



# 2017 JOM Technical Emphasis Calendar Builds on Performance

Lynne Robinson and Kaitlin McMahon

The results of the *JOM* readership survey, conducted in January 2016, gave the editorial team cause for a few moments of celebration. The participation was excellent and the general indicators were extremely positive—82% of respondents rated *JOM* “good” or “excellent” as a TMS member benefit, while 74% indicated it was “good” or “excellent” as an impactful technical journal.

Upon digging more deeply into the data, it became quite clear that TMS members cared very much about their journal, looking to it as a monthly connection to the professional network, technical excellence, and

collegial culture that comprises the TMS ecosystem. Many respondents took the time to offer constructive comments on technical coverage areas, while also providing quantitative insight on what they prefer to read. Topping that list were “review articles related to your current interests” at 83% and “research summaries related to your current interests” at 77%.

Examination of responses according to TMS technical divisions also revealed important guideposts for enhancing the relevance and value of *JOM*’s content to each and every reader. In all divisions, *JOM* content was rated as “appropriate” to the specific interests of division members more than 50% of the time. Obviously, there is still ample room to improve that score and the *JOM* editorial team is taking steps to do so. This includes sharing information and performance metrics with *JOM* advisors to assist them with the development of topics, as well as continuing to gain insights from *JOM* readers on issues of particular interest.

In the meantime, the 2016 *JOM* readership survey results have already helped inform the development of the 2017 *JOM* Technical Emphasis Calendar, presented at the end of this article. *JOM* will build on its steady success of the last few years (Figure 1) with 44 technical topics planned for 2017. Most of these topics are sponsored by at least one TMS committee and can be classified by TMS technical division interests as follows:

- Extraction & Processing: 14
- Functional Materials: 11
- Light Metals: 10
- Materials Processing & Manufacturing: 9
- Structural Materials: 9

A priority for future development in *JOM*—strongly reinforced by the feedback gained from the 2016 readership

## JOM’s Editorial Scope

The mission of *JOM* is to serve as a compelling membership and relevant science and engineering periodical that reflects the diversity and depth of the technical, professional, and organizational communities encompassed by the members of The Minerals, Metals & Materials Society (TMS).

The scope of *JOM* encompasses publicizing news about TMS and profiling its members and stakeholder communities, while publishing meaningful peer-reviewed materials science and engineering content. That content includes groundbreaking laboratory discoveries, the effective transition of science into technology, innovative industrial and manufacturing developments, resource and supply chain issues, improvement and innovation in processing and fabrication, and life-cycle and sustainability practices. In fulfilling this scope, *JOM* strives to balance the interests of the laboratory and the marketplace by reporting academic, industrial, and government-sponsored work from around the world.

—Updated April 2016

Metric	2013	2014	2015
Papers Submitted	328	534	691
Papers Accepted	203	298	405
Impact Factor*	1.053	1.401	1.757
Article Downloads	238,425	247,394	309,021

\*Year represents when impact factor was released for previous year, e.g., 2014 impact factor was released in 2015.

Figure 1. By all publishing measures, JOM is a high-performing journal on strong growth trajectory.

survey—is content addressing the needs and interests of readers who work in industrial settings. For 2017, this is reflected within the eight topics examining energy storage, production, and consumption challenges presented in industrial environments. The latest developments in metal processing, production, and analysis will also be covered in a wide range of topics curated from an industry-and-applications perspective.

Additive manufacturing, one of the most popular JOM topics in 2015, will be the focus of the March 2017 issue. This issue will also serve to debut the first topic co-sponsored by the new TMS Additive Manufacturing Committee: “Processing-Microstructure-Property Relations in Additive Manufactured Materials.” Another highlight of JOM’s additive manufacturing coverage will be publication of a sampling of papers from the 2016 Solid Freeform Fabrication Symposium.

Ensuring that JOM is serving the interests of all TMS members goes beyond building the annual Technical Emphasis Calendar, however. Within the context of the 2016 readership survey results, the editorial team revisited the decades-old JOM mission and scope statement and updated it to clarify JOM’s role as the TMS membership journal and the breadth of content that this entails (see sidebar: “JOM’s Editorial Scope”).

While the mission and scope statement provide an important framework, the ongoing evolution of JOM will continue to rest squarely in the hands of the TMS volunteer members who serve as the advisors and guest editors of its technical topics. Small adjustments to the JOM article submission process (see sidebar: “Important Updates for JOM Authors”), as well as continued expansion of the JOM peer review system, are just a few initiatives currently underway to make the JOM volunteer experience as productive and enriching as possible.

Looking ahead to 2017, several of those JOM advisors noted high expectations for their topics and the articles that would be submitted to them. (For a complete listing of 2017 JOM advisors, see the “Meet the JOM Advisors” sidebar.) “We want JOM to be interesting reading material for experts and also provide a discussion base and inspiration for future work and improvements,” said Dean Gregurek, RHI AG Technology Center Leoben, Austria, and advisor for both the “Minor Elements in Metal Production” and “Uses of

## Important Updates for JOM Authors

The deadlines for manuscript submission to JOM will be two weeks earlier for 2017 issues than they were for 2016, to provide a more appropriate timeframe for peer review. As an example, this means that the deadline to submit to the January 2016 issue is August 1, 2016.

In addition, length limits will be strictly enforced, as follows:

- Review paper: 4,000–6,500 words
- Original research paper: 2,000–4,000 words
- Industrial application/case study: 2,000–4,000 words

All length calculations should include an allowance of 250 words per figure or table. For example, 3,000 words plus four figures is equal to a 4,000-word submission. Additional materials, including figures, tables, datasets, and videos can be included as Electronic Supplementary Materials, which are exempt from the word count limit. These are referenced in the text, and are accessible online, but not in print.

Detailed author tools and guidelines are available on the JOM website at [jom.tms.org](http://jom.tms.org). For specific questions, contact Maureen Byko, JOM editor, at [mbyko@tms.org](mailto:mbyko@tms.org)

Gases in Pyrometallurgy” topics. His co-advisor on those topics, Zhiwei Peng, Central South University, China, agreed, saying, “I am expecting more exciting discoveries and innovations in 2017 that will underpin, advance, and revolutionize metallurgical research.”

Dmitry Eskin, Brunel University, London, expressed similar intentions for the 2017 topics under his leadership: “Aluminum: Shaping & Forming” and “Aluminum: Cast Shop and Alloys.” “These topics should attract both fundamental and applied research papers of high scientific and technological quality and novelty, bringing JOM to the highest quality level among metallurgical and materials science journals,” he commented.

Mingming Zhang, ArcelorMittal Global Research and Development, Indiana, spoke to the personal fulfillment he has gained in service to his profession as a JOM advisor for the topic “Deriving Value from Resource Recovery at Multiple Materials Scales.” “The JOM advisor role has helped me to keep connected to the metals and materials community which focus on the technologies of recycling and recovery. I am honored and excited to represent our committee, and I am looking forward to organizing an interesting JOM issue.”

**Editor’s Note:** In addition to the 2017 JOM Technical Emphasis Calendar outlined on the following pages, be sure to regularly check the online version available on the JOM website at [jom.tms.org](http://jom.tms.org) for updates. After reviewing the Technical Emphasis Calendar for a topic match for your paper, visit the website’s Author Tools sections for information and resources to help you complete the manuscript submission process—and make your contribution to what is shaping up as another milestone year for JOM and the readers it serves.



# 2017 JOM Technical Emphasis Calendar

## January 2017

**Theme: Applying Materials Science and Engineering**

**Manuscripts Due: August 1, 2016**

### Topics:

**Interface Strength Measurements**

*Thin Films & Interfaces Committee*

**Guest Editors:** Vikas Tomar,\* Professor and Faculty Scholar, Purdue University; and Ritesh Sachan,\* Oak Ridge National Laboratory

**In Operando Nano- and Micromechanical Characterization of Materials with Special Emphasis on In-Situ Techniques**

**Guest Editor:** Sanjit Bhowmick, Senior Staff Scientist, Hysitron Inc.

### 3D Characterization

*Materials Characterization Committee*

**Guest Editors:** Jian Li,\* Senior Research Scientist, CanmetMATERIALS, Natural Resources Canada; Sergio Neves Monteiro, Professor, Military Institute of Engineering, Associate Editor, *Journal of Materials Research and Technology*, and Vice President, Brazilian Association of Metallurgy, Materials, and Mining (ABM)

## February 2017

**Theme: Production and Characterization**

**Manuscripts Due: September 1, 2016**

### Topics:

**Application of Advanced Characterization Techniques for Engineering Materials**

**Guest Editors:** Jian Li,\* Senior Research Scientist, CanmetMATERIALS, Natural Resources Canada; and Jim Hwang, Professor, Michigan Technological University

**Advanced Characterization of Interfaces and Thin Films**

*Thin Films & Interfaces Committee*

**Guest Editors:** Ritesh Sachan,\* Postdoctoral Research Associate, Oak Ridge National Laboratory; and Vikas Tomar,\* Professor and Faculty Scholar, Purdue University

**Minor Elements in Metal Production**

*Pyrometallurgy Committee*

**Guest Editors:** Dean Gregurek,\* RHI AG, Technology Center Leoben; Jesse F. White,\* Process Engineering Director, Elkem Carbon AS; and Zhiwei Peng,\* Associate Professor, Central South University

**Aluminum: Bauxite-Alumina-Carbon-Reduction**

*Aluminum Committee*

**Guest Editor:** Pascal Lavoie,\* Chief Engineer of Light Metals Research Centre of the University of Auckland and Consultant

## March 2017

**Theme: Additive Manufacturing**

**Manuscripts Due: October 1, 2016**

### Topics:

**Progress in Additive Manufacturing**

*Process Technology & Modeling Committee*

**Guest Editor:** Edward D. Herderick, Additive Technologies Leader, GE Corporate Supply Chain and Operations

**Processing-Microstructure-Property Relations in Additive Manufactured Materials**

*Additive Manufacturing Committee, Phase Transformations Committee, and Solidification Committee*

**Guest Editors:** Mohsen Asle Zaeem,\* Robert G. Couch Assistant Professor of Materials Science and Engineering, Missouri University of Science and Technology; Sudarsanam Suresh Babu,\* University of Tennessee/Oak Ridge National Laboratory Governor's Chair in Advanced Manufacturing, University of Tennessee, Knoxville; and Judith Schneider,\* Professor, University of Alabama at Huntsville

**Functional Nanomaterials: Emerging Nanomaterials and Techniques for 3D Architectures**

*Nanomaterials Committee*

**Guest Editors:** Terry Xu,\* Associate Professor, University of North Carolina; and Jung-Kun Lee,\* Assistant Professor, University of Pittsburgh

**2016 Solid Freeform Fabrication Symposium**

**Guest Editor:** David L. Bourell, Temple Foundation Professor, University of Texas

## April 2017

**Theme: Materials Processing**

**Manuscripts Due: November 1, 2016**

### Topics:

**Aluminum: Shaping and Forming**

*Aluminum Committee*

**Guest Editor:** Dmitry Eskin, Professor, Brunel University

**Sintering and Related Phenomena**

*Powder Materials Committee*

**Guest Editor:** Ma Qian,\* Professor, RMIT Centre for Additive Manufacturing, School of Engineering, Royal Melbourne Institute of Technology (RMIT University)

**Behavior of Sheet Metal Under Multi-Axial Deformation Paths**

*Shaping & Forming Committee*

**Guest Editor:** Kester Clarke,\* Assistant Professor, Colorado School of Mines

**Characterization and Processing of Advanced Porous Materials**

*Materials Characterization Committee*

**Guest Editors:** Bowen Li, Research Professor, Department of Materials Science and Engineering, Michigan Technological University; and Jian Li,\* CanmetMATERIALS, Natural Resources Canada

\*Committee-appointed JOM advisor.

## May 2017

**Theme: Design and Manufacturing**

**Manuscripts Due: December 1, 2016**

**Topics:**

### Advances in Polycrystal Plasticity Characterization and Modeling

**Advanced Characterization, Testing & Simulation Committee**

**Guest Editor:** Philip Eisenlohr,\* Associate Professor, Michigan State University

### Advances in ICME Implementation: Concepts and Practices

**ICME Committee**

**Guest Editor:** Terry Wong,\* Principal Engineer, Aerojet Rocketdyne

### Lightweighting

**Guest Editor:** William J. Joost,\* Technology Development Manager, U.S. Department of Energy

## June 2017

**Theme: Progress in Materials Science**

**Manuscripts Due: January 1, 2017**

**Topics:**

### Use of Gases in Pyrometallurgy

**Pyrometallurgy Committee**

**Guest Editors:** Dean Gregurek,\* RHI AG, Technology Center Leoben; Jesse F. White,\* Process Engineering Director, Elkem Carbon AS; and Zhiwei Peng,\* Associate Professor, Central South University

### Amorphous Alloys: Liquids and Glasses as Pathways to New Materials

**Magnetic Materials Committee**

**Guest Editor:** Orlando Rios,\* Research Staff, Materials Science and Technology Division, Oak Ridge National Laboratory

### Recent Progress with Lead-Free Solder Interconnects

**Electronic Packaging & Interconnection Committee**

**Guest Editors:** Babak Arfaei,\* Materials Scientist, Ford Motor Company and Research Assistant Professor, Binghamton University; and Chris Gourlay, Imperial College London; Christopher Gourlay,\* Department of Materials, Imperial College of London

## July 2017

**Theme: Functional Materials**

**Manuscripts Due: February 1, 2017**

**Topics:**

### Micromagnetics Modeling and Simulation for Soft and Hard Magnetic Materials

**Computational Materials Science & Engineering Committee**

**Guest Editor:** Balasubramanian Radhakrishnan,\* Senior Research Staff, Oak Ridge National Laboratory

## Materials in Medicine and Bioengineering

**Biomaterials Committee**

**Guest Editor:** Tolou Shokuhfar,\* Associate Professor and Director of In-situ Nanomedicine Laboratory, Department of Bioengineering, University of Illinois at Chicago

### Nanostructured Surfaces for Improved Functional Properties

**Surface Engineering Committee**

**Guest Editors:** Rajeev Kumar Gupta,\* Assistant Professor, University of Akron; Kristopher Darling,\* U.S. Army Research Laboratory; and Sandip P. Harimkar,\* Associate Professor, Oklahoma State University

## August 2017

**Theme: Extreme Environments**

**Manuscripts Due: March 1, 2017**

**Topics:**

### Phase Transitions in Energy-Related Magnetic Materials

**Magnetic Materials Committee**

**Guest Editor:** Luana Caron,\* Postdoctoral Fellow, Max Planck Institute for Chemical Physics of Solids

### Corrosion of Magnesium in Multimaterial Systems

**Magnesium Committee**

**Guest Editor:** Vineet V. Joshi,\* Metallurgist, Pacific Northwest National Laboratory

### U-Mo Monolithic Fuel for Nuclear Research and Test Reactors

**Nuclear Materials Committee**

**Guest Editor:** Ramprashad Prabhakaran,\* Scientist, Pacific Northwest National Laboratory

### Stress Corrosion Cracking of Metals

**Corrosion & Environmental Effects Committee**

**Guest Editor:** Srujan K. Rokkam,\* Lead Engineer, Defense-Aerospace R&D, Advanced Cooling Technologies Inc.

### Solidification Behavior in Reduced Gravity

**Solidification Committee**

**Guest Editors:** Amber Genau,\* Assistant Professor, Department of Materials Science and Engineering, University of Alabama at Birmingham; and Mohsen Asle Zaeem,\* Robert G. Couch Assistant Professor of Materials Science and Engineering, Missouri University of Science and Technology

\*Committee-appointed JOM advisor.

# 2017 JOM Technical Emphasis Calendar

## September 2017

**Theme: Environment and Recycling**

**Manuscripts Due: April 1, 2017**

### Topics:

#### Sustainability Indicators for Energy Systems and Technology

*Energy Committee*

**Guest Editor:** Tao Wang,\* Castrip Process and Product Development Engineer and Metallurgy Lab Supervisor, Nucor Steel

#### Deriving Value from Resource Recovery at Multiple Materials Scales

*Recycling & Environmental Technologies Committee*

**Guest Editors:** Mingming Zhang,\* Senior Research Engineer, ArcelorMittal Global R&D; John Howarter,\* Assistant Professor in Materials Engineering, Purdue University; Xiaofei Guan,\* Postdoctoral Fellow, School of Engineering and Applied Sciences, Harvard University; and Randolph Kirchain,\* Principal Research Scientist, Massachusetts Institute of Technology

#### Aluminum: Recycling and Environmental Issues

*Aluminum Committee*

**Guest Editor:** Pascal Lavoie,\* Chief Engineer of Light Metals Research Centre of the University of Auckland and Consultant

#### Carbothermic Reaction Pyrometallurgy Committee

**Guest Editors:** Zhiwei Peng,\* Associate Professor, Central South University; and Jesse F. White,\* Process Engineering Director, Elkem Carbon AS

## October 2017

**Theme: Metallurgy and Processing**

**Manuscripts Due: May 1, 2017**

### Topics:

#### Energy Technologies in Ironmaking and Steelmaking

*Energy Committee*

**Guest Editor:** Tao Wang,\* Castrip Process and Product Development Engineer and Metallurgy Lab Supervisor, Nucor Steel

#### Recent Advances in Titanium Metal and Alloy Production

*Titanium Committee*

**Guest Editor:** Peter Collins,\* Associate Professor, Iowa State University

#### Hydrometallurgical and Electrometallurgical Processing for Strategic Materials

*Hydrometallurgy & Electrometallurgy Committee*

**Guest Editor:** Takanari Ouchi,\* Research Scientist, Massachusetts Institute of Technology

#### Latest Developments in Refractory Metals and Alloys *Refractory Metals & Materials Committee*

**Guest Editor:** Ravi K. Enneti,\* Principal Scientist II, Research and Development, Global Tungsten and Powders Corp.

## November 2017

**Theme: High-Entropy Alloys**

**Manuscripts Due: June 1, 2017**

### Topics:

#### Progress in High-Entropy Alloys *Alloy Phases Committee*

**Guest Editor:** Michael C. Gao,\* Principal Materials Scientist, National Energy Technology Laboratory/AECOM

#### Beyond Indentation Hardness and Modulus: Recent Advances in Nanoindentation Techniques

*Nanomechanical Materials Behavior Committee*

**Guest Editors:** Xinghang Zhang,\* School of Materials Engineering, Purdue University; and Yue Liu,\* Postdoctoral Research Associate, Materials Science & Technology Division, Los Alamos National Laboratory

#### Nanostruc 2016

**Guest Editor:** James Njuguna, Director of Research, and Reader in Composite Materials and Structures, Robert Gordon University, Aberdeen, U.K.

## December 2017

**Theme: Energy Applications**

**Manuscripts Due: July 1, 2017**

### Topics:

#### Field-Intensified Metallurgy *Pyrometallurgy Committee*

**Guest Editors:** Zhiwei Peng,\* Associate Professor, Central South University; and Jesse F. White,\* Process Engineering Director, Elkem Carbon AS

#### Advanced Materials for Energy Applications *Energy Conversion & Storage Committee*

**Guest Editor:** Xiaochuan Lu\*, Senior Research Scientist, Pacific Northwest National Laboratory

#### Thermal Energy Storage and Applications *Energy Committee*

**Guest Editor:** Tao Wang,\* Castrip Process and Product Development Engineer and Metallurgy Lab Supervisor, Nucor Steel

#### Nanoscience for Renewable Energy *Composite Materials Committee*

**Guest Editor:** Murali Paramsothy,\* Scientist/Consultant, NanoWorld Innovations and Associate Faculty, School of Science and Technology, Singapore Institute of Management University

#### Aluminum: Cast Shop and Alloys *Aluminum Committee*

**Guest Editor:** Dmitry Eskin, Professor, Brunel University

\*Committee-appointed JOM advisor.

## Meet the 2017 JOM Advisors

JOM experienced another record-breaking year in 2015 with the publication of 447 articles, and 2016 is currently on track to break the 500 mark. Ensuring the quality and relevance of these articles is the team of JOM advisors, who are appointed by their technical committees to propose topics for the Technical Emphasis Calendar, solicit papers, and then manage the peer review of these contributions.

JOM is pleased to introduce these committee-appointed JOM advisors, pictured below and listed within the Technical Emphasis Calendar on the preceding pages, for 2017. JOM also thanks and recognizes the JOM guest editors who are listed, as well, in the Technical Emphasis Calendar for their dedication in developing invited topics outside the TMS technical committee structure.



Babak Arfaei



Mohsen Asle Zaeem



Luana Caron



Kester D. Clarke



Ravi K. Enneti



Michael C. Gao



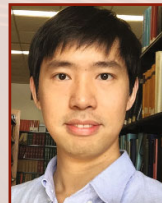
Amber Genau



Chris Gourlay



Dean Gregurek



Xiaofei Guan



Sandip P. Harimkar



John Howarter



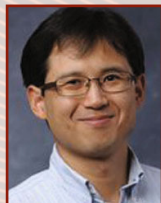
William J. Joost



Randolph Kirchain



Pascal Lavoie



Jung-Kun Lee



Jian Li



Yue Liu



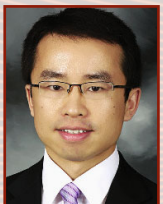
Xiaochuan Lu



Takanari Ouchi



Muralidharan Paramsothy



Zhiwei Peng



Ramprashad Prabhakaran



Ma Qian



Orlando Rios



Srujan K. Rokkam



Ritesh Sachan



Judith Schneider



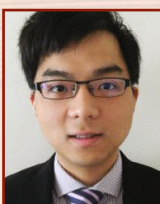
Tolou Shokuhfar



Sudarsanam Suresh Babu



Vikas Tomar



Tao Wang



Jesse F. White



Mingming Zhang



Xinghang Zhang

**Not Pictured:** Peter Collins; Kristopher Darling; Philip Eisenlohr; Rajeev Kumar Gupta; Vineet V. Joshi; Balasubramanian Radhakrishnan; Terry Wong; and Terry Xu.