Preview: 2003 MRS Fall Meeting

Hynes Convention Center and Sheraton Boston Hotel • Boston, Massachusetts
Meeting: December 1–5 • Exhibit: December 2–4

Meeting Chairs:

Paula Hammond
Massachusetts Institute of Technology

Rommel Noufi
National Renewable Energy Laboratory

Fred Roozeboom
Philips Research

Susan Trolier-McKinstry
The Pennsylvania State University

The Materials Research Society (MRS) will hold its 2003 Fall Meeting at the Hynes Convention Center and the Sheraton Boston Hotel in Boston, Mass., December 1–5, 2003. The meeting will include a technical program; tutorials; a plenary session; an awards ceremony; an equipment exhibit, including a Research Tools Seminar; poster sessions; a career center; funding seminars; and other special activities. Symposia proceedings will be published, and they will be made available free on-line to MRS members.

The meeting will capture areas of growth in the materials community as well as new and emerging fields in materials science and engineering. Among the topics are the quickly growing areas of biomaterials for tissue engineering or drug delivery, nanoscale order and structure in materials systems, and microbattery and micropower systems. Traditional areas such as oxide and semiconductor materials systems will also be well represented. The 38 technical symposium topics included in the meeting are grouped into clusters that represent specific themes or categories in materials research.

The **Integrated Device Technology** cluster will include integrated microsystems and nanosystems, ferroelectrics, materials for smart systems, and a symposium focused on the fundamentals of novel oxide/semiconductor interfaces. In the **Organic, Soft, and Biological Materials** cluster, biomaterials for drug delivery, tissue engineering, and bio-inspired materials assembly for a range of applications will be examined, as well as molecular imprinting and a long-standing symposium on organic electronic and photonic materials. **Nano- to Microstructured Materials** includes both inorganic and organic continuous nanophase materials and nanoscale objects such as quantum dots and nanowires, novel patterning techniques, and dynamics in confined systems. The **Inorganic Materials and Films** cluster encompasses stresses and mechanical behavior, radiation effects and ion-beam processing, thermoelectrics, and self-organized processes in semiconductor epitaxial layers. The **Photonics** cluster examines the electro-optical properties of a range of materials from silicon to GaN and alloys and compound semiconductor materials, with symposia that address the basic properties and applications as well as the effects of engineered porosity and critical interfaces in thin films. Issues of energy and power are addressed in the **Energy Storage, Generation, and Transport** cluster, which includes symposia on hydrogen-based fuels, energetic and reactive nanomaterials, and the investigation of actinides and superconducting materials, along with microbattery and micropower systems. **Information Storage Materials** has symposia on advanced magnetic nanomaterials, phase change and nonmagnetic data storage, and investigations of new characterization techniques for these systems. The concept of materials design on many levels is addressed in **Design of Materials by Man and Nature**, including the use of combinatorial methods or artificial intelligence in materials discovery, the design and modeling of materials by atomic-scale design, and the examination of a number of novel materials systems including amorphous and nanocrystalline metals, quasi-crystals, and naturally occurring gem materials.

Special Events

The plenary speaker will be **Darryl L. Smith,** a research fellow at Los Alamos National Laboratory. He will present his talk, "Electronic Properties of Inorganic and Organic Semiconductors: Applications to National Security Needs," on Monday, December 1, at 6:00 p.m. in the Sheraton Boston Grand Ballroom.

The **awards ceremony** will convene on Wednesday, December 3, at 6:00 p.m. in the Sheraton Boston Grand Ballroom, at which **Julia R. Weertman** of Northwestern University will receive the Von Hippel Award and present the Von Hippel address, "Pursuit of the Small." **Ellen D. Williams** of the University of Maryland is the recipient of the David Turnbull Lectureship and will present her talk, "Fluctuations and Instabilities in Nanoscale Materials," on December 2 at 5:05 p.m. in the Sheraton Boston Grand Ballroom. MRS Medals will be presented to **C. Jeffrey Brinker** of Sandia National Laboratories/University of New Mexico and to **Ivan K. Schuller** of the University of California, San Diego. Brinker will give his presentation, "Self-Assembly of Biologically Inspired Complex Functional Materials," on December 3 at 1:30 p.m. in the Hynes Convention Center, Room 304. Schuller's presentation, "Exchange-Biased Nanostructures," will be delivered on December 3 at 10:15 a.m. in the Commonwealth Room of the Sheraton Boston Hotel.

Additional Events

Seminars on U.S. government funding will be held to inform meeting attendees about programs that fund materials research. Representatives from the National Science Foundation, the Department of Energy, the Department of Defense, and the Department of Homeland Security have been invited to speak. The sessions will be scheduled on Tuesday and Thursday evenings, December 2 and 4, at the Hynes Convention Center.

Symposium X talks, featuring presentations for the technical nonspecialist, will be held Monday through Thursday, beginning at 12:05 p.m. The talks will include presentations by L.T. Canham (pSiMedica, U.K.) on "Interfacing Silicon Technology with the Human Body," H.E. Stanley (Boston University) on "The Novel Materials Science of Normal and Glassy Water," T.N. Jackson (The Pennsylvania State University) on "Thin-Film Electronics," C. Hebling (Fraunhofer Institute for Solar Energy Systems) on "Micro Fuel Cells as a Supplement or Substitute to Batteries," M.G. Craford (Lumileds Lighting, Calif.) on "LEDs for Solid-State Lighting," F. Frankel (Massachusetts Institute of Technology) on "Envisioning Materials Research," H.G. Craighead (Cornell University) on "Nanostructures for Mechanical and Biological Applications," and D.L. Kaplan (Tufts University) on "Bioprocessing of Silk Proteins."

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 the posters' technical content, appearance, graphic excellence, and presentation quality.

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Career Services and Student Opportunities

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 on December 1, 7:00 p.m.–8:00 p.m. in the Liberty Ballroom of the Sheraton Boston Hotel. 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. This luncheon meeting will be held on December 3 at 12:00 p.m.–2:00 p.m. in Clarendon A/B of the Sheraton. 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 on-site interview opportunities.

See the following pages for a matrix of symposia sessions, a list of tutorials, profiles of exhibitors, and information on hotel and transportation arrangements. International travelers are reminded to begin the visa process early; more information is available on the MRS Web site. For additional information on 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 preregister for the meeting is November 14. The MRS Web site can be accessed for updated information on confirmed talks and details of special events, and for preregistration: www.mrs. org. MRS

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SPECIAL THANKS

The following events have been funded, in part, by the generous contributions of these organizations.

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