

Preview: 2008 MRS Fall Meeting

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

www.mrs.org

Meeting Chairs:

S. Ashok

Pennsylvania State University

Shenda M. Baker

Harvey Mudd College

Michael R. Fitzsimmons

Los Alamos National Laboratory

Young-Chang Joo

Seoul National University

The Materials Research Society will hold its 2008 Fall Meeting at the Hynes Convention Center and the Sheraton Boston Hotel in Boston, Mass., December 1–5, 2008. 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-five topical symposia—divided into five clusters—will comprise the technical core of the meeting. The clusters are:

- **Electronics, Photonics, and Magnetism:** Hard and soft matter, integration issues, hard-soft hybrids, device physics, and applications;
- **Energy and the Environment:** Materials for nuclear, solar, and other energy sources; and materials innovations for more efficient utilization and production of energy;
- **Engineered Materials and Modeling:** Novel applications of materials for smart systems and biocomplex applications; and multiscale modeling of hard, soft, and biomaterials;
- **Nanoscience:** Applications of novel properties attributable to nanometer-structured materials; and
- **Synthesis and Characterization:** Characterization of length scales covering several decades of time and space; and synthesis of new materials with complex structures and chemistry.

Symposium X will feature lunchtime lectures aimed at a broad audience to provide meeting attendees with an overview of leading-edge topics. Poster sessions, an integral feature of MRS meetings, will be

held during the evenings. The meeting chairs will award the best posters during each session with prizes of up to \$500. Winning posters will be displayed prominently throughout the week.

The exhibit will showcase products and services of interest to the materials community. In addition, several special events will highlight science outreach; and the Science as Art competition will feature aesthetic scientific imagery. Federal agencies will also host workshops on government funding policies and practices.

Special Sessions

The **Plenary Session** will be held on Monday, Dec. 1, 6:00 p.m. in the Grand Ballroom of the Sheraton Boston Hotel, at which **Susan Solomon** of the National Oceanic and Atmospheric Administration will present a talk on “A World of Change—Climate Yesterday, Today, and Tomorrow.” Solomon served as co-chair of the Working Group 1 Fourth Assessment of the Intergovernmental Panel on Climate Change (IPCC, 2007), providing scientific information to the United Nations Framework Convention on Climate Change. IPCC and Albert Gore, Jr. jointly received the Nobel Peace Prize in 2007.

On Tuesday evening, Dec. 2, a forum on nuclear power will be held to address “**Impediments to a Renaissance of Nuclear Power in the U.S.**” One pressing global challenge is to construct energy sources that emit no greenhouse gas, while retiring those that do. Nuclear power serves as an energy source that produces electricity at TW levels while emitting virtually negligible greenhouse gas. However, concerns about waste disposal, safety, proliferation, and economics have impeded acceptance of nuclear power in the United States. The purpose of the forum is to catalyze interest in materials research and development of materials technologies that might mitigate some of these impediments. The forum includes an overview presentation of the issues, followed by a panel discussion moderated by **Ira Flatow**, Host and Executive Producer of *Science Friday* on National Public Radio. The panel will be comprised of individuals with intimate knowledge of nuclear materials and regulatory and industrial practices, as well as those who oppose nuclear power growth. Panelists include **Bernard Bigot**, High Commissioner for Atomic Energy of

the French Atomic Energy Commission (CEA); **Chaim Braun**, Center for International Security and Cooperation (CISAC) at Stanford University; **Rodney C. Ewing**, Professor in the Department of Geological Sciences at the University of Michigan; and **Michael Mayfield**, Director of the Division of Engineering Technology in the U.S. Nuclear Regulatory Commission. The forum will be held from 6:00 p.m. to 8:00 p.m. in the Grand Ballroom of the Sheraton Boston Hotel.

Because there are no accepted scientific standards for the purity of carbon nanotubes (CNTs), the American National Standards Institute (ANSI) is involved in an effort to begin setting such standards through the International Standards Organization (ISO). On Sunday, Nov. 30, a one-day focus session, beginning at 7:50 a.m. in the Hynes Convention Center, will be held on “**Developing Purity Evaluation Criteria and Quality Assurance Standards for Carbon Nanotubes.**” As a result of NASA-NIST workshops on the issue of purity and dispersion of CNTs, there is a Guide to Practice on the NIST Web site (www.mscl.nist.gov/Nanotube2/Carbon_Nanotubes_Guide.htm) relating to “Measurement Issues in Single-Walled Carbon Nanotubes.” With the Guide as a starting point, participants in this forum are encouraged to test these procedures, comment on their usefulness, and offer improvements. The ultimate goal is an agreed-upon set of the most appropriate standards for the purity of CNTs that can be adopted by the editors of Society journals, researchers, producers, and customers of the CNT industry and ANSI/ISO. The session will conclude with a panel discussion, beginning at 4:45 p.m.

The **Awards Ceremony** will convene on Wednesday, Dec. 3, at 6:00 p.m. in the Grand Ballroom of the Sheraton Boston Hotel, at which the Von Hippel Award, Turnbull Lectureship, MRS Medal, and Graduate Student Awards will be presented. A reception will follow.

Herbert Gleiter of the Institute for Nanotechnology in Germany has been named the **Von Hippel Award** recipient, recognized “for his imaginative experiments on the role of defects that have led to new insights into the importance of length-scale in materials and have resulted in many new applications.” Gleiter will give his award address during the Awards Ceremony. **David N. Seidman** of

Northwestern University is the recipient of the **David Tumbull Lectureship**. He will present his lecture, "On the Genesis of Nucleation and Phase Decomposition on an Atomic Scale," on Dec. 3 at 5:05 p.m. in room 210 in the Hynes Convention Center. **Darrell G. Schlom** of The Pennsylvania State University and **James F. Scott** of Cambridge University share the **2008 MRS Medal** for "fundamental contributions to the materials science of oxides underlying current and future electronic devices." **Moungi Bawendi** (Massachusetts Institute of Technology), the award recipient of the **Fred Kavli Distinguished Lectureship in Nanoscience**, given by the Kavli Foundation, will also be recognized at the 2008 MRS Fall Meeting.

In addition, government seminars will be held, offering attendees information on funding available for materials research, and a Science as Art competition will be held. The competition is open to all registered meeting attendees. Prizes of up to \$400 will be awarded. Entries are due by October 15, 2008.

A satellite workshop on the Dynamics of Soft Matter, endorsed by MRS, will be held at the Sheraton Boston Hotel on Dec. 4–6.

The workshop will focus on advancing progress in the use of neutrons to study the dynamics of soft matter. MRS registered attendees are welcome to participate.

Career Services, Student Events, and Networking Opportunities

MRS will host a **Career Center** for meeting attendees, to be held Dec. 2–4 at the Hynes Convention Center. Services include access to current job postings, a resume file for prospective employers, and on-site interview opportunities.

Gold and Silver Graduate Student Awards will be presented during the Awards Ceremony to graduate students whose academic achievements and current materials research display a high level of excellence and distinction.

Graduate students and members of MRS University Chapters are invited to attend the **student mixer**, and chapter officers and faculty advisors are invited to attend a **meeting of MRS University Chapter representatives** to compare notes on recent activities and brainstorm new projects and issues of common concern. Those interested in starting new chapters are also welcome. Details will be available on the MRS Web site.

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. MRS is offering significantly subsidized childcare services at the Meeting. Childcare will be offered through KiddieCorp, an organization that provides high-quality programs for children of all ages. For additional details, contact MRS Member Services.

The deadline to pre-register for the meeting is **November 14, 2008, 5:00 (ET)**. International travelers are reminded to allow ample time to obtain a visa, if necessary. 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. Details of various events and activities will be published in the *Meeting Guide* available on site. The MRS Web site can be accessed for updated information on confirmed talks and details of special events, for more information on obtaining a visa, and for pre-registration: www.mrs.org.

Plenary Speaker Susan Solomon to Discuss the Earth's Climate Change

Widely recognized as one of the leaders in the field of atmospheric science, Susan Solomon of the University of California, Berkeley, will present the plenary address at the 2008 Materials Research Society Fall Meeting in Boston on Monday, December 1 at 6:00 p.m. in the Grand Ballroom of the Sheraton Boston Hotel. In her presentation, "A World of Change: Climate Yesterday, Today, and Tomorrow," Solomon will discuss the Earth's possible climate change, and the human activities that may be contributing to it.

According to Solomon, there is key evidence for changes in the Earth's climate, and the causes of those changes can be found, for example, through an understanding of increasing global temperatures, melting ice caps at the poles, and the changing of rain in the tropics. Observations of the greenhouse gases and aerosols are considered to be the main reasons behind these changes. Solomon will also cover how human activities will combine with the physics of the climate system to determine how different the climate will be by 2020, 2050, 2100, and beyond.

Since receiving her PhD degree in chemistry from the University of Cali-



Susan Solomon

fornia at Berkeley in 1981, Solomon has been employed by the National Oceanic and Atmospheric Administration as a research scientist. She has not only provided key measurements but also theoretical understanding regarding the ozone destruction, especially the role of surface chemistry. In 1986 and 1987, she served as the Head Project Scientist of the National Ozone Expedition at McMurdo Station, Antarctica, making some of the first measurements identifying chlorofluoro-

carbons as the cause of the ozone hole. In 1994, an Antarctic glacier was named in her honor in recognition of that work. In March of 2000, she received the National Medal of Science for "key insights in explaining the cause of the Antarctic ozone hole" and in 2004, the prestigious Blue Planet Prize for her pioneering research identifying the cause of the Antarctic ozone hole.

Solomon is the recipient of many awards, including the highest awards of the American Geophysical Union, the American Meteorological Society, and the Geochemical Society. She received the Ozone Award from the United Nations Environment Programme, and *R&D Magazine* honored her as its 1992 scientist of the year. Solomon is a member of the U.S. National Academy of Sciences and a Foreign Associate of the French Academy of Sciences, the Royal Society, and the European Academy of Sciences. She served as co-chair of the Working Group 1 Fourth Assessment of the Intergovernmental Panel on Climate Change (IPCC, 2007), providing scientific information to the United Nations Framework Convention on Climate Change. IPCC and Albert Gore, Jr. jointly received the Nobel Peace Prize in 2007. MRS