

Submission Deadline—March 1, 2016



CALL FOR PAPERS

## Reinventing Boron Chemistry and Materials for the 21st Century

Boron-based compounds are an ideal platform for developing new technologies due to their thermal and chemical stability, mechanical strength, and electrical and magnetic properties. Boron's capability to adopt a wide range of bonding configurations facilitates the creation of structurally-rich compounds with diverse electrical and mechanical properties. This Focus Issue of the *Journal of Materials Research* will highlight exciting recent developments in understanding, designing, and preparing boron-containing materials.

A multitude of potential applications exists for these compounds, including coatings for thermal and wear protection, high-field permanent magnets, grinding media, thermoelectric devices, neutron detectors, and superconductors. To advance these engineering applications, a fundamental understanding of how composition and microstructure can be used to control physical properties is needed, in addition to accessible processing methods with which to reliably produce these materials.

The editors encourage contributed papers concerned broadly with boron-based materials research. Both fundamental and applied subjects are welcome.

### Potential topics of interest include, but are not limited to, the following areas:

- ◆ Processing methods for engineering microstructure and grain boundaries
- ◆ Theoretical modeling and design of boride compounds
- ◆ Development of boron-based electronics for sensors
- ◆ Novel routes for synthesizing boron compounds
- ◆ Boron-containing magnetic materials
- ◆ Methods for the preparation of boride nanomaterials
- ◆ Boron-based materials for ultra high temperature, oxidative, and corrosive environments
- ◆ New boride compositions, phases, and polymorphs
- ◆ Boron materials for energy storage and generation
- ◆ Engineering boron surfaces
- ◆ Properties related to ionic transport and storage

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### MANUSCRIPT SUBMISSION

To be considered for this issue, new and previously unpublished results significant to the development of this field should be presented.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 by **March 1, 2016**. Manuscripts submitted after this deadline will not be considered for the issue due to time constraints on the review process. **Submission instructions may be found at [www.mrs.org/jmr-instructions](http://www.mrs.org/jmr-instructions)**. Please select "Focus issue: *Reinventing Boron Chemistry and Materials for the 21st Century*" as the manuscript type. **Note our manuscript submission minimum length of 6,000 words**. All manuscripts will be reviewed in a normal but expedited fashion. Papers submitted by the deadline and subsequently accepted will be published in the Focus Issue. Other manuscripts that are acceptable but cannot be included in the issue will be scheduled for publication in a subsequent issue of *JMR*.

**[jmr@mrs.org](mailto:jmr@mrs.org)**

Please contact [jmr@mrs.org](mailto:jmr@mrs.org) with questions.

## CALL FOR NOMINATIONS

# Paper of the Year Award

The *JMR* Paper of the Year Award recognizes excellence in advancing materials knowledge through written scholarship. Nominations are open to papers published in *JMR* in the 2015 volume year.

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Nomination Deadline: January 22, 2016

Visit [www.mrs.org/jmr-award](http://www.mrs.org/jmr-award) for additional information and nomination requirements.

## CONGRATULATIONS



to last year's  
winners of the  
first annual  
*JMR* Paper of  
the Year Award

**Nobuto Oka and Saori Yamada,**  
Aoyama Gakuin University

**Takashi Yagi and Naoyuki Taketoshi,**  
National Metrology Institute of Japan

**Junjun Jia and Yuzo Shigesato,**  
Aoyama Gakuin University

for "Thermophysical properties of SnO<sub>2</sub>-based transparent conductive films: Effect of dopant species and structure compared with In<sub>2</sub>O<sub>3</sub>-ZnO-, and TiO<sub>2</sub>-based films"

Published August 14, 2014—*JMR* volume 29, issue 15

Have an idea for a new book or journal on a materials-related topic? Is there a materials topic that is underrepresented, or shows exceptional potential for growth within the MRS publications portfolio? If so, submit a proposal to the Materials Research Society.

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For more information, or to discuss your publishing ideas, contact:



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Registration Opens Mid-January | [www.mrs.org/spring2016](http://www.mrs.org/spring2016)

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- CM2 Quantitative Tomography for Materials Research
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- CM4 Verification, Validation and Uncertainty Quantification in Multiscale Materials Simulation

### ENERGY AND ENVIRONMENT

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- EE2 Advancements in Solar Fuels Generation—Materials, Devices and Systems
- EE3 Materials and Devices for Full Spectrum Solar Energy Harvesting
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- EE5 Next-Generation Electrical Energy Storage Chemistries
- EE6 Research Frontiers on Liquid-Solid Interfaces in Electrochemical Energy Storage and Conversion Systems
- EE7 Mechanics of Energy Storage and Conversion—Batteries, Thermoelectrics and Fuel Cells
- EE8 Grid-Scale Energy Storage
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- EE10 Recent Advances in Materials for Carbon Capture
- EE11 Caloric Materials for Renewable Energy Applications
- EE12 Radiation Damage in Materials—A Grand Multiscale Challenge
- EE13 Actinides—Fundamental Science, Applications and Technology
- EE14 Titanium Oxides—From Fundamental Understanding to Applications
- EE15 Materials for Sustainable Development—Integrated Approaches

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- EP1 Organic Excitonic Systems and Devices
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- EP3 Perovskite-Based Photovoltaics and Optoelectronic Devices
- EP4 Emerging Silicon Science and Technology
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- EP6 Integration of Heterovalent Semiconductors and Devices
- EP7 Material and Device Frontiers for Integrated Photonics
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- EP9 Materials and Processes for Nonlinear Optics
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The Society's interdisciplinary approach to the exchange of technical information is qualitatively different from that provided by single-discipline professional societies because it promotes technical exchange across the various fields of science affecting materials development. MRS sponsors two major international annual meetings encompassing many topical symposia, as well as numerous single-topic scientific meetings each year. It recognizes professional and technical excellence, conducts tutorials, and fosters technical exchange in various local geographical regions through Section activities and Student Chapters on university campuses.

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