

Preview: 2017 Materials Research Society Spring Meeting & Exhibit

Phoenix Convention Center, Phoenix, Arizona | Meeting: April 17–21 | Exhibit: April 18–19
www.mrs.org/spring2017

Following the successful relocation of the Materials Research Society (MRS) Spring Meeting to Phoenix, Ariz., last year, the 2017 MRS Spring Meeting will continue to be held at the Phoenix Convention Center, April 17–21. 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.

Making up the core of the Meeting are five topical clusters of the technical program, encompassing 53 symposia. They are grouped into the following clusters:

Characterization, Theory and Modeling: This cluster of seven symposia serves to strengthen synergy between materials simulation and experiment for the purpose of accelerating the discovery and development of new materials for novel applications. Special focus will be on advanced algorithms for materials

simulation across length scales, as well as *in situ* electron microscopy and nano-mechanical characterization of dynamic and mechanically coupled phenomena.

Electronic Devices and Materials: This cluster of 14 symposia aims to push forward application-driven materials research, focusing on a wide range of materials systems for electronic, photonic, and optoelectronic devices. It includes materials for quantum technologies, photovoltaics and upconversion, plasmonics, metamaterials, and future highly integrated optoelectronic circuits, as well as for the interface with neurobiology.


Energy Storage and Conversion: There are more than a dozen symposia in this cluster, including solar fuels, photovoltaics (perovskite, chalcogenide, concentrated, multi-junction), nuclear materials, caloric materials, energy storage (batteries, fuel cells, thermoelectrics, electrodes, interfaces, mechanics, multi-valent), spintronics, piezotronics, magnetoelectrics, nanogenerators, and soft magnets for power electronics.

Nanomaterials: The nanomaterials cluster features 10 symposia dedicated to a wide range of materials and applications: 1D nanowires, 2D materials, composites, as well as materials aimed at particular applications such as catalysis, energy, and functioning in extreme environments. Many of the symposia will organize joint sessions with symposia from other clusters establishing connections to methods for characterization and possible applications.

Soft Materials and Biomaterials: There are eight symposia in this broad interdisciplinary cluster. Key topics include fundamental and applied research in the following technical areas: advanced polymers, polymeric biomaterials, bioelectronics, materials for immunology, membranes, soft robotics, neural interfaces, multifunctional fibers, and biomineralization.

Symposium X—Frontiers of Materials Research will feature lectures for the broad materials community on topics at the forefront of research on materials science and engineering. Julia Greer, California Institute of Technology,

2017 MRS[®] SPRING MEETING & EXHIBIT MEETING CHAIRS

				
Christopher J. Bettinger Carnegie Mellon University	Stefan A. Maier Imperial College London	Alfonso H.W. Ngan The University of Hong Kong	W. Jud Ready Georgia Institute of Technology	Eli A. Sutter University of Nebraska–Lincoln

2017 MRS SPRING MEETING REGISTRATION RATES

	PREREGISTRATION before 5:00 pm (ET) March 31, 2017	ON-SITE REGISTRATION after 5:00 pm (ET) March 31, 2017
Meeting Registration	\$655	\$780
Meeting Registration with MRS Member Discount	\$520	\$645
Student Registration	\$150	\$180
Student Registration with MRS Member Discount	\$115	\$145
Unemployed	\$150	\$180
Retired	\$180	\$200

2017 MRS Spring Meeting registrations include MRS membership through June 30, 2018.

will present a talk on Tuesday; David Weitz, Harvard University, will present a talk on Wednesday; and Kazu Suenaga, National Institute of Advanced Industrial Science and Technology, will present a talk on Thursday, all at 12:15 pm at the Phoenix Convention Center.

An **award ceremony** will be held to honor this year's Outstanding Young Investigators and MRS Fellows as well as the recipients of the Innovation in Materials Characterization Award—endowed by Toh-Ming Lu and Gwo-Ching Wang—the Mid-Career Researcher

Award—endowed by MilliporeSigma, and the Gold and Silver Graduate Student Awards. The Meeting will also include a plenary address and a presentation by the recipient of The Fred Kavli Distinguished Lectureship in Materials Science, yet to be announced.

The Academic Affairs Committee is offering the **ABET** (Accreditation Board for Engineering) Information and Evaluator Retraining Session at the 2017 MRS Spring Meeting. Janet Callahan from Boise State University will be the instructor. This is an informational session

and retraining for ABET evaluators and others interested in the accreditation process. You do not have to register for the Meeting to attend. The training will be held Tuesday evening (7:15–9:30 pm). Walk-ins are welcome.

If you are searching for an introductory-level undergraduate materials science course that will interest your students, stop by the Impact of Materials on Society Booth at the Public Outreach Center to view the new curriculum materials and engaging videos. MRS scientists and University of Florida faculty will be on hand to answer any questions.

Poster sessions will be held in the Sheraton, Third Level, Phoenix Ballroom, on Tuesday, Wednesday, and Thursday from 8:00 pm to 10:00 pm. 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.

The popular **Science as Art** competition will be held again at this Meeting. The competition is open to all registered Meeting attendees. Multiple first-place and second-place awards of \$400 and \$200, respectively, will be presented at

WWW.MRS.ORG/SPRING-2017-TUTORIAL-SESSIONS

The 2017 MRS Spring Meeting will feature 10 tutorials covering a variety of topics to complement the symposium sessions. Tutorials are free of charge for all registered attendees. Tutorial notes will be available for purchase at the preregistration price of \$35. After the preregistration period ends, notes will be available for purchase for \$45 on-site at the MRS/Cambridge Publications Booth 100 in the Exhibit Hall.

All tutorials will be held in the Phoenix Convention Center on Monday, April 17.

CM4 Introduction to Advanced Imaging and Tomography Techniques for Transmission Electron Microscopy
8:30 am–12:00 pm

CM7 21st Century Tools for Accelerating Scientific Research—From Combinatorial Synthesis and Text Mining to Artificial Intelligence
8:30 am–5:00 pm

ED10 Plasmonics and Metamaterials for Active Photonics Devices
8:30 am–5:00 pm

ED11 Materials and Device Optimization for Phase-Change-Based Applications
8:30 am–5:00 pm

ES4 Fundamentals and Applications of Nanogenerators and Piezotronics for Self-Powered Nanotechnologies
8:30 am–12:00 pm

ES8 Caloric Materials and Devices
1:30 pm–5:00 pm

ES13 Electrolytes for Electrochemical Energy Storage—Materials, Interfaces and Interphases
8:30 am–12:00 pm

ES14 Young Scientist Tutorial on Characterization Techniques for Thin-Film Solar Cells
8:30 am–5:00 pm

NM2 Understanding Nanoscale Heat Transport—Interplay between Experiment and Theory
1:30 pm–5:00 pm

NM3 Aerogels—Synthesis, Characterization and Applications
8:30 am–5:00 pm

TUTORIALS

the Meeting. Guidelines and the deadline for entries will be available on the 2017 MRS Spring Meeting website.

MRS will host a **Career Fair** in the Exhibit Hall to connect job seekers with recruiters to discuss available career opportunities. Career-related professional development sessions will also be presented on the stage adjacent to the Career Fair to help job seekers navigate their job search.

Graduate students and members of MRS University Chapters are invited to attend the student mixer reception. Chapter officers and faculty advisors are also 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 welcome.

Research Funding Opportunities includes presentations from US and non-US agencies. Various events for professional development and public outreach are also planned.

The deadline to preregister for the MRS Spring Meeting is March 31, 2017 (5:00 pm ET). International travelers are reminded to begin the visa process early. For additional information on the Spring Meeting, contact MRS Member Services, email info@mrs.org; and tel. 724-779-3003.

The MRS website can be accessed for updated information on confirmed talks and details on special events, information on obtaining a visa, and preregistration at www.mrs.org/spring2017.

HOTELS IN PHOENIX



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 a MRS meeting. Hotels offering discounted rates for the 2017 MRS Spring Meeting are listed below. To make reservations, visit www.mrs.org/spring-2017-hotels.


Discounted room rates will be available until MARCH 12 or until the group block is sold out, whichever comes first.

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| <p>■ Sheraton Grand Phoenix
340 North 3rd St., Phoenix, AZ 85004
602-262-2500
Group Rate: \$159 single/double*</p> | <p>■ Crowne Plaza Phoenix Airport
4300 East Washington St., Phoenix, AZ 85034
602-273-7778
Group Rate: \$159 single/double*</p> |
| <p>■ Hyatt Regency Phoenix
122 North Second St., Phoenix, AZ 85004
602-252-1234
Group rate: \$169 single/double*</p> | <p>■ Holiday Inn Express and Suites Downtown Ballpark
620 North 6th St., Phoenix, AZ 85004
602-452-2020
Group Rate: \$189*</p> |
| <p>■ Renaissance Phoenix Downtown Hotel
50 East Adams St., Phoenix, AZ 85004
602-333-0000
Group Rate: \$167 single/double*</p> | <p>■ Hilton Garden Inn
15 East Monroe St., Phoenix, AZ 85004
602-343-0006
Group Rate: \$199*</p> |
| <p>■ Palomar Phoenix
2 East Jefferson St., Phoenix, AZ 85004
602-253-6633
Group Rate: \$246 single/double*</p> | <p>■ Wyndham Garden Phoenix Midtown
3600 North 2nd Ave., Phoenix, AZ 85013
602-604-4900
Group Rate: \$140* King only with 2 person maximum; \$150* Queen only with 4 person maximum</p> |
| <p>■ SpringHill Suites Phoenix Downtown
802 East Van Buren St., Phoenix, AZ 85006
602-307-9929
Group Rate: \$167 single/double*</p> | |

*plus applicable taxes and fees

WWW.MRS.ORG/SPRING-2017-HOTELS



Visit the MRS/Cambridge Booth 100 in the Exhibit Hall

- Learn more about MRS/Cambridge books and journals
- Enjoy discounted pricing on more than 90 materials-related titles
- Purchase 2017 MRS Spring Meeting Abstracts and Tutorial Notes
- and more!

Tuesday 9:00 am–5:00 pm | Wednesday 10:00 am–5:00 pm



2017 MRS® SPRING EXHIBITORS



Exhibit Hours

Tuesday, April 18 9:00 am–5:00 pm

Wednesday, April 19 10:00 am–5:00 pm

Phoenix Convention Center, Lower Level, Halls 5 & 6

Admiral Instruments	HORIBA Scientific	Park Systems Inc.
AdValue Technology, LLC	Hummingbird Scientific	Photron USA, Inc.
Advanced Research Systems, Inc.	Huntington Mechanical Laboratories, Inc.	Pine Research Instrumentation
AIP Publishing	Hysitron Inc.	Plasmaterials, Inc.
AJA International, Inc.	InRedox	Protochips
American Physical Society	International Centre for Diffraction Data (ICDD)	PVD Products, Inc.
Angstrom Thin Film Technologies LLC	InVacuo, Inc.	Quantachrome Instruments
Annealsys	IOP Publishing	Quantum Design, Inc.
Applied Vacuum Technology, a Division of Anderson Dahlen	Janis Research Company, LLC	R.D. Mathis Company
Asylum Research, an Oxford Instruments Company	JASCO	Rigaku Americas Corporation
Barnett Technical Services	Kurt J. Lesker Company	Royal Society of Chemistry
Bio-Logic USA, LLC	Lake Shore Cryotronics, Inc.	SEC Co., Ltd.
Blue Wave Semiconductors, Inc.	Leybold USA Inc.	Solartron Analytical, AMETEK Advanced Measurement Technology
Bruker Corporation	M. Braun, Inc.	SPECS Surface Nano Analysis, Inc.
Cambridge University Press/ Materials Research Society	MANTIS-SIGMA	SPI Supplies, a Division of Structure Probe, Inc.
Cornes Technologies USA/ Seki Diamond Systems	MDC Vacuum Products, LLC	Springer Nature
CRAIC Technologies, Inc.	MilliporeSigma	STAIB Instruments, Inc.
CrystalMaker Software Ltd.	Minus K Technology, Inc.	Ted Pella, Inc.
Direct Electron, LP	MIRWEC Film/Yasui Seiki	The National Academies of Sciences, Engineering, and Medicine
Duniway Stockroom Corporation	MSE Supplies LLC	Thermcraft, Inc.
Ecopia Corp.	MTI Corporation	Thermo Fisher Scientific
Electron Microscopy Sciences	Nanoscribe GmbH	UC Components, Inc.
Everbeing International Corp.	National Electrostatics Corp.	Verder Scientific, Inc.
Frontier Semiconductor	Neaspec GmbH	WITec Instruments Corp.
Frontiers	Neocera, LLC	J.A. Woollam Company, Inc.
Gatan, Inc.	Newport Corporation	ZEISS Microscopy
HeatWave Labs, Inc.	NIST/Office of Reference Materials	Zurich Instruments Ltd.
	Nor-Cal Products, Inc.	
	NT-MDT Spectrum Instruments	

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