

**MRS** **Featured Volunteer**

**J. Charles Barbour**

**What is your favorite element?**

As a human, I should say oxygen, but it is probably Al instead. Note, it was first Si, then Ni, Er, and then Cu, before Al. So I am balanced in my favoritism.

**What do you read first in MRS Bulletin?**

Research/Researchers, then the Washington News. I will spend the most time on the feature articles if I find a particular volume of interest.

**What was the last book you read?**

*Essential Cell Biology*, by Alberts et al. Just before that I read Tom Clancy's *BioStrike*.

**What inspired you to be a materials researcher?**

As a high school student and even an undergraduate student, the most exciting breakthroughs that I heard about were in electronics and solid-state physics. Later, when I chose to go on to graduate school, I thought that materials science would be the place to have the biggest impact in both science and engineering.

**What did you first do as an MRS volunteer?**

Help organize a symposium at the Fall meeting.

**What is your Motto?**

Push forward on those things where you can really make some progress and don't let the small things hold you up.



**If you were not a materials researcher, what would you be?**

I'm not sure, but it would have to be something analytical. I have a small coffee and tea business on the side, so maybe I would do analysis of trends and product in the coffee business.

**What common household item do you use in your lab?**

One of those green scrubby pads works well for cleaning pots and pans at home as well as an electron beam evaporation hearth.

*J. Charles Barbour is a manager at Sandia National Laboratories. He has been an MRS member since about 1983 when*

*he joined as a graduate student. He helped organize MRS Fall Meeting symposia on ion beam irradiation effects in materials; he is a member (current chair) of the MRS Membership Committee, and president of the New Mexico Section of MRS (which cohosts a local materials meeting every October together with the local American Ceramic Society and ASM International chapters). He serves as a judge for the Student Awards at the MRS Spring Meetings.*

To contribute to **MRS Featured Volunteer**, send in your responses to the questions to *MRS Bulletin*, 506 Keystone Drive, Warrendale, PA 15086-7573, USA; fax 724-779-8313; e-mail [Bulletin@mrs.org](mailto:Bulletin@mrs.org). Include your name, volunteer activity, address, fax, and e-mail.



# Preview: 2001 MRS Fall Meeting

Hynes Convention Center and Sheraton Boston Hotel, Boston, Massachusetts

NOVEMBER 26–30, 2001

Meeting Chairs: **Bruce M. Clemens** (Stanford University), **Jerrold A. Floro** (Sandia National Laboratories), **Julia A. Kornfield** (California Institute of Technology), **Yuri Suzuki** (Cornell University)

The Materials Research Society (MRS) will hold its 2001 Fall Meeting at the Hynes Convention Center and Sheraton Boston Hotel in Boston, Massachusetts, November 26–30, 2001. Seven topical clusters comprising a total of 35 technical symposia will cover a wide range of areas from structure-property relationships to device development of advanced materials, from single-atom manipulation to nanocomposite materials, and from lighting technologies to artificial muscles.

Self-assembly is a significant theme of this meeting, bringing together scientists engaged in research on self-assembly processes in a variety of materials systems, across a broad range of length scales. The topic is captured in Symposium AA, which functions as a virtual symposium held entirely in joint sessions with nine other symposia.

Our past, present, and future meld in the Materials and Society cluster, which focuses on materials issues in art and archaeology, nuclear-waste containment, and cementitious materials. Symposium II on art and archaeology will culminate on Thursday with a workshop and demonstrations on the 3500-year-old pyrotechnologies of Egyptian faience, faience inlay, and glass-core vessel manufacture, and in the 2000-year-old technologies of bloomery iron-smelting and Roman-style glass-blowing. These will be held off-site at the Massachusetts Institute of Technology in Cambridge, Mass. A sign-up sheet, schedule, and maps will be available in the symposium meeting room. Two sessions (Tuesday and Wednesday morning) of Symposium JJ on nuclear-waste containment will highlight the approaches, methods, and key findings from performance-assessment studies that have recently been completed in several countries. A joint session will be held with Symposium KK on cementitious materials on Wednesday afternoon to address the use of cement in radioactive-waste immobilization.

The Inorganic Electronic Materials and Devices cluster will focus on materials issues in Si-based devices, microelectromechanical systems (MEMS), ferroelectrics, superconductors, spintronics, and thermoelectrics. To usher in the tran-

sition from complementary metal oxide semiconductor to novel Si-based technology, Symposium A will concentrate on materials, processing, and integration challenges for this next wave of Si devices. Invited speaker Marc Madou (Ohio State University) will open Monday afternoon's session in Symposium B with his presentation, "From MEMS to NEMS in the Next 15 Years," on moving from micro- to nanoscale systems. Symposium D offers an invited session on Thursday morning on concepts from different fields that will help create an understanding of polarization dynamics in selected ferroic systems. The excitement at the 2001 MRS Spring Meeting over the new superconductor  $MgB_2$  will continue at this Meeting, opening Symposium E with a full day of the latest research results.

The Photonic/Optoelectronic Materials and Devices cluster covers infrared semiconductors, nitrides (with special emphasis on lighting technologies), and microphotronics. In Symposium J on solid-state lighting, invited speaker Mary H. Crawford (Uniroyal Optoelectronics) will address optimization and manufacturability of short-wavelength blue, violet, and ultraviolet AlGaInN light-emitting diodes for white-light applications; invited speaker and previous MRS Medalist Stephen

Forrest (Princeton University) will address organic electrophosphorescent white-light-emitting devices.

In the cluster on Thin Films and Surfaces, Symposium P on surface engineering will devote two sessions (Tuesday morning and Wednesday afternoon) to industrial applications. On Monday afternoon, Symposium N on heteroepitaxial growth will hold a joint session with Symposium AA on self-assembly, opening with an invited talk by recent MRS Outstanding Young Investigator Award recipient Frances M. Ross (IBM T.J. Watson Research Center), and on Wednesday morning, Symposium M on thin-film growth in electrolytes will hold a joint session with Symposium AA. This set of symposia will also present research on mechanical properties of thin films and tribological properties of surface coatings.

Symposium U in the Materials Science, Processing, and Evaluation cluster opens with a session of invited talks on Monday morning on new technologies in natural fibers and properties. The topics include fibers from bamboo and hemp, the engineering properties of spider silk, and the production and characterization of yarns and fabrics using turkey-feather fibers. The group of symposia contains a diverse range of topics including rapid prototyping; electrical characterization of microstructure; combinatorial and artificial-intelligence approaches to materials development; modeling of growth processes; and new technologies in fibers, laminates, and composites.

The cluster on Nanoscale Materials and Processes will address the synthesis, processing, and properties of nanophase materials and composites and their applications in nanotechnology and applications of surface-controlled nanoparticulate systems. Nanopatterning and nanotubes will also be covered.

The burgeoning interest in organic materials is reflected in the Organic/Biological Materials and Devices cluster, which covers optoelectronics, liquid crystals, polymer interfaces and films, electroactive polymers, characterization techniques for biomaterials, tissue engineering with polymers, and bio-inspired materials. For those who missed the plenary address



at the last MRS Spring Meeting, Nobel Laureate Alan J. Heeger (University of California—Santa Barbara) will be back at the Fall Meeting, opening the first session in Symposium BB with the topic “Photo-physics of Semiconducting Polymers.” Other invited speakers for this cluster include Mary Galvin (University of Delaware) on polymers for light-emitting diodes and Anne M. Mayes (Massachusetts Institute of Technology) on cell-surface interactions with amphiphilic comb polymers. Lia Addadi (Weizmann Institute of Technology) and Samuel I. Stupp (Northwestern University), in consecutive talks, open Symposium HH on Bio-Inspired Materials on Monday morning.

### Special Events

The plenary speaker will be **Clayton Christensen** (Innosight and Harvard Business School), presenting a talk on Monday, November 26, at 6:00 p.m. in the Sheraton Boston Grand Ballroom.

The awards ceremony will convene on Wednesday, November 28, at 6:00 p.m. in the Sheraton Boston Grand Ballroom, at which **Simon C. Moss** (University of Houston) will receive the Von Hippel Award and present his talk on “Scattering Studies of Real Materials.” **James R. Chelikowsky** (University of Minnesota) will receive the David Turnbull Lecture and present his talk, “Silicon in All Its Forms,” on Tuesday, November 27, in the Grand Ballroom at 5:05 p.m. The MRS Medals will be presented to **Mathew Mate** (IBM Almaden Research Center) and to **Norman C. Bartelt** (Sandia National Laboratories), who will present their

talks as part of Symposium X on Thursday, November 29, at 12:05 and 12:45 p.m., respectively, in the Grand Ballroom.

### Additional Events

Representatives from the U.S. National Science Foundation and the Department of Energy will address funding for materials research support. Sessions are scheduled for Tuesday and Thursday evenings. The times and locations will be listed in the *Program & Exhibit Guide* available on site.

Symposium X talks, featuring presentations for the technical nonspecialist, will be held Monday through Thursday, beginning at 12:05 p.m. Talks will include presentations by science writers Ivan Amato (*Science News*) and Phillip Ball (*Nature*), along with the MRS Medalist addresses.

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, awarding a prize of \$500 to the presenting author(s) of the winning paper(s). Award recipients will be selected on the basis of the poster’s technical content, appearance, graphic excellence, and presentation quality.

Six symposium tutorial sessions by leading experts will be given on Sunday, November 25. See subsequent pages for more information.

More than 225 exhibitors from all sectors of the global materials science and engineering communities will display a full spectrum of equipment, instrumentation, products, software, publications,

and services from Tuesday through Thursday in the Hynes Convention Center, second level. “Research Tools Seminars,” which debuted last fall, will continue this year with presentations by Engelhard Corp., Sono-Tek Corp., and TexSEM Laboratories, Inc. Look for updates in the *Program & Exhibit Guide*.

### Student Opportunities and Employment

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

Graduate students and members of MRS University Chapters are invited to attend the **student mixer** reception. Also, chapter officers and faculty advisors are invited to attend a **meeting of MRS University Chapter representatives** to compare notes on recent activities and brainstorm on new projects and issues of common concern. Those interested in starting a new chapter are also welcome. The date, time, and location of both events will be announced in the *Program & Exhibit Guide*.

MRS, in conjunction with the American Institute of Physics (AIP), will host an **employment center** for meeting attendees. Services include access to current job postings, a resume file for prospective employers, and on-site interview opportunities.

For further information on the meeting, see the following pages and access the MRS Web site at [www.mrs.org](http://www.mrs.org). 

### WEDNESDAY, NOVEMBER 28

10:30 am–11:30 am

#### Chemical Vapor Deposition Utilizing Pulsed Ultrasonic Atomization

SONO-TEK CORPORATION • MILTON, NY

Thin films of oxides, polymers or their composites can be fabricated with controlled composition and morphology by CVD. CVD using a pulsed ultrasonic atomization technique to directly inject vaporized precursors into an evacuated cold-wall reactor will be described.

2:30 pm–3:30 pm

#### Characterization of Deformation at the Nanometer Scale

TEXSEM LABORATORIES, INC. • DRAPER, UT

Transmission electron microscopes can measure and map the rapidly changing crystallographic orientation associated with deformation at the nanoscale. An automated technique to analyze and graphically present the orientation data will be presented.

3:30 pm–4:30 pm

#### Comprehensive Compound Identification in the SEM

THERMO NORAN • MIDDLETON, WI

A single system using electron beams will be described that provides surface morphology, chemical identification and crystallographic identification, all at the microscopic level for materials characterization.



2001 MRS Fall Meeting  
November 26-30, 2001

Exhibit Hall, Level 2  
Hynes Convention Center

### TUESDAY, NOVEMBER 27

2:30 pm–3:30 pm

#### In Situ Wafer Temperature Measurement

ENGELHARD CORPORATION • PORTLAND, OR

This seminar will present the current strengths and limitations in optical wafer temperature measurement during integrated circuit processing, along with new technologies for improved wafer temperature measurement.

3:30 pm–4:30 pm

#### Non-Invasive Particle Characterization

THERMO ORIEL • STRATFORD, CT

A new technology to characterize the size and size distribution of fine particles including those with non-spherical shapes and rough surfaces will be presented. Particle agglomerates can be quantified for size by the number of constituent monomers, and for compactness by their fractal dimension.

# 2001 MRS Fall Meeting Symposium Session Locator

SYMPOSIUM	LOCATION	MONDAY, NOVEMBER 26			TUESDAY, NOVEMBER 27		
		a.m.	p.m.	eve.*	a.m.	p.m.	eve.*
<b>A: Materials Issues in Novel Si-Based Technology</b>	Room 202 (Hynes)	A1: Group IV Alloy and Strained Materials and Devices	A2: Advanced CMOS—SOI and Vertical Devices	A3: Posters	A4: MILC Materials Growth for CMOS and TFT A5: Nanocrystal Memories	A6: Growth of Nanostructured Materials A7: Nanoscale Devices	A8: Posters
<b>B: Materials Science of Microelectromechanical Systems (MEMS) Devices IV</b> **Sunday Tutorial	Room 309 (Hynes)	B1: Applications/Metrology I B2: Mechanical Properties I	B3: Microstructure and Processing B4: Applications	B5: Posters	B6: Processing Techniques I B7: Alternative Materials	B8: Microstructure and Processing II B9: Mechanical Properties II	
<b>C: Ferroelectric Thin Films X</b> **Sunday Tutorial	Room 210 (Hynes)	C1: Processing of Pb-Based Ferroelectrics C2: Processing of Bi-Based Ferroelectrics	C3: Ferroelectric Nonvolatile Memories—Technology, Fundamentals, and Integration	C4: Posters	C5: Integration and Electrodes	C6/O5: Epitaxial Ferroelectric Films	C7: Posters C8/O6: Posters
<b>D: Polarization Dynamics in Ferroc Materials</b>	Room 205 (Hynes)				D1: Switching Dynamics	D2: Computational Approaches	
<b>E: Materials for High-Temperature Superconductor Technologies</b>	Room 200 (Hynes)	E1: New Superconductors I - MgB2	E2: New Superconductors II - MgB2		E3: High-Temperature Superconductors I	E4: High-Temperature Superconductors II	E5: Posters
<b>F: Spintronics</b>	Room 207 (Hynes)	F1: Spins in Semiconductors	F2: Spin-Dependent Tunneling F3: In-Room Posters		F4: Half-Metallic Materials	F5: Current-Induced Magnetic Switching F6: In-Room Posters	
<b>G: Thermoelectric Materials 2001—Research and Applications</b>	Room 208 (Hynes)	G1: Guidance to Advanced TE Research	G2: Skutterudites I G3: New Materials, Approaches and Measurements I		G4: Clathrates I G5: Chalcogenides I	G6: Devices I G7: New Materials, Approaches and Measurements II	G8: Posters
<b>H: Progress in Semiconductor Materials for Optoelectronic Applications</b>	Room 312 (Hynes)	H1: Low-Concentration Nitride Alloys I	H2: Low-Concentration Nitride Alloys II & Photovoltaics		H3: Quantum Dots	H4: Infrared Detectors H5: Innovated Devices	H6: Posters
<b>I: GaN and Related Alloys</b>	Room 302 (Hynes)	I1: Molecular Beam Epitaxy and Growth Kinetics	I2: Point Defects and Doping	I3: Posters	I4: Light Emitters	I5: Nitride Alloys and Lateral Epitaxy	I6: Posters
<b>J: Materials Engineering for Solid-State Lighting</b> **Sunday Tutorial	Room 301 (Hynes)	J1: Inorganic Materials for Solid-State Lighting I	J2: Inorganic Materials for Solid-State Lighting II		J3: Organic Light-Emitting Diodes		
<b>K: Microphotonics—Materials, Physics, and Applications</b>	Room 201 (Hynes)	K1/AA1: Colloidal Self Assembly and Photonic Crystals	K2: 3D Photonic Structures		K3: Soft Condensed Matter Approaches to Photonic Crystals	K4: Photonic Crystal Channels and Fiber	K5: Posters
<b>L: Thin Films—Stresses and Mechanical Properties IX</b>	Room 304 (Hynes)	L1: Strain Relaxation and Strengthening Mechanisms	L2: Defects Formation	L3: Posters	L4: Mechanical Properties and Nanoscale Testing I	L5: Mechanical Properties and Nanoscale Testing II	L6: Posters
<b>M: Surface Science and Thin-Film Growth in Electrolytes</b>	Room 313 (Hynes)	M1: Overlayer Growth, Surface Morphology and Nanostructuring	M2: Epitaxial Growth, Growth Mechanisms		M3: Copper Metallization	M4: Morphology and Structure in Electrodeposited Thin Films	
<b>N: Current Issues in Heteroepitaxial Growth—Stress Relaxation and Self Assembly</b>	Room 306 (Hynes)	N1: Early Stages and Fundamental Processes of Heteroepitaxy	N2/AA3: Heteroepitaxy and Self Assembly	N3: Posters	N4: Stress Relaxation	N5: Stress and Islanding	
<b>O: Complex Oxide Heteroepitaxy</b>	Room 203 (Hynes)	O1: Crystalline Oxides on Semiconductors	O2: Oxide Device Issues	O3: Posters	O4: Artificial Superlattices	O5/C6: Epitaxial Ferroelectric Films <b>ROOM 210 (Hynes)</b>	O6/C8: Posters
<b>P: Advances in Surface Engineering—Fundamentals and Applications</b>	Room 311 (Hynes)	P1: Mechanical and Tribological Properties of Nanostructures	P2: Macro-, Micro-, and Nanotribology I		P3: Industrial Applications of Surface Engineering I	P4: Deposition, Characterization, and Properties of Films and Coatings	P5: Posters
<b>Q: Rapid Prototyping Technologies—Tissue Engineering to Conformal Electronics</b>	Room 308 (Hynes)						
<b>R: Electrically Based Microstructural Characterization III</b>	Room 206 (Hynes)	R1: Novel Methods and Materials	R2: Metals	R3: Posters	R4: Semiconductors	R5: Microelectronics	R6: Microwave and Optical Properties
<b>S: Combinatorial and Artificial Intelligence Methods in Materials Science</b>	Room 204 (Hynes)	S1: Combinatorial Approach to Metal Oxide Systems	S2: Combinatorial Approach to Magnetic Materials		S3: Composition Spread Techniques and Rapid Characterization	S4/DD5: Combinatorial Approach to Polymers <b>Constitution B (Sheraton)</b>	S5: Posters
<b>T: Statistical Mechanical Modeling in Materials Research</b> **Sunday Tutorial	Room 310 (Hynes)	T1: Morphological Evolution During Epitaxy	T2: Morphological Evolution During Solidification	T3: Complex Processes at Surfaces—Surf. Reaction, Semiconduct. & Colloidal Growth, Etc.	T4: Deformation-Induced Structures—Elastic and Plastic Behavior	T5: Deformation-Induced Structures—Stoichiastic Methods	T6: Deformation-Induced Structures—Cracks and Voids
<b>U: Advanced Fibers, Plastics, Laminates, and Composites</b>	Liberty (Sheraton)	U1: Natural Fibers and Properties	U2: Natural Fibers and Natural Plastics		U3: Natural Plastics and Composites	U4: Composites from Natural Fibers and/or Plastics	
<b>V: Nanophase and Nanocomposite Materials IV</b>	Back Bay C (Sheraton)	V1: Nanocomposite Materials	V2: Nanostructures I	V3: Posters	V4: Synthesis and Characterization I	V5: Synthesis and Characterization II	V6: Posters
<b>W: Nanoparticulate Materials</b>	Back Bay B (Sheraton)	W1: Wet Processing W2: Novel Nanoparticle Characterization	W3: Electronic and Optical Applications		W4/AA4: Self Assembly	W5: Novel Synthesis and Characterization	W6: Posters
<b>X: Frontiers of Materials Research</b>	Grand Ballroom (Sheraton)		X1/AA2			X2	
<b>Y: Nanopatterning—From Ultralarge-Scale Integration to Biotechnology</b> **Sunday Tutorial	Back Bay D (Sheraton)	Y1: Advanced Materials and Processes for Nanolithography I	Y2: Advanced Materials and Processes for Nanolithography II		Y3: Next-Generation and Emerging Lithographies	Y4: Nanofabrication with Charged Particle Beams	
<b>Z: Making Functional Materials with Nanotubes</b>	Back Bay A (Sheraton)	Z1: Progress in Synthesis and Processing I	Z2: Progress in Synthesis and Processing II	Z3: Posters	Z4: Nanotube-Polymer Composites	Z5: Nanotubes for Field Emission	Z6: Posters
<b>AA: Self-Assembly Processes in Materials</b>		AA1/K1: Colloidal Self Assembly and Photonic Crystals <b>ROOM 201 (Hynes)</b>	AA2/X1 <b>GRAND BALLROOM (Sheraton)</b> AA3/N2: Heteroepitaxy & Self Assembly <b>ROOM 306 (Hynes)</b>		AA4/W4: Self Assembly <b>BACK BAY B (Sheraton)</b>	AA5/HH5: Bio- and Self-Assembled Organic-Inorganic Hybrids <b>INDEPENDENCE WEST (Sheraton)</b>	
<b>BB: Organic Optoelectronic Materials, Processing, and Devices</b> **Sunday Tutorial	Constitution A (Sheraton)	BB1: Electronic Structure and Optical Properties of Organic Solids	BB2: Metal/Organic Interfaces—Electronic Structure and Charge Injection	BB3: Posters	BB4: Photonic/Nonlinear Optical Materials and Devices	BB5: Design and Synthesis of Electroluminescent Materials	

\* All Evening Poster Sessions Located in Exhibition Hall D (Hynes)  
\*\* Check Tutorial Matrix

Shaded Blocks: No Session

# 2001 MRS Fall Meeting Symposium Session Locator

WEDNESDAY, NOVEMBER 28			THURSDAY, NOVEMBER 29			FRIDAY, NOVEMBER 30	
a.m.	p.m.	eve.*	a.m.	p.m.	eve.*	a.m.	p.m.
A9: Advanced CMOS Gate Stacks and Metallization		A10: Posters					
B10/P6: Surface Engineering Issues In MEMS Structures and Devices <b>ROOM 311 (Hynes)</b>							
C9: Domains and Nanostructures	C10: Piezoelectrics and Pyroelectrics		C11: Ferroelectric Gates C12: Thin Films for RF Applications	C13: High-Permittivity Materials			
D3: Novel Characterization Techniques	D4: Domain-Related Phenomena		D5: Common Themes In Dynamics	D6: Dynamics in Dielectrics, Relaxors and Organic Ferroics	D7: Posters		
E6: YBCO Coated Conductors I	E7: YBCO Coated Conductors II	E8: Posters	E9: YBCO Coated Conductors III	E10: YBCO Coated Conductors IV			
F7: New Technologies, New Effects, Silicon Integration	F8: Advanced Technologies for Magnetic Characterization and Imaging F9: In-Room Posters		F10: Structures with Superconductors and Nanostructured Systems	F11: Metallic Structures			
G9: Skutterudites II G10: Nanowires	G11: Devices II G12: Oxides		G13: Chalcogenides II G14: Clathrates II				
H7: Lasers and Materials	H8: Antimony-Based Devices	H9: Posters	H10: Radiation Detectors and Effects	H11: Growth, Materials, and Doping			
I7: Quantum Wells	I8: Transport and Optical Properties		I9: Vapor Phase Epitaxy	I10: Extended Defects	I11: Posters	I12: Electronic Devices	I13: Processing
K6: 2D Fabricated Photonic Crystals	K7/AA7: Colloids and Photonic Crystals		K8: Photonic Structures and Devices I	K9: Photonic Structures and Devices II			
L7: Adhesion and Fracture I	L8: Thin Film Applications in MEMS	L9: Adhesion & Fracture I I	L10: Computational Modeling and Experiments I	L11: Computational Modeling and Experiments II L12: Film Deposition, Microstructure, Evolution and Intrinsic Stress I		L13: Film Deposition, Microstructure, Evolution and Intrinsic Stress II	
M5/AA6: Self Assembly	M6: Stress Evolution—Metal Oxides	M7: Posters					
N6: Modifying and Controlling Growth	N7: Quantum Dots---Applications and Properties		N8: Relaxation, Morphology and Composition Modulations	N9: Heteroepitaxy in Metals and Oxides			
O7: High-Temperature Superconductors	O8: Magnetic Oxides						
P6/B10: Surface Engineering Issues In MEMS Structures and Devices	P7: Industrial Applications of Surface Engineering II	P8: Posters	P9: Macro-, Micro-, and Nanotribology II				
Q1: Direct Writing Electronic Components	Q2: Rapid Prototyping Sensors and Structures		Q3: Energy Storage and Modeling	Q4: Liquid and Dispensing Deposition		Q5: Tissue Engineering	
R7: Polymers, Liquid Crystals, Batteries, and Gas Sensors	R8: Stabilized Zirconia		R9: Composites	R10: Varistors and Piezoelectric Materials			
S6: Combinatorial Approach to Catalysts and Other Materials	S7: Combi/Al Session: Computational Studies		S8: AI Methods In Materials Science				
T7: Liquids, Glasses, and Solid-Liquid Interfaces	T8: Interfaces in Polycrystals and Alloys	T9: Disordered Materials	T10: Newly Developed Tools				
U5: Glass, Carbon and Other Reinforcing Fibers	U6: Polymer and Resin Matrix Materials		U7: Polymer and Ceramic Matrix Composites	U8: Ceramic and Metal Matrix Composites	U9: Posters	U10: Carbon Nanotubes, Carbon Fibers, and Composites	
V7: Applications and Properties I	V8: Applications and Properties II	V9: Posters V10/AA8: Posters	V11: Modeling and Theory	V12: Nanostructures II	V13: Posters		
W7: Thin-Film-Based Nanostructures	W8: Novel Applications	W9: Posters	W10: Novel Structures	W11: Medical Applications			
	X3			X4: Medal Award Talk Presentations			
Y5: Nanostructures and Nanofabrication for Biological Applications	Y6: Functionalization and Ordering of 1D and 2D Structures	Y7: Posters	Y8/AA9: Nanopatterning of Assembled Systems	Y9: Fabrication of Ordered Magnetic Nanostructures			
Z7: Characterization of Nanotube Systems (Limits and Challenges)	Z8: Modeling and Simulations of Nanotube Systems	Z9: Posters	Z10: Energy Storage, Electrode Applications and Chemical Modification of Nanotubes	Z11: Nanotube-Based Devices			
AA6/M5: Self Assembly <b>ROOM 313 (Hynes)</b>	AA7/K7: Colloids and Photonic Crystals <b>ROOM 201 (Hynes)</b>	AA8/V10: Posters	AA9/Y8: Nanopatterning of Assembled Systems <b>BACK BAY D (Sheraton)</b>	AA10/DD11: Self Assembly by Polymeric Films <b>CONSTITUTION B (Sheraton)</b>		AA11/BB11: Novel Patterning Schemes <b>CONSTITUTION A (Sheraton)</b>	
BB6: Applications in Displays	BB7: Electrochromic Polymers/Sensors		BB8: Organic Transistors	BB9: Photovoltaics, Photodetectors/Transport in Bulk Organic Materials	BB10: Posters	BB11/AA11: Novel Patterning Schemes	

# 2001 MRS Fall Meeting Symposium Session Locator

SYMPOSIUM	LOCATION	MONDAY, NOVEMBER 27			TUESDAY, NOVEMBER 28		
		a.m.	p.m.	eve.*	a.m.	p.m.	eve.*
<b>CC: Advances in Liquid Crystalline Materials and Technologies</b>	Commonwealth (Sheraton)	CC1: Smectic and Chiral Liquid Crystals	CC2: Liquid Crystal Gels		CC3: Photopolymerization and Liquid Crystals	CC4: Novel Application of Liquid Crystals	CC5: Posters
<b>DD: Polymer Interfaces and Thin Films</b>	Constitution B (Sheraton)	DD1: Theory, Simulations and Dynamics I	DD2: Block Copolymer Films I	DD3: Theory, Simulations, & Dynamics II	DD4: Theory, Simulations, and Dynamics III	DD5/S4: Combinatorial Approach to Polymers	DD6: Posters
<b>EE: Electroactive Polymers and Their Applications as Actuators, Sensors, and Artificial Muscles</b>	Fairfax (Sheraton)	EE1: Novel Electroactive Polymer Actuator Materials	EE2: Electroactive Polymer Device Applications (Including Thin Films)	EE3: Posters	EE4: Novel Electroactive Polymers II	EE5: Novel Electroactive Polymers III	
<b>FF: Physical Characterization of Biological Materials and Systems</b>	Hampton (Sheraton)				FF1: SPM and Surface Characterization	FF2: Lipids, Proteins and DNA	
<b>GG: Polymeric Biomaterials for Tissue Engineering</b>	Gardner (Sheraton)	GG1: Patterning Biomaterials	GG2: Degradation of Biomaterials GG3: In-Room Posters <b>HAMPTON (Sheraton)</b>		GG4: Biomaterial Processing and Novel Chemistries	GG5: In-situ Forming Biomaterials and Biomaterials with Controlled Structure	
<b>HH: Bio-Inspired Materials—Moving Towards Complexity</b>	Independence West (Sheraton)	HH1: Biomineralization	HH2: Bio-Inspired Synthesis and Properties	HH3: Posters	HH4: Biopolymers	HH5/AA5: Bio- and Self-Assembled Organic-Inorganic Hybrids	
<b>II: Materials Issues in Art and Archaeology VI</b>	Independence East (Sheraton)	II 1: Preservation Science and Conservation I	II 2: Preservation Science and Conservation II II 3: In-Room Posters		II 4: Archaeological Science and Archaeometry I	II 5: Archaeological Science and Archaeometry II	
<b>JJ: Scientific Basis for Nuclear Waste Management XXV</b>	Republic B (Sheraton)	JJ1: Container Materials and Engineered Barriers	JJ2: Ceramic Structure JJ3: Radiation Effects		JJ4: Performance Assessment (HLW)	JJ5: Contaminant Transport I JJ6: Ceramics Corrosion	
<b>KK: Design, Characteristics, and Properties of Cementitious Materials</b>	Republic A (Sheraton)	KK1: Microstructure, Hydration and Characterization I	KK2: Microstructure, Hydration and Characterization II—Modeling and Transport		KK3: Characterization Techniques	KK4: Durability of Cementitious Systems	KK5: Posters

\* All Evening Poster Sessions Located in Exhibition Hall D (Hynes)  
\*\* Check Tutorial Matrix

Shaded Blocks: No Session

## Symposium Tutorials

Details available on the MRS Web site

### SUNDAY • NOVEMBER 25

#### Symposium B

**FTB: Microelectromechanical Systems (MEMS): Fabrication and Hot Topics**  
9:00 a.m. – 5:00 p.m.  
Room 206  
Hynes Convention Center

#### Symposium T

**FTT: Fundamental Methods of Multiscale Modeling**  
9:00 a.m. – 5:00 p.m.  
Room 210  
Hynes Convention Center

*Tutorial attendance is open to all meeting attendees at no extra charge.*

#### Symposium C

**FTC: Ferroelectric Thin Films**  
10:00 a.m. – 5:00 p.m.  
Room 202  
Hynes Convention Center

#### Symposium Y

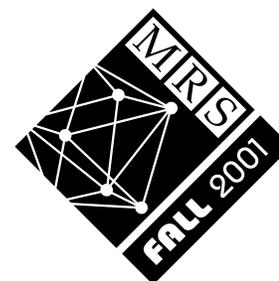
**FTY: Nanofabrication for Cellular Engineering**  
2:00 – 5:00 p.m.  
Room 204  
Hynes Convention Center

#### Symposium J

**FTJ: Introduction to Solid State Lighting**  
1:30 – 5:00 p.m.  
Room 203  
Hynes Convention Center

#### Symposium BB

**FTBB: Organic Electronics—Concepts, Materials and Devices**  
2:00 – 5:00 p.m.  
Room 200  
Hynes Convention Center



**NOVEMBER 26 - 30**  
**BOSTON • MA**

For up-to-date information on MRS Meetings, access

**www.mrs.org**

# 2001 MRS Fall Meeting Symposium Session Locator

WEDNESDAY, NOVEMBER 28			THURSDAY, NOVEMBER 29			FRIDAY, NOVEMBER 30	
a.m.	p.m.	eve.*	a.m.	p.m.	eve.*	a.m.	p.m.
CC6: Photopolymerization and Liquid Crystals	CC7: Emerging Concepts in Liquid Crystals		CC8: Rheology/Theory	CC9: Main Chain/Lyotropic Systems			
DD7: Adhesion, Mechanical Properties I	DD8: Block Copolymer Films II	DD9: Posters	DD10: Adhesion, Mechanical Properties II	DD11/AA10: Self Assembly by Polymeric Films	DD12: Posters	DD13: Lithographic, Electronic Properties	DD14: Nanoparticulate-Filled Films
FF3: Mechanical Properties and Mineralized Tissues	FF4: Mechanical and Rheological Properties	FF5: Posters	FF6: Electron Microscopy and Novel Techniques	FF7: Laser and Optical Characterization			
HH6: Surfaces and Interfaces							
II 6: Weathering, Dating, Technology and Authentication	II 7: Archeomaterials, Technology and Society I II 8: In-Room Posters		II 9: Archeomaterials, Technology and Society II	II 10: Historic Technologies and Modern Craft		II 11: Ancient Technologies Workshop & Demonstration <b>M.I.T. (off site)</b>	II11: (cont'd)
JJ7: Performance Assessment (LLW) JJ8: Natural Analogs	JJ9/KK8: Cements In Radioactive Waste Immobilization JJ10: Contaminant Transport II	JJ11: Posters	JJ12: Waste Processing JJ13: Glass Structure	JJ14: Spent Fuel and Transuranic Chemistry JJ15: Glass and Alternative Waste Forms			
KK6: Alternative Binders and Utilization of Waste Materials KK7: Processing and Properties	KK8/JJ9: Cements in Radioactive Waste Immobilization <b>REPUBLIC B (Sheraton)</b> KK9: Cements in Waste Immobilization						

## Lodging and Travel

A block of rooms has been reserved for MRS meeting attendees at the hotels listed below. When making your reservations, mention the Materials Research Society's meeting to receive the special rate. A Hotel Reservation Form is available on the MRS Web site ([www.mrs.org](http://www.mrs.org)).

### DEADLINE FOR HOTEL RESERVATIONS: NOVEMBER 5, 2001

*Rooms are limited—reserve yours early!*

#### Sheraton Boston Hotel and Towers

39 Dalton Street  
Boston, MA 02199  
617-236-2000  
Fax 617-236-6095  
Room Rate:  
\$144 Single\*  
\$154 Double\*

#### Boston Marriott/Copley Place

110 Huntington Avenue  
Boston, MA 02116  
800-228-9290  
617-236-5800  
Fax 617-578-0685  
Room Rate:  
\$139 Single\*  
\$154 Double\*  
\$164 Triple\*  
\$174 Quad\*

#### Westin Hotel/Copley Place

10 Huntington Avenue  
Boston, MA 02116  
800-937-8461  
617-262-9600  
Fax 617-424-7483  
Room Rate:  
\$141 Single\*  
\$160 Double\*

#### Back Bay Hilton

40 Dalton Street  
Boston, MA 02115  
617-236-1100  
Fax 617-867-6104  
Room Rate:  
\$141 Single\*  
\$156 Double\*

#### Boston Park Plaza Hotel

64 Arlington Street  
Boston, MA 02116  
617-426-2000  
Fax 617-423-1708  
Room Rate:  
\$129 Single\*  
\$129 Double\*

\* plus Massachusetts tax, currently 12.45%

#### Airline Transportation

MRS is offering special, discounted fares directly through American Airlines and US Airways as a service to MRS Fall Meeting attendees.

#### Local Transportation

Taxicabs are available around the clock. The average fare to the Back Bay area hotels is \$20.

Logan/Boston Hotel Shuttle is located outside the baggage claim areas of the airport and stops at various Boston hotels. The fare is \$9.00 per person one way. The shuttle departs at 10 and 40 minutes past each hour between 6:00 a.m. and 10:00 p.m. daily.

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 city costs approximately \$25 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.

#### Child Care

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

## Materials Research Society's 2001 Fall Meeting

November 26 – 30 • Boston, MA