



2018 **MRS**[®] SPRING MEETING & EXHIBIT
April 2–6, 2018 | Phoenix, Arizona

NEW LATE BREAKING ABSTRACTS

ACCEPTED DECEMBER 1, 2017– JANUARY 11, 2018

CHARACTERIZATION, MODELING AND THEORY

- CM01 Exploring Nanoscale Physical Properties of Materials via Local Probes
- CM02 *In Situ* TEM Characterization of Dynamic Processes During Materials Synthesis and Processing
- CM03 Investigating Nanostructures with X-Rays—Fundamentals and Applications
- CM04 *In Situ* and *Operando* Characterization of Materials and Devices by X-Ray and Neutron
- CM05 Strain Localization, Avalanches and Intermittent Deformation Mechanisms
- CM06 Frontiers in Functional Imaging in Aberration-Corrected Electron Microscopy

ELECTRONIC AND PHOTONIC MATERIALS

- EP01 Materials for Beyond the Roadmap Devices in Logic, Memory and Power
- EP02 Excitonic Materials—Physics, Characterization and Devices
- EP03 Materials and Processes for Nonlinear Optics and Nonlinear Photonics
- EP04 Reliability and Materials Issues of Semiconductor Optical and Electron Devices and Materials
- EP05 Emerging Light-Emitting Materials and Devices—Halide Perovskite and Low-Dimensional Nanoscale Emitters
- EP06 Materials, Devices and Systems for Machine Learning and Neuromorphic Computing
- EP07 Phase-Change Materials and Their Applications—Memories, Photonics, Displays and Non-von Neumann Computing
- EP08 Advanced Polymer Semiconductors—Key Properties and High-Performance Electronics

ENERGY MATERIALS AND TECHNOLOGIES

- EN01 Solid-Solid Interfaces in Batteries, Energy Storage and Conversion—Diagnostic and Modeling
- EN02 Advances in Perovskite Solar Cell Devices and Applications
- EN03 Superconducting Materials—From Basic Science to Applications
- EN04 Advanced Materials for Carbon Capture and Other Important Gas Separations
- EN05 Field-Responsive Composites for Sustainable Energy
- EN06 Safer and More Energy-Dense Rechargeable Batteries
- EN07 Issues, Challenges and Opportunities in Actinide Materials
- EN08 Low-Cost Tandem Photovoltaic Cells
- EN09 Materials and Systems for Grid Energy Storage—Redox Flow Batteries
- EN10 Thermoelectric Materials, Devices and Applications
- EN11 Nanomaterials for the Water and Energy Nexus
- EN12 Hierarchical Materials for Nuclear Waste Management
- EN13 Capacitive Energy Storage—Fundamentals, Materials and Devices
- EN14 Materials Science and Device Engineering for Safe and Long-Life Electrochemical Energy Storage
- EN15 Novel Materials Physics of Perovskite Semiconductors
- EN16 Combining Materials, Technologies and Societal Awareness to Harvest Natural and Human-Made Energy Sources
- EN17 Fundamental Materials Science to Enable the Performance and Safety of Nuclear Technologies
- EN18 Multiscale Designing and Constructing Photocatalytic Materials for Solar Fuels
- EN19 Novel Inorganic Semiconductors for Optoelectronics and Solar Energy
- EN20 Deposition, Transformation and Reaction at Functional Interfaces for Electrochemical Energy Systems
- EN21 Next-Generation Solid-State Super Ion Conductors

MANUFACTURING

- MA01 Advanced Materials for Analog and Digital Functional Printing
- MA02 Organic Electronics—Processing, Microstructure and Multifunctioning
- MA03 Directed Matter—Atom-by-Atom Assembly with Electron Beams and Scanning Probes
- MA04 Advances in Additive Manufacturing—Materials, Processes and Devices
- MA05 Dynamic Materials and Textiles for Next-Generation Clothing

NANOMATERIALS

- NM01 Nanomaterials and Devices by Cluster Beam Deposition
- NM02 Active Colloids with Order
- NM03 Rational Designed Hierarchical Nanostructures for Photocatalytic Systems
- NM04 Porous Materials and Nanocomposites for Catalysis
- NM05 Colloidal Nanoparticles—From Synthesis to Applications
- NM06 Nanodiamonds—Synthesis, Characterization, Surface Chemistry and Applications
- NM07 Nanoscale Magnetic Structures and Materials
- NM08 Graphene Oxide Liquid Crystals and 2D Soft Material Systems
- NM09 Novel Approaches and Material Platforms for Plasmonics and Metamaterials
- NM10 Nanometallic Materials by Design
- NM11 Deformable Atomically Thin Materials—Mechanics, Materials and Devices
- NM12 Transitioning Quantum Dots from Benchtop to Industry
- NM13 Functionalization of Topological Materials

SOFT MATERIALS AND BIOMATERIALS

- SM01 Soft Materials, Sensors, Electronics, Displays and Actuators—Functional Components for Soft Machines and Robots
- SM02 Immune Modulatory Materials—From Design to Translational Applications
- SM03 Engineered Functional Biointerfaces—From Electronics and Nanomaterials to Biocircuits and Bionanomaterials
- SM04 Understanding and Controlling the Structure and Function of Biomolecules at Material Interfaces
- SM05 Biomaterials for Tissue Interface Regeneration
- SM06 The Future of Neuroengineering—Relevant *In Vivo* Technology
- SM07 Functional (Bio)polymers in Energy and Environment Applications
- SM08 Smart Hydrogels and Living Materials

Meeting Chairs

Edward Botchwey Georgia Institute of Technology/Emory University
Catherine Dubourdieu Helmholtz-Zentrum Berlin
Quanxi Jia University at Buffalo, The State University of New York/
Los Alamos National Laboratory
Shane Kennett Exponent Failure Analysis Associates
Cheolmin Park Yonsei University

www.mrs.org/spring2018

Don't Miss These Future MRS Meetings!

2018 MRS Fall Meeting & Exhibit
November 25–30, 2018, Boston, Massachusetts

2019 MRS Spring Meeting & Exhibit
April 22–26, 2019, Phoenix, Arizona

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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 14.0067 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 121.76 Antimony	52 Te 127.6 Tellurium	53 I 126.90447 Iodine	54 Xe 131.293 Xenon
55 Cs 132.9054 Cesium	56 Ba 137.327 Barium	57 La 138.9047 Lanthanum	58 Ce 140.12 Cerium	59 Pr 140.90766 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 174.967 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	

58 Ce 140.116 Cerium	59 Pr 140.90766 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 174.967 Lutetium
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