



# CALL FOR PAPERS

**Abstract Submission Opens**  
September 28, 2018

**Abstract Submission Closes**  
October 31, 2018

Spring Meeting registrations include MRS Membership July 1, 2019 – June 30, 2020

## BROADER IMPACT

BI01 High Impact Practice—Increasing Ethnic and Gender Diversification in Engineering Education

## CHARACTERIZATION, PROCESSING AND THEORY

- CP01 Advances in *In Situ* Experimentation Techniques Enabling Novel and Extreme Materials/Nanocomposite Design
- CP02 Design and *In Situ* TEM Characterization of Self-Assembling Colloidal Nanosystems
- CP03 Advances in *In Situ* Techniques for Diagnostics and Synthetic Design of Energy Materials
- CP04 Interfacial Science and Engineering—Mechanics, Thermodynamics, Kinetics and Chemistry
- CP05 Materials Evolution in Dry Friction—Microstructural, Chemical and Environmental Effects
- CP06 Smart Materials for Multifunctional Devices and Interfaces
- CP07 From Mechanical Metamaterials to Programmable Materials
- CP08 Additive Manufacturing of Metals
- CP09 Mathematical Aspects of Materials Science—Modeling, Analysis and Computations

## ELECTRONICS AND PHOTONICS

### *Soft Organic and Biomolecular Electronics*

- EP01 Liquid Crystalline Properties, Self-Assembly and Molecular Order in Organic Semiconductors
- EP02 Photonic Materials and Devices for Biointerfaces
- EP03 Materials Strategies and Device Fabrication for Biofriendly Electronics
- EP04 Soft and Stretchable Electronics—From Fundamentals to Applications
- EP05 Engineered Functional Multicellular Circuits, Devices and Systems
- EP06 Organic Electronics—Materials and Devices
- Semiconductor Devices, Interconnects, Plasmonic and Thermoelectric Materials***
- EP07 Next-Generation Interconnects—Materials, Processes and Integration
- EP08 Phase-Change Materials for Memories, Photonics, Neuromorphic and Emerging Application
- EP09 Devices and Materials to Extend the CMOS Roadmap for Logic and Memory Applications
- EP10 Heterovalent Integration of Semiconductors and Applications to Optical Devices
- EP11 Hybrid Materials and Devices for Enhanced Light-Matter Interactions
- EP12 Emerging Materials for Plasmonics, Metamaterials and Metasurfaces
- EP13 Thermoelectrics—Materials, Methods and Devices

## ENERGY AND SUSTAINABILITY

### *Energy Storage*

- ES01 Organic Materials in Electrochemical Energy Storage
- ES02 Next-Generation Intercalation Batteries
- ES03 Electrochemical Energy Materials Under Extreme Conditions
- ES04 Solid-State Electrochemical Energy Storage
- Catalysis, Alternative Energy and Fuels***
- ES05 Cooperative Catalysis for Energy and Environmental Applications
- ES06 Atomic-Level Understanding of Materials in Fuel Cells and Electrolyzers
- ES07 New Carbon for Energy—Materials, Chemistry and Applications
- ES08 Materials Challenges in Surfaces and Coatings for Solar Thermal Technologies
- ES10 Rational Designed Hierarchical Nanostructures for Photocatalytic System
- ES11 Advanced Low Temperature Water-Splitting for Renewable Hydrogen Production via Electrochemical and Photoelectrochemical Processes
- ES12 Redox-Active Oxides for Creating Renewable and Sustainable Energy Carriers

### *Water-Energy Materials and Sustainability*

- ES09 Advanced Materials for the Water-Energy Nexus
- ES13 Materials Selection and Design—A Tool to Enable Sustainable Materials Development and a Reduced Materials Footprint
- ES14 Materials Circular Economy for Urban Sustainability

### *Photovoltaics and Energy Harvesting*

- ES15 Fundamental Understanding of the Multifaceted Optoelectronic Properties of Halide Perovskites
- ES16 Perovskite Photovoltaics and Optoelectronics
- ES17 Perovskite-Based Light-Emission and Frontier Phenomena—Single Crystals, Thin Films and Nanocrystals
- ES18 Frontiers in Organic Photovoltaics
- ES19 Excitonic Materials and Quantum Dots for Energy Conversion
- ES20 Thin-Film Chalcogenide Semiconductor Photovoltaics
- ES21 Nanogenerators and Piezotronics

## QUANTUM AND NANOMATERIALS

- QN01 2D Layered Materials Beyond Graphene—Theory, Discovery and Design
- QN02 Defects, Electronic and Magnetic Properties in Advanced 2D Materials Beyond Graphene
- QN03 2D Materials—Tunable Physical Properties, Heterostructures and Device Applications
- QN04 Nanoscale Heat Transport—Fundamentals
- QN05 Emerging Thermal Materials—From Nanoscale to Multiscale Thermal Transport, Energy Conversion, Storage and Thermal Management
- QN06 Emerging Materials for Quantum Information
- QN07 Emergent Phenomena in Oxide Quantum Materials
- QN08 Colloidal Nanoparticles—From Synthesis to Applications

## SOFT MATERIALS AND BIOMATERIALS

- SM01 Materials for Biological and Medical Applications
- SM02 Progress in Supramolecular Nanotheranostics
- SM03 Growing Next-Generation Materials with Synthetic Biology
- SM04 Translational Materials in Medicine—Prosthetics, Sensors and Smart Scaffolds
- SM05 Supramolecular Biomaterials for Regenerative Medicine and Drug Delivery
- SM06 Nano- and Microgels
- SM07 Bioinspired Materials—From Basic Discovery to Biomimicry

[www.mrs.org/spring2019](http://www.mrs.org/spring2019)

### Meeting Chairs

**Yuping Bao** The University of Alabama  
**Bruce Dunn** University of California, Los Angeles  
**Subodh Mhaisalkar** Nanyang Technological University  
**Ruth Schwaiger** Karlsruhe Institute of Technology—  
Institute for Applied Materials  
**Subhash L. Shinde** University of Notre Dame

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

**2019 MRS Fall Meeting & Exhibit**  
December 1–6, 2019, Boston, Massachusetts

**2020 MRS Spring Meeting & Exhibit**  
April 13–17, 2020, Phoenix, Arizona

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