



CALL FOR PAPERS

Advanced Inorganic and Ceramic Materials

Research on inorganic materials and advanced ceramics has resulted in major advances in energy, electronic devices, high-temperature applications, and optoelectronic and magnetic materials. These advances are underpinned by innovations in synthesis and processing, nanoscale science, advances in analytical and computational tools, discovery of new materials with extraordinary properties, and fundamental understanding of structure–property relations. *JMR* seeks to capture the perspectives of professionals from different disciplines toward understanding the need and outcomes of current inorganic, ceramics research.

Suggested topical areas include, but are not limited to:

- ◆ 2D materials including graphene, dichalcogenides, and mxenes
- ◆ Single crystals and glasses
- ◆ Novel powder and ceramic densification including cold and flash sintering
- ◆ Microstructure and grain-boundary structuring including complexions, textured films and, bulk materials
- ◆ Microstructure–property studies
- ◆ Nanomaterials and nanoscience
- ◆ Novel thermodynamics-directed materials such as high entropy solids and thermodynamic-stabilized materials
- ◆ Batteries, fuel and solar cells, thermoelectrics
- ◆ Ferroelectric and functional materials
- ◆ High-temperature materials including thermal-barrier coatings
- ◆ *In situ* and *in silico* studies
- ◆ Thin-film processing
- ◆ Additive manufacturing

EDITOR-IN-CHIEF

Gary L. Messing, The Pennsylvania State University, USA

MANUSCRIPT SUBMISSION

To be considered for the journal, new and previously unpublished results significant to the development of this field should be presented. The manuscripts must be submitted via the *JMR* electronic submission system. **Note our manuscript submission minimum length of 3250 words, excluding figures, captions, and references, with at least 6 and no more than 10 figures and tables combined. Review articles may be longer but must be pre-approved by proposal to the Editor-in-Chief via jmr@mrs.org. The proposal form and author instructions may be found at mrs.org/jmr-instructions.** All manuscripts will be reviewed in a normal but expedited fashion.

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Please direct questions to jmr@mrs.org



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

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