



CALL FOR PAPERS

Abstract Submission Opens
September 24, 2020**Abstract Submission Deadline**
October 29, 2020**Spring Meeting registrations include MRS Membership July 1, 2021 – June 30, 2022**

MRS recognizes the global pandemic may have long-lasting effects on face-to-face meetings. We anticipate seeing you in Seattle, but be assured we will continue to comply with COVID-19 guidelines in 2021. Hybrid options will be considered as needed. Submit your abstract for review by the deadline and we will be in touch with authors on a timely basis as we determine the best – and safest – path forward.

BROADER IMPACT

BIO1 Incorporating Sustainability into Materials Science Education, Training and Public Outreach

CHARACTERIZATION AND MODELINGCT01 *In Situ/Operando* Characterization of Solid–Liquid Interfaces for Sustainable Energy, Water and EnvironmentCT02 *In Situ* TEM Characterization of Dynamic Processes During Materials Synthesis and Processing

CT03 Imaging Materials with X-Rays—Recent Advances with Synchrotron and Laboratory Sources

CT04 Predictive Synthesis and Decisive Characterization of Emerging Quantum Materials

CT05 Artificial Intelligence and Automation for Materials Design

CT06 From Quantum Mechanics to Materials Engineering—Recent Progress on the Development and Novel Applications of *Ab Initio* Methods in Materials Science

CT07 Excited-State Properties of Materials—Theory and Computation

CT08 Mechanochemical Coupling in Chemical Treatment and Materials Degradation—Modeling and Experimentation

ELECTRONICS AND OPTICS

EL01 Organic Semiconductors and Characterization Techniques for Emerging Electronic Devices

EL02 Fundamentals of Halide Semiconductors for Optoelectronics

EL03 Emerging Ionic Semiconductors—Research and Applications

EL04 Ultrawide Bandgap Materials, Devices and Systems

EL05 Advanced Functional, Linear/Nonlinear and Quantum Materials for Metasurfaces, Metamaterials and Nanophotonics

EL06 Molecular and Colloidal Plasmonics—Synthesis and Applications

EL07 Bioelectronics—Fundamentals and Applications

EL08 Next-Generation Interconnects—Materials, Processes and Integration

EL09 Ferroelectricity and Negative Capacitance—Fundamentals, Applications and Controversies

ENERGY AND SUSTAINABILITY

EN01 Sustainable Catalysis—Novel Materials for Energy Conversion Beyond Photocatalysis

EN02 Sustainable Routes to Fuels and Commodity Chemicals Production via Electrochemical Methods

EN03 Intercalation Energy Storage Materials and Systems for Beyond Li-Ion Batteries

EN04 Towards High Safety and High Energy Density—Solid-State Batteries

EN05 Materials Challenges and Opportunities in Concentrated Solar Power Technologies

EN06 Frontier Energy Sciences in Halide Perovskites

EN07 Thin-Film Compound Semiconductor Photovoltaics

EN08 Progress in Understanding Charge Transfer at Electrochemical Interfaces in Batteries

EN09 Advances in Conversion Electrodes for Reliable Electrochemical Energy Storage

EN10 Transformation, Reaction and Organization at Functional Interfaces for Sustainable Energy Systems and Environmental Managements

NANOSCALE AND QUANTUM MATERIALS

NM01 Superconductors as Quantum Materials

NM02 Superconducting Materials and Applications

NM03 Topological and Quantum Phenomena in Intermetallic Compounds and Heterostructures

NM04 Magnetic Skyrmions and Topological Effects in Materials and Nanostructures

NM05 Functional Nanoparticle Materials—Synthesis, Property and Applications

NM06 Manipulation and Detection of Physical Properties of Two-Dimensional Quantum Materials

NM07 Beyond Graphene 2D Materials—Synthesis, Properties and Device Applications

NM08 Nanoscale Heat Transport—Fundamentals

NM09 Nanogenerators and Piezotronics

SOFT MATERIALS AND BIOMATERIALS*Biomaterials/Medical Applications*

SM01 Materials Modulating Stem Cells and Immune Response

SM02 Next-Generation Antimicrobial Materials—Combating Multidrug Resistance and Biofilm Formation

SM03 Advanced Neural Materials and Devices

SM04 Beyond Nano—Challenges and Opportunities in Drug Delivery

Multifunctional Materials from Design to Applications

SM05 Progress in Multimaterials and Multiphase-Based Multifunctional Materials

SM06 Materials and Fabrication Schemes for Robotics

SM07 Building Advanced Materials by Self-Assembly

SM08 Next-Generation Materials and Technologies for 3D Printing and Bioprinting

SM09 Peptide and Protein Design for Responsive Materials

Sustainable Systems/Processes

SM10 Progress in Green Chemistry Approaches for Sustainable Polymer Materials

SM11 Design and Analysis of Bioderived and Bioinspired Multifunctional Materials

SM12 Bioinspired Macromolecular Assembly and Hybrid Materials—From Fundamental Science to Applications

SM13 Advances in Membrane and Water Treatment Materials for Sustainable Environmental Remediation

STRUCTURAL MATERIALS

ST01 Mechanical Behavior at Micro/Nano-Scale

ST02 *In Situ* Mechanical Testing of Materials at Small Length Scales, Modeling and Data Analysis

ST03 Design, Synthesis and Characterization of Architected Materials for Structural Applications

ST04 High Entropy Materials—From Fundamentals to Potential Applications

ST05 Mechanics of Energy Storage Materials

FOLLOW THE MEETING!#S21MRS  **MRS MATERIALS RESEARCH SOCIETY®**
Advancing materials. Improving the quality of life.mrs.org/spring2021**MEETING CHAIRS****Linyou Cao**

Atomix Inc (DBA 2D Layer)

Lena Kourkoutis

Cornell University

Andreas Lendlein

Helmholtz-Zentrum Geesthacht

Xiaolin Li

Pacific Northwest National Laboratory

Seung Min Han

Korea Advanced Institute of Science and Technology

Don't Miss These Future MRS Meetings!**2021 MRS Fall Meeting & Exhibit**

November 28–December 3, 2021, Boston, Massachusetts

2022 MRS Spring Meeting & Exhibit

May 8–13, 2022, Hawaii



THE ADVANCED MATERIALS MANUFACTURER®

1 H 1.00794 Hydrogen																	2 He 4.002602 Helium
3 Li 6.941 Lithium	4 Be 9.012182 Beryllium											5 B 10.811 Boron	6 C 12.0107 Carbon	7 N 14.007 Nitrogen	8 O 15.9994 Oxygen	9 F 18.9984032 Fluorine	10 Ne 20.1797 Neon
11 Na 22.98976928 Sodium	12 Mg 24.305 Magnesium											13 Al 26.9815386 Aluminum	14 Si 28.0855 Silicon	15 P 30.973762 Phosphorus	16 S 32.065 Sulfur	17 Cl 35.453 Chlorine	18 Ar 39.948 Argon
19 K 39.0983 Potassium	20 Ca 40.078 Calcium	21 Sc 44.955912 Scandium	22 Ti 47.867 Titanium	23 V 50.9415 Vanadium	24 Cr 51.9961 Chromium	25 Mn 54.938045 Manganese	26 Fe 55.845 Iron	27 Co 58.933195 Cobalt	28 Ni 58.6934 Nickel	29 Cu 63.546 Copper	30 Zn 65.38 Zinc	31 Ga 69.723 Gallium	32 Ge 72.64 Germanium	33 As 74.9216 Arsenic	34 Se 78.96 Selenium	35 Br 79.904 Bromine	36 Kr 83.798 Krypton
37 Rb 85.4678 Rubidium	38 Sr 87.62 Strontium	39 Y 88.90585 Yttrium	40 Zr 91.224 Zirconium	41 Nb 92.90638 Niobium	42 Mo 95.96 Molybdenum	43 Tc (98.0) Technetium	44 Ru 101.07 Ruthenium	45 Rh 102.9055 Rhodium	46 Pd 106.42 Palladium	47 Ag 107.8682 Silver	48 Cd 112.411 Cadmium	49 In 114.818 Indium	50 Sn 118.710 Tin	51 Sb 121.75 Antimony	52 Te 127.5 Tellurium	53 I 126.90447 Iodine	54 Xe 131.293 Xenon
55 Cs 132.9054 Cesium	56 Ba 137.327 Barium	57 La 138.90547 Lanthanum	58 Ce 140.12 Cerium	59 Pr 140.90765 Praseodymium	60 Nd 144.242 Neodymium	61 Pm (145) Promethium	62 Sm 150.36 Samarium	63 Eu 151.964 Europium	64 Gd 157.25 Gadolinium	65 Tb 158.92535 Terbium	66 Dy 162.5 Dysprosium	67 Ho 164.93032 Holmium	68 Er 167.259 Erbium	69 Tm 168.93421 Thulium	70 Yb 173.054 Ytterbium	71 Lu 174.9668 Lutetium	
87 Fr 223 Francium	88 Ra (226) Radium	89 Ac (227) Actinium	90 Th 232.0377 Thorium	91 Pa 231.03688 Protactinium	92 U 238.02891 Uranium	93 Np (237) Neptunium	94 Pu (244) Plutonium	95 Am (243) Americium	96 Cm (247) Curium	97 Bk (247) Berkelium	98 Cf (251) Californium	99 Es (252) Einsteinium	100 Fm (257) Fermium	101 Md (258) Mendelevium	102 No (259) Nobelium	103 Lr (262) Lawrencium	

72 Ce 140.116 Cerium	73 Pr 140.90765 Praseodymium	74 Nd 144.242 Neodymium	75 Pm (145) Promethium	76 Sm 150.36 Samarium	77 Eu 151.964 Europium	78 Gd 157.25 Gadolinium	79 Tb 158.92535 Terbium	80 Dy 162.5 Dysprosium	81 Ho 164.93032 Holmium	82 Er 167.259 Erbium	83 Tm 168.93421 Thulium	84 Yb 173.054 Ytterbium	85 Lu 174.9668 Lutetium
90 Th 232.0377 Thorium	91 Pa 231.03688 Protactinium	92 U 238.02891 Uranium	93 Np (237) Neptunium	94 Pu (244) Plutonium	95 Am (243) Americium	96 Cm (247) Curium	97 Bk (247) Berkelium	98 Cf (251) Californium	99 Es (252) Einsteinium	100 Fm (257) Fermium	101 Md (258) Mendelevium	102 No (259) Nobelium	103 Lr (262) Lawrencium

Now Invent.™

The Next Generation of Material Science Catalogs

Over 15,000 certified high purity laboratory chemicals, metals, & advanced materials and a state-of-the-art Research Center. Printable GHS-compliant Safety Data Sheets. Thousands of new products. And much more. All on a secure multi-language "Mobile Responsive" platform.

American Elements opens a world of possibilities so you can Now Invent!

www.americanelements.com