

# Preview: 2013 Materials Research Society Spring Meeting & Exhibit

Moscone West Convention Center, Westin San Francisco Market Street, and San Francisco Marriott Marquis San Francisco, California **Meeting:** April 1–5 **Exhibit:** April 2–3 **www.mrs.org/spring2013** 

2013 MRS SPRING MEETING & EXHIBIT

**Meeting Chairs** 



Mark L. Brongersma Stanford University



Rachel Segalman University of California, Berkeley



Vladimir Matias iBeam Materials, Inc.



**Lonnie D. Shea** Northwestern University



**Heiji Watanabe** Osaka University

The 2013 Materials Research Society Spring Meeting will be held April 1-5, 2013, in San Francisco, Calif. The spring meetings have grown considerably in recent years, and this year's meeting looks to be the largest yet. The scientific sessions will include many new and developing areas of materials research as well as some well-established and popular topics. To complement the scientific sessions, tutorials will provide detailed introductions to particularly exciting areas of research, while the exhibit will showcase products of interest to the materials community. The technical meeting and exhibits will be located at the Moscone West Convention Center, Westin San Francisco Market Street, and San Francisco Marriott Marquis.

Making up the core of the Meeting are the five topical clusters of the technical program.

**Electronics and Photonics** will include symposia with a focus on electronic and photonic materials, devices, and processing. In addition, the areas of organic electronics, and Si photonics for interconnects, sensing, and imaging will be covered.

Materials Science and Materials Chemistry for Energy will include photovoltaics, energy conversion and storage, materials science for sustainability, artificial photosynthesis, thermoelectrics, and energy materials *in situ* characterization methods.

Nanostructured Materials and Devices will feature synthesis and characterization of nanomaterials with additional symposia devoted to new trends in two-dimensional nanomaterials, ultrasmall clusters, piezotronic nanostructures, and metal oxides.

**Biological, Biomedical, and Bioinspired Materials** will cover a wide range of topics including bioelectronics, organic and inorganic materials, bionanotechnology, and multifunctional materials. Several symposia explore

the critical issues involved in interfacing biological systems

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with synthetic materials for regeneration, imaging, cancer therapies, and sensing. Other areas covered include cell instructive materials, cellular microenvironments and the immune response, and the functionalization of organic and inorganic materials.

The cluster on **General Materials Science** will round out the meeting with symposia on oxide and superconducting materials, ionic liquids, materials characterization, plasma and ion-beam processing, carbon interfaces, nuclear radiation detection, reversible phase transformations, extreme environments, and materials science education.

The fifth Technology Innovation Forum will be held on Thursday morning

| 2013 MRS Spring Meeting Registration Rates |  |   |
|--|--|---|
|  | <b>Pre-Registration</b><br>Valid before 5:00 p.m. EST<br>on March 15, 2013 | <b>On-Site Registration</b><br>Valid after 5:00 p.m. EST<br>on March 15, 2013 |
| Member                                     | \$495  | \$595   |
| Student Member                             | \$110  | \$140   |
| Nonmember                                  | \$595  | \$695   |
| Student Nonmember                          | \$135  | \$165   |
| Retired/Unemployed                         | \$135  | \$165   |

(April 4), with a focus on Innovation and Entrepreneurial Excellence. Designed to provide a stage for innovators, industry leaders, and venture capitalists, this year's Forum will have three sessions with invited speakers to discuss technology needs, market philosophies, and funding processes. More specifically, the Forum will provide a view of the processes a product goes through from development in a laboratory to scale-up and key licensing and legal aspects associated with innovation. Representatives from national laboratories will talk about the various government programs that are designed to foster innovation at all stages. And individuals in established industries will describe the best approaches for "technology push" and "innovation pull" that resulted in products and solutions developed to tackle a specific need.

An award ceremony will be held to honor this year's Outstanding Young Investigator and MRS Fellows as well as the recipients of the Innovations in Materials Characterization Award endowed by Toh-Ming Lu and Gwo-Ching Wang—the Mid-Career Research Award—endowed by Aldrich Materials Science, and the Gold and Silver Graduate Student Awards. Selected award talks will be given in the Symposium X lunchtime series.

The meeting will include a plenary address and a talk by the recipient of the Kavli Lectureship on Nanoscience, both yet to be announced.



# **Hotels in San Francisco**

MRS receives meeting space at a greatly discounted rate as a result of contracting a large block of sleeping rooms at the official meeting hotels. In order to keep meeting costs as low as possible and minimize the financial risk to MRS, we encourage you to utilize official MRS housing while you are attending an MRS meeting. Hotels offering discounted rates for the 2013 MRS Spring Meeting are listed below.

#### San Francisco Marriott Marquis

55 Fourth Street San Francisco, California 94103 877-622-3056 OR 506-474-2009 \$167/single + applicable taxes

#### The Westin San Francisco Market Street 50 Third Street

So frind street San Francisco, California 94103 \$179/single & \$189/double + applicable taxes. Rates are based on single or double occupancy. Each additional person will be charged \$25 per day. Rate valid through February 27.

Poster sessions will be held on Tuesday, Wednesday, and Thursday from 8:00 p.m. to 11:00 p.m at the San Francisco Marriott Marquis, Salons 7, 8, and 9.

The meeting chairs will sponsor a Best Poster Award competition, selecting re-

cipients each night on the basis of the posters' technical content, appearance, graphic excellence, and presentation quality.

The popular Science as Art competition will be again held at this Meeting. The competition is open to all regis-



tered meeting attendees, with entries to be on display in the Moscone West Convention Center. Multiple first-place and second-place awards of \$400 and \$200, respectively, will be presented at the Meeting. Guidelines and the deadline for entries will be available on the 2013 MRS Spring Meeting website.

MRS will host a Career Center; services offered to attendees include access to current job postings, a resume file for prospective employers, and on-site interview opportunities.

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 new chapters are welcome.

Presentations on funding opportunities from US government agencies and various events for professional development and public outreach are also planned.

The deadline to pre-register for the Spring Meeting is March 15, 2013 (5:00 p.m. EST). International travelers are reminded to begin the visa process early. For additional information on the Spring 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 Program & Exhibit Guide available on-site. The MRS website can be accessed for updated information on confirmed talks and details on special events, for more information on obtaining a visa, and preregistration at www.mrs.org/spring2013.

#### TUTORIALS Monday, April 1, 2013 **Moscone West Convention Center** Select tutorials will be available via MRS OnDemand. Visit www.mrs.org/on-demand for the most up-to-date information. **Tutorial A Tutorial S** Tutorial DD Growth and Characterization Thin-Film Silicon and Related Fundamentals of Emerging Materials for Solar Cells and Displays **Nonvolatile Memories Techniques for Metal-Oxide** 9:00 am-5:00 pm | Room 2000 **Nanoscale Structures** 8:30 am-5:00 pm | Room 2007 1:30 pm-5:00 pm | Room 2003 **Tutorial C Tutorial EE Young Scientist Tutorial Overview of Phase-Change** Tutorial V on Characterization Techniques **Measuring and Predicting Thermal** Materials—Physics and Applications **Transport Properties** 9:00 am-5:00 pm | Room 2008 for Thin-Film Solar Cells 9:00 am-5:00 pm | Room 2001

**Tutorial D Artificial Photosynthesis** and Photovoltaics-Similarities, Differences, Knowledge Transfer 1:30 pm-5:00 pm | Room 2002

**Tutorial F** Material Assembly and Testing for Batteries 1:30 pm-5:00 pm | Room 2004 1:30 pm-5:00 pm | Room 2005

Tutorial W Nanogenerators and Piezotronics-From Fundamental Science to **Technological Applications** 1:30 pm-5:00 pm | Room 2006

**Tutorial XX New Perspectives for Oxide** Applications 1:30 pm-5:00 pm | Room 2009





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#### Moscone West Level 1

Tuesday, April 2 9:30 am – 5:30 pm

Wednesday, April 3 9:30 am - 6:00 pm

Join us for a Wine & Cheese Happy Hour Reception on Wednesday from 5:00 to 6:00 pm

Electron Microscopy Sciences/Diatome U.S. Fabsave, Inc. First Nano, a division of CVD Equipment Corporation Fischer Technology, Inc. Fischione Instruments FlackTek, Inc. Flow Sciences. Inc. FUJIFILM Dimatix, Inc. Gamry Instruments Gatan, Inc. HeatWave Labs, Inc. HORIBA Scientific Hummingbird Scientific Hysitron Inc. Innovative Technology, Inc. Integrated Dynamics Engineering **IOP** Publishing iXRF Systems, Inc. Janis Research Company, LLC Japan Society of Applied Physics JASCO JEOL USA, Inc. \* KD Scientific KP Technology Ltd. Kurt J. Lesker Company Labtec Sales Partners LLC Lake Shore Cryotronics, Inc. Lucas Scientific LLC MANTIS Deposition Ltd. Metrohm USA. Inc. Microtrac Inc. MMR Technologies, Inc. \* **MTI** Corporation NanoAndMore USA Inc. NanoProfessor Nanovea National Electrostatics Corp. \* National Nanotechnology Infrastructure Network Neocera, LLC Netzsch Instruments North America. LLC

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\*See Ad in This Issue



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