

# Meet the JOM Advisors for 2016

Kaitlin McMahon

*JOM* published a record-breaking 404 articles in 2014. The volume and quality of *JOM*'s technical content would not be possible without the volunteer advisors who propose topics, solicit papers, and work with their technical committees to review or select reviewers, ensuring that each paper is high value and relevant to the particular topic. Some of the

advisors introduced on the following pages are new to the role in 2016, while others are returning for another editorial year. Read more about these individuals, their topics, and what they hope to see for *JOM* in the coming year. For more information on contributing to *JOM*, visit [jom.tms.org](http://jom.tms.org) or e-mail Maureen Byko, *JOM* Editor, at [mbyko@tms.org](mailto:mbyko@tms.org).



Fadi Abdeljawad



Babak Arfaei

## **Fadi Abdeljawad**

*Postdoctoral Fellow, Sandia National Laboratories  
Chemistry & Physics of Materials  
Committee*

### **Topic Information:**

**Interface-Driven Phenomena in Solids:  
Thermodynamics, Kinetics, and  
Chemistry (June 2016)**

*Manuscript Deadline:* January 15,  
2016

Abdeljawad and Stephen Foiles serve as co-advisors for this topic. Their intent is to bring together researchers with varied interests and disciplines, including theoretical, experimental, modeling, and characterization, in order to communicate advances pertaining to interface-dominated processes in solids and to discuss the future of the field.

### **About the Advisor:**

“My research interests are focused on theoretical and computational modeling of interface-driven processes and the role of microstructure on materials properties,” said Abdeljawad. “This is a great opportunity for me to get involved in and contribute to the materials science community. I look forward to working with researchers and scientists across a wide range of disciplines to communicate recent advances in the field.”

## **Babak Arfaei**

*Research Assistant Professor, Birmingham University, and Process Research Engineer, Universal Instruments Co.  
Electronic Packaging & Interconnection  
Materials Committee*

### **Topic Information:**

**Progress with Lead-Free Solders  
(September 2016)**

*Manuscript Deadline:* April 15, 2016

Arfaei noted that this topic will cover a wide range of issues regarding electronic packaging, focusing on fundamentals, reliability, and applications of lead-free solder alloys. “Reliability and miniaturization of electronic systems, development of new lead-free alloys, and advanced 2.5/3D packages are topics I deal with on a daily basis,” Arfaei said. “My goal is to understand the fundamental challenges for current and future electronic packaging devices.”

### **About the Advisor:**

“I have learned a lot over the years from attending TMS conferences and participating in its committees,” said Arfaei. “As a *JOM* advisor, I have had the chance to work with colleagues, learn from their research, and encourage more materials scientists to get involved with TMS. TMS is a great professional organization and I am proud to be a part of it.”

**Mohsen Asle Zaeem**

*Couch Assistant Professor of Materials Science and Engineering, Missouri University of Science and Technology (Rolla)*

Solidification Committee and Phase Transformations Committee

**Topic Information:****Rapid Solidification and Phase Transformation in Additive Manufactured Materials (March 2016)**

*Manuscript Deadline:* October 15, 2015

“Additive manufacturing is an upcoming processing method which has the potential to revolutionize fabrication of industrial products,” said Asle Zaeem. Papers for this topic should relate to additive manufacturing and its influence on phases and properties, including transient phenomena, phase transformations, and rapid solidification.

**About the Advisor:**

“At the Missouri University of Science and Technology, we work on connecting atomistic simulations to phase field and finite element models to study nano- and microstructural evolutions during solidification, grain growth, and solid state phase transformation,” said Asle Zaeem. “We are eager to expand our research to study additive manufactured materials.”

**Benjamin Boesl**

*Assistant Professor, Florida International University, Mechanical and Materials Engineering Department*

Surface Engineering Committee

**Topic Information:****Surface Engineering via Additive Manufacturing (July 2016)**

*Manuscript Deadline:* February 15, 2016

The advantages of the additive manufacturing (AM) processes can potentially be extended to surface engineering applications to achieve higher process and cost effectiveness. Boesl and his co-advisors, Narendra Dahotre and Hitesh Vora, encourage papers that highlight recent developments in the area of advanced AM for surface engineering and repair applications to enhance resistance of materials against the effects of corrosion, abrasion, and wear.

**About the Advisor:**

“I look forward to interfacing with leading experts in the field and integrating lessons learned into my future research endeavors,” said Boesl of his upcoming role as *JOM* advisor. “Through the use of additive manufacturing to engineer different surfaces, I hope to have an improved understanding of the underlying mechanisms of the many ways surfaces can interact and use this information to design surfaces to meet specific aims.”

**Geoffrey Brooks**

*Pro-vice Chancellor (Future Manufacturing), Swinburne University of Technology*

Energy Committee

**Topic Information:****Modeling of Energy Processes (October 2016)**

*Manuscript Deadline:* May 15, 2016

In many processes for producing and transforming materials, the conservation of energy is crucial to commercial success. This topic will focus on a range of models—thermodynamic, heat transfer, CFD and others—that have been developed to optimize energy usage in these processes.

**About the Advisor:**

“I am actively involved in solar thermal research, developing new routes to material processing using concentrated thermal energy,” noted Brooks, whose background is in pyrometallurgy. “I have also been active for many years in improving the performance of existing industrial furnaces in both the ferrous and nonferrous industries through process modeling and developing new technologies.”

**Shuanglin Chen**

*Vice President, CompuTherm LLC*  
Alloy Phases Committee

**Topic Information:****Alloys and Compounds for Thermoelectrics (October 2016)**

*Manuscript Deadline:* May 15, 2016

“My professional interest is in phase property and stability simulation, which has a wide range of applications in many alloy systems,” said Chen. This topic will address synthesis, property measurements,



Mohsen Asle Zaeem



Benjamin Boesl



Geoffrey Brooks



Shuanglin Chen



Amy Clarke

phase stability, and phase transformation of the alloys and compounds used in thermoelectric and solar cell devices.

#### About the Advisor:

“TMS is a community supported mainly by volunteers, and every member has the responsibility to contribute their time and talent,” Chen remarked.

#### Amy Clarke

*Scientist, Los Alamos National Laboratory Solidification Committee and Phase Transformations Committee*

#### Topic Information:

##### Rapid Solidification and Phase Transformation in Additive Manufactured Materials (March 2016)

*Manuscript Deadline:* October 15, 2015

Papers for this topic should relate to additive manufacturing and its influence on phases and properties, including transient phenomena, phase transformations, and rapid solidification.

#### About the Advisor:

“As I study liquid-solid and solid-state phase transformations and microstructural and property development associated with processing variations in metal alloys, my work is well aligned with this topic,” Clarke said. “I am interested in making, measuring, and modeling metal alloys, including real-time x-ray and proton imaging of them during solidification.” Clarke was chair of the Phase Transformations Committee (PTC), before taking on the role of *JOM* advisor. “In 2016, I look forward to working with PTC members to bring the latest in phase transformations and microstructural evolution to the readers of *JOM*,” she said.

#### Narendra Dahotre

*Professor and Chairman, Department of Materials Science and Engineering, University of North Texas Surface Engineering Committee*

#### Topic Information:

##### Surface Engineering via Additive Manufacturing (July 2016)

*Manuscript Deadline:* February 15, 2016

The advantages of additive manufacturing (AM) processes can potentially be extended to surface engineering applications to achieve

higher process and cost effectiveness. Dahotre and co-advisors Benjamin Boesl and Hitesh Vora encourage papers that highlight recent developments in the area of advanced AM for surface engineering and repair applications to enhance resistance of materials against the effects of corrosion, abrasion, and wear.

#### Stephen Foiles

*Distinguished Member of Technical Staff, Sandia National Laboratories Chemistry & Physics of Materials Committee*

#### Topic Information:

##### Interface-Driven Phenomena in Solids: Thermodynamics, Kinetics, and Chemistry (June 2016)

*Manuscript Deadline:* January 15, 2016

Foiles and Fadi Abdeljawad, co-advisors, noted that they hope this topic will bring together researchers with varied interests and disciplines, including theoretical, experimental, modeling, and characterization. “Internal interfaces in general, and grain boundaries in particular, have been an on-going research interest of mine for about three decades,” said Foiles. “The challenge of predicting structure, thermodynamics, and mechanical response of these interfaces over the full range of possible macroscopic geometries is truly a lifelong challenge.”

#### About the Advisor:

“Advances in both experimental characterization and computational modeling are bringing the goal of a detailed understanding of the influence of internal interfaces on materials properties and evolution close to reality,” said Foiles. He hopes that “highlighting this exciting area of research in *JOM* will help to advance that progress.”

#### Dean Gregurek

*RHI AG, Technology Center Leoben, Austria Pyrometallurgy Committee*

#### Topic Information:

##### Extractive Metallurgy: Efficiency and Eco-Friendliness (February 2016)

*Manuscript Deadline:* September 15, 2015

##### Metal Smelting and Furnace Tapping (June 2016)

*Manuscript Deadline:* January 15, 2016



Narendra Dahotre



Stephen Foiles



Dean Gregurek

### **Slag Metallurgy and Metallurgical Waste Recycling (September 2016)**

*Manuscript Deadline:* April 15, 2016

### **Fe Alloys: Production and Metallurgical Aspects (December 2016)**

*Manuscript Deadline:* July 15, 2016

Gregurek will co-advise these four topics in 2016 with Zhiwei Peng. “We want to set up a basis of international input and contributions for experience exchange between experts and scientists” he said. “Our main focus is new developments and ideas in pyrometallurgy, not only regarding metallurgical processes, but also including interaction with refractories and furnace integrity.”

#### **About the Advisor:**

“It is a great honor to be elected as a *JOM* advisor by the Pyrometallurgy Committee,” said Gregurek, who focuses on process developments and pyrometallurgical challenges at RHI. “We intend to provide excellent scientific reviews for the submitted papers, partly by inviting international reviewers and experts in their respective fields. In this way, we hope to raise the impact factor of the journal and achieve the ‘must read’ category in the following years. We want *JOM* to be interesting reading material for experts and also a discussion base and inspiration for future work and improvements.”

### **John Griffin**

*Engineering Consultant, ACT LLC*  
Aluminum Committee

#### **Topic Information:**

### **Aluminum: Shaping and Forming (May 2016)**

*Manuscript Deadline:* December 15, 2015

### **Aluminum: Cast Shop and Alloys (December 2016)**

*Manuscript Deadline:* July 15, 2016

### **Edward D. Herderick**

*Additive Technologies Leader, GE*  
*Corporate*  
Process Technology & Modeling  
Committee

#### **Topic Information:**

### **Progress in Additive Manufacturing (March 2016)**

*Manuscript Deadline:* October 15, 2015

For the second year, this topic will

explore the materials and processes of additive manufacturing (AM). Complementary to separate solicitations on advances in AM processes, it will also cover a wide range of materials and processing, including reviews of the field.

#### **About the Advisor:**

“I really want young researchers to publish for this topic,” said Herderick. “It’s good for assistant professors, Ph.D. students, postdocs, and other young professionals to give their take on where the industry is going. *JOM* is the perfect venue for this, and I’m really looking forward to seeing what comes together in the next year.”

### **Yuri Hovanski**

*Senior Research Engineer, Pacific Northwest National Laboratory*  
Shaping & Forming Committee

#### **Topic Information:**

### **Shaping, Forming, and Modeling of Advanced High Strength Steels (July 2016)**

*Manuscript Deadline:* February 15, 2016

Hovanski is looking for papers on enhanced mechanical property measurement methods; characterization of phase transformations and deformation mechanisms in multiphase microstructures during forming; theory and modeling related to the mechanical properties; deformation simulations, forming processes, friction, and springback; multi-scale mechanical testing; integration of scientific knowledge with manufacturing practices; and development of accurate constitutive relationships.

#### **About the Advisor:**

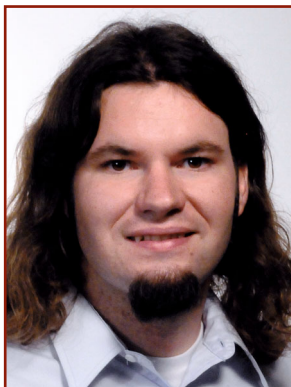
The role of *JOM* advisor aligns with Hovanski’s service on the Shaping & Forming Committee. Hovanski noted that he is looking forward to “reviewing the latest work in formability of advanced high strength steel.”



Edward D. Herderick



Yuri Hovanski



Joseph Jakes

### Joseph Jakes

*Research Materials Engineer, Forest Biopolymers Science and Engineering, United States Forest Service, Forest Products Laboratory*

Nanomechanical Materials Behavior Committee

#### Topic Information:

#### Recent Advances in Forest Products Research and Development (September 2016)

*Manuscript Deadline:* April 15, 2016

“Basic materials research is becoming increasingly important in forest products research as modern characterization tools reveal new insights into the fundamental structure-property relationships in forest products,” said Jakes. He is looking for papers in the topic areas of multi-scale characterization techniques for forest products, hierarchical modeling, development of environmentally friendly wood adhesives and wood protection treatments, cellulose nanomaterials, and massive timber structures for mid-rise buildings and bridges.

#### About the Advisor:

“I volunteered as a *JOM* advisor to highlight to the readership recent advancements in forest products, which range from small cellulose nanocrystals to large cross-laminated timber structures,” Jakes said. “I am looking forward to facilitating communication between traditional forest products researchers and the more traditional materials research community.”

### Randy Kirchain

*Principal Research Scientist, Massachusetts Institute of Technology Recycling & Environmental Technologies Committee*

#### Topic Information:

#### Towards Materials Resource Sustainability (July 2016)

*Manuscript Deadline:* February 15, 2016

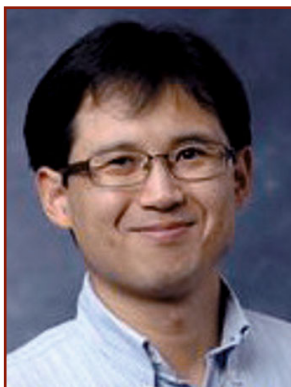
Papers for this topic should highlight advances in materials technology to improve the sustainability of materials and products, as well as advances in the modeling and simulation tools needed to understand those sustainability impacts.



Randy Kirchain



Pascal Lavoie



Jung-Kun Lee

### Pascal Lavoie

*Chief Engineer of Light Metals Research Centre of the University of Auckland, New Zealand, and Consultant Aluminum Committee*

#### Topic Information:

#### Aluminum: Bauxite-Alumina-Carbon-Reduction (February 2016)

*Manuscript Deadline:* September 15, 2015

Lavoie will leverage both his volunteer experiences with TMS and his professional interest in electrochemical production of light metals for this *JOM* topic. “I have been involved in production, and have managed research and development for both aluminum and magnesium,” he said, noting that his topic aligns well with his area of expertise.

#### About the Advisor:

“Since receiving the TMS Light Metals Division Young Leader Award in 2006, I have served on various committees and was Aluminum Reduction Subject Chair at the TMS 2015 Annual Meeting & Exhibition,” Lavoie said. “Volunteering as *JOM* advisor in this field seemed like a natural progression.”

### Jung-Kun Lee

*Associate Professor, Department of Mechanical Engineering and Materials Science, University of Pittsburgh Nanomaterials Committee*

#### Topic Information:

#### Functional Nanomaterials: Energy and Sensing (February 2016)

*Manuscript Deadline:* September 15, 2015

In this topic, co-advised by Lee and Terry Xu, recent advances on using functional nanomaterials for energy conversion/storage and optical/electric/magnetic signal sensing will be presented. These advances include design and synthesis of novel nanostructured materials for energy and sensing applications and enhancement of sensing sensitivity by surface plasmon resonance of materials.

#### About the Advisor:

“My group at the University of Pittsburgh focuses on functional nanomaterials. Specifically, we are working on the basic science of functional nanomaterials for their application to energy devices such as solar cells,” said

Lee. “The *JOM* advisor role has helped me to keep connected to the materials science community, which has interest in the unique properties of emerging nanomaterials.”

### **Dirk Lehmus**

*Project Manager, Fraunhofer IFAM  
Composite Materials Committee*

#### **Topic Information:**

### **Futuristic Nanomaterials and Composites: Part II (January 2016)**

*Manuscript Deadline:* August 15, 2015

### **Todd Leonhardt**

*Director of Research and Development,  
Rhenium Alloys Inc.  
Refractory Metals & Materials Committee*

#### **Topic Information:**

### **Refractory Metals that Melt Above 1850°C (November 2016)**

*Manuscript Deadline:* June 15, 2016

This topic will focus on the unique chemical, physical, mechanical, and electronic properties that provide material solutions in various industries and special processing conditions required for refractory metals in their unique applications.

#### **About the Advisor:**

“As a 17-year veteran of the refractory metals industry, I value *JOM*’s ability to keep me up to date with research and trends within the industry,” Leonhardt said. “I am honored to carry on this proud tradition. I hope to inform and educate a wider audience on refractory metals and their importance in modern industrial applications.”

### **Jian Li**

*Research Scientist, CanmetMATERIALS,  
Natural Resources Canada  
Materials Characterization Committee*

#### **Topic Information:**

### **The Canadian Generation IV Supercritical Water-Cooled Nuclear Reactor Conceptual Design (February 2016)**

*Manuscript Deadline:* September 15, 2015

“CanmetMATERIALS has been leading the materials research in the Canadian Generation IV Supercritical Water Reactor (SCWR) conceptual design,” said Li. “In the past years, we identified candidate

materials for key reactor components. This *JOM* topic will provide an excellent opportunity to present the Canadian Gen-IV SCWR concept.”

#### **About the Advisor:**

Over the past ten years, Li has been involved in the Materials Characterization Committee. “I am honored and excited to represent our committee, and am looking forward to organize an interesting *JOM* issue,” Li said. “*JOM* provides committees with excellent opportunities to showcase their technical focus and high-caliber scientific work.”

### **Xiaochuan Lu**

*Senior Research Scientist, Pacific Northwest National Laboratory  
Energy Conversion & Storage Committee*

#### **Topic Information:**

### **Advanced Materials for Fuel Cell and Battery Applications (October 2016)**

*Manuscript Deadline:* May 15, 2016

“My research has primarily focused on energy materials and energy conversion and storage technologies, such as fuel cells and batteries, which exactly aligns with my *JOM* topic,” said Lu. This topic will include R&D of various types of energy materials for fuel cell and battery applications.

#### **About the Advisor:**

“I have volunteered as a *JOM* Advisor since 2014 because of my professional expertise and knowledge on the related areas, and I believe my experiences will strengthen *JOM* in these areas,” Lu said. He looks forward to reviewing high-quality manuscripts related to energy materials for *JOM* in 2016.

### **Roger Narayan**

*Professor, University of North Carolina/  
North Carolina State University Joint  
Department of Biomedical Engineering  
Thin Films & Interfaces Committee*

#### **Topic Information:**

### **Recent Developments in Functional Thin Films (April 2016)**

*Manuscript Deadline:* November 15, 2015

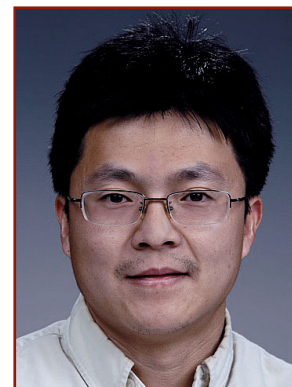
“This *JOM* topic covers many thin film processing and characterization techniques that my research group routinely uses,” said Narayan. “We have examined the



Todd Leonhardt



Jian Li



Xiaochuan Lu



Roger Narayan



Laurentiu Nastac



James Njuguna



Dmytro Orlov

use of laser-based techniques, including laser-based thin film growth and laser-based additive manufacturing, to process materials with micrometer scale and sub-micrometer scale features for medical applications.” While this topic will cover processing, characterization, and applications of functional thin films, one focus will be the use of thin films in stretchable and wearable electronics.

#### **About the Advisor:**

“I volunteered as a *JOM* advisor to help the Thin Films & Interfaces Committee disseminate information on recent achievements in thin film technology to the wider *JOM* community,” said Narayan.

#### **Laurentiu Nastac**

*Associate Professor of Metallurgical and Materials Engineering, The University of Alabama, MTE Department Process Technology & Modeling Committee*

#### **Topic Information:**

##### **CFD Modeling and Simulation in Materials Processing (August 2016)**

*Manuscript Deadline: March 15, 2016*

The scope of this topic is related to computational fluid dynamics (CFD) modeling and simulation of engineering processes. Nastac is looking for papers that involve the modeling of multiscale and multiphase phenomena in materials processing systems, including continuous casting, electromagnetic and/or ultrasonic stirring assisted melting, and solidification processing of alloys and nanocomposites.

#### **About the Advisor:**

“One of my current interests is to develop and/or apply advanced CFD tools for modeling,” said Nastac. “I hope that that the papers that will be published in this topic will continue to advance our understanding of various multiscale/multiphase/multicomponent phenomena occurring in materials processing systems and further promote the application of CFD models to solve complex engineering problems.”

#### **James Njuguna**

*Reader in Composite Materials & Structures, Centre for Advanced Engineering Materials, Robert Gordon University, Aberdeen, United Kingdom Composite Materials Committee*

#### **About the Topic:**

##### **Futuristic Nanomaterials and Composites: Part II (January 2016)**

*Manuscript Deadline: August 15, 2015*

“My own interest is in the development of new materials, mainly nanocomposites, and their application in transport and energy composite structures,” said Njuguna, who co-advises this topic with Dirk Lehmus and Muralidharan Paramsothy.

#### **About the Advisor:**

“I volunteered as *JOM* advisor to support nanomaterials evolution from laboratory applications,” said Njuguna. He looks forwards to the development of this topic, anticipating papers “full of new ideas and new disruptive technology.”

#### **Dmytro Orlov**

*Professor, Division of Materials Engineering, LTH, Lund University, Lund, Sweden Magnesium Committee*

#### **Topic Information:**

##### **Advances and Achievements in In-Situ Analysis of Corrosion and Structure-Property Relationship in Mg and Mg Alloys (December 2016)**

*Manuscript Deadline: July 15, 2016*

This topic will focus on recent advances in in-situ analysis based on neutron and synchrotron radiation, and acoustic emission, as well as more traditional techniques. Said Orlov, “Magnesium-based materials have already become game-changers in many areas, and in-situ analysis should allow major acceleration in their development.”

#### **About the Advisor:**

“I hope to bring topics of interest into the magnesium community where exciting developments have been happening in recent years” Orlov said. “I also want to engage new people in the community and demonstrate new opportunities to the people already on-board.”

### Takanari Ouchi

Research Scientist, Massachusetts Institute of Technology  
Hydrometallurgy & Electrometallurgy Committee

#### Topic Information:

#### Lithium Metals and Chemical Extraction and Processing (October 2016)

*Manuscript Deadline:* May 15, 2016

Ouchi said he is looking for papers on lithium-related energy conversion and storage, extraction and processing, recycling and secondary recovery, and physical and chemical properties of alloys.

#### About the Advisor:

“*JOM* is one of the greatest journals for raising issues that have practical relevance to society,” said Ouchi. “In 2016, I look forward to exploring lithium metal comprehensively—from its production to application to recycling, as well as its properties—by soliciting the highest-quality papers in the field.”

### Amit Pandey

Development Lead (Reliability & Supply), Rolls Royce LG Fuel Cell Systems Inc.  
Advanced Characterization, Testing, & Simulation Committee

#### Topic Information:

#### In-Situ Mechanical Testing in Electron Microscopes: Part II (January 2016)

*Manuscript Deadline:* August 15, 2015

#### High-Temperature In-Situ Micro/Nanomechanical Testing (November 2016)

*Manuscript Deadline:* June 15, 2016

“Characterization of in-situ mechanical properties of fuel cell layers is very critical to access the microreliability of fuel cell stack and structure,” Pandey said. Pandey looks forward to building on his 2015 topic, In-Situ Mechanical Testing in Electron Microscopes: Part I, focusing on a similar topic but at elevated temperatures in 2016. Papers for his November 2016 topic are expected to address in-situ heating techniques, microstructural observations, testing systems, specimen preparation, and testing methodologies.

#### About the Advisor:

“This volunteer position has provided me with an opportunity to network with

people who have been forerunners in this research area,” Pandey commented.

### Muralidharan Paramsothy

Scientist/Consultant (Nanotechnology), NanoWorld Innovations, and Associate Faculty, School of Science and Technology, Singapore Institute of Management University  
Composite Materials Committee

#### Topic Information:

#### Futuristic Nanomaterials and Composites: Part II (January 2016)

*Manuscript Deadline:* August 15, 2015

“This topic represents my professional interests in the nanotechnology arena, especially scientifically valuable concepts that link nanoscale occurring phenomena to macroscale properties,” said Paramsothy, who co-advises this topic with Dirk Lehmus and James Njuguna. Paramsothy said they are looking for papers on the synthesis, structure, properties, and application of nanomaterials and composites, “preferably with an overall broad range of application collectively documented in this issue.”

#### About the Advisor:

“Being a *JOM* advisor allows me to network at higher levels,” he said. “I strongly advocate that the more researchers who are willing to confidently share their thoughts, the higher the probability that good concepts will come to light and advance the field.”

### Zhiwei Peng

Associate Professor, Central South University  
Pyrometallurgy Committee

#### Topic Information:

#### Extractive Metallurgy: Efficiency and Eco-Friendliness (February 2016)

*Manuscript Deadline:* September 15, 2015

#### Metal Smelting and Furnace Tapping (June 2016)

*Manuscript Deadline:* January 15, 2016

#### Slag Metallurgy and Metallurgical Waste Recycling (September 2016)

*Manuscript Deadline:* April 15, 2016

#### Fe Alloys: Production and Metallurgical Aspects (December 2016)

*Manuscript Deadline:* July 15, 2016

Peng will co-advise these four topics with Dean Gregurek. “The topics agree



Takanari Ouchi



Amit Pandey



Muralidharan Paramsothy



Zhiwei Peng





Ramprashad Prabhakaran



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well with my professional interests in fundamentals, technology, and sustainable development of extractive metallurgy,” he said.

#### **About the Advisor:**

“It has been my great pleasure working with the metallurgy community to present our readers with five issues of *JOM* in the past two years with high-quality content,” Peng said. “I am thankful for my talented and committed colleagues and looking forward to witnessing more exciting and innovative advances in metallurgy in 2016.”

#### **Ramprashad Prabhakaran**

*Researcher, Pacific Northwest National Laboratory*  
Nuclear Materials Committee

#### **Topic Information:**

##### **Modeling Nuclear Fuel Performance (October 2016)**

*Manuscript Deadline:* May 15, 2016

Prabhakaran is looking for papers that focus on key nuclear fuel degradation mechanisms, as well as modeling approaches developed to better predict the conditions causing fuel failure by pellet clad interaction, severe corrosion deposits or fretting wear. “My research area is focused on the evaluation of corrosion and mechanical properties, along with the microstructural characterization of structural materials and fuels for power and research nuclear reactors,” he said.

#### **About the Advisor:**

“Globally, significant efforts are ongoing to meet the growing energy demand with the increased use of nuclear energy. Extensive work is being performed to develop materials and fuels for the current and advanced nuclear reactors,” Prabhakaran observed. “As a *JOM* advisor, my role is to provide a platform for researchers to exhibit and discuss their research, in addition to sharing challenges and solutions with the professional community, shaping the future of nuclear energy.”

#### **Ma Qian**

*Professor and Deputy Director, Centre for Additive Manufacturing, Royal Melbourne Institute of Technology University, Australia*  
Powder Materials Committee

#### **Topic Information:**

##### **Advances in Sintering (March 2016)**

*Manuscript Deadline:* October 15, 2015

For this topic, Qian anticipates contributions in recent developments and understanding of sintering theories and technologies.

#### **About the Advisor:**

Qian noted that being a *JOM* advisor “offers unique opportunities of networking with colleagues both within and outside the big TMS family. I look forward to the organization and publication of a number of seminal contributions under this topic.”

#### **Bala Radhakrishnan**

*Senior Research Staff, Oak Ridge National Laboratory*  
Computational Materials Science & Engineering Committee

#### **Topic Information:**

##### **Big Data and Data Analytics for Structural and Functional Materials (August 2016)**

*Manuscript Deadline:* March 15, 2016

“My professional interest as a materials scientist is to integrate modeling and experimental efforts into a common platform to better understand the science behind processing–structure–property linkages in materials,” said Radhakrishnan. “Data-driven modeling and knowledge discovery is an ideal platform to integrate experimental and computational data that span the length and time scales required to discover new knowledge.” He is looking for papers that focus on recent developments in the national laboratories and academia in utilizing modern data analytical tools on large volumes of computational and experimental data sets to enable knowledge discovery in structural and functional materials.

#### **About the Advisor:**

Looking forward to this topic in 2016, Radhakrishnan notes that “although there is quite bit of effort in this area, there has been no concerted effort in bringing

together a set of papers that deal with big data and data analytics leading to knowledge discovery in materials science.”

### **Vilupanur A. Ravi**

*Professor and Chair, Department of Chemical and Materials Engineering, California State Polytechnic University, Pomona*  
Corrosion & Environmental Effects Committee

#### **Topic Information:**

#### **Corrosion of Materials in Physiological Environments (December 2016)**

*Manuscript Deadline:* July 15, 2016

Ravi is seeking papers on biocorrosion in physiological environments, including materials such as stainless steels, cobalt-chrome-molybdenum, magnesium, and titanium alloys. He notes that in his research at California State Polytechnic University, “we are investigating the stability of advanced titanium alloys in various physiologically relevant media and this is well aligned with this *JOM* topic.”

#### **About the Advisor:**

The role of *JOM* advisor is a way for Ravi to contribute to both his profession and to TMS. “I am looking forward to a nice set of high-impact articles,” he said.

### **Orlando Rios**

*Associate Research Staff, Materials Science & Technology Division, Deposition Sciences Group, Oak Ridge National Laboratory, and Adjunct Professor, University of Tennessee MSE*  
Magnetic Materials Committee

#### **About the Topic:**

#### **Applied Magnetism: A Supply-Driven Materials Challenge (June 2016)**

*Manuscript Deadline:* January 15, 2016

“As part of the Critical Materials Institute, I focus on optimizing the use of rare-earth materials in magnet applications as well as structural applications,” Rios said. “This *JOM* topic will attempt to collect papers that are relevant to the general materials processing community.” Rios is encouraging papers that discuss processing and performance characteristics relevant to applications and that cover the specific demands of magnetic materials for applications such as wind, land-based transportations, power conversion, and aeronautics.

#### **About the Advisor:**

Rios noted that the opportunity to network with other professionals and learning about research in the TMS community is a benefit of being a *JOM* advisor. “I hope to provide TMS members and *JOM* readers an interesting topic that highlights the research goals of our most active members,” he said. “I am looking forward to hearing about current state-of-the-art and material requirements for emerging energy related applications.”

### **Chantal K. Sudbrack**

*Materials Research Engineer, NASA Glenn Research Center*  
High Temperature Alloys Committee

#### **Topic Information:**

#### **Advances in High-Temperature Alloys (November 2016)**

*Manuscript Deadline:* June 15, 2016

This topic seeks new technical information and critical reviews on the technology of high-temperature alloys, including alloy development, advanced processing, long-term durability and stability, environmental damage, advancement in testing capabilities, and joining technologies.

#### **About the Advisor:**

Sudbrack gives credit to one of her mentors for getting her involved in TMS committees and becoming a *JOM* advisor. “The committee involvement has broadened my network by connecting me to the leaders in superalloy research and has exposed me to a wider range of work in high-temperature alloys,” she said.

### **Alton T. Tabereaux**

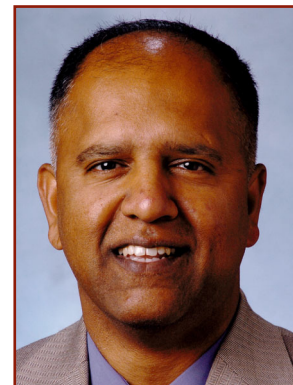
*Consultant*  
Aluminum Committee

#### **Topic Information:**

#### **Aluminum: Recycling and Environmental Issues (September 2016)**

*Manuscript Deadline:* April 15, 2016

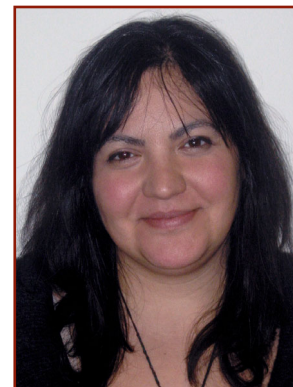
Tabereaux plans to draw from the more than 35 years he spent working in the aluminum industry in technology developments and process improvements in aluminum smelters for this *JOM* topic, in addition to his volunteer experience with TMS through committee involvement and aluminum short courses and workshops. He is looking for papers on



Vilupanur A. Ravi



Orlando Rios



Chantal K. Sudbrack



Alton T. Tabereaux



Candan Tamerler



Hitesh D. Vora

state-of-the-art breakthrough smelting technologies, as well as historical review articles on the technologies of aluminum smelting.

#### About the Advisor:

“I want to assist the best world experts in their respective fields of aluminum smelting in publishing articles that will educate *JOM* readers as to what is the current status of each technology and what near-term, as well as long-term, future developments are anticipated to eventually come to realization by aluminum companies and research organizations,” said Tabereaux. “I intend to continue the tradition of providing the best possible aluminum electrolysis technology articles in *JOM* for the aluminum industry.”

#### Candan Tamerler

*Wesley G. Cramer Associate Professor, Mechanical Engineering Department; Director, Biomaterials and Tissue Engineering Track, Bioengineering Program; and Director, Bioenabled and Biomimetic Materials, Bioengineering Research Center, University of Kansas Biomaterials Committee*

#### Topic Information:

##### **Biomaterials for Healthcare (April 2016)**

*Manuscript Deadline:* November 15, 2015

This topic seeks papers that highlight advances in engineering of biomaterials for various biological and biomedical applications. “My research incorporates biological fabrication routes into materials design to develop bioenabled and biomimetic materials and systems built upon the molecular recognition, self-assembly, and self-organization principles,” said Tamerler. “By combining fundamental understanding at the soft and hard biomaterial interfaces to engineering applications, we have been focusing on diverse technological areas, including biomaterials for healthcare, which will be scope of this *JOM* topic.”

#### About the Advisor:

Tamerler noted that she intends for

this *JOM* topic to “reach out to diverse readers and continue to expand the interest in biomaterials with a focus on health care. This is a unique opportunity to help promote and highlight challenges and opportunities as vital for our community studying across multiple disciplines.”

#### Hitesh D. Vora

*Assistant Professor, Mechanical Engineering Technology, Oklahoma State University*  
Surface Engineering Committee

#### Topic Information:

##### **Surface Engineering via Additive Manufacturing (July 2016)**

*Manuscript Deadline:* February 15, 2016

The advantages of the additive manufacturing (AM) processes can potentially be extended to surface engineering applications to achieve higher process and cost effectiveness. Vora and co-advisors Benjamin Boesl and Narendra Dahotre encourage papers that highlight recent developments in the area of advanced AM for surface engineering and repair applications to enhance resistance of materials against the effects of corrosion, abrasion, and wear. “This topic will enable us to reach out to experts in the area and will capture the current state of the art,” said Vora.

#### About the Advisor:

Vora described his role as a *JOM* advisor as an avenue for research and professional development opportunities, enabling him to connect with other TMS members working in his field.

#### Terry Xu

*Associate Professor, University of North Carolina at Charlotte*  
Nanomaterials Committee

#### Topic Information:

##### **Functional Nanomaterials: Energy and Sensing (February 2016)**

*Manuscript Deadline:* October 15, 2015

Xu will co-advise this topic with Jung-Kun Lee.

