CALL FOR ABSTRACTS

SUBMIT YOUR ABSTRACTS BY
MARCH 31, 2021

Technical Meeting and Exhibition

MS&T21

MATERIALS SCIENCE & TECHNOLOGY

GREATER COLUMBUS CONVENTION CENTER | COLUMBUS, OH, USA

OCTOBER 17 – 21, 2021

WHERE MATERIALS INNOVATION HAPPENS

Featuring:

The American Ceramic Society — ACerS Annual Meeting MS&T21

AIST Steel Properties & Applications MS&T21

TMS Fall Meeting MS&T21

MATSCITECH.ORG/MST21

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TECHNICAL PROGRAM

ADDITIVE MANUFACTURING

- Additive Manufacturing: Advanced Characterization for Industrial Applications
- Additive Manufacturing: Alloy Design to Develop New Feedstock Materials III
- Additive Manufacturing: Large-Scale Metal Additive Manufacturing
- Additive Manufacturing: Mechanisms and Mitigation of Aqueous Corrosion and High-temperature Oxidation
- Additive Manufacturing: Processing, Microstructure and Material Properties of Titanium-based Materials
- Additive Manufacturing of Metal: ICME Gaps: Material Property and Validation Data to Support Certification
- Additive Manufacturing of Metals: Equipment, Instrumentation and In-Situ Process Monitoring
- Additive Manufacturing of Metals: Microstructure, Properties and Alloy Development
- Additive Manufacturing Modeling and Simulation: Microstructure, Mechanics, and Process
- Additive Manufacturing of Ceramic-based Materials: Process Development, Materials, Process Optimization and Applications
- Additive Manufacturing of High and Ultra-High Temperature Ceramics and Composites: Processing, Characterization and Testing

ARTIFICIAL INTELLIGENCE

- Accelerating Materials Science with Big Data and Machine Learning
- AI for Big Data Problems in Advanced Imaging, Materials Modeling and Automated Synthesis
- Materials Informatics for Images and Multi-dimensional Datasets

BIOMATERIALS

- Next Generation Biomaterials
- Porous Materials for Biomedical Applications
- Surface Engineering and Characterization of Titanium and Titanium Alloys

CERAMIC AND GLASS MATERIALS

- Ceramic Matrix Composites
- Ceramics and Glasses Modeling by Simulations and Machine Learning
- Engineering Ceramics: Microstructure-Property-Performance Relations and Applications
- Glasses and Optical Materials: Current Issues and Functional Applications
- Journal of the American Ceramic Society Awards Symposium
- Manufacturing and Processing of Advanced Ceramic Materials
- Phase Transformations in Ceramics: Science and Applications
- Preceramic Polymers; Synthesis, Processing, Modeling, and Derived Ceramics
- Solid-state Optical Materials and Luminescence Properties
- Thermal Shock Resistance of Ceramics and Composites

ELECTRONIC AND MAGNETIC MATERIALS

- Advances in Dielectric Materials and Electronic Devices
- Functional Defects in Electroceramic Materials

PROGRAM COORDINATING COMMITTEE

Chair and TMS Representative
SARYU FENSIN, Los Alamos National Laboratory

ACerS Representative
TAYLOR SPARKS, University of Utah

AIST Representative
DANIEL BAKER, General Motors

ABSTRACT SUBMISSION DETAILS

Submit a 150-word abstract by **March 31**, **2021**. Visit matscitech.org/mst21 and follow the submission instructions. Conference organizers will receive electronic notification of all submitted abstracts.

NEED ASSISTANCE?

Should you have questions concerning the online abstract system, contact the programming administrator at (724) 776-9000, ext. 239 or at programming@programmaster.org.

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ENERGY

- Advanced Characterization of Materials for Nuclear, Radiation, and Extreme Environments
- Energy Materials for Sustainable Development
- Hybrid Organic—Inorganic Materials for Alternative Energy

FUNDAMENTALS AND CHARACTERIZATION

- Deformation-induced Phase Transformations
- Emergent Materials under Extremes and Decisive In Situ Characterizations
- Grain Boundaries, Interfaces, and Surfaces in Ceramics: Fundamental Structure—Property—Performance Relationships
- High Entropy Materials: Concentrated Solid Solutions, Intermetallics, Ceramics, Functional Materials and Beyond II
- Integration between Modeling and Experiments for Crystalline Metals: From Atomistic to Macroscopic Scales III
- Materials vs Minerals: Bridging the Gap between Materials Science and Earth and Planetary Science
- Nucleation of Solid-State Phase Transformations
- Probing Defect Properties and Behavior under Mechanical Deformation and Extreme Conditions
- Processing—Microstructure—Property Relationships of Titanium and Titanium Alloys

IRON AND STEEL (FERROUS ALLOYS)

- Advancements in Steel Structural Refinement
- Advances in Ferrous Metallurgy
- Advances in Metallic Coated Advanced Steels
- Developments in Plate and Line Pipe Steels
- Fracture of Steels: New Approaches to Modeling and Experimental Characterization
- New Frontiers in Physical Metallurgy of Steels
- Surface Hardening of Steels: Recent Developments and Deeper Understanding

MATERIALS-ENVIRONMENT INTERACTIONS

- Advanced Coatings for Wear and Corrosion Protection
- Advanced Materials for Harsh Environments
- Coatings to Protect Materials from Extreme Environments
- Computation Assisted Materials Development for Improved Corrosion Resistance
- Progressive Solutions to Improve Corrosion Resistance for Nuclear Waste Storage
- Thermodynamics of Materials in Extreme Environments

MODELING

- Multi Scale Modeling of Microstructure Deformation in Material Processing
- Phonon Properties of Materials: Modeling and Experimentation

NANOMATERIALS

- Controlled Synthesis, Processing, and Applications of Structural and Functional Nanomaterials
- Mechanistic Insights into the Synergistic Properties of Nanocomposites
- Nanotechnology for Energy, Environment, Electronics, Healthcare and Industry

PROCESSING AND MANUFACTURING

- 13th Symposium on Green and Sustainable Technologies for Materials Manufacturing and Processing
- Advances in Surface Engineering
- Aspects of Conventional Powder Metallurgy
- Development of Light Weight Alloys and Composites
- Light Metal Technology
- Powder Metallurgical Components in High Performance Applications
- Processing and Performance of Materials Using Microwaves, Electric and Magnetic Fields, Ultrasound, Lasers, and Mechanical Work: The Rustum Roy Symposium
- Surface Finishing of Additive Manufactured Metals
- Synthesis, Characterization, Modeling and Applications of Functional Porous Materials

SPECIAL TOPICS

- 50 Years of Characterizing Structural Ceramics and Glasses: Recognizing the Contributions of George Quinn
- ACerS Education and Professional Development Symposium
- ACerS Frontiers of Science and Society: The Rustum Roy Lecture
- ACerS Richard M. Fulrath Award Session
- ACerS/EPDC: Arthur L. Friedberg Ceramic Engineering Tutorial and Lecture
- AIST Adolf Martens Memorial Steel Lecture
- Curricular Innovations and Continuous Improvement of Academic Programs (and Satisfying ABET along the Way): The Elizabeth Judson Memorial Symposium
- Online Teaching Best Practices for the COVID Era and Beyond
- Research Lightning Talks

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COLUMBUS, OH, USA

The American Ceramic Society
550 Polaris Parkway, Suite 510
Westerville, OH 43082-7132 USA

WHERE MATERIALS INNOVATION HAPPENS

Organizers:

The American Ceramic Society www.ceramics.org

AIST Association for Iron & Steel Technology

TMS The Minerals, Metals & Materials Society

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