

CALL FOR PAPERS

Abstracts Accepted September 15–October 18, 2023

BROADER IMPACT

- BI01 Materials Research by the LGBTQIA+ Community and a Vision for Inclusivity
- BI02 Broadening Participation in Materials Research and STEM

CHARACTERIZATION

- CH01 Characterizing Dynamic Processes of Materials Synthesis and Processing via *In Situ* Techniques
- CH02 Utilizing Advanced *In Situ/Operando* Transmission Electron Microscopy and Spectroscopy for the Investigation of Functional, Energy and Quantum Materials
- CH03 *In Situ* Characterization Methods for Nuclear Materials Applications
- CH04 Characterization of Materials Dynamics

ELECTRONICS, OPTICS AND PHOTONICS

- EL01 Surfaces and Interfaces in Electronics and Photonics
- EL02 Towards Atomically Precise Colloidal Materials for Conventional and Quantum Optoelectronics
- EL03 Next-Generation Interconnects (Materials, Processes and Integration)—Toward Sustainable Microelectronics
- EL04 Wide and Ultra-Wide Bandgap Materials, Devices and Applications
- EL05 Two-Dimensional (2D) Materials and Heterostructures—Large-Scale Growth and Device Integration
- EL06 Complex Oxide Epitaxial Thin Films—From Synthesis to Microelectronics
- EL07 Emerging Ferroc Materials—Synthesis, Properties and Applications
- EL08 Plasmonics and Metasurfaces—Design, Materials and Applications

ENERGY GENERATION AND CONVERSION

- EN01 Application Targets for Next Generation Photovoltaics
- EN02 Cutting-Edge Materials Design Toward Advanced Energy Harvesting—From Modeling to Manufacturing
- EN03 Sustainability of Emerging Photovoltaics
- EN04 Beyond 20% Efficiencies with Organic Solar Cell Devices
- EN05 Advances in Material, Catalyst and Device Design for Scalable Solar Fuel Production
- EN06 Make Energy Materials Sustainable Again
- EN07 Thermal Transport and Energy Conversion
- EN08 Advancements in Thermoelectric Materials, Module Technology and Applications
- EN09 Nanostructured Electrocatalysts for Energy Applications
- EN10 Novel Approaches to Synthesize and Characterize Stable Halide Perovskites and their Devices
- EN11 Emerging Inorganic Semiconductors for Solar Energy and Fuels

ENERGY STORAGE

- ES01 Next-Generation EV Battery Materials—Bridging Academic, Government and Industry Research
- ES02 *Operando* Characterization of Energy Storage Materials
- ES03 Solid-State Batteries
- ES04 Metal Anodes in Rechargeable Batteries—Electrolyte, Interface and Mechanism
- ES05 Materials Challenges for Flow-based Energy Conversion and Storage
- ES06 Sulfur and Sulfide Chemistry in High Performance Electrochemical Energy Storage

MANUFACTURING

- MF01 Advances in Polymer-based Soft Matter for Additive Manufacturing
- MF02 Laser-Induced Nanomaterials—Synthesis, Properties and Applications
- MF03 Sustainable Polymers—From Fundamentals to Advanced Manufacturing and Applications

MATERIALS THEORY, COMPUTATION AND DATA SCIENCE

- MT01 Integrating Machine Learning and Simulations for Materials Modeling
- MT02 Battery Manufacturing—Emerging Opportunities in Data-Driven Experimentation, Analysis and Modeling
- MT03 Machine Learning Methods, Data and Automation for Sustainable Electronics

NANOMATERIALS

- NM01 Advances in 2D Mxenes
- NM02 Advances in Nanodiamonds
- NM03 Nanoscale Mass Transport Through 2D and 1D Nanomaterials

QUANTUM MATERIALS AND MATERIALS PHYSICS

- QT01 Ultrafast Light-Matter Interactions in Quantum Materials
- QT02 Low-Dimensional Magnetic Quantum Materials
- QT03 Physics of 2D Halide and Chalcogenides Semiconductors
- QT04 Superconducting Materials
- QT05 Advances in Detection Methods for Emergent Phases in Quantum Materials
- QT06 Quantum Phenomena in Oxide—Synthesis, Characterization and Automation
- QT07 3D Topological Semimetals—From Fundamentals to Applications

SOFT MATERIALS AND BIOMATERIALS

- SB01 Bioresponsive Nanotheranostics
- SB02 Charge Carrier Transport in Organic and Organic-Inorganic Hybrid Materials
- SB03 Materials, Devices and Systems for Neuromorphic Electronics—From Artificial Synapses to Bionic and Wearable Systems
- SB04 Innovative Device and Characterization Concepts for Organic Electronics
- SB05 Materials and Systems for Fully Implantable Organ Interfaces
- SB06 Biohybrid Materials and Devices for Sensing, Robotics, Energy and Biomedicine
- SB07 Lipid Materials—Theory, Fundamentals and Applications
- SB08 Advanced Biomaterials and Bioelectronics for Neural Interfacing
- SB09 Bioelectricity and Recapitulation of 3D Environment in Microbial and Tissue Engineering
- SB10 Bioinspired Organic Materials and Devices for Sensing and Computing
- SB11 Bio-based and Biomimetic Polymers in Soft Robotics

STRUCTURAL AND FUNCTIONAL MATERIALS

- SF01 High Entropy Oxides and Related Materials
- SF02 Actinide Materials
- SF03 Ion Insertion—Fundamentals Processes and Applications to Switching



Meeting Chairs

David Cahill

University of Illinois at Urbana-Champaign

Mmantsae Diale

University of Pretoria

Kaining Ding

Forschungszentrum Jülich GmbH

Martin Kaltenbrunner

Johannes Kepler Universität Linz

Takao Mori

National Institute for Materials Science

Don't Miss These Future MRS Meetings!

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December 1–6, 2024
Boston, Massachusetts
December 10–12, 2024
Virtual

2025 MRS Spring Meeting & Exhibit

April 7–11, 2025
Seattle, Washington

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