



CALL FOR PAPERS

Abstracts Accepted May 24–June 24, 2024

BROADER IMPACT

- BI01 Democratizing AI in Materials Science—A Pathway to Broaden the Impact of Materials Research
- BI02 Early Career Development—Insights from Academia and Industry

CHARACTERIZATION

- CH01 *In Situ* Characterization During Thin-Film Processing
- CH02 Recent Advancements in Characterization and Modeling of Electrochemical Interfaces
- CH03 Towards Quantitative Characterization of Soft Materials by Scanning Probe Microscopy—Beyond Imaging
- CH04 Advanced Characterization Techniques and Methodologies for Battery Materials
- CH05 Frontiers of Imaging and Spectroscopy in Transmission Electron Microscopy
- CH06 Exploring Fast and Ultrafast Dynamics of Matter with Electrons and Photons
- CH07 Cryogenic Electron Microscopy and Correlative Characterization Techniques for Quantum and Energy Materials Research

ELECTRONICS, OPTICS AND PHOTONICS

- EL01 Low-Dimensional Luminescent Materials and Devices
- EL02 Phase-Change Materials for Brain-like Computing, Embedded Memory and Photonic Applications
- EL03 2D Materials—Nanofabrication and Applications
- EL04 Recent Advances in Hybrid Perovskites
- EL05 Materials and Devices for Neuromorphics, Biohybrid Systems and Smart Sensing
- EL06 2D Atomic and Molecular Sheets Beyond Graphene—Optical Properties, Optoelectronics and Quantum Optics
- EL07 Emerging Material Platforms and Fundamental Approaches for Plasmonics, Nanophotonics and Metasurfaces
- EL08 Diamond Functional Devices—From Material to Applications

ENERGY AND SUSTAINABILITY

- EN01 Light-Harvesting Materials for Efficient and Stable Solar Fuels Production
- EN02 Thin Film Chalcogenides for Energy Applications
- EN03 Emergent Properties in Actinide Materials—Enabling Next-Generation Nuclear Energy Applications
- EN04 Phase Change Materials for Energy Conversion and Storage
- EN05 Electrodes for Chemical and Energy Conversion Technologies
- EN06 Redox Flow-Based Electrochemical Systems
- EN07 Multijunction Devices for Solar Energy Conversion
- EN08 Materials Design and Discovery for Next-Generation Energy Storage Systems
- EN09 Innovations in Materials and Processes for Printed, Flexible and Stretchable Energy-autonomous Sensing Systems
- EN10 Critical Materials for Energy—Extraction, Functionality and Recycling
- EN11 Nitrogen-doped Carbon—From Fundamental Understanding to Applications in Electrochemical Devices
- EN12 Scientific Basis for Nuclear Waste Management

MATERIALS THEORY, COMPUTATION AND DATA SCIENCE

- MT01 Dynamics of Defects Under Extreme Environments
- MT02 Machine Learning in Action—Automated and Autonomous Experiments
- MT03 Synthesis of 2D Materials—Theory and Simulation
- MT04 Next-Generation AI-Catalyzed Scientific Workflow for Digital Materials Discovery

NANOMATERIALS

- NM01 Nanotubes, Graphene and Related Nanostructures
- NM02 Atomic Precision in Nanocluster Engineering
- NM03 Engineering Ultra-Thin Chalcogenide Films
- NM04 Exploring the Properties and Applications of Freestanding Membranes—From 2D to 3D
- NM05 Structural Control and Design of 2D Layered Materials and Heterostructures Towards Novel Functionalities
- NM06 Emerging Trends in Nano- and Micro-structured Bioinspired Materials
- NM07 Building Advanced Materials via Aggregation and Self-assembly

PROCESSING, MANUFACTURING AND SYNTHESIS

- PM01 Crystal Clear—Recent Advances in Biogenic and Synthetic, Organic and Inorganic Crystallization
- PM02 Additive and Digital Manufacturing of Multifunctional Materials
- PM03 Plasmas for Materials Science—Opportunities at the Interface

QUANTUM MATERIALS

- QT01 Chirality and Spin in Halide Perovskites
- QT02 Interfaces in Spintronics
- QT03 Topological Materials—Growth, Theoretical Models and Applications
- QT04 Molecular Quantum Systems
- QT05 Quantum Phenomena, Measurements and Engineering in Materials

SOFT MATERIALS AND BIOMATERIALS

- SB01 Electrifying Biomaterials—Frontiers of Biohybrid Devices
- SB02 Biotronics—Soft Ionic and Electronic Devices for Biological Applications
- SB03 Wood Nanoscience, Nanoengineering and Materials
- SB04 Materials and Devices for *in vitro* Cell—Tissue-Electronic Interfaces
- SB05 Biomaterials for Regenerative Engineering
- SB06 2D Materials for Theranostics
- SB07 3D Bioinspired Biomaterials
- SB08 Smart and Living Materials for Advanced Engineering Systems
- SB09 Fundamental Processes at Electroactive Biological Interfaces
- SB10 Soft Materials for Sensors and Actuators in e-textiles and e-skins
- SB11 Biological and Bioinspired Polymers
- SB12 Conductive Biological Materials
- SB13 Soft Materials for Harsh Environments

STRUCTURAL AND FUNCTIONAL MATERIALS

- SF01 Bulk Metallic Glasses
- SF02 High Entropy Materials
- SF03 Materials for Robotics
- SF04 Advanced Functional Materials for Extreme Conditions
- SF05 Structural and Functional Intermetallics
- SF06 From Robotic Towards Autonomous Materials

Meeting Chairs

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