



# PREREGISTRATION OPENS MID-JANUARY!

Spring Meeting registrations include MRS Membership July 1, 2020 – June 30, 2021

## CHARACTERIZATION AND THEORY

- CT01 Artificial Intelligence for Material Design, Processing and Characterizations
- CT02 Halide Perovskites—  
From Lead-Free Materials to Advanced Characterization and Deposition Approaches
- CT03 Expanding the Frontiers of Actinide Materials Science  
Through Experiment and Theory
- CT04 Tailored Interphases for High Strength and Functional Composites—  
Advances in Experiments, Simulations and AI-Based Design
- CT05 Defects, Order and Disorder in Structural and Functional Fluorite-Related Compounds
- CT06 Local and Global Fluctuations in Plasticity
- CT07 Micro-Assembly Technologies and Heterogeneous Integration—  
Fundamentals to Applications
- CT08 Crystallization via Nonclassical Pathways in Synthetic, Biogenic  
and Geologic Environments

## ELECTRONICS AND PHOTONICS

- EL01 Surfaces and Interfaces in Electronics and Photonics
- EL02 Advanced Manufacturing of Mixed Dimensional Heterostructures
- EL03 Novel Approaches and Material Platforms for Enhanced Light–Matter Interaction,  
Plasmonics and Metasurfaces
- EL04 Materials for Nonlinear and Nonreciprocal Photonics
- EL05 Scalable Photonic Material Platforms—Applications and Manufacturing Advances
- EL06 Photonic Materials for Information Processing and Computing
- EL07 Fundamental Mechanisms and Materials Discovery for Brain-Inspired Computing—  
Theory and Experiment
- EL08 Neuromorphic Materials and Devices for Bioinspired Computing  
and Artificial Intelligence
- EL09 Phase-Change Materials for Electronic and Photonic Nonvolatile Memory  
and Neuro-Inspired Computing
- EL10 Electroactive Ceramics for Information Technologies and Flexible Electronics
- EL11 Lead-Free Ferroelectrics and Their Emerging Applications
- EL12 Ferroc Materials and Heterostructures for Electronics and Data Storage
- EL13 Processing, Microstructure and Multifunctioning of Organic Semiconductors
- EL14 New Materials Design for Organic Semiconductors Through Multimodal  
Characterization and Computational Techniques
- EL15 Ultra-Wide Bandgap Materials, Devices and Systems

## ENERGY, STORAGE AND CONVERSION

- EN01 Next Steps for Perovskite Photovoltaics and Beyond
- EN02 Caloric Materials for Sustainable Cooling Applications
- EN03 Solar-Energy Conversion for Sustainable Water-Energy-Environmental Nexus
- EN04 Dual-Ion Batteries as an Emerging Technology for Sustainable Energy Storage—  
Anion Storage Materials and Full Dual-Ion Battery Devices
- EN05 Low-Cost Aqueous Rechargeable Battery Technologies
- EN06 Rational Designed Hierarchical Nanostructures for Photocatalytic System
- EN07 Next-Generation Electrical Energy Storage—Beyond Intercalation-Type Lithium Ion
- EN08 Multivalent-Based Electrochemical Energy Storage
- EN09 Flow-Based Open Electrochemical Systems
- EN10 Emerging Inorganic Semiconductors for Solar-Energy Conversion
- EN11 Materials, Modeling and Technoeconomic Impacts for Large-Scale  
Hydrogen and Energy Applications
- EN12 Materials for Safe and Sustainable Electrochemical Energy Storage

## NANOSCALE AND QUANTUM MATERIALS

- NM01 Nanodiamonds—Synthesis, Properties and Applications
- NM02 Colloidal Nanoparticles—From Synthesis to Applications
- NM03 Nanomanipulation of Materials
- NM04 Nanosafety
- NM05 1D Carbon Electronics—From Synthesis to Applications
- NM06 Theory and Characterization of 2D Materials—  
Bridging Atomic Structure and Device Performance
- NM07 Two-Dimensional Quantum Materials Out of Equilibrium
- NM08 2D Atomic and Molecular Sheets—  
Electronic and Photonic Properties and Device Applications
- NM09 Layered van der Waals Heterostructures—  
Synthesis, Physical Phenomena and Devices
- NM10 Synthesis, Properties and Applications of 2D MXenes
- NM11 Topological and Quantum Phenomena in Oxides and Oxide Heterostructures
- NM12 Synthesis and Control of Dirac or Topological Materials

## SOFT MATERIALS AND BIOMATERIALS

- SM01 Organ-on-a-Chip—Toward Personalized Precision Medicine
- SM02 Progress in Open-Space Microfluidics—  
From Nanoscience, Manufacturing to Biomedicine
- SM03 Flexible, Stretchable Biointegrated Materials, Devices and Related Mechanics
- SM04 Fundamental Materials, Devices and Fabrication Innovations for  
Biointegrated and Bioinspired Electronics
- SM05 Engineered Functional Multicellular Circuits, Devices and Systems
- SM06 Soft Organic and Hybrid Materials for Biointerfacing—  
Materials, Processes and Applications
- SM07 Bioinspired Synthesis and Manufacturing of Materials
- SM08 Emerging Strategies and Applications in Drug Delivery
- SM09 Advances in 3D Printing for Medical Applications

## Meeting Chairs

**Qing Cao** University of Illinois at Urbana-Champaign  
**Miyoung Kim** Seoul National University  
**Rajesh Naik** Air Force Research Laboratory  
**James M. Rondinelli** Northwestern University  
**Hong Wang** Southern University of Science and Technology

## Don't Miss These Future MRS Meetings!

**2020 MRS Fall Meeting & Exhibit**  
November 29–December 4, 2020, Boston, Massachusetts

**2021 MRS Spring Meeting & Exhibit**  
April 19–23, 2021, Seattle, Washington

## FOLLOW THE MEETING!

#S20MRS  

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|-----------------------------------|----------------------------------|------------------------------------|-------------------------------------|---------------------------------------|----------------------------------|------------------------------------|---------------------------------|----------------------------------|------------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------------------|----------------------------------|-----------------------------------|----------------------------------|---------------------------------|------------------------------------|--------------------------------|------------------------------------|-----------------------------|----------------------------------|-----------------------------|
| 1<br>H<br>1.00784<br>Hydrogen     |                                  |                                    |                                     |                                       |                                  |                                    |                                 |                                  |                                    |                                   |                                   |                                  |                                 |                                  |                                   |                                  | 2<br>He<br>4.002602<br>Helium   |                                    |                                |                                    |                             |                                  |                             |
| 3<br>Li<br>6.941<br>Lithium       | 4<br>Be<br>9.012182<br>Beryllium |                                    |                                     |                                       |                                  |                                    |                                 |                                  |                                    |                                   |                                   |                                  |                                 |                                  |                                   |                                  |                                 | 5<br>B<br>10.811<br>Boron          | 6<br>C<br>12.0107<br>Carbon    | 7<br>N<br>14.0067<br>Nitrogen      | 8<br>O<br>15.9994<br>Oxygen | 9<br>F<br>18.9984032<br>Fluorine | 10<br>Ne<br>20.1797<br>Neon |
| 11<br>Na<br>22.98976928<br>Sodium | 12<br>Mg<br>24.304<br>Magnesium  |                                    |                                     |                                       |                                  |                                    |                                 |                                  |                                    |                                   |                                   |                                  |                                 |                                  |                                   |                                  |                                 | 13<br>Al<br>26.9815385<br>Aluminum | 14<br>Si<br>28.0855<br>Silicon | 15<br>P<br>30.973762<br>Phosphorus | 16<br>S<br>32.06<br>Sulfur  | 17<br>Cl<br>35.453<br>Chlorine   | 18<br>Ar<br>39.948<br>Argon |
| 19<br>K<br>39.0983<br>Potassium   | 20<br>Ca<br>40.078<br>Calcium    | 21<br>Sc<br>44.955912<br>Scandium  | 22<br>Ti<br>47.887<br>Titanium      | 23<br>V<br>50.9415<br>Vanadium        | 24<br>Cr<br>51.9961<br>Chromium  | 25<br>Mn<br>54.938045<br>Manganese | 26<br>Fe<br>55.845<br>Iron      | 27<br>Co<br>58.933195<br>Cobalt  | 28<br>Ni<br>58.6934<br>Nickel      | 29<br>Cu<br>63.546<br>Copper      | 30<br>Zn<br>65.38<br>Zinc         | 31<br>Ga<br>69.723<br>Gallium    | 32<br>Ge<br>72.64<br>Germanium  | 33<br>As<br>74.9216<br>Arsenic   | 34<br>Se<br>78.96<br>Selenium     | 35<br>Br<br>79.904<br>Bromine    | 36<br>Kr<br>83.798<br>Krypton   |                                    |                                |                                    |                             |                                  |                             |
| 37<br>Rb<br>85.4678<br>Rubidium   | 38<br>Sr<br>87.62<br>Strontium   | 39<br>Y<br>88.90585<br>Yttrium     | 40<br>Zr<br>91.224<br>Zirconium     | 41<br>Nb<br>92.90638<br>Niobium       | 42<br>Mo<br>95.96<br>Molybdenum  | 43<br>Tc<br>(98.9)<br>Technetium   | 44<br>Ru<br>101.07<br>Ruthenium | 45<br>Rh<br>102.9055<br>Rhodium  | 46<br>Pd<br>106.42<br>Palladium    | 47<br>Ag<br>107.8682<br>Silver    | 48<br>Cd<br>112.411<br>Cadmium    | 49<br>In<br>114.818<br>Indium    | 50<br>Sn<br>118.71<br>Tin       | 51<br>Sb<br>121.76<br>Antimony   | 52<br>Te<br>127.6<br>Tellurium    | 53<br>I<br>126.90447<br>Iodine   | 54<br>Xe<br>131.293<br>Xenon    |                                    |                                |                                    |                             |                                  |                             |
| 55<br>Cs<br>132.9054<br>Cesium    | 56<br>Ba<br>137.327<br>Barium    | 57<br>La<br>138.90547<br>Lanthanum | 58<br>Ce<br>140.12<br>Cerium        | 59<br>Pr<br>140.90766<br>Praseodymium | 60<br>Nd<br>144.242<br>Neodymium | 61<br>Pm<br>(145)<br>Promethium    | 62<br>Sm<br>150.36<br>Samarium  | 63<br>Eu<br>151.964<br>Europium  | 64<br>Gd<br>157.25<br>Gadolinium   | 65<br>Tb<br>158.92535<br>Terbium  | 66<br>Dy<br>162.5<br>Dysprosium   | 67<br>Ho<br>164.93032<br>Holmium | 68<br>Er<br>167.259<br>Erbium   | 69<br>Tm<br>168.93421<br>Thulium | 70<br>Yb<br>173.054<br>Ytterbium  | 71<br>Lu<br>174.967<br>Lutetium  |                                 |                                    |                                |                                    |                             |                                  |                             |
| 87<br>Fr<br>(223)<br>Francium     | 88<br>Ra<br>(226)<br>Radium      | 89<br>Ac<br>(227)<br>Actinium      | 104<br>Rf<br>(261)<br>Rutherfordium | 105<br>Db<br>(262)<br>Dubnium         | 106<br>Sg<br>(263)<br>Seaborgium | 107<br>Bh<br>(264)<br>Bohrium      | 108<br>Hs<br>(265)<br>Hassium   | 109<br>Mt<br>(266)<br>Meitnerium | 110<br>Ds<br>(267)<br>Darmstadtium | 111<br>Rg<br>(268)<br>Roentgenium | 112<br>Cn<br>(269)<br>Copernicium | 113<br>Nh<br>(270)<br>Nihonium   | 114<br>Fl<br>(271)<br>Flerovium | 115<br>Mc<br>(272)<br>Moscovium  | 116<br>Lv<br>(273)<br>Livermorium | 117<br>Ts<br>(274)<br>Tennessine | 118<br>Og<br>(277)<br>Oganesson |                                    |                                |                                    |                             |                                  |                             |

|                                 |                                       |                                  |                                 |                                |                                 |                                  |                                  |                                  |                                  |                               |                                   |                                  |                                  |
|---------------------------------|---------------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------|-----------------------------------|----------------------------------|----------------------------------|
| 72<br>Ce<br>140.116<br>Cerium   | 73<br>Pr<br>140.90766<br>Praseodymium | 74<br>Nd<br>144.242<br>Neodymium | 75<br>Pm<br>(145)<br>Promethium | 76<br>Sm<br>150.36<br>Samarium | 77<br>Eu<br>151.964<br>Europium | 78<br>Gd<br>157.25<br>Gadolinium | 79<br>Tb<br>158.92535<br>Terbium | 80<br>Dy<br>162.5<br>Dysprosium  | 81<br>Ho<br>164.93032<br>Holmium | 82<br>Er<br>167.259<br>Erbium | 83<br>Tm<br>168.93421<br>Thulium  | 84<br>Yb<br>173.054<br>Ytterbium | 85<br>Lu<br>174.967<br>Lutetium  |
| 90<br>Th<br>232.0377<br>Thorium | 91<br>Pa<br>231.03688<br>Protactinium | 92<br>U<br>238.02891<br>Uranium  | 93<br>Np<br>(237)<br>Neptunium  | 94<br>Pu<br>(244)<br>Plutonium | 95<br>Am<br>(243)<br>Americium  | 96<br>Cm<br>(247)<br>Curium      | 97<br>Bk<br>(247)<br>Berkelium   | 98<br>Cf<br>(251)<br>Californium | 99<br>Es<br>(252)<br>Einsteinium | 100<br>Fm<br>(257)<br>Fermium | 101<br>Md<br>(258)<br>Mendelevium | 102<br>No<br>(259)<br>Nobelium   | 103<br>Lr<br>(262)<br>Lawrencium |

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