



## MRS Bulletin Volume Organizers guide technical theme topics for 2018

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The *MRS Bulletin* 2018 Volume Organizers, appointed by MRS President-Elect Susan Trolier-McKinstry, will guide the development of theme topics for the 2018 volume year. They are Karsten Albe (Technische Universität Darmstadt, Germany), Hiroshi Funakubo (Tokyo Institute of Technology, Japan), Michael Hickner (The Pennsylvania State University, USA), and Beth Stadler (University of Minnesota, USA).

**Karsten Albe** is a professor of materials science and Head of the Materials Modeling Division at Technische Universität Darmstadt (TU Darmstadt), Germany. He received his diploma in physics from Universität Ulm and obtained his doctorate from Technische Universität Dresden. He



was a postdoctoral fellow at the Frederick Seitz Materials Research Laboratory and the Center for Simulation of Advanced Rockets at the University of Illinois at Urbana-Champaign. He joined TU Darmstadt as a junior faculty member and has been a full professor since 2007. His research focuses on modeling the electronic structure, thermodynamics, and kinetics of defects in functional oxides by quantum mechanical methods. Other activities include the simulation of mechanical properties of nanostructured metals by large-scale computer simulations. Albe has been a spokesperson of the Collaborative Research Center 595: "Electrical Fatigue in Functional Materials," and was elected as a member of the Deutsche Forschungsgemeinschaft panel for materials science and engineering. He is the author of more than 120 publications and has served as a co-chairperson of the

Materials Science and Engineering Congress in 2012 and 2014.

**Hiroshi Funakubo** is a professor in the Department of Materials Science and Engineering at the School of Materials and Chemical Technology at the Tokyo Institute of Technology. In 1989, he became an assistant professor in the faculty of engineering at the Tokyo Institute of Technology. He received a PhD degree from the Tokyo Institute of Technology in 1994. He was appointed associate professor in 1997, followed by full professor in 2012 of the Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology. Funakubo's research is focused on preparation and properties of dielectric, ferroelectric, and piezoelectric films, as well as film solid-oxide fuel cells and thermoelectric materials development. He has been involved in the organization of several international ferroelectric conferences and organized a MRS symposium on ferroelectric thin films at the 2003 MRS Fall Meeting.



**Michael Hickner** is an associate professor and the Corning Faculty Fellow in the Department of Materials Science and Engineering at The Pennsylvania State University (Penn State). Before joining Penn State in 2007, he was a staff member at Sandia National Laboratories. His research group focuses on the synthesis and properties of ion-containing polymers, measurement of



water-polymer interactions using spectroscopic techniques, and the application of polymeric materials in energy and water treatment technologies. Hickner's work has been recognized by Young Investigator Awards from the Office of Naval Research and the Army Research Office, a 3M Non-Tenured Faculty Grant, the Rustom and Della Roy Innovation in Materials Research Award, and a Presidential Early Career Award for Scientists and Engineers from President Obama. He is on the Editorial Board of the journals *Macromolecules* and *ACS Macro Letters* and has co-authored eight patents and more than 150 publications.

**Beth Stadler** is a professor of Electrical and Computer Engineering and a graduate faculty of Chemical Engineering and Materials Science at the University of Minnesota (UMN). She obtained her PhD degree from the Massachusetts Institute of Technology in 1994. Her research won the National Science Foundation CAREER Award and the McKnight Presidential Fellowship. She was a 2015 IEEE Magnetics Society Distinguished Lecturer, giving 55 talks worldwide; and taught at the IEEE Magnetic Summer School in Chennai, India (2012) and Assis, Italy (2013). Stadler's photonics research is focused on integration of magneto-optical garnets with semiconductors and other convenient platforms. In magnetics, she works primarily with magnetic nanowires for nonvolatile memory, hard drives, and bio-barcodes. She served on the MRS Board of Directors, as Secretary of MRS, on the Program Development Subcommittee of MRS, and co-chaired six MRS Symposia and the 2004 MRS Fall Meeting.



Requests for instructions on submitting proposals for *MRS Bulletin* theme topics can be emailed to [bulletin@mrs.org](mailto:bulletin@mrs.org).



# 2017 **MRS**® SPRING MEETING & EXHIBIT

April 17–21, 2017 | Phoenix, Arizona

## PREREGISTRATION OPENS MID-JANUARY

### CHARACTERIZATION, THEORY AND MODELING

- CM1 Emergent Material Properties and Phase Transitions Under Pressure
- CM2 Advanced Numerical Algorithms for Metallic Systems at the Mesoscale in Materials Science
- CM3 Computer-Based Modeling and Experiment for the Design of Soft Materials
- CM4 *In Situ* Electron Microscopy of Dynamic Materials Phenomena
- CM5 Mechanically Coupled Properties, Phenomena and Testing Methods in Small-Scale and Low-Dimensional Systems
- CM6 Dislocation Microstructures and Plasticity
- CM7 Genomic Approaches to Accelerated Materials Innovation

### ELECTRONIC DEVICES AND MATERIALS

- ED1 Silicon-Carbide, Diamond and Related Materials for Quantum Technologies
- ED2 Materials and Devices for Neuromorphic-Engineering and Brain-Inspired Computing
- ED3 Physics, Chemistry and Materials for Beyond Silicon Electronics
- ED4 Luminescent Materials for Photon Upconversion
- ED5 Photoactive Nanoparticles and Nanostructures
- ED6 Nanostructured Quantum-Confined States for Advanced Optoelectronics
- ED7 Materials and Device Engineering for Beyond the Roadmap Devices in Logic, Memory and Power
- ED8 Development and Integration of Organic and Polymeric Materials for Thin-Film Electronic Devices
- ED9 Advanced Interconnects for Logic and Memory Applications—Materials, Processes and Integration
- ED10 Material Platforms for Plasmonics and Metamaterials—Novel Approaches Towards Practical Applications
- ED11 Phase-Change Materials and Their Applications—Memories, Photonics, Displays and Non-von Neumann Computing
- ED12 Quantum Sensing, Metrology and Devices
- ED13 Novel Photonic, Electronic and Plasmonic Phenomena in Materials
- ED14 Molecular and Colloidal Plasmonics—Synthesis and Applications

### ENERGY STORAGE AND CONVERSION

- ES1 Perovskite Solar Cells—Towards Commercialization
- ES2 High-Capacity Electrode Materials for Rechargeable Energy Storage
- ES3 Materials for Multivalent Electrochemical Energy Storage
- ES4 Nanogenerators and Piezotronics
- ES5 Advances in Materials, Experiments and Modeling for Nuclear Energy
- ES6 Mechanics of Energy Storage and Conversion—Batteries, Thermoelectrics and Fuel Cells
- ES7 (Photo)electrocatalytic Materials and Integrated Assemblies for Solar Fuels Production—Discovery, Characterization and Performance
- ES8 Caloric Materials for Energy-Efficient Applications
- ES9 Surfaces, Coatings and Interfaces in Concentrated Solar Energy Applications
- ES10 Frontiers in Oxide Interface Spintronics—Magnetoelectrics, Multiferroics and Spin-Orbit Effects
- ES11 Advanced and Highly Efficient Photovoltaic Devices
- ES12 Soft Magnetic Materials for Next-Generation Power Electronics
- ES13 Interfaces and Interphases in Electrochemical Energy Storage and Conversion
- ES14 Thin-Film Chalcogenide Semiconductor Photovoltaics

### NANOMATERIALS

- NM1 Emerging Non-Graphene 2D Materials
- NM2 Nanoscale Heat Transport—From Fundamentals to Devices
- NM3 Aerogels and Aerogel-Inspired Materials
- NM4 Novel Catalytic Materials for Energy and Environment
- NM5 Frontiers in Terahertz Materials and Technology
- NM6 Mechanical Behavior of Nanostructured Composites
- NM7 Semiconductor Nanowires for Energy Applications
- NM8 2D Materials—Macroscopic Perfection vs. Emerging Nanoscale Functionality
- NM9 High-Performance Metals and Alloys in Extreme Conditions
- NM10 Micro/Nano Assembling, Manufacturing and Manipulation for Biomolecular and Cellular Applications

### SOFT MATERIALS AND BIOMATERIALS

- SM1 Bioelectronics—Materials, Processes and Applications
- SM2 Advanced Multifunctional Fibers and Textiles
- SM3 Advanced Biomaterials for Neural Interfaces
- SM4 A Soft Future—From Electronic Skin to Robotics and Energy Harvesting
- SM5 Aqueous Cytomimetic Materials
- SM6 Materials in Immunology—From Fundamental Material Design to Translational Applications
- SM7 Emerging Membrane Materials for Sustainable Separations
- SM8 Advanced Polymers

### 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

[www.mrs.org/spring2017](http://www.mrs.org/spring2017)

### Don't Miss These Future MRS Meetings!

**2017 MRS Fall Meeting & Exhibit**  
November 26 – December 1, 2017, Boston, Massachusetts

**2018 MRS Spring Meeting & Exhibit**  
April 2 – 6, 2018, Phoenix, Arizona

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[www.mrs.com/fall-2016-exhibit](http://www.mrs.com/fall-2016-exhibit)

**HYNES CONVENTION CENTER | LEVEL 2**

**Tuesday, November 29** 11:00 am – 5:30 pm

**Wednesday, November 30** 11:00 am – 5:30 pm

**Thursday, December 1** 10:00 am – 1:30 pm

**2D Crystal Consortium—  
Materials Innovation Platform** Booth 1304

mip.psu.edu  
2D Chalcogenide Thin Film and Bulk Single Crystals;  
Research Program and National User Facility;  
Theory/Simulation of Complex Reaction Kinetics

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**Across International LLC** Booth 520

www.acrossinternational.com  
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Rotary Evaporators; Glass Reactors

**ACS Publications** Booth 113

pubs.acs.org  
ACS Publications Materials Science Portfolio

**AdValue Technology, LLC** Booth 812

www.advaluetech.com  
Alumina; Quartz; Sapphire; Zirconia; Crucibles; Tubes;  
Substrates; Powders; Wools; Cuvettes

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www.advanced-energy.com  
DC Power Supplies; High Voltage Power Supplies;  
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www.apmpolymers.com  
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PEG Related Polymers

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Laboratory Cryogenics

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Motion Control; Positioning Systems; Nanotechnology

**Agnitron Technology, Inc.** Booth 832

www.agnitron.com  
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MOCVD Control Software; Contract Research

**AIP Publishing** Booth 211

journals.aip.org  
Physics Journals; Conference Proceedings; Digital Archive

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www.wpafb.af.mil/afri/afosr  
Aerospace Materials for Extreme Environments

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afm+; nanoTA2

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