Kelvin Probe; SKP with Relative Humidity Chamber; UHV Kelvin Probe

KP Technology will be demonstrating the unique height regulating "Baikie System" SKP5050 Scanning Kelvin Probe this year at Booth #1207. This high resolution, non-contact and non-destructive device measures changes in work function and surface potential. Applications include semiconductors, organic layers, thin films, solar cells, corrosion and nanotechnology. Bring your own samples and let us show you how this SKP or our other ambient and UHV Kelvin Probes can work for you. Visit www.kelvinprobe.com for more information.

KURT J. LESKER COMPANY
salesus@lesker.com
www.lesker.com

BOOTH 411

Key Products: Pure Targets and Materials; Vacuum Components; Deposition Systems; Bonding Services; Atomic Layer Deposition

Stop by our booth to discuss your materials research challenges. We offer systems, components and services for a wide variety of materials research related activities including: target bonding of ceramics, oxides and metals; magnetron sputtering; e-beam evaporation; organic materials evaporation; and Atomic Layer Deposition (ALD). Request a copy of our 900-page vacuum products catalog and reference guide.

See Ad in this Issue

LABCONCO CORPORATION
labconco@labconco.com
www.labconco.com

BOOTH 721

Key Products: Glove Boxes

Labconco Corporation is a manufacturer of laboratory equipment with worldwide distribution. Products are marketed to industrial, life science, pharmaceutical, environmental and clinical laboratories. Ventilation products including laboratory fume hoods, blowers, carbon-filtered enclosures, biological safety cabinets and clean benches, glove boxes, and balance enclosures comprise its largest product offering. Other products include glassware washers, water purification systems, freeze dry systems, carts and desiccators. Labconco will feature their NEW Precise Glove Box at the MRS Fall Meeting.

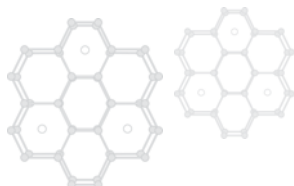
LAKE SHORE CRYOTRONICS, INC.
info@lakeshore.com
www.lakeshore.com



BOOTH 800

Key Products: Hall Effect Measurement Systems; Probe Stations; Cryogenic Instruments and Sensors

Manufactures cryogenic, closed cycle refrigerator-based, magnet-based, high vacuum, and load lock probe stations, as well as Hall effect measurement systems (HMS). The probe stations can be used for DC, RF, microwave (up to 67 GHz), and magneto-transport measurements on devices and wafers. Features include temperatures from 1.5 K to 475 K, 2.5 T vertical or up to 1 T horizontal magnet fields, up to 6 manipulated probe arms, vacuum to 10^{-7} torr, load-lock, and up to 4-inch wafer probe capabilities. The HMS feature fields to 9 T, temperatures from 2 K to 800 K, up to 6-inch wafers or accommodation of 4 samples. Measurements including resistance, I-V curves, Hall coefficient, mobility, and carrier concentration can be made on compound semiconductors, semi-insulators, and heterostructures. Quantitative Mobility Spectrum Analysis (QMSA[®]) software resolves individual carrier mobilities and densities in multi-carrier devices such as quantum wells and HEMTs.



LAMBDA AMERICAS
www.lambda-hp.com

BOOTH 125

Key Products: Programmable AC/DC Power Supplies; High Voltage Capacitor Charging and DC Programmable Power Supplies

Genesys™ programmable AC/DC power. 750 W to 15 kW, Outputs 7.5 to 600 VDC, current to 1000 A. Worldwide Inputs. RS-232/485 Standard. Common family controls. Now with LXI-C LAN Interface option. Flexible, reliable power for critical test and measurement systems. ALE systems division is the most experienced designer and manufacturer of high voltage capacitor charging power supplies. The wide range of output voltages (1–65 kV) and power levels (500 J/sec to 30 kJ/sec) available from a single supplier is unique.

LAYTEC GMBH
info@laytec.de
www.laytec.de

BOOTH 520

Key Products: Optical *In situ* Sensors for Epitaxy; OLED and Sputter Processes

LayTec is the leader in the field of *in situ* monitoring systems for epitaxial/crystalline thin-film growth (MOVPE, MBE). Recently, the application range of LayTec's *in situ* monitoring systems has been expanded also to amorphous and organic thin-film growth processes (sputter deposition, VTE, OVPD). Our sensors measure with an extreme precision already during the thin-film deposition process: growth rate, layer thickness, doping levels, ternary material composition, surface roughness, substrate temperature and strain-induced substrate bowing.

LEICA MICROSYSTEMS INC.
info@leica-microsystems.com
www.leica-microsystems.com

BOOTH 112

Key Products: Ultracut EM UC6 Cryochamber

Your Image Starts Here! Rely on Leica Microsystems for high-quality sample preparation for TEM, SEM, AFM, and LM. Uniquely designed for comfort and convenience, the Leica Ultracut EM UC6 Ultramicrotome puts total comfort and convenience at your fingertips. Designed for low temperature sectioning from -15° to -185°C, the Leica EM FC6 Cryochamber seamlessly integrates to the Leica Ultracut EM UC6. Visit the Leica booth for precision sample preparation solutions.

MAD CITY LABS, INC.
sales@madcitylabs.com
www.madcitylabs.com

BOOTH 704

Key Products: Nanopositioners; Piezo Stages; High Precision Positioners

Mad City Labs designs and manufactures high precision, piezo based nanopositioning devices for research and industry. As leaders in innovative design, our products incorporate true flexure guided motion, proprietary PicoQ sensor technology and closed loop control. PicoQ sensors outperform traditional capacitive sensors with extremely low drift and superior stability. System attributes include picometer resolution, high speeds, real time position sensing and are suitable for metrology, microscopy, lithography, materials testing and more. We offer innovative products, competitive pricing and superior customer support.

MANEY PUBLISHING
maney@maney.co.uk
www.maney.co.uk



BOOTH 735

Key Products: Journals; Books; Online Collections

Maney Publishing, founded in 1900, became the official publisher to the Institute of Materials, Minerals and Mining in 2001 and has since established an expanding materials science and engineering portfolio comprising twenty leading international journals and over 200 books. Visit www.maney.co.uk/materials to view the full collection.

2007 MRS FALL EXHIBITORS

MANTIS DEPOSITION LTD.
sales@mantisdeposition.com
www.mantisdeposition.com

BOOTH 423

Key Products: Nanoparticle Source; E-beam Evaporator; RF Atom Source, Deposition systems

MANTIS Deposition is dedicated to the manufacture of high-quality deposition components and systems for cutting-edge applications such as nanotechnology, MBE, PVD and ion-beam assisted deposition. Our product offerings include: nanoparticle deposition sources and systems, RF atom and RF ion sources, mini e-beam evaporators, sputter cathodes and thermal gas crackers as well as modular R&D deposition systems.

MAXTEK, A DIVISION OF INFICON
reachus@inficon.com
www.inficon.com

BOOTH 217

Key Products: Thin Film Deposition; Quartz Crystal Microbalance Research; Leak Valves

Maxtek offers an extensive line of research quartz microbalance (RQCM) systems, sensor heads and crystals for research applications that require measurement of film properties during processes such as deposition, dissolution and permeation. Maxtek provides a complete product range for thin film coating processes including thin film vacuum deposition controllers that provide rate and thickness data as well as closed loop control, deposition monitors, sensor heads (single, dual, bakeable and 6-crystal rotary), feedthroughs and oscillators.

MBRAUN, INC.
info@mbraunusa.com
www.mbraunusa.com

BOOTH 910

Key Products: Gloveboxes; Evaporators; Solvent Purification Systems

MBraun designs and manufactures controlled atmosphere gloveboxes, gas purifiers, solvent purification systems and more. MBraun equipment is used in university research labs and industrial applications throughout the world. Our patented Auto SPS safely dries laboratory solvents without distillation. MBraun's latest product addition is the MB-EVAP evaporator for thin film deposition, OLED, OLEP and solar cell production. It is available as a stand-alone unit or may be integrated in any MBraun inert gas glovebox. Please stop by Booth 910 to discuss your application.

MCALLISTER TECHNICAL SERVICES
solutions@mcallister.com
www.mcallister.com

BOOTH 813

Key Products: Atomic Layer Deposition System; UHV Kelvin Probes; Sample Manipulators and Translators

McAllister Technical Services will exhibit the UHV Kelvin Probe for contact potential measurements. Also on display will be their full range of custom UHV devices such as bellows-sealed positioners, XYZ manipulators, quick-entry load-lock system, magnetic linear motion feedthrough and differentially-pumped rotary motion platforms.

MCCRONE GROUP
mma@mccrone.com
www.mccrone.com

BOOTH 222

Key Products: Microscopes; Thermal Stages; Digital Cameras

The McCrone Group celebrates 50 years providing microscopy services: McCrone Microscopes and Accessories features Linkam Thermal systems, Olympus microscopes, digital cameras, and supplies. McCrone Associates is a consulting laboratory for microscopy, ultra-microanalysis and materials analysis. The College of Microscopy provides training in PLM, SEM, TEM, and FTIR.

MCP METALSPECIALTIES, INC.
mcp-metspec@juno.com
www.mcp-metspec.thomasregister.com

BOOTH 223

Key Products: High Purity Ga and In; CIGS Raw Materials; Metal Oxides

Worldwide leaders in Minor Metals including: Bismuth, Gallium, Germanium, Indium, Selenium, Tellurium. Material is available in commercial and high purity (99.999-99.99999%) grades, and manufactured to customer specification (ingot, shot and powder form). We produce CIGS raw materials, metal alloys and metal oxides in our ISO approved plants.

MDC VACUUM PRODUCTS, LLC/INSULATOR SEAL
sales@mdcvacuum.com
www.mdcvacuum.com

BOOTH 900

MDC and ISI stock thousands of off-the-shelf components and provide the widest product range of high and ultrahigh vacuum components in the industry. Both product lines are detailed in our catalogs and on our technically based websites. MDC products consist of flanges, fittings, valves, roughing hardware, vacuum gauge tubes, motion and manipulation instruments, thin film electron-beam evaporation systems, and surface science chambers. ISI products include Multi-pin, Low/high current power, Coaxial, liquid, Thermocouple and RF Feedthroughs, Optical viewports and Vacuum breaks and envelopes. MDC and ISI are ISO 9001:2000 registered companies.

MEIVAC INC.
support@meivac.com
www.meivac.com

BOOTH 111

Key Products: Throttle Valves; Magnetron Sputter Sources; Substrate Heaters

MeiVac Process Systems and Components have supported magnetic storage and general vacuum for more than 30 years. With the recent acquisition of US, Inc. Sputter Source business unit, this support is enhanced. The family of MAK Gun sources, substrate heaters and power supplies has long been the product of choice for a wide array of sputtering applications. Throttle valves, sputter sources and substrate heaters will be on display as will information on cluster and dielectric deposition tools.

MICOS USA LLC
info@micosusa.com
www.micosusa.com

BOOTH 623

Key Products: Precision Motion Components

MICOS serves the high precision motion and optical component market. We offer a wide range of precision mechanical components and complete system solutions which are used in the field of ultra-precision-positioning. MICOS also specializes in vacuum, clean room and extreme temperature requirements. Our primary markets include industry and research with an emphasis on laser and micro-wave technology, communications, semiconductor technology and micro-manipulation.

MICRO MATERIALS LIMITED
info@micromaterials.co.uk
www.micromaterials.co.uk

BOOTH 622

Key Products: NanoTest System—Nanoindentation, Nano-scratch and Wear, Nano-impact Testing

Micro Materials Ltd. have been world leaders in the field of nanomechanical property measurements since 1988. Today the powerful NanoTest™ system is much more than just a nanoindentation instrument. The excellent range of testing modules available provide a comprehensive tool kit for mechanical property investigation and, together with unrivalled stability and accuracy, this makes the NanoTest™ the most flexible and accurate instrument of its type. The NanoTest™ is a truly modular system, offering unique modules such as high temperature nanoindentation to 750°C, indentation in liquids and nano-impact testing. Visit the MML booth to learn more about what the NanoTest™ can do for you!

2007 MRS FALL EXHIBITORS

MICRO PHOTONICS INC.
info@microphotonics.com
www.microphotonics.com

BOOTH 1016

Key Products: Nano/Micro Mechanical Testing Instruments;
Non-Destructive Testing; Thin-Film Analysis

Micro Photonics offers instruments and testing services for nano- and micro-hardness testing, nano- and micro-scratch adhesion testing, wear resistance measurements; thin-film measurements utilizing ellipsometry and pyrometry/reflectance; non-contact surface roughness and surface profiling measurements; x-ray microtomography for imaging and analyzing internal microstructure; and x-ray diffraction for studying structure of powders, bulk materials and thin films.

MICRODROP TECHNOLOGIES GMBH
info@microdrop.de
www.microdrop.de

BOOTH 1032

Key Products: DOD Dispenser; Inkjet Technology Microdispensers

microdrop Technologies is the leading provider of equipment, software, inks and services for advanced microdispensing and inkjet printing applications. The technology from microdrop is a versatile tool for liquid handling and material deposition. Our customers are supported by a broad range of services. A team of skilled engineers and technicians guarantees the best solution for your application in Microtechnology, Nanotechnology, Material Science, biochemistry and medicine as well as Plastic Electronics.

MICROFAB TECHNOLOGIES, INC.
microinfo1@microfab.com
www.microfab.com

BOOTH 1304

Key Products: Precision Microdispensing Systems; Inkjet Printing Systems;
JebLab-4; JebLab-II

In 2006, MicroFab Technologies successfully introduced a new JetLab® series table-top microdispensing and microprinting system. It provides researchers and investigators in a wide range of industries such as microelectronics, photonics, bio-medical, and pharmaceuticals with an important tool to develop functional materials and processes. For a quick demo of the precision printer, visit our booth at the MRS Fall Exhibit or contact david.wallace@microfab.com for a demo at our Texas facility. Visit our web site at www.microfab.com for detail information.

MIKROMASCH
www.spmtips.com

BOOTH 911

Key Products: SPM Accessories; Cantilevers; Calibration Gratings

At MikroMasch, we strive to provide complete micromachining solutions for your research. MikroMasch offers one-stop shopping for all SPM accessories and MEMS customization service upon request. Our continuous efforts in improving and developing our probes resulted in a new probe, called Hi'RES, with its tip curvature radius of 1 nm. This new product will contribute to your fine research leading to an even more advanced level. Please visit our web site at www.spmtips.com to review our product lines.

MMR TECHNOLOGIES, INC.
sales@mmr.com
www.mmr.com

BOOTH 1003

Key Products: Low Temperature Microprobe; Hall Effect Measurement Systems;
Seebeck Effect Measurement Systems

MMR Technologies manufactures temperature controlled systems—cryogenic cooling systems and wide temperature range thermal stages—which find application in materials research in chemistry, biology, electrical engineering, and physics. These systems operate over the temperature range of 10 K to 730 K. They are used for electrical resistivity, Hall effect, Seebeck effect, DLTS, MEMS, magnetoresistivity, and luminescence studies. They are also used in medical applications and the cooling and characterization of computer chips, electronic devices, laser diodes and thermal imaging devices as a function of temperature.

See Ad in this Issue

MTI CORPORATION
info@mticrystal.com
www.mticrystal.com



BOOTH 117

Key Products: Single Crystal Substrates; Nanopowders; Material Processing
Machines; High Temperature Lab Furnaces

MTI has been providing a total solution for materials research since 1995. We supply crystal substrates and nanopowders from A to Z, desktop laboratory equipment, including cutting, polishing and high temperature box/tube furnaces, as well as compact XRD/X-Ray orientation.

MTS NANO INSTRUMENTS
nano@mts.com
www.mtsnano.com



BOOTH 401

Key Products: Nano Indenter Product Series; Nano UTM Universal Testing
System; TestWorks 4 Software

MTS Nano Instruments designs, engineers and manufactures instrumentation and software used to determine mechanical behavior of nano-scale materials and structures. Our Nano Indenter® systems, as well as our Nano UTM™ and Nano Bionix® universal testing systems, offer the most accurate and robust means of characterizing nanomechanical behavior. Stop by our booth to experience a demonstration of our Nano Vision™ nanomechanical microscopy option—for truly quantitative imaging. Ask about our Virtual Indenter finite element modeling software and how it simplifies the process of simulating indentation experiments. Whether your materials research needs call for physical experiments or simulations, MTS is your trusted solutions provider. Visit our booth for more information on how nanomechanical testing solutions from MTS can support your materials research initiatives.

See Ad in this Issue

NANO TECH 2008, JAPAN
nanotech@ics-inc.co.jp
www.ics-inc.co.jp/nanotech

BOOTH 1030

The nano tech executive committee is proud to announce that the world's largest nanotechnology trade show and conference, nano tech 2008, will take place February 13-15, 2008 at Tokyo Big Sight. Now in its seventh year, the exhibitors are some of the world's largest companies as well as start-ups, universities and government laboratories from all over the world. 50,000 attendees are expected, based on the R&D market growth of nanotechnology in Japan. This exhibition will create not only opportunities for direct sales but also opportunities for partnership development and technical applications relationships. So, please join us.

NANOANDMORE USA INC.
Part of the Nanotechnology Group
usa@nanoandmore.com
www.nanoandmore.com

BOOTH 611

Key Products: NanoWorld™; NANOSENSORS™; BudgetSensors™; Digital
Holographic Microscope; Nano-Particle Size Analyzer; NanoSight

NanoAndMore USA, Inc. is a nanotechnology distributor with products that include SPM probes and calibration standards from NanoWorld™, NANOSENSORS™ and Budget Sensors™, Image Metrology SPIP software, Minus K vibration isolation products and scientific instruments. The Digital Holographic Microscope from Lyncée tec captures 3D images in real time and does not require vibration isolation. The Reflection model competes with white light and laser interferometry while the Transmission model competes with Confocal systems. The NanoSight nano-particle size analyzer gives a full distribution of all particles suspended in solution by particle count and %. We have most AFM probes in stock and can ship overnight. Contact: 877-521-1108 (toll free) or usa@nanoandmore.com.



2007 MRS FALL EXHIBITORS

NANODYNAMICS, INC.
info@nanodynamics.com
www.nanodynamics.com

BOOTH 321

Key Products: Solid Oxide Fuel Cells; Metal Nanopowders

NanoDynamics, Inc. develops and markets products, advanced materials, and process technologies that provide cleantech solutions addressing global challenges in energy, water, environmental, and infrastructure markets. Headquartered in Buffalo, NY, NanoDynamics also operates laboratory and development facilities in Columbus, OH, Pittsburgh, PA, and Potsdam, NY.

NANOFACILITY INSTRUMENTS AB
info@nanofactory.com
www.nanofactory.com



BOOTH 203

Key Products: *In situ* TEM Manipulation; *In situ* Force Measurements; *In situ* Electrical Probing

Nanofactory Instruments is the world leader in providing specialized SPM systems (STM, AFM, Nanolindenter) designed to work in Transmission Electron Microscopes (TEM). These unique SPM-TEM instruments provide unprecedented opportunity to combine 3-dimensional nanomanipulation, STM-AFM imaging and *in situ* electrical and mechanical measurements with high resolution TEM imaging.

NANOFOCUS, INC.
solutions@nanofocus-us.com
www.nanofocus-us.com

BOOTH 1307

Key Products: Optical Topometer; Optical Profilometer; Surface Analysis Software

NanoFocus, Inc. is a provider of optical 3D surface metrology and micro-geometry measurement solutions. Cost effective NanoFocus measurement systems provide robust and user-friendly nanometer level resolution analysis in the laboratory as well as on the shop floor. Applications include: surface roughness, waviness, flatness, etc. for metal, ceramic, polymer, glass, biomaterials, etc.

NANOINK, INC.
info@nanoink.net
www.nanoink.net

BOOTH 1017

Key Products: NSCRIPTOR™ DPN® System; 2D nano PrintArray™; Just Add DNA™

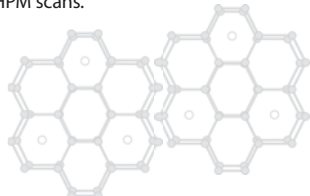
NanoInk is an emerging growth technology company specializing in nanometer-scale manufacturing and application development for the life science and materials industries. With Dip Pen Nanolithography® (DPN®) technology and tools, NanoInk is able to offer customers innovative solutions for precision nanoscale deposition using a variety of materials to create nanoscale features on diverse surfaces. The NSCRIPTOR™ is a complete turnkey DPN system with optimized hardware, software, and enabling consumables.

NANOMAGNETICS INSTRUMENTS LTD.
info@nanomagnetism-inst.com
www.nanomagnetism-inst.com

BOOTH 521

Key Products: LT-SHPM; PPMS-SPM; MK-SPM

NanoMagnetics Instruments Ltd. is the leading expert in Scanning Hall Microscopy. SHPM can give a resolution up to 50 nm and a magnetic resolution of 6 nT/√Hz at 4K, which provides fast, quantitative and totally non-invasive data. Our mK-SPM is operational at mK-300K range and is compatible with most cryostat systems. PPMS®-SPM is designed to operate with QuantumDesign PPMS. And RT-SHPM is designed for ambient conditions. All can also operate as AFM, MFM or STM and can give realtime SHPM scans.



NANONICS IMAGING LTD.
info@nanonics.co.il
www.nanonics.co.il

BOOTH 818

Key Products: AFM; NSOM; AFM/Raman; Confocal; AFM/SEM/FIB; Cryogenic NSOM/AFM/Confocal

Ultimate resolution AFM/NSOM/SPM systems hallmarked by transparent optical and electron/ion beam integration. On-line microRaman, confocal, SEMs, TEMs, FIBs, 10°K operation. Optically transparent AFM probes surpassing nanotube profiling/deep trench capabilities, glass insulated electrical, Nanoheater™ thermal conductivity, electrochemical, AFM-controlled gas and liquid nanochemical deposition. Visit us and see the first multiprobe SPM system! Up to 4 probes.

NANOSCIENCE INSTRUMENTS, INC.
info@nanoscience.com
www.nanoscience.com

BOOTH 918

Key Products: Atomic Force Microscopes; AFM Probes/Accessories; SPM Analysis Software

Nanoscience Instruments provides the most innovative Atomic Force Microscopy products for a variety of nanoscale applications in research, industry, and education. We will feature the NanoSurf easyScan 2 AFMs and STMs, the new automated Nanite AFM, and the world's first battery-powered AFM—the Mobile S. These Swiss-quality SPMs are unparalleled in ease-of-use, reliability, mobility, and price/performance ratio. We also offer various AFM accessories, post-processing software, and a huge selection of high-quality and low-cost AFM probes.

NANOWORLD AG
Part of the Nanotechnology Group
info@nanoworld.com
www.nanoworld.com

BOOTH 609

Key Products: AFM Probes

NanoWorld AG is the leading manufacturer of high quality tips for Scanning Probe Microscopy (SPM). NanoWorld™ offers four product lines. The Pointprobe® series comprises AFM tips with various coatings and shapes for a wide range of applications. The unique shape of the Arrow™ series allows easy positioning of the tip on the area of interest. Tipless cantilevers and arrays based on the Arrow series and the Pyrex-Nitride Series made of silicon nitride are also available.

NATIONAL INSTITUTE FOR MATERIALS SCIENCE
International Affairs & Public Relations Office
www.nims.go.jp



BOOTH 821

Key Products: Materials Science Research; Journal Publishing; Search Engine for Materials Science

National Institute for Materials Science (NIMS: <http://www.nims.go.jp>) has published *Science and Technology of Advanced Materials (STAM)* since 2000, a peer-reviewed journal, including collections of representative theme and recent projects in rapidly growing fields, such as nano-, bio- and eco-materials. NIMS also sponsors a web community for researchers, 'e-materials.net', with an original search engine that focuses on research information in materials science.

NATIONAL NANOTECHNOLOGY
INFRASTRUCTURE NETWORK
www.nnin.org

BOOTH 1035

Key Products: Laboratory Services

The National Nanotechnology Infrastructure Network consists of user facilities at 13 major universities, funded by the National Science Foundation to provide nanotechnology research resources to the user community. Available technologies include fabrication, deposition and growth of nanomaterials, characterization, and computation of nanoscale materials and device properties. Applications include electronics, MEMS, optics, materials science, chemistry and biology. All facilities are available on an open basis for hands on use. Training, instruction, and process support are provided.

2007 MRS FALL EXHIBITORS

NATURE PUBLISHING GROUP

nature@nature.com
www.nature.com

Key Products: Journals; Magazines

Nature Publishing Group (NPG) offers a range of journals in the physical sciences portfolio—from the broad scope and excellence of Nature to specific titles in materials, physics, nanotechnology and the recently launched title in photonics. Each journal carries a mix of research papers, review titles, news and views, and commentaries that will keep you abreast with the latest research in your area. Visit the NPG booth (#731) for your free sample copy or to subscribe at a discounted conference rate!

BOOTH 731

NIKON INSTRUMENTS INC.

nexivsales@nikon.net
www.nikoninstruments.com

Key Products: Microscopes; Inspection and Measuring Equipment

Nikon is a leading supplier of precision optical microscope systems and digital imaging products for inspection, quality control, research and non-contact measuring. Featured at this show is Nikon's new inverted metallographic microscope and new LV-UDM (Universal Design Microscopes) for all techniques in reflected and transmitted light. All Nikon microscopes feature Nikon's digital camera systems and software controls for image processing and analysis.

BOOTH 923

NEOARK CORPORATION

osaka@neoark.co.jp
www.neoark.co.jp

Key Products: MOKE Microscope; Domain Imaging Microscope; Optroscope

At the start of the 21st century, Information Technology is increasingly widespread globally. Cutting edge storage technologies allowing greater memory and storage capacity are critical to this growth. Hence, magnetic thin films used in magnetic memory and spin electronics devices are patterned in sizes at the micron and sub-micron levels. To enable development of new devices, it is essential to evaluate the performance of local magnetic properties. Our instrument based on magneto-optical technology contributes to R&D not only in detection of Kerr signal, but also to investigate behavior of domain motion by direct observation through sophisticated Kerr microscope.

BOOTH 220

NIST

www.nist.gov/srm

Key Products: Standard Reference Materials; Data and Calibration Services

NIST Standard Reference Materials supports accurate/compatible measurements by certifying and providing over 1100 SRMs with well-characterized composition or properties, or both. SRMs are used to perform instrument calibrations as part of quality assurance, accuracy of specific measurements and support new measurement methods. Standard Reference Data provides well-documented numeric data to scientists and engineers for use in technical problem-solving, research, and development. The Calibration Services are designed to help in achieving high levels of measurements.

BOOTH 822



NEOCERA, LLC

sales@neocera.com
www.neocera.com

Key Products: Pulsed-Laser Deposition; Pulsed Electron Deposition

Neocera creates, develops, and promotes advanced thin film materials and deposition techniques. Founded in 1989 to commercialize technical expertise in cutting-edge materials, Neocera is now a world leader in the manufacture, application, and support of Pulsed Laser Deposition (PLD) and Pulsed Electron Deposition (PED) systems for research and production applications. Neocera also offers complex oxide thin films on a foundry basis.

BOOTH 107

NOR-CAL PRODUCTS, INC.

ncsales@n-c.com
www.n-c.com

Key Products: Custom Vacuum Chambers and Components; Valves and Traps; Flanges and Fittings

Since 1962, Nor-Cal Products, Inc. has manufactured high and ultra-high vacuum components for many applications. Nor-Cal has earned a reputation worldwide for quality components, competitive prices and excellent customer service and is now ISO 9000-2001 registered. Standard products include: flanges; fittings, viewports, feedthroughs and flexible hoses; crystal monitors, manual and pneumatic valves; pressure control valves and controllers; heater jackets; foreline traps; and manipulators. Custom chambers, manifolds, feedthrough collars and baseplates can be manufactured from customer specifications, sketches or drawings. Entire systems can be supplied. Our extensive 3D Model Library is available on-line. Visit our website at www.n-c.com for more information.

BOOTH 424

NETZSCH INSTRUMENTS INC.

NIB-Sales@netzsch.com
www.e-thermal.com

Key Products: Thermal Analysis; Thermal Conductivity; Contract Testing

Thermal analysis, thermal properties measurement, conductivity, *in situ* dielectric analysis, and contract testing services; DSC, TGA, DTA, simultaneous TGA-DSC/DTA, TMA, DMA, DEA-Micromet-series cure monitoring by dielectric analysis in-process and lab-scale, evolved gas analysis coupling thermal analyzers to FTIR and MS, dilatometers, thermal conductivity and laser flash diffusivity.

BOOTH 104

NPOINT, INC.

Part of the Nanotechnology Group
info@npoint.com
www.npoint.com

Key Products: Nanopositioning Systems; AFM Scanners

nPoint, Inc. manufactures ultra-precision motion and control devices for nano-scale research and manufacturing. Our products include a series of nanopositioning systems that consist of stages and control electronics. The positioning products enable rapid, precise, and repeatable motion and are used in applications ranging from life science to semiconductor industry.

BOOTH 605

NEUTRON SCATTERING SOCIETY OF AMERICA (NSSA)

www.neutronscattering.org

Key Products: Neutron Scattering; Materials Structure; Materials Dynamics

The Neutron Scattering Society of America (NSSA) was formed in 1992 and is an organization of persons who have an interest in neutron scattering research in a wide spectrum of disciplines. Information of interest to current and new users of neutron scattering facilities is available and updated on the web site. Membership in the society is open to individuals in academia, industry, and government. Graduate students and recent Ph.D.s are especially encouraged to join.

BOOTH 935

NT-MDT CO.

spm@ntmdt.ru
www.ntmdt.com

Key Products: Ntegra Spectra; Ntegra Therna; Etalon Probes for SPMs

NT-MDT has been creating the equipment for nanotechnology researches for more than 15 years, steadily holding the advanced positions regarding the quality standards, hi-tech developments, original technical solutions. Our mission is to be the premier provider of hi-tech products and service in the scanning probe microscopy age. Today NT-MDT produces different equipment lines: Scanning Probe Nanolaboratories, Scanning Probe Microscopes, SPM accessories and the modular nano-factories, but the range of products constantly expands.

BOOTH 1004



NY LOVES NANOTECH

info@nylovesnano.com
www.nylovesnano.com

NY Loves Nanotech is a consortium of like-minded organizations consisting of economic development groups, academia and technology equipment suppliers that have joined forces to promote New York's technology assets and all it has to offer. Strategic market proximity gives New York-based businesses a distinct edge over the competition. Leading semiconductor companies from around the globe are choosing to invest their futures here because New York is one of the largest and richest consumer and business markets in the world. As home to AMD's next 300-mm fab, IBM, University at Albany's College of Nanoscale Science & Engineering, International SEMATECH, Tokyo Electron, Applied Materials, Intel and other global industry leaders, New York has created an enabled region and environment where industry can thrive.

BOOTH 322

OXFORD APPLIED RESEARCH

sales@oaresearch.co.uk
www.oaresearch.co.uk

Key Products: Nanocluster Sources; RF Atom Sources; Mini E-Beam Evaporators

Manufacturer of growth and processing equipment for semiconductor or thin film research. Core instruments include RF atom sources for high-quality oxide/nitride growth, e-beam evaporators, atomic hydrogen sources, nano-cluster deposition sources for size-selected nanoparticle deposition, broad-beam RF and DC ion sources for sputter deposition or ion beam assisted deposition (IBAD), and a family of ion and electron guns for thin film analysis. Come and see us for more information on our new valved organic source.

BOOTH 524

OLYMPUS INDUSTRIAL AMERICA INC.

sales@olympusindustrial.com
www.olympusmicroimaging.com

Key Products: Inverted Metallographs; Upright Microscopes; Stereo Microscopes

Olympus Industrial America's Micro-Imaging division, based in Orangeburg, New York, is responsible for sales and service of the complete range of Olympus microscopy products for use in industrial applications from production and inspection to research and quality control. Complementing our line of materials analysis microscopes will be a range of digital cameras and Discover Series modular software packages. You will be impressed with the speed and accuracy of our software and cameras when archiving images, taking measurements/particle sizing or generating reports. Feel free to bring a sample to our booth to see the quality of Olympus Micro-Imaging products.

BOOTH 1025

OXFORD INSTRUMENTS AMERICA, INC.

info@ma.oxinst.com
www.oxford-instruments.com

Key Products: Optical Spectroscopy; Materials Characterization; EBSD

Oxford Instruments, with over 40 years of experience is the world's leader in research and analytical instrumentation. Visit our booth to see the latest in superconducting magnet, cryogenic/variable temperature control technologies and cryogenic high vacuum pumps. We offer a range of analytical accessories for electron microscopy, including a range of EDX, WDX and EBSD detectors and analyzers, plus micro-manipulators and high precision stages. Oxford Instruments Pro-Serve has a global distribution and support organization with an emphasis on exceptional customer support.

BOOTH 901

OLYMPUS SOFT IMAGING SOLUTIONS

www.olympus-sis.com

Olympus Soft Imaging Solutions is a global leader in user-friendly Image-Analysis software and high-resolution digital cameras used in advanced applications within the Electron Microscopy and Industrial Light Microscopy industries. OSIS provided seamless solutions for applications such as automated particle analysis, materials analysis, accurate measurement, and image database solutions, all of which can be custom tailored to meet customer specific workflow and demands.

BOOTH 1023

OXFORD UNIVERSITY PRESS

custserv.us@oup.com
www.oup.com/us

Key Products: Books

Oxford University Press' new and forthcoming titles include: A. Argon: *Strengthening Mechanisms in Crystal Plasticity*; V. Bulatov & W. Cai: *Computer Simulation of Dislocations*; N. Ghoniem & D. Walgraef: *Instabilities and Self-Organization in Materials, Vols 1 + 2*; A. Kavokin et al: *Microcavities*; R. Skomski: *Simple Models of Magnetism*; and M. Mate: *Tribology on the Small Scale*. Stop by the Oxford booth and save 20% on all titles on display.

BOOTH 834

OMICRON NANOTECHNOLOGY USA

info@omicronus.com
www.omicron-instruments.com



BOOTH 1011

Key Products: UHV SPM; Surface Science Instrumentation; MBE

Omicron NanoTechnology is the premier supplier of UHV instruments for nanoscience and research. We invite you to visit our booth to see the latest results from the next generation Low Temperature (down to 5K) Atomic Force Microscope with enhanced LHe hold time. The Variable Temperature AFM/STM is now available with a non-optical QPlus force sensor. We will also be highlighting the ESCA+, NanoESCA, Nanoprobe, and NanoSAM surface science systems. From thin film development to characterization, Omicron can help.

PACIFIC NANOTECHNOLOGY, INC.

sales@pacificnano.com
www.pacificnano.com

Key Products: Atomic Force Microscopes

Pacific Nanotechnology, Inc. provides products and services which facilitate advancements in Nanotechnology and Nanoscience. Our Atomic Force Microscope (AFM) products are optimized for research, product development and process control applications when visualization and measurement of nanometer-sized surface structure is critical. Pacific Nanotechnology offers high performance, easy to use, versatile AFM products. The new Nano-DST™ is the ultimate AFM research platform.

BOOTH 725

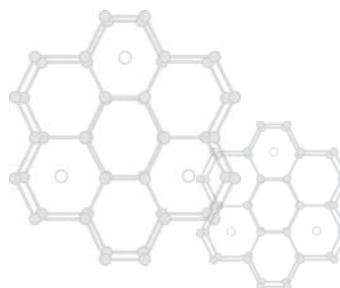
ORIGINLAB CORPORATION

info@originlab.com
www.originlab.com

BOOTH 504

Key Products: Origin 8 Software

OriginLab publishes data analysis and graphing software. Our products provide comprehensive solutions for scientists and engineers who need to analyze, graph, and professionally present data. We have two offices located in the United States: Northampton and Wellesley Hills, Massachusetts. Our main product, Origin, has been growing in popularity since 1991. Today, with over 100,000 licenses worldwide, Origin is used in hundreds of large corporations and around a thousand colleges and universities worldwide.



See Ad in this Issue

PANALYTICAL INC.
amec.info@panalytical.com
www.panalytical.com

BOOTH 1000

Key Products: X-ray Spectrometers; X-ray Diffraction; X-ray Fluorescence

PANalytical Inc. is the leading world supplier of analytical X-ray instrumentation and software for elemental analysis, phase characterization and small angle scattering. PANalytical has been providing X-ray instrumentation for over 50 years to nano-material, pharmaceutical, and materials research and process control applications. Our X-ray diffraction products are designed and engineered to supply our customers with solutions to solve complex problems such as thin film characterization; e.g., epitaxial, reflectivity and diffuse scattering, and determination of bulk material properties using the most advanced software algorithms for data collection, phase and structure determination. Additionally, our X-ray spectrometry systems provide elemental analysis for semiconductor and process control applications. Finally, our commitment to providing a customer based solution is exemplified by the largest and most dedicated customer support group in the X-ray business.

PARK SYSTEMS INC.
info@parkafm.com
www.parkafm.com



BOOTH 101

Key Products: Scanning Probe Microscope; Atomic Probe Microscope

Park Systems (formerly PSIA) is a leading Atomic Force Microscope (AFM) manufacturer. Park Systems XE-series product innovation and reliability are derived from its rich history and long standing experience in the AFM industry. Our products are key enablers to the growing Nanotechnology industry. The XE-series AFM tools are routinely used to image and measure nanoscale features day-in and day-out at multiple institutions and companies around the globe. Park Systems is committed to grow with the markets needs as our mission is "to become the global leader of nanoscale measurements and systems through technology innovation."

PASCAL TECHNOLOGIES INC.
info@pascaltechnologies.com
www.pascaltechnologies.com

BOOTH 709

Key Products: Vacuum Systems; Vacuum Hardware; Chillers

Pascal Technologies is a manufacturer's representative and distributor supporting the requirements of the high technology community for over 20 years. Based in Fredericksburg, Virginia, we supply a large range of vacuum systems and components to support all of your vacuum needs. Visit us on the web at www.pascaltechnologies.com.

TED PELLA, INC.
sales@tedpella.com
www.tedpella.com

BOOTH 810

Key Products: Vacuum Coaters; Calibration; Sample Preparation Supplies/Accessories

Ted Pella, Inc. offers a full range of compact versatile bench top vacuum coaters for thin film research and electron microscopy applications which can be equipped with high resolution thickness monitors and multi-angle rotary stages. New products are a full line of vacuum pumps and parts for research applications and small scale production. On display will also be a large selection of supplies, consumables, tools and sample preparation equipment for SEM, TEM, AFM, Raman light microscopy and nanotechnology.

PERKINELMER LIFE & ANALYTICAL SCIENCES, INC.
productinfo@perkinelmer.com
www.perkinelmer.com

BOOTH 909

Key Products: Spectrophotometers; UV/Vis/NIR; FTIR; Thermal Analysis

PerkinElmer serves a number of growing industries and markets including the environmental, pharmaceutical, chemical, petrochemical, semiconductor, academic research, biotechnology, and clinical screening segments. Our instruments and related software applications measure a range of substances from biomolecular matter to organic and inorganic materials. Our total application-driven laboratory solutions help our customers speed drug discovery, enhance research productivity, meet strict regulatory requirements, improve time-to-market, and increase manufacturing efficiencies.

PFEIFFER VACUUM
contact@pfeiffer-vacuum.com
www.pfeiffer-vacuum.com

BOOTH 920

Key Products: Vacuum Pumps; Vacuum Instrumentation

Pfeiffer Vacuum stands for innovative solutions, high technology and reliable products as well as outstanding service. Our comprehensive line include turbomolecular pumps in standard with integrated controller, corrosive series or magnetically suspended versions, rotary vane pumps, dry, diaphragm and Roots pumps and vacuum pumping stations. For vacuum instrumentation, we produce a line of analog and digital total pressure gauges, residual gas analyzers, quadrupole mass spectrometers, helium leak detector, valves and construction components.

PHOTON TECHNOLOGY INTERNATIONAL INC.
mktg@pti-nj.com
www.pti-nj.com

BOOTH 907

Key Products: NIR-PMT Steady State; NIR-InGaAs Steady State; NIR-PMT Time Resolved

PTI introduces two of its latest additions to our high quality turn-key instrumentation lines. Our well known, economical, and now improved EasyLife II which is ideal for many different applications like FRET, Quantum Dots, Micelles, DNA, etc. Our economical NIR-1000/2006 is ideal for measuring NIR emission from lanthanides and semiconductors and also suitable for detecting photosensitized singlet oxygen phosphorescence *in vitro*. PTI develops and manufactures instrumentation related to fluorescence from the components to turn-key systems.

PHYSICAL ELECTRONICS
sales@phi.com
www.phi.com

BOOTH 710

Key Products: Auger; SIMS; XPS; ESCA; TOF-SIMS

Physical Electronics (PHI) is a subsidiary of ULVAC-PHI, the world's leading supplier of UHV surface analysis instrumentation used for research and development of advanced materials in a number of high technology fields including: nanotechnology, microelectronics, storage media, bio-medical, and basic materials such as metals, polymers, and coatings. PHI's innovative XPS, AES, and SIMS technologies provide our customers with unique tools to solve challenging materials problems and accelerate the development of new materials and products. For additional information visit our website at www.phi.com.

PHYSICS TODAY
www.physicstoday.org

BOOTH 835

Key Products: Publications; Buyers Guide

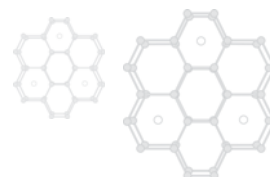
Materials scientists can search 100+ physics journals for the articles recently published in their field. Stop by to preview the new features at www.physicstoday.org, and pick up a free light-up pen! The new site accesses hundreds of physics jobs, an events calendar, and buyers' guide.

PHYTRON, INC.
info@phytron.com
www.phytron.com

BOOTH 1036

Key Products: Stepper Motors; Positioning Systems; Control Units

Established in 1947, Phytron is a manufacturer of stepper motors and positioning systems for use in extreme environments such as vacuum, radiation, cryogenic and space. Our products are widely used in synchrotron labs. We also make special stepper drives to adapt to the standard controllers and cabling of most Synchrotron labs.



2007 MRS FALL EXHIBITORS

PI (PHYSIK INSTRUMENTE) L.P.

info@pi-usa.us
www.pi-usa.us

BOOTH 421

Key Products: AFM Scanners; Scanning Microscope Stages; Nanopositioning Systems; Piezo Stages

PI manufactures the highest speed and linearity nanopositioning and scanning stages, actuators and nano-focus devices for nanotechnology and scanning microscopy applications. Products include: high-speed piezo-nanoscanning stages, ultrafast beam steering tilt-mirrors; piezo-scanner tubes and 3D-shear actuators, PZT actuators and controllers, advanced Hexapod 6-D micro-positioners; capacitive position sensors (0.01 nm resolution). Advanced piezo controllers (improved settling speed and linearity). 30+ years experience; worldwide presence.

PIEZOSYSTEM JENA, INC.

usa@piezोजना.com
www.piezोजना.com

BOOTH 807

Key Products: Nanopositioning Systems; Piezo Stages; Microscope Stages

We are a world leading company in the development, design and engineering of piezo actuator based positioning systems for micro- and nanopositioning and nanoautomation. Piezosystem Jena is the exclusive US representative for SIOS interferometric equipment. We also manufacture multimode fiberoptic switches for fluorescence and spectrographic studies.

PLASMA PROCESS GROUP, INC.

info@plasmaprocessgroup.com
www.plasmaprocessgroup.com

BOOTH 1305

Key Products: Ion Beam Sources; Ion Beam Hardware; Etch System

Plasma Process Group manufactures ion beam sources, systems, and components. We supply small components such as grids, to complete thin film systems. We repair and refurbish ion beam equipment, including Ion Tech, and power supplies. We offer custom engineering services and support for unique applications.

PLASMATERIALS, INC.

info@plasmaterials.com
www.plasmaterials.com

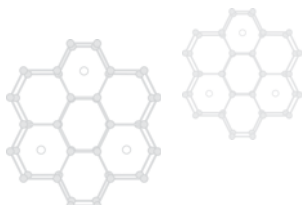
BOOTH 106

Key Products: Sputtering Targets; Backing Plates; Evaporation Materials

Plasmaterials, Inc. provides high purity Physical Vapor Deposition (PVD) materials in nearly every element, alloy, composition and component available on the periodic table. Products include sputtering targets, backing plates and other segments of the materials market including evaporation material, crucible liners and electron beam starter sources. In addition to backing plates, we also provide metallic bonding services. The bonding process utilizes a proprietary process for affixing the target directly to the backing plate using low vapor pressure materials. These bonding materials provide the necessary mechanical strength, thermal and electrical conductivity while allowing differential expansion between the target and the backing plate. Backing plates for nearly all commercial available systems are usually in stock for immediate delivery. Customer designed backing plates can usually be provided within a short period of time. A full service company, Plasmaterials, Inc. can provide all of your deposition materials needs.

PSIA, INC.

(See Park Systems Inc.)



PVD PRODUCTS, INC.

sales@pvdproducts.com
www.pvdproducts.com

BOOTH 210

Key Products: Sputtering Systems and Sources; Pulsed Laser Deposition Systems; Evaporation Systems

PVD Products sells a complete line of thin film deposition tools including magnetron sputtering, pulsed laser deposition, thermal and electron beam evaporation systems for both R&D and prototype production applications. We manufacture custom components such as magnetron sputter sources, substrate heaters, target manipulators, and optical trains and unique components for coated-conductor applications. PVD also provides thin film deposition, SEM, and EDS services.

Q-SENSE, INC.

info@q-sense.com
www.q-sense.com



BOOTH 110

Key Products: E4 System; QCM-D Technology; Sensor Crystals

Q-Sense offers a new sensor technology—Quartz Crystal Microbalance with Dissipation monitoring (QCM-D), an *in situ*, real time technology for the study of mass and viscoelastic changes at the liquid/solid interface or in thin films. Processes that have been published include DNA hybridization, several aspects of protein/lipid/cell/bacterial adsorption/adhesion, protein-protein interactions, cross-linking and phage display. Water content information, substrate, flexibility and conformational information are major advantages with the QCM-D technology. For more information, please visit www.q-sense.com.

QUANTUM DESIGN, INC.

info@qdusa.com
www.qdusa.com



BOOTH 517

Key Products: Physical Property and Magnetic Property Measurement Systems

Quantum Design is the leading manufacturer of automated material characterization systems for the physics, chemistry, and materials science research communities. These systems provide temperatures from <0.4 to 1000 K and magnet fields up to 16 tesla. The SQUID-based Magnetic Property Measurement System (MPMS) is the industry standard for ultra-sensitive magnetic measurements. The Physical Property Measurement System (PPMS) is an innovative device designed to provide a wide range of fully automated measurements, including: magnetometry (AC, DC, Torque, and VSM), electrical transport (AC, DC, Hall effect and critical current), thermal transport (thermal conductivity, Seebeck coefficient, thermopower), and heat capacity. Both systems can be supplied with an optional cryocooler.

RADIANT TECHNOLOGIES, INC.

radiant@ferrodevices.com
www.ferrodevices.com

BOOTH 919

Key Product: Ferroelectric Tester; Ferroelectric Capacitors; Educational Test Systems for Ferroelectric and Sensor Testing

Radiant Technologies introduces our new Precision Materials Analyzer family—the Precision Premier II, Precision LC, and RT66B which extends the precision, flexibility and ease of Radiant's testers into the megahertz measurement range. The Precision Family introduces 1 μ ground hardware driven by Windows NT 4.0™ user interface, revolutionary software design that provides exceptional freedom to design, conduct, and review tasks associated with any materials experiment. Radiant has also introduced a new EDU research test systems designed to teach students about ferroelectric capacitors and sensors in a laboratory environment.

REFINING SYSTEMS, INC.

www.refiningsystems.com

BOOTH 921

Key Products: Sputtering Targets; Evaporation Materials; Wires and Tubing

Since 1986, Refining Systems, Inc. has been an industry leader in the manufacturing of metals and materials for science and industry. We manufacture custom-made sputtering targets, evaporation materials, crucibles rods, sheets, wires, foils, shots, tubing, discs and other items. Our product line has been tailored to meet the increasing needs of high-tech industries, research facilities, vacuum coating industries and other trades. Please stop by our booth to view our extensive product line.

2007 MRS FALL EXHIBITORS

RENISHAW INC.
usa@renishaw.com
www.renishaw.com



BOOTH 816

Renishaw Raman Microscopes provide chemical information at a spatial resolution of less than 1 micron. Renishaw's spectrometers perform from 244 nm to 830 nm, analyze to within 10 cm⁻¹ of the laser line and include direct 2-D Raman and photoluminescence imaging. Process and Forensic Raman Spectrometers interface options include optical, AFM and SEM microscopes.

RESEARCH AND PVD MATERIALS CORPORATION **BOOTH 1005**
rpvd.melvin@erols.com
www.pvdmaterials.com

Key Products: Sputtering Targets; Evaporation Sources; All Products for Physical Vapor Deposition

Research and PVD Materials Corporation manufactures a wide variety of highly characterized, high purity materials for the diverse and sophisticated requirements of the semiconductor, electronics, electro-optic and related research communities. Products from this single-quality source include but are not limited to sputtering targets, thin-film deposition materials, fabricated forms of specialty and exotic metals, alloys, ceramics, intermetallics, custom fabrications and "one off" components.

RHK TECHNOLOGY, INC.
Part of the Nanotechnology Group
info@rhk-tech.com
www.rhk-tech.com



BOOTH 612

Key Products: SPM Universal Controls; UHV STM; UHV AFM/STM

Imaging the Future of Nanoscience: RHK is the chosen company for fundamental science at the atomic scale. Our UHV STM, AFM, 4-Probe systems, controllers, and electronics are engineered for the advanced researcher but comfortably systemized for the first-time buyer. To choose RHK means to experience peak performance, scalability, compatibility, and value. Celebrating 20 years of commitment to customer and quality, we partner with the researcher to support our products over a lifetime of experimental success.

RIGAKU AMERICAS CORPORATION **BOOTH 617**
info@rigaku.com
www.rigaku.com

Key Products: X-ray Diffraction Systems; Small Angle X-ray Scattering Systems

Rigaku provides the world's most comprehensive line of X-ray diffraction and X-ray fluorescence hardware and software for the analysis of advanced materials. Systems for the analysis of thin films, nano-particles, semiconductor wafers, and bulk materials are fully automated enabling high precision user friendly measurements and detailed structural interpretation. A wide range of X-ray applications including XRD, XRF, XRR, SAXS, HRXRD, and micro XRD/XRF can be routinely performed by general users.

RKI INSTRUMENTS, INC. **BOOTH 124**
bob@rkiinstruments.com
www.rkiinstruments.com

Key Products: Photoelectron Spectrometer

RKI Instruments, Inc. is partners with Riken Keiki Co, Ltd. of Tokyo, an innovative instrument company and manufacturer of the Model AC-2. This revolutionary Photoelectron Spectrometer was originally developed by the Institute of Physical and Chemical Research in Japan. The AC-2 is the world's only Photoelectron Spectrometer that measures Work Function and Ionization Potentials in air. Providing measurements in just 5 minutes, the AC-2 is a fantastic time saving tool for materials surface research.

ROYAL SOCIETY OF CHEMISTRY **BOOTH 933**
marketing@rsc.org
www.rsc.org

Key Products: Journals; Books

The Royal Society of Chemistry is the largest organisation in Europe for advancing the chemical sciences. It is supported by a network of 43,000 members worldwide and an internationally acclaimed publishing business. Visit our booth for the latest developments in our publication collection including the only weekly journal in the field, *Journal of Materials Chemistry*, our new interdisciplinary journal *Soft Matter* and best selling textbook by Ozin & Arsenault, *Nanochemistry: A Chemical Approach to Nanomaterials*.

RUBICON TECHNOLOGY, INC. **BOOTH 1007**
sales@rubicon-es2.com
www.rubicon-es2.com

Key Products: Sapphire Substrates; Single Crystal Windows; Single Crystal Lenses, Rods, Tubes

Rubicon Technology is an advanced electronic materials provider that is a leader in developing, manufacturing and marketing sapphire substrates and other innovative crystalline products for Light-Emitting Diodes (LED), radio frequency integrated circuits (RFICs), blue laser diodes, optoelectronics and other optical applications. We provide our products for the solid state lighting, semiconductor electronics, consumer electronics as well as aerospace, sensor and medical markets.

SANDIA NATIONAL LABORATORIES **BOOTH 823**
www.sandia.gov



As a Department of Energy national security laboratory, Sandia works in partnership with universities and industry to enhance the security, prosperity and well being of the nation. We provide scientific and engineering solutions to meet national needs in nuclear weapons and related defense systems, energy security, and environmental integrity and to address emerging national challenges for both government and industry.

SEKI TECHNOTRON CORPORATION **BOOTH 213**
www.sekicvdsolutions.com



Key Products: CVD Diamond Systems; Hot-Filament CVD Systems; Microwave Plasma CVD Systems

Seki Technotron is the leading manufacturer of Microwave Plasma CVD Systems and the exclusive worldwide supplier of sp³ Diamond Technologies' Hot Filament CVD Systems. Our Microwave Plasma CVD systems are designed for high growth rate, high quality diamond films, single-crystal diamond, carbon nanotubes and advanced material research, for deposition areas of 100 mm to 300 mm and power levels from 1.5 to 100 kW depending on required process and growth rates. The sp³ Hot filament CVD system provides highly uniform deposition over 14-sq. in. of very smooth ultra nanocrystalline and faceted diamond films for electronics, tools, and wear part coating applications. We work closely with our customers to select the CVD system and process solution most suited for the intended R&D and production applications. Please visit our website at www.sekicvdsolutions.com.

SEMICORE EQUIPMENT INC. **BOOTH 1008**
sales@semicore.com
www.semicore.com

Key Products: Sputtering Systems; Evaporation Systems; Etching Systems

Semicore has a long-established record of quality in re-manufacturing sputtering, evaporation and etching systems. New or pre-owned, standard or custom, Semicore can provide the thin film deposition tool that meets all of your process requirements. Semicore's wide range of expertise in vacuum tool manufacturing ensures a perfect fit between performance, production and price. See why leading companies are using our equipment services and support network. Please call or visit us at www.semicore.com.

2007 MRS FALL EXHIBITORS

SEMTECH SOLUTIONS, INC.
sales@semtechsolutions.com
www.semtechsolutions.com

BOOTH 706

Key Products: Electron Beam Lithography Systems; Electron Beam Roughness Analyzing Microscopes; Refurbished SEMs

SEMTECH SOLUTIONS is a seller of re-conditioned Scanning Electron Microscopes (SEMs) and a new affordable USB digital imaging solution for older analog SEMs. SEMTECH SOLUTIONS offers customers an alternative to buying expensive new scanning electron microscopes. In addition, SEMTECH SOLUTIONS also represents Elionix in North America to provide Electron Beam Lithography Systems, 3-D Electron Beam Roughness Analyzing Microscopes, and Nanoindenters. SEMTECH SOLUTIONS is also the Northeast sales representative for Physical Electronics (Auger, ESCA, SIMS).

SIGMA-ALDRICH CORPORATION
matsci@sial.com
www.sigma-aldrich.com/matsci

BOOTH 925

Key Products: Material Matters™ Technical Guide; Nanomaterials; Organic Electronics; Alternative Energy Materials; Thin-Films; Biomaterials

Sigma-Aldrich® is a leading high-technology company. Through our Materials Chemistry Centers of Excellence in research and manufacturing we develop advanced, enabling materials for your micro/nanoelectronics, alternative energy, organic electronics, nanotechnology and related materials science and engineering applications. Specialties include self-assembly materials, thin-film precursors, organic semiconductors, nanomaterials, crystal growth materials, metals and alloys, fuel cell materials, electronic grade dyes, specialty monomers and cGMP grade polymers. Visit our Web site at sigma-aldrich.com/matsci or contact us at matsci@sial.com for applications data, tutorials and product listings.

SMALL TIMES
www.smalltimes.com

BOOTH 936

Small Times is the leading global media source for micro and nanotechnology news, information and analysis. Recognized as the leading industry publication, *Small Times* magazine reaches 27,000 qualified decision makers. SmallTimes.com, the most comprehensive electronic source for international news covering the commercialization of micro and nanotechnology receives in excess of 100,000 page views per month. The weekly opt-in newsletter, *Small Times Direct* reaches more than 22,000 subscribers throughout the world. The NanoCon International conference & exhibition, Best of Small Tech Awards and Small Tech Business Directory are also part of this growing media franchise.

SONICS & MATERIALS, INC.
info@sonics.biz
www.sonics.biz

BOOTH 804

Key Products: Ultrasonic Processors; Homogenizers; Dispersion Equipment

The Vibra-Cell™ is the most technologically advanced high intensity ultrasonic processors for the deagglomeration, dispersion, and particle size reduction of powders in a liquid, available for both the lab and for production. Ultrasonics is proven to be more effective in the production of nano-size particles for inks and pigments, cosmetics, coatings, and toners. Our customers can expect more experience, reliability, and customer support when choosing Sonics over any other ultrasonic company.

SONO PLOT, INC.
info@sonoplot.com
www.sonoplot.com

BOOTH 1210

Key Products: Microarray Plotter; Epoxide-coated Glass Microscope Slides

SonoPlot designs and sells picoliter-scale ultrasonic fluid dispensing systems, ultrasonic surface height calibration sensors, and chemically functionalized substrates. SonoPlot's products are aimed at applications such as biological microarrays, polymer-based and printable electronics, embedded passive components, and semiconductor packaging.

SOUTH BAY TECHNOLOGY, INC.
info@southbaytech.com
www.southbaytech.com

BOOTH 506

Key Products: Wire Saws; Lapping Machines; Low-speed Saws

South Bay Technology, Inc. manufactures materials processing equipment for applications in electron microscopy, optical microscopy, metallography, microelectronics and single crystal processing. Products include wire saws and diamond wheel saws for precision cutting; lapping and polishing machines and fixturing for controlled surface preparation; 2- and 3-axis goniometers for orientation, cutting and polishing of single crystals; ion milling, dimpling, disc cutting and plasma cleaning systems for TEM sample preparation; ion beam sputter deposition and etching systems to prepare fine grain thin films for high resolution imaging using FESEM; plasma etching, reactive ion etching (RIE) and backside polishing systems for microelectronic processing; and high precision polishing systems for nanotechnology applications. The SampleSaver™ is a new product being introduced for the transport and storage of oxygen sensitive samples in an inert environment.

SPECS SCIENTIFIC INSTRUMENTS, INC.
support@specs.com
www.specs.com

BOOTH 702

Key Products: Surface Analysis; AFM/STM; PEEM; LEEM

Bio and Nano Technology, NanoAnalysis, NanoManipulation, NanoSpectroscopy, NanoMotion, Digital Robotics, GC/MS LC/MS, Surface Analysis Instruments and Materials Deposition Equipment for XPS, STM, AFM, LT-STM, MBE, CVD, ALD, OLED, PLD, 3D Laser Atom Probe, LEED, EELS, UPS, Auger, ESCA, SIMS, SNMS, PEEM, LEEM, KELVIN-Probe, RHEED, E-Beam Evaporation, Effusion Cells, Plasma Atom/Ion Sources, Magnetron Sputter Deposition, Bio-Organic Injectors, Beamlines, Monochromators, and Synchrotron Equipment.

SPECS USA CORP.
specsusa@specs.de
www.specsinstruments.com

BOOTH 820

Key Products: Electron Spectrometers; STM; MBE Equipment

SPECS is a leading manufacturer of components and systems for Surface Analysis, with a focus on spectroscopic methods like XPS, UPS, AES, SIMS, SNMS, LEED, and HREELS. Offering a variety of sources for deposition, sample preparation and analysis in UHV, as well as analyzers, monochromators and microscopes like LEEM, STM and LT-STM, SPECS is a worldwide supplier for research. SPECS is dedicated to customized solutions and integrated systems combining thin film preparation (MBE) with spectroscopic and microscopic analysis.

SPEX SAMPLEPREP LLC
sampleprep@spexcorp.com
www.spexcorp.com

BOOTH 1031

Key Products: Mixer/Mills; Katanax Automated Electric Fluxers; Ball Mills

SPEX SamplePrep provides products for grinding and pulverizing even the toughest samples. These include high-energy ball mills, swing mills, and cryogenic mills. Over the past few decades, the SPEX SamplePrep Mixer/Mill, widely known as the "SPEX Mill," has become the industry standard for mechanical alloying applications. The high energy of the milling action, and the durability of the motor, allow running for extended periods. We're also known for our Freezer/Mill, the only "True Cryogenic Mill."

SPI SUPPLIES
Division of Structure Probe, Inc.
info@2spi.com
www.2spi.com

BOOTH 1202

Key Products: Electron Microscopy Supplies; Sputter Coaters; Plasma Etchers

SPI Supplies will be featuring its newest products including the OPC Osmium Plasma Coater for "zero grain size" coating, Plasma Prep™ X parallel plate (anisotropic) plasma etcher (for no undercutting), MACO™ TEM film, and the Secador® automatically regenerating desiccant module for sample storage. Also on display will be the popular line of SPI Module™ SEM/EDS coaters and the Plasma Prep™ II plasma etcher. Visit www.2spi.com to learn more about these innovative new products or to place an order using the on-line shopping cart.

2007 MRS FALL EXHIBITORS

SPIRE CORPORATION

info@spirecorp.com
www.spirecorp.com

BOOTH 205

Key Products: Thin Films and Coatings; Ion Beam Surface Modification Services; Biomaterials

Spire Biomedical is a leading provider of advanced surface modification services for implantable medical devices and biomedical instruments. The company offers customized biocompatible metal and ceramic coatings and surface treatments to meet a wide range of needs including, wear and friction reduction, enhanced bone in-growth, anti-microbial property, radiopacity, electrical conduction and insulation, hydrophilicity, surface functionalization, and surface engineering on the nanoscale.

SUPER CONDUCTOR MATERIALS, INC.

sales@scm-inc.com
www.scm-inc.com

BOOTH 908

Key Products: Sputtering Targets; Evaporation Materials; Crucible Liner

Serving the vacuum industry since the 1980s, SCM, Inc. uses inert hot pressing, vacuum hot pressing, and induction melting to produce targets. Sputtering targets and evaporation materials are available in various purities from 99.9% to 99.9999%. Ceramic materials are produced using an advanced hot pressing technique, which yields targets with densities approaching theoretical, much greater than other ordinary techniques. It also provides excellent homogeneity, which ensures repeatable use. Crucible inserts for all the major E-beam systems are available. For all your magnetic, optical, LCD, ferroelectric, and micro-electronic material needs, please visit our website at www.scm-inc.com.

SPRINGER

exhibits@springer.com
www.springer.com



BOOTH 829

Key Products: Books; Journals; Periodicals

Springer is one of the world-leaders in Engineering book publishing, boasting a broad range of subject matter, and a history of working with the most prestigious scholars in the field. Additionally, Springer publishes an astute collection of Journals, with a track record of generating the latest sought after content. For additional information about all our engineering publications, please stop by our booth, or visit us at Springer.com.

SURFACE IMAGING SYSTEMS INC.

info@surface-imaging.com
www.surface-imaging.com

BOOTH 620

Key Products: AFM/SPM Systems; Inspection Tools

Surface Imaging Systems, Inc. manufactures atomic force microscopes and automated/integrated AFM inspection systems. Our unique detection principle allows us to integrate our AFM with more precise results than other manufacturers. Our ULTRAObjective is a very compact AFM/SPM that can be adapted to standard optical microscopes or other research/inspection tools. This combination allows you to first select a region of interest with your tool and then switch to our AFM/SPM head and investigate the selected region with nanometer resolution. You can choose from a wide variety of AFM/SPM modes, such as contact, non-contact, MFM, EFM, elasticity mode, friction mode, thermal conductivity, Kelvin probe microscopy, Q-control, force-distance curves, and STM. In addition, our ULTRAObjective is very convenient for use in liquids. We are exhibiting a fully functional system and will offer live measurements on your sample(s). Please contact us at info@surface-imaging.com for an appointment or product information.

STAIB INSTRUMENTS, INC.

staib-us@staibinstruments.com
www.staibinstruments.com



BOOTH 717

Key Products: RHEED; Electron Guns; CMA Auger; PEEM; SEM; ESCA Single-Flange

STAIB designs and manufactures innovative, high performance, reliable instruments for *in situ* material analysis including: a full range of Electron Guns for analytical surface studies (flood, microfocus, general purpose, low energy, nanofocus); RHEED systems (new in CVD-PLD-PVD environments) to study structure and quality of thin films; CMA energy spectrometers (Auger, SAM, XPS, and UPS) for analytical surface studies; SEM using our micro-focus guns; Photo-Electron Emission Microscopes (PEEM); ESCA; X-ray Sources; and Multi-Technique Surface Analysis Chambers.

SURFACE SYSTEMS & TECHNOLOGIES GMBH & CO. KG

info@surface-tec.com
www.surface-tec.com

BOOTH 405

Key Products: PLD Systems; Laser Substrate Heaters; High Pressure RHEED; Laser Heater for Nanometrology Test Systems

Since 1994, SURFACE develops and sells PLD systems. The PLD-Workstation, a very compact "all-in-one frame" system, includes all of the necessary process components in only one rack. The modular laser MBE cluster tool system can be expanded from a single chamber to a multi chamber, multi process system. Advanced accessories like substrate laser heaters or high pressure RHEED systems were developed. All SURFACE PLD systems use the advanced "Plume Master" automation software. NEW from SURFACE: Laser sample heater for nanoindentation systems with a temperature range up to 600°C.

STREM CHEMICALS, INC.

info@strem.com
www.strem.com



BOOTH 525

Key Products: Chemicals; Nanomaterials; CVD and ALD Precursors

Strem Chemicals manufactures and markets a wide variety of metals, inorganics and organometallics for research and commercial scale production for the materials science community including a wide range of MOCVD and ALD precursors and nanomaterials (nanoclusters, nanocolloids, nanoparticles, nanopowders, nanomagnetic fluids). We also perform custom synthesis work and provide a variety of catalysts and ligands for organic synthesis, rare-earth and electronic grade chemicals for ultra high-purity needs and ionic liquids. Ask for our Catalog 21 (2006-8) of over 4000 products.

SURREY NANOSYSTEMS LTD.

enquiries@surreynanosystems.com
www.surreynanosystems.com

BOOTH 1205

Key Products: Carbon Nanotube Deposition System; Sputter Deposition System; Nanomaterial Deposition System

Surrey NanoSystems sets the global standards for substrate based carbon nanotube, nanomaterial and sputter solutions. World-firsts, like the NanoGrowth Catalyst™ system, not only provide one of the most process stable platforms, but also built-in catalyst deposition technology to control all growth aspects. Nanoparticle, vapor phase catalyst and remote plasma modules are available to provide highly flexible configuration and repeatable growth from startup. Surrey NanoSystems' partnership program offers system cost and technical benefits for suitable partner sites.

STRUCTURED MATERIALS INDUSTRIES, INC./

AMBP TECH CORPORATION
sales@structuredmaterials.com
www.structuredmaterials.com



BOOTH 621

Key Products: MOCVD Systems; PLD; Films

SMI sells MOCVD and ALD tools, components, and services for R&D and production of Carbides, CNTs, Chalcogenides, Diamond, Nitrides, Oxides, Superconductors, nanowires, and other materials (www.structuredmaterials.com). Sales are supported with an in-house applications laboratory. SMI's spinout, AMBP Tech, sells PLD and Laser Annealing tools and services (www.ambptech.com).

SVT ASSOCIATES, INC.

sales@svta.com
www.svta.com



BOOTH 902

Key Products: MBE, ALD, PLD, UHV Sputtering, RF Plasma, *In-Situ* Monitoring

SVT Associates offers a full range of MBE, thin-film deposition, *in-situ* process monitoring, and related UHV equipment for advanced materials. Since 1993, we have designed and delivered tailored solutions for emerging materials through MBE, ALD, PLD, and UHV deposition equipment innovations. In addition, internally developed *in-situ* process monitoring tools provide the highest level of accuracy and precision for closed loop control of temperature, deposition rate, thickness, and stress. By having the industry's most advanced MBE and thin film applications lab, SVT ensures all products are well suited for each application and include material performance guarantees. Epiwafer and advanced device manufacturing services are also available for GaN and ZnO related materials. Please contact SVT for more information.

SYCON INSTRUMENTS, INC.

info@sycon.com
www.sycon.com

BOOTH 420

Key Products: Thin Film; Sensors; Power Supplies

Sycon Instruments, Inc. is a manufacturer of thin film deposition monitors and controllers utilizing the quartz crystal sensing techniques. These products include the STC-2002 deposition controller which can be expanded to 8 channels; the STM-100/MF Thickness Rate Monitor, and the STC-2000A deposition controller for the budget minded. The EBS-530 E-Beam Sweep Control for electron beam sweep control. The STM-1 monitor with integrated oscillator for use with Lab View on your PC. The SRT-422 E-Beam Source Indexer. The T-3000 Deposition Power Supply. The VSO-100 In-Vacuum sensor oscillator and a complete line of sensors, crystals and feedthroughs. All products available for quick delivery all over the world.

TAYLOR & FRANCIS GROUP LLC

orders@crcpress.com
www.taylorandfrancisgroup.com

BOOTH 828

Key Products: Journals; Books; Electronic Databases

Take your research skills to the next level with Taylor and Francis Group/CRC Press, a leading publisher of technical references and textbooks in Materials Science. Visit our booth to see the latest books in Polymers, Ceramics, Metals, Composites, Biomaterials, Electronic Materials and Nanomaterials, and receive 15–25% off an authoritative range of titles.

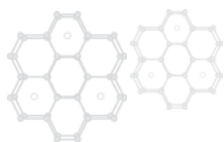
TCI AMERICA

sales@tciamerica.com
www.tciamerica.com

BOOTH 819

Key Products: Specialty Organic Chemicals; Glyco-Chemistry Reagents; Custom Synthesis

TCI America manufactures more than 18,000 specialty organic laboratory chemicals. Our chemicals are highly regarded for their exceptional quality and there are a large number of unique reagents which only TCI manufactures. We also provide custom synthesis and contract research services for the pharmaceutical, cosmetic, electronic, chemical and biotechnology researcher. New 2007 Reagent Guide and Glyco-Chemistry & Biology Catalog are available. Manufacturing facilities offer kilo to ton lot production utilizing many reaction capabilities. Modern facilities can provide cGMP manufacturing and are registered with the FDA. Visit our new website with structure searching, and online ordering system—eStore.



TECH VALLEY, NY

Exhibiting within the NY Loves Nanotech Pavilion
www.nylovesnano.com

BOOTH 322

With over \$13 billion invested and growing, New York's Tech Valley, located in eastern, upstate New York, is the premier location for innovative, high technology companies. As a global leader in high-technology research and development, Tech Valley produces a world-class workforce, shovel ready sites and competitive incentives to ensure a company's success. With breathtaking scenic beauty, cultural heritage, and exciting recreational opportunities, Tech Valley is a rich and diverse region for quality living. Find out more at www.nylovesnano.com.

TELEMARK

sales@tfi-telemark.com
www.tfi-telemark.com

BOOTH 224

Key Products: Electron Beam Sources; Power Supplies; Optical Monitors

Telemark manufactures evaporation components, including electron beam sources, e-beam power supplies, optical monitors, plasma chemistry monitors, water vapor cryotrap, and related accessories. Telemark also offers quartz crystal deposition controllers, spare parts, refrigerant gas charges, and field service for a wide range of vacuum equipment. An affiliated company, APT, offers automated wet chemical processing tools and wafer mapping systems.

THERMIONICS VACUUM PRODUCTS

sales@thermionicscorp.com
www.thermionics.com

BOOTH 406

Key Products: Sample Handling; Thin Film Deposition Equipment; Valves

Manufactures vacuum components, systems and accessories for production and research applications including: our new continuous rotation LN₂ and LHe cooled gearboxes; our HLD-1000 specialized leak detector; our RC series of 3kW e-Guns™; HC series e-Guns™ with dual filament capability for demanding production coating applications; our new ICR series eGun with capacity up to 1500cc; PyraFlat™ rectangular flanges and waveguides; TriMetal™ bi-metallic flanges and fittings; gate and poppet valves; sample handling and transfer systems; ion pumps; maTChed™ thermocouple gauges; mechanical, electrical and fluid feedthroughs; and PLD and eGun™ deposition systems.

THERMO SCIENTIFIC

analyze@thermofisher.com
www.thermo.com

BOOTH 516

Key Products: FT-IR; Raman; UV-Visible; X-ray Microanalysis; X-ray Surface Analysis

Thermo Scientific, part of Thermo Fisher Scientific Inc., provides world-class solutions for materials research. These include high performance FT-IR, Raman and UV-Visible spectrometers for use in research and development. Our EDS X-Ray microanalysis system offers complete phase-based analysis of the sample at the push of a button. Spectral imaging-based microanalysis eliminates user bias. Our XPS spectrometers are a staple in materials characterization and are useful tools for the development of advanced bio-medical surfaces and nano-materials.

TREK, INC.

sales@trekinc.com
www.trekinc.com

BOOTH 808

Key Products: High-Voltage Amplifiers; Electrostatic Voltmeters; Charge Decay Measurement

Trek, Inc. designs and manufactures a range of electrostatic measurement and high-voltage solutions for applications in Materials Research. Trek's High-Voltage Amplifiers provide high slew rates, accuracy and full four-quadrant operation, making them ideal for research in microfluidics, piezoelectric driving/control, ferroelectric characterization, laser modulation, MEMS, material poling, electrorheological fluids, electroactive polymers, electrophoresis, and electrospinning. TREK's Electrostatic Voltmeters provide noncontacting or contacting surface voltage measurements with sensitivities in the millivolt range. Surface Resistance Meters are also offered.

2007 MRS FALL EXHIBITORS

TRIBOTECHNIC

info@tribotechnic.com
www.tribotechnic.com

BOOTH 718

Key Products: Nano Tribometer; Scratch Tester Millennium; Tribometer; Tribotester

TRIBOtechnic equipment is the culmination of 18 years of market experience and 30 of tribological testing. Our instruments have exclusively patented features for research and development or measuring quality control. These instruments conform to industry standards, are user friendly and economical to maintain. New technological advances have allowed TRIBOtechnic to provide our customer with the highest quality and performance at reasonable cost.

TRION TECHNOLOGY, INC.

info@triontech.com
www.triontech.com

BOOTH 218

Key Products: Plasma Etch; Deposition and Photoresist Stripping Equipment

Trion manufactures a wide variety of Plasma Etch, Strip and Deposition Equipment for the Failure Analysis, Compound Semiconductor, MEMS, Opto-Electronic and other markets. Our products feature the smallest footprint and lowest cost systems in the industry with proven production reliability. The tools process up to 300mm wafers, wafer segments, packaged devices and small electronic parts. Complete process support, including recipes. Processes include silicon, quartz, GaAs, InP and GaN.

TSL

A Subsidiary of EDAX Inc.

(See EDAX Inc.)

ULVAC TECHNOLOGIES, INC.

sales@ulvac.com
www.ulvac.com



BOOTH 711

Key Products: IR Furnaces; Thermal Diffusivity; Thermal Conductivity Equipment

ULVAC-RIKO specializes in thermo-physical property measurement systems. Products include high temperature IR gold reflector furnaces, a furnace hot-stage optical microscope, a programmable tabletop RTA furnace, Laser Flash unit for thermal conductivity, LaserPIT for in-plane thermal diffusivity of thin sheet or thin films, and a Seebeck coefficient and electrical resistance-measuring instrument. ULVAC-RIKO is a division of ULVAC, an international corporation that provides systems and components used in manufacturing and research applications requiring vacuum technology.

See Ad in this Issue

VARIAN, INC.

vtl.customer.service@varianinc.com
www.varianinc.com/vacuum



BOOTH 316

Key Products: Vacuum Pumps; Vacuum Instrumentation; Leak Detectors

Varian, Inc. is a world leader in providing total vacuum solutions. Product offerings include primary, high and ultra-high vacuum pumps, vacuum gauges, valves and fittings, and leak detectors for all applications. Varian offers unique expertise in applications, support, and system design to integrate these superior components into optimized vacuum solutions.

VAT, INC.

us@vatvalve.com
www.vatvalve.com

BOOTH 817

Key Products: Valves; Controllers; Vacuum Valves

VAT is the worldwide leader in vacuum valve technology. VAT will have on display the following valves: gate, pendulum, isolation, butterfly, control, angle, all-metal. VAT sales engineers are available to assist you with your vacuum valve requirements in applications such as: CVD, coating, pump isolation, laser, high energy physics, semiconductor, load locks, beam lines, and many more.

VEECO INSTRUMENTS INC.

info@veeco.com
www.veeco.com



BOOTH 301

Key Products: Atomic Force Microscope; Official Profilers; Epitaxial Equipment

Veeco is the world's leading supplier of equipment solutions for materials research. It is the only company offering both MBE and MOCVD technologies for the research, development and production of compound semiconductor devices. Veeco's complementary thin-film technologies and metrology tools make it the industry's most complete one-stop equipment supplier. Veeco will highlight the new GEN20 MBE System, automated and manual configurations, for R&D and pilot-production and newly released component product solutions.

See Ad in this Issue

VG SCIENTIA, INC.

usasales@vgscientia.com
www.vgscientia.com

BOOTH 311

Key Products: Vacuum Components; Surface Analysis Systems; UHV Systems

The new VG Scientia is the world's premiere supplier of vacuum components, surface analysis instruments, and UHV systems to industry, research and development firms, and the scientific community. VG Scientia remains at the cutting edge of science with over 30 years experience in HV and UHV technology.

VIRGINIA SEMICONDUCTOR, INC.

sales@virginiasemi.com
www.virginiasemi.com

BOOTH 703

Key Products: Silicon Wafers; SOI Wafers; Ultrathin Wafers

Virginia Semiconductor, Inc. is a leading manufacturer of prime single crystal silicon substrates. Offering production quantities of 2- to 6-in. diameter silicon and small quantities of 1- to 6-in. diameter customer silicon substrates. We also offer custom 2- to 6-in. SOI substrates.

VISITEC OF AMERICA LLC

info@voagroup.com
www.voagroup.com

BOOTH 1309

Key Products: Electron Optics; Vacuum Technologies; Lab Processes Opt.

VisiTec is an innovative enterprise, focused on the development of technologies for Vacuum Environments and Electron Optics. The main product developed by VisiTec is MIRA, the Large Chamber Scanning Electron Microscope, with a chamber of 1 cubic meter. The LC-SEM is used in Research and Development, Failure Analysis and Nano-assembly applications.

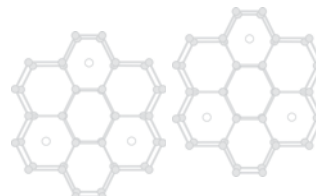
VSP, AN IMPRINT OF BRILL

vsppub@brill.nl
www.brill.nl

BOOTH 837

Key Products: Journals; Books

Under the imprint VSP, since 1999 Brill academic publishers offers scientific journals and books on Materials and Surface science, as well as Physics and Engineering. Many of the journals are co-published with distinguished learned societies from various parts of the world. Specialty areas include polymer materials science, adhesion science, composite materials and robotics. Also publishing biology titles, Brill is ideal for publishing your manuscripts on bio-inspired materials science. Book proposals are welcome!



WAFER WORLD INC.
sales@waferworld.com
www.waferworld.com



BOOTH 809

Key Products: Silicon Wafers; Germanium Wafers; GaAs Wafers

Manufacturer of semiconductor materials in Silicon (Fz, Cz, Low TTV, Thick Slabs, Oxide, MEMS Thin, EPI, SOI); Germanium; III-V Compounds (GaAs, InP, GaP, GaSb, GaN, InSb, InAs) in reclaim, test, prime and two-sided polished surfaces; Optical Materials (Quartz, Ge, ZnSe, ZnS, Sapphire); Fiber Optical Materials (LiNbO₃, LiTaO₃, CaCO₃, TiO₂, YVO₄, YAG, Gd₃Ga₅O₁₂); and Superconductor Materials (MgO, LSAT, LaAlO₃, SrTiO₃, SrLaAlO₄, KTaO₃, MgAl₂O₄). Many stock and custom wafers available. Clean room packaging, equipment, consulting available. On Line Shopping Cart 24-hours a day!

WARNER INSTRUMENTS INC.
sales@warneronline.com
www.warneronline.com

BOOTH 904

Key Products: Bilayer Workstation; Electrophysiology Tools; Imaging Products

Warner Instruments designs and manufactures a wide variety of products for the life sciences community. Our expertise includes high-gain electronics, imaging platforms, solution delivery, and temperature control. Of interest to the MRS is our Bilayer Workstation, suitable for the measurement of conducting ions across a membrane. On-site setup and training is available. Stop by our booth to see a working model.

JOHN WILEY & SONS
info@wiley.com
www.wiley.com

BOOTH 929

Key Products: Books; Journals; Databases

Wiley publishes for the scientific community, scientific societies, and students worldwide. Wiley announces its new publishing partnership with The American Ceramic Society, including technical publications on ceramics, ceramic engineering, glasses, composites, crystallization, abrasives, cements, whitewares, and advanced ceramics. New Wiley books include *Polarized Light in Liquid Crystals and Polymers*, *Materials Processing During Casting*, and *Molecular Semiconductors: An Introduction*. Wiley is also the publisher of the journals *Advanced Materials*, *Advanced Functional Materials*, and *Small*.

WITEC INSTRUMENTS CORP.
 Part of the Nanotechnology Group
info@witec-instruments.com
www.witec-instruments.com

BOOTH 600

Key Products: NSOM; Confocal Raman Microscopes; AFM

WITec is a manufacturer of high-resolution optical and scanning probe microscopy solutions for scientific and industrial applications. A modular product line allows the combination of different microscopy techniques such as Raman, NSOM or AFM in one single instrument for flexible analyses of optical, chemical and structural properties of a sample. WITec headquarters and production facilities are based in Ulm, Germany. WITec's US sales office, WITec Instruments Corp., is located in Savoy, IL.

J.A. WOOLLAM COMPANY, INC.
sales@jwoollam.com
www.jwoollam.com

BOOTH 1024

Key Products: Spectroscopic Ellipsometers; Measurement Services

Spectroscopic ellipsometers for non-destructive materials characterization: multi-layer thickness, optical constants, growth and etch rates, composition and more. Offering the widest spectral ranges available: vacuum ultraviolet to the far infrared (142 nm to 33 microns) to meet all your metrology needs.

WYATT TECHNOLOGY CORPORATION
info@wyatt.com
www.wyatt.com



BOOTH 802

Key Products: Light Scattering Detectors; Refractive Index Detectors; Particle Separators

DAWN and miniDAWN multi-angle static light scattering (MALS) instruments for determining absolute molar masses and sizes of polymers and biopolymers. These detectors interface with GPC/SEC/FFF/HPLC for characterizing molecular weights and sub-micrometer particle sizes without column calibration or reference standards. DynaPro line (Dynamic Light Scattering (DLS)) for analysis of protein solutions or the Dynapro Platereader for high throughput DLS measurements. Optilab rEX, RI detector with EXTended range capabilities and no gain settings, as well as the ViscoStar differential viscometer.

X-RAY OPTICAL SYSTEMS, INC.
info@xos.com
www.xos.com

BOOTH 1022

Key Products: X-Ray Optics; Beam Solutions

XOS manufactures x-ray optics and beam systems. The company's design, manufacture, and characterization capabilities of polycapillary, monicapillary and doubly curved crystal optics, enables a range of focusing and collimating lens options. The product line of polychromatic and monochromatic X-Beam's provides an optimized integration of x-ray optics and sources. Applications include texture, stress, and phase ID, as well as film thickness and composition measurements. XOS optics are also used in fluorescence collection in EDS and WDS micro beam analysis.

XEI SCIENTIFIC, INC.
sales@evactron.com
www.evactron.com

BOOTH 1029

Key Products: De-contaminators; Anticontaminators

XEI was founded in 1991 to make and sell anticontamination systems for the Electron Microscope community. The EVACTRON Anticontaminator, an RF plasma activated cleaning system, was introduced in 1999 to provide a faster and more complete cleaning process. XEI Scientific solves hydrocarbon contamination problems in Electron Microscopes and other high vacuum systems by RF plasma (glow discharge) cleaning with EVACTRON® plasma activated oxidation using air as the oxygen source. The Evactron® anticontamination system produces oxygen radicals for a fast, chemically reactive, oil and hydrocarbon removal process that is safe for most surfaces. Over 200 Evactron Anticontaminators have been installed worldwide.

ZPULSER, LLC
info@zpulsers.com
www.zpulsers.com

BOOTH 720

Key Products: Pulsed DC Plasma Generators (Solo-xx™, Axis-xx™, Mini-xx™)

Zpulsers, LLC (Zpulsers™) manufactures unique AWF™ (Arbitrary Wave Form) high power pulsed DC plasma generators for thin film applications that use Zond's proprietary and patented method called MPP™ (Modulated Pulse Plasma) to economically create thin films with controllable electrical properties, mechanical properties and morphology. We currently serve the commercial coating (hard, wear, protective, tribological), semiconductor, medical coating, optical coating, and data storage markets.

ZYGO CORPORATION
inquire@zygo.com
www.zygo.com

BOOTH 618

Key Products: Optical Systems; Optics

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 providing productivity and yield improvement solutions for manufacturers of precision components.