

# 2017 TMS Awards Honor Excellence

Ashley-Anne Bohnert



## NOMINATIONS OPEN FOR 2018 TMS AWARDS

Each award conferred by TMS is a celebration of excellence. Every recipient has pushed the boundaries of the field or has made a meaningful impact upon its future through their work and interactions with others. TMS awards not only provide recognition for the magnitude of a recipient's professional accomplishments, they promote continuous development of the field by inspiring colleagues, students, and associates to aim for similar heights. This goal is reflected in the very nature of the awards, many of which celebrate advancing knowledge through publishing and presenting papers or through distinguished service to the society and the field as a whole.

The TMS–AIME Awards Ceremony will take place on Wednesday March 1, 2017 at the TMS 2017 Annual Meeting & Exhibition held from February 26–March 2 in San Diego, California. Many of the honorees will be present and all annual meeting attendees are invited to join in the celebration of their accomplishments.

Honor a colleague who has made a significant impact on the minerals, metals, and materials professions by nominating them for a 2018 TMS award. Receiving a TMS award is a prestigious acknowledgement of the scholarly, leadership, or mentoring accomplishments of the awardee and is a milestone in any career.

**Nominations for most 2018 TMS awards close on April 1, 2017.**

To begin the nomination process or to see a complete list of awards, criteria, and instructions, visit the TMS Honors and Awards website at [awards.tms.org](http://awards.tms.org). For additional information, contact Deborah Hixon, TMS Awards & Recognition Specialist, at [hixon@tms.org](mailto:hixon@tms.org).

## SOCIETY AWARDS

### 2017 TMS FELLOWS

The class of Fellow is TMS's highest honor. To be inducted, a candidate must be recognized as the leading authority and contributor to the practice of metallurgy, materials science, and technology, with strong consideration given for outstanding service to the society.



**Long-Qing Chen**  
*Distinguished Professor, Pennsylvania State University*

**Citation:** *For his outstanding contributions to computational mesoscale materials science and its applications to solid-solid phase transformations and microstructure evolution.*

"TMS annual meetings are where I learned how to get involved in society committees and symposium organization and met many wonderful life-long friends as well as a number of mentors who have, in many ways, shaped my professional career," said Chen. "To receive the TMS Fellow Award, considered a pinnacle award at TMS, is truly a dream come true."



**Ke Lu**  
*Director, Institute of Metal Research, China*

**Citation:** *For seminal contributions to the understanding of the mechanical properties of metals and nanocrystalline materials and for his world-class leadership of materials research.*

"I am deeply humbled by this extraordinary recognition. As a materials researcher in China, I could not ask for a more prestigious honor than to join the ranks of distinguished TMS Fellows—colleagues with stellar accomplishments and role models of my profession." Lu added, "This award inspires me to explore further in the vast field of nano-metals and to promote interest among future generations in this rich area."



**Gary Was**  
*Professor, University of Michigan*

**Citation:** *For seminal contributions to understanding environmental degradation of structural materials, with emphasis on irradiation-assisted stress corrosion cracking and irradiation-induced microstructural changes.*

"Sitting at the intersection of metallurgy, corrosion, and radiation effects can be challenging, but I have always found a home at TMS," Was noted. "The society has continued to be flexible, responsive, and adaptive to the changing materials world while maintaining strength in its core pursuits. I look forward to a fifth decade of close involvement with TMS."



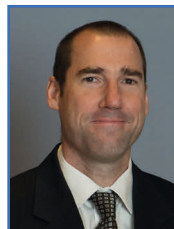
**Yuntian Zhu**  
*Distinguished Professor, North Carolina State University*

**Citation:** *For pioneering contributions to the understanding of deformation physics of nanomaterials and the development of nanotechnologies to produce superior nanomaterials.*

"It is a great honor to receive this award which represents a milestone in my career development," Zhu stated. "TMS has been my home academic society and becoming a TMS Fellow is a great recognition of my academic contribution. This honor will motivate me to make more contributions to the field of materials science and to TMS."

### 2017 BRIMACOMBE MEDALISTS

This mid-career award recognizes individuals with sustained excellence and achievement in business, technology, education, public policy, or science related to minerals, metals, or materials science and engineering, and a record of continuing service to the profession.



**Matthew Barnett**  
*Research Fellow, Deakin University, Australia*

**Citation:** *For substantial contributions to the advancement of the science and technology of alloy development and processing of metals and in particular of wrought magnesium alloys.*

"To receive an award from TMS is a fantastic honor as the society has been part of my professional life since graduation." Barnett added, "I've made much of my professional network through TMS meetings and have even been known to make back-to-back trips (within three days of each other) to the U.S. from Australia to permit attendance at the meeting!"



**Eric Brown**  
*Explosive Science and Shock Physics Division Leader, Los Alamos National Laboratory*

**Citation:** *For distinguished contributions to advancing the field of material dynamic mechanical properties and damage processes, while providing*

*long-standing service to TMS and the materials community.* "It is truly humbling to receive an award named after J. Keith Brimacombe, who was a giant in our community," Brown said. "Moreover, it is a great pleasure to join several colleagues, collaborators, mentors, and friends within TMS who have previously received this award. This recognition is a reflection of the opportunities to learn and grow in our careers that TMS provides all of us. Thank you to TMS and all of my colleagues who have contributed to my career."



**Amit Misra**  
*Professor and Department Chair,  
University of Michigan*

**Citation:** *For groundbreaking research on the mechanics and radiation response of nano-composite materials and for excellence in mentorship and service to the materials community.*

“I have always cherished the TMS membership and all its benefits,” said Misra. “I am deeply honored and humbled by this recognition from TMS and look forward to working with the society to champion research and education in metallic materials.”



**Yue Qi**  
*Associate Professor, Michigan State  
University*

**Citation:** *For her significant contributions in multidisciplinary computational materials science, from groundbreaking work on chemical-mechanical coupling to breakthroughs in understanding Li-ion battery failure.*

“J. Keith Brimacombe continuously inspires us to build bridges between science and engineering, modeling and experiments, and industry and academia and it is an honor to receive an award named after him. TMS has played a major role in my career development and helped my transition from industry to academia,” Qi stated. “When I attend TMS meetings, I find colleagues, friends, mentors, new ideas, core strength, and much more.”



**Gregory Thompson**  
*Professor, University of Alabama*  
**Citation:** *For notable contributions in linking analytical microscopy with phase and property studies across materials and length scales, commitment to STEM education, and service to TMS.*

“Throughout my years as a student and now professional member of TMS, the society has been instrumental in helping to craft my career,” reflected Thompson. “It has been a ‘technical home’ in learning and developing career-long collaborations while simultaneously providing me numerous opportunities to serve the scientific and engineering community. I am grateful to TMS and my colleagues for this recognition.”

## APPLICATION TO PRACTICE AWARD

This award recognizes an individual who has demonstrated outstanding achievement in transferring research results or findings into commercial production and practical use.



**Sanjay Sampath**  
*Professor, State University of New York*  
**Citation:** *For seminal contributions to the fundamental science of thermal spray materials processes and engineered surfaces with relentless efforts at promoting transition of scientific knowledge into industrial practice.*

“I am truly gratified and humbled to receive this recognition from my peers, mentors, and the society. I am grateful to the nominators as well as the students and colleagues in our center that contributed to the development of thermal spray science and technology,” said Sampath. “This award is significant as it recognizes the importance of manufacturing science to materials and the value of linkages between academic research and industrial practice. We hope this TMS award will further expand research and applications in this exciting field of materials processing.”



**Robert Wagstaff**  
*Director and Global Team Leader,  
Novelis Corporation*  
**Citation:** *For three decades of leadership in the safety, quality, and productivity of aluminum casting including Airlsip, LHC, Fusion, In-situ, and Flexreme technologies.*

“In my early years with TMS, the annual meeting was a remarkable opportunity to gain a better understanding of the current industry practice and to meet with my mentors,” reflected Wagstaff. “A group of us would arrive early on Sunday to purchase the proceedings and then dedicate the remainder of the evening to reading each paper in detail so that we were prepared to participate in the sessions that intrigued us most. With the mentors of my youth absent at the sessions of today, I still find myself excited on the Sunday evenings prior to the conference. These days, however, I am increasingly excited by the prospect of introducing and adopting new concepts and technology on a large scale. This award recognizes not only my career, but also the friends and mentors who helped me understand the importance of coupling theory with practical practice, the real recipients of this award.”

## BRUCE CHALMERS AWARD

Honors outstanding contributions to the science and/or technology of materials processing by an individual.



**S. Lee Semiatin**  
*Senior Scientist, U.S. Air Force  
Research Laboratory*

**Citation:** *For exceptional contributions to the science and engineering of thermomechanical processing of aerospace alloys, mentoring of young engineers, and technology transfer to*

*industry.*

“I am deeply honored to have been selected for the TMS Bruce Chalmers Award and to join the company of prior award recipients whom I so admire,” said Semiatin. “I view this award as a recognition of the research in the area of thermomechanical processing performed by our team, including colleagues and friends in our lab, in industry, and at various universities. This work has been aided greatly by people I have met and ideas garnered as a member of TMS. These interactions have been very fulfilling indeed, both professionally and personally.”

## MORRIS COHEN AWARD

Recognizes an individual who has made outstanding contributions to the science and/or technology of materials properties.



**Robert Ritchie**  
*Professor, University of California,  
Berkeley*

**Citation:** *For seminal contributions to the mechanistic understanding of the fracture and fatigue of a broad range of engineering, bioinspired, and biological materials.*

“I have been a member of TMS for some 40 years and regard it as my main professional society home. Being recognized by my peers for a TMS award is therefore a special honor to me,” noted Ritchie. “As for this particular award, I knew Morris Cohen when I taught at the Massachusetts Institute of Technology (MIT) in the late 1970s; he was a giant of a man in the topic of the physical metallurgy of steels and someone that I truly admired. All of this makes the award even more special to me.”

## EDUCATOR AWARD

This award recognizes an individual who has made outstanding contributions to education in metallurgical engineering and/or materials science and engineering.



**Ramana Reddy**  
*Professor, University of Alabama*

**Citation:** *For his more than 36 years of teaching to a large number of students, writing an undergraduate textbook, and his research contributions in phase equilibria and thermodynamics of materials.*

“I am honored and humbled to receive this award and to be counted among its distinguished prior recipients. I love teaching students and collaborating with researchers from all over the world. TMS is one of the most vibrant materials societies in the world and I am very pleased to be a member of it,” said Reddy. “The society has played a significant role in my professional growth and in providing the opportunities to develop contacts with friends and materials and engineering professionals worldwide.”

## WILLIAM HUME-ROTHERY AWARD

Awarded in recognition of exceptional scholarly contributions to the science of alloys.



**George Smith**  
*Professor of Materials Science,  
University of Oxford, England*

**Citation:** *For leadership and vision in development of advanced atom probe instruments and their application in improving understanding of atomic scale processes in metallurgical*

*transformations.*

**Presentation Title:** “The Role of Atom Probe Tomography in Decoding the Materials Genome”

“I am deeply honored to receive this prestigious award from TMS. It provides recognition for the achievements of the entire Oxford team for the development and application of three-dimensional atom probe analysis to the study of phase transformations and phase chemistry in metals and alloys. Hume-Rothery played a key role in the establishment of this field of research. I trust he would be pleased to see this award bestowed upon one of his successors in his old department.” Smith added, “I would like to dedicate this award especially to the memory of my beloved wife, Josie, who sadly passed away last year. She supported me steadfastly in everything I did, and believed in me more than I did myself.”

## INSTITUTE OF METALS LECTURER & ROBERT FRANKLIN MEHL AWARD

In receiving this pinnacle award, honorees present a lecture at the TMS annual meeting, which is also published in *Metallurgical and Materials Transactions A*.



**Steven Zinkle**  
*Governors Chair Professor, University of Tennessee*

**Citation:** *For innovative research on microstructure/property relationships in irradiated materials enabling improved understanding of performance limits and design strategies for high-performance*

*radiation-resistant materials.*

**Presentation Title:** “Microstructure of Irradiated Materials”

“I attended my first TMS meeting while I was in graduate school and greatly value the consistent technical and professional worth of its outstanding annual meeting symposia,” Zinkle said. “I am deeply honored and humbled to receive an award that has been previously presented to many of the materials science leaders I have long admired. The award namesake, Robert Franklin Mehl, was a leader in shaping the early foundations of science-based understanding of metallurgy and materials behavior. I am also appreciative of long-standing fruitful research collaborations with many colleagues on high performance materials capable of operation in a variety of extreme environments.”

## LEADERSHIP AWARD

This award recognizes an individual who has demonstrated outstanding leadership in the national and international materials community.



**John Allison**  
*Professor, University of Michigan*

**Citation:** *For his leadership in development and implementation of integrated computational materials engineering (ICME) in light-weight structural metallic materials.*

## ALEXANDER SCOTT DISTINGUISHED SERVICE AWARD

Recognizing a member’s outstanding contributions to TMS, this award is typically presented for 10 or more years of TMS service in membership development, student chapters, education and professional affairs, and/or other society level activity.



**James Foley**  
*Scientist, Los Alamos National Laboratory*

**Citation:** *For his dedicated and sustained service to TMS and its members, particularly to improvements in the quality of programming at TMS annual meetings and at Materials*

*Science & Technology conferences.*

“I was very fortunate to have people I admire greatly nominate me; the award represents so many people that have given much of themselves to TMS and I treasure the time I have spent with TMS,” said Foley. “Moreover, I have had the pleasure to serve with Alexander Scott and the subsequent executive directors of the society who also give so much back to TMS. Being recognized at this level for my service contributions to TMS and the profession is truly a grand honor.”

## CYRIL STANLEY SMITH AWARD

This award recognizes outstanding contributions to the science and/or technology of materials structure.



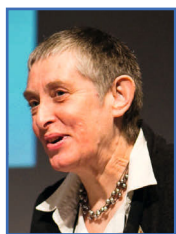
**Stephen Foiles**  
*Distinguished Member of Technical Staff, Sandia National Laboratories*

**Citation:** *For pioneering development of the Embedded Atom Method interatomic potentials, which laid the foundation for nearly three decades of molecular dynamics simulations of metals.*

“I am honored and thrilled to receive an award named for Cyril Stanley Smith, a pioneer in the study of material microstructures. Like him,” Foiles noted, “I have a long-standing fascination with grain boundaries and how they impact microstructural evolution. I want to recognize and thank the numerous colleagues who have greatly inspired, assisted, and corrected me in this work. TMS has also played a key role by providing the venues where many of these collaborations were established and nurtured.”

## ELLEN SWALLOW RICHARDS DIVERSITY AWARD

Honors the contributions of an individual who reflects the pioneering spirit of Ellen Swallow Richards in overcoming personal, professional, educational, cultural, or institutional adversity to pursue a career in the minerals, metals, and/or materials professions or in helping others in the field to overcome similar challenges.



**Lorna Gibson**  
*Professor, Massachusetts Institute of Technology (MIT)*

**Citation:** *For her public role in creating a culture of equality and diversity and her private support of those facing adversity in their field.*

“It is a special honor to be selected as the recipient of the 2017 Ellen Swallow Richards Diversity Award.” Gibson noted, “Ellen Swallow Richards had a long-time association with MIT as its first woman student in 1871, and as an instructor of chemistry for over 30 years. She was a strong advocate for the education of women, especially in science, and was well-known for her own contributions to evaluating water quality and to public health.”

## FRANK CROSSLEY DIVERSITY AWARD

Honors an individual who has personally overcome personal, professional, educational, cultural, or institutional adversity to pursue a career in minerals, metals, and/or materials.



**Lawrence Crosby**  
*Ph.D. Candidate, Northwestern University*

**Citation:** *For overcoming extraordinary barriers to become a successful young scientist, and being a role model to disadvantaged youth.*

“As a lifelong lover of learning, membership in TMS is a milestone in my journey to make the world better through scientific discovery,” Crosby reflected. “As a man who has overcome losing his father to statistics and his mother to diabetes, I can relate to Frank Crossley’s road through trials and tribulations. As the grandson of a teacher, I have been taught the value of education and perseverance from a young age. While my work is not yet finished, I am very grateful to receive recognition through the Frank Crossley Award, which truly sets a high bar embodied by the accomplishments of its namesake.”

## AIME AWARDS

### AIME HONORARY MEMBERSHIP

Conferred on an individual for outstanding service to or distinguished scientific or engineering achievement in the fields embracing the activities of the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) and its member societies.

**Reza Abbaschian**  
*Dean, Bourns College of Engineering, University of California, Riverside*

**Citation:** *For pioneering contributions in solidification processing, materials education, and leadership in materials science and engineering worldwide.*

**Rohit Trivedi**  
*Retired Professor, Iowa State University*

**Citation:** *For his manifold and lasting contributions to the understanding and control of microstructures in solidification and phase transformations, key elements in materials processing.*

### AIME ROBERT LANSING HARDY AWARD

For more than half a century, this award has recognized professionals under the age of 35 in the broad fields of metallurgy and materials science for exceptional promise of a successful career.



**Corinne Packard**  
*Assistant Professor, Colorado School of Mines*

**Citation:** *For exceptional promise in determining mechanical behavior of materials at diminishing length scales across the spectrum of metals, ceramics, and glasses.*

“Participating in TMS as a member and volunteer has had a substantial impact on advancing my professional career. The broad range of topics covered by TMS crosses material classes and spans from deeply scientific all the way to industrial application, so I know I will always find something that will propel my research in a new and rewarding direction.” Packard added, “I’m deeply honored to receive the Hardy Award, thankful to my nominators, students, and mentors, and excited to join the list of prestigious researchers who have contributed immensely to the fields of metallurgical and materials engineering.”

### AIME CHAMPION H. MATHEWSON AWARD

Awarded to the author(s) of a paper, or a series of closely related papers, representing the most notable contribution to metallurgical science during the period under review.



**Joseph D. Robson**  
*Professor of Metallurgy, University of Manchester, England*

**Paper:** “Effect of Rare-Earth Additions on the Texture of Wrought Magnesium Alloys: The Role of Grain Boundary Segregation,” *Metallurgical and Materials Transactions A*, July 2014.

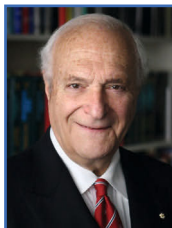
“I am aware of the very high quality of previous papers that have received this award, and am pleased my work has found value to the wider metallurgical research community and has been honored by this award,” said Robson.

“I would like to thank my colleagues, collaborators, and sponsors, including Magnesium Elektron, whose support of magnesium research at Manchester made this work possible. I would also like to thank TMS for its international role in strongly championing metallurgical research.”

### ACTA MATERIALIA AWARDS

#### 2017 ACTA MATERIALIA GOLD MEDAL AWARD

Awarded to a proven leader in materials science and engineering whose research has significantly impacted the development of the discipline.



**John Jonas**  
*Henry Birks Professor Emeritus, McGill University, Canada*

#### 2017 ACTA MATERIALIA SILVER MEDAL AWARD

This award honors scientific contributions and leadership from academic, industry, and public sector leaders in the midst of their careers.



**Jingyang Wang**  
*Professor and Deputy Head, Shenyang National Laboratory for Materials Science, China*

### 2017 ACTA MATERIALIA HOLLOMAN MATERIALS & SOCIETY AWARD

This recognition honors an individual who promotes understanding of the relationship and interactions between materials technology and societal interest or needs.



**Warren Poole**  
*Department Head, University of British Columbia, Canada*

### DIVISION AWARDS

#### EXTRACTION & PROCESSING DIVISION (EPD) DISTINGUISHED LECTURE AWARD

An outstanding scientific leader in the field of nonferrous extraction and processing metallurgy is invited to present a comprehensive lecture at the TMS annual meeting to recognize his or her contribution.



**Corby Anderson**  
*Harrison Western Professor, Colorado School of Mines*

**Citation:** *For his numerous significant contributions to the field of extractive metallurgy through industrial contributions, teaching, service, research, publications, patents, and management of students and staff.*

**Lecture:** “The Theory and Application of Alkaline Sulfide Leaching and Nitrogen Species Catalyzed Pressure Oxidation Hydrometallurgical Technologies”

“This award’s legacy and listing of its honored recipients represents the finest in this field of endeavor. Many prior recipients are respected colleagues, friends, and mentors.” Anderson said, “Its first recipient, William J. Kroll, enabled the creation of the Kroll Institute for Extractive Metallurgy at the Colorado School of Mines, where I now work. Thus, I am both deeply honored and humbled to receive this award. Thank you for this supreme recognition and I look forward to providing a technical and entertaining lecture.”

## EPD DISTINGUISHED SERVICE AWARD

This award recognizes outstanding long-term service to industries served by the EPD by consistently providing technical and/or operating knowledge that has enhanced the competitiveness of the industry.



**Shijie Wang**  
*Principal Advisor, Rio Tinto Kennecott Utah Copper Corporation*

**Citation:** *For distinguished service to the TMS EPD through committee participation and leadership as well as leadership in conference organizing.*

“I am honored to have received this award. I became a TMS member in 1991 and have been actively volunteering ever since,” reflected Wang. “I see TMS as an asset for queries as well as a forum for literary review. It is a superb organization and one in which learning flows in numerous directions.”

## EPD PYROMETALLURGY BEST PAPER AWARD

Recognizes individual excellence of a paper published in the proceeding volume of the EPD pyrometallurgy symposium from the previous year.



Joalet Steenkamp



Derek Hayman



Jacques Muller

**Joalet Steenkamp, Chief Engineer, MINTEK, South Africa; Jacobus Johannes Sutherland, Transalloys Pty Ltd., South Africa; Derek Hayman, Chief Technician, MINTEK; Jacques Muller, Consulting Process Engineer, Algoness Pty Ltd., South Africa**

**Paper:** “Tap-Hole Life Cycle Design Criteria: A Case Study Based on Silicomanganese Production,” *JOM*, June 2016.

“I fell in love with pyrometallurgy when I first witnessed a furnace being tapped. There was something magical in the combination of light, energy, and danger and now the TMS EPD award has validated this special bond I have with furnaces being tapped,” Steenkamp stated. Hayman also noted, “Over the years I have remained intrigued by furnace processes and the operational issues surrounding them

to ensure they operate successfully under such extreme process conditions. Thank you to TMS for this award, it is an honor and is much appreciated.” Muller added, “It has been a privilege to work with my colleagues on this publication. This award is a valuable recognition of the research work being done in our field.”

## EPD SCIENCE AWARD

This award recognizes a paper, or series of closely related papers, with at least one common author, which represents a notable contribution to the scientific understanding of extraction and processing metallurgy, with emphasis on nonferrous metals.



Micro Wegener



Luckman Muhmood

**Micro Wegener, CSIRO Process Science and Engineering, Australia; Luckman Muhmood, Associate Professor, KJ Somaiya College of Engineering, India; Shouyi Sun, CSIRO Process Science and Engineering; Alexandre Deev, CSIRO Process Science and Engineering**  
**Paper:** “Surface Tension Measurements

of Calcia-Alumina Slags: A Comparison of Dynamic Methods,” *Metallurgical and Materials Transactions B*, Feb. 2015.

Muhmood stated, “I would like to thank the TMS EPD Award Committee for recognizing our work at CSIRO (Commonwealth Scientific and Industrial Research Organization).” Deev added, “I am very grateful to TMS for granting our team this award and I feel honored. The TMS EPD Science Award is prestigious and is highly valued at our organization.” Sun noted, “While this brings personal satisfaction, I take more pride in my two young and very talented colleagues. This encouraging award serves well in recognizing their great effort and achievement.” Wegener said, “I felt our team of authors was a unique and highly complementary combination of skills and capabilities. I am grateful to have worked with them and I also thank CSIRO for their great support.”



## EPD TECHNOLOGY AWARD

Conferred on a paper that represents a notable contribution to the advancement of the technology of extraction and processing metallurgy, with emphasis on nonferrous metals.



Mark Taylor

**Mark Taylor, Professor, University of Auckland, New Zealand; John J.J. Chen, Professor, University of Auckland**

**Paper:** "Technique for Low Amperage Potline Operation for Electricity Grid Storage," *Metallurgical and Materials Transactions E*, March 2015.

"This award recognizes the research which John Chen and I started in 2003 which has culminated in several worldwide patents for a new heat exchanger technology, as well as many publications of which this paper is the most recent," said Taylor. "To be recognized by TMS for this research is a major highlight of mine and Chen's research careers, and is wider recognition of the Light Metals Research Centre and the group of researchers who have

contributed to the industrial application of the new technology."



John J.J. Chen

## NAGY EL-KADDAH AWARD FOR BEST PAPER IN MHD MATERIAL PROCESSING

The award honors the memory of Professor Nagy El-Kaddah for his contributions in the field of material processing by recognizing an original contribution to the field of magnetohydrodynamic (MHD) material processing.



Bo Wang



Xiaodong Wang



Jacqueline Etay



Xianzhao Na



Xinde Zhang



Yves Fautrelle

**Bo Wang, Student, University of Chinese Academy of Science, China; Xiaodong Wang, Professor, University of Chinese Academy of Science; Jacqueline Etay, Senior Researcher, SIMAP EMP, France; Xianzhao Na,**

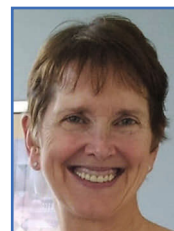
**Professor, Central Iron and Steel Research Institute, China; Xinde Zhang, Master, Central Iron and Steel Research Institute; Yves Fautrelle, Professor, Grenoble Institute of Technology, France**

**Paper:** "Flow Driven by an Archimedean Helical Permanent Magnetic Field. Part I: Flow Patterns and Their Transitions," *Metallurgical and Materials Transactions B*, April 2016.

"I'm grateful that our colleagues from the EPD gave this unique award to us, which is a special praise for our work," X. Wang noted. Fautrelle added that, "The TMS annual meeting is by far the most important world event in the field of materials. It is a great honor to receive such an award from TMS." Zhang stated, "This award and TMS membership means what we have done before is meaningful." Na also noted, "It is also a precious chance to help our group communicate with colleagues." Etay reflected, "I first met Nagy El-Kaddah in 1991, and never met a more enthusiastic man doing, among other works, pertinent numerical modeling of electromagnetic stirring. I am deeply grateful to the community for selecting this work for the Nagy El-Kaddah Award." "Indeed, it is a great honor for me to receive the Nagy El-Kaddah Award from TMS. This honor will encourage me to make more accomplishments in my research fields," said B. Wang.

## FUNCTIONAL MATERIALS DIVISION (FMD) JOHN BARDEEN AWARD

This award is presented to an individual who has made outstanding contributions to and is a leader in the field of electronic materials.



**Carol Handwerker  
Professor of Materials Engineering,  
Purdue University**

**Citation:** *For continuing excellence and contributions made in the field of electronic materials, especially in the areas of tin whisker growth and lead-free solders.*

"Since joining TMS as a graduate student in 1983, I have been very grateful to be a member of the TMS community of scholars, working together to advance both scientific knowledge and engineering practice for the public good," said Handwerker. "I feel incredibly honored to receive the John Bardeen Award from the FMD for my research in electronic packaging and interconnection and am indebted to my colleagues at Purdue, National Institute of Standards and Technology, and TMS for creating a culture of creativity and joy in exploring the fundamental basis of metallurgy and materials science."

## FMD DISTINGUISHED SCIENTIST/ENGINEER AWARD

Honors research excellence in one or several areas related to electronic, magnetic, and photonic materials science; technology impact; broad, sustained commitment to teaching or mentoring; service to TMS and/or the profession; and impact upon government or policy-making bodies.



**Sinn-wen Chen**  
*Professor, National Tsing Hua University, Taiwan*

**Citation:** *For continuing excellence and contributions made in the field of electronic materials, especially in the areas of tin whisker growth and lead-free solders.*

“It is a great honor to receive this award. TMS was my first professional society and its annual meeting was my first professional meeting,” Chen reflected. “Twenty-eight years later, I am still a member and have not missed a meeting. I would like to thank TMS and I look forward to many more years as a member.”

## LIGHT METALS DIVISION (LMD) DISTINGUISHED SERVICE AWARD

Award recipients are individuals whose continuous service to the LMD activities has facilitated TMS’s capability to serve its light metals-oriented members and their supporting organizations.



**Wilhelmus Sillekens**  
*Project Manager, European Space Agency, Netherlands*

**Citation:** *For his service to TMS in generating interest in new topics of light metals research and for his organization and support of the Magnesium Technology symposia.*

“It is a great honor for me to have been chosen as the recipient of the 2017 TMS Light Metals Distinguished Service Award,” stated Sillekens. “Being engaged in the society has enabled me not only to contribute to some major symposia relating to my field of research, but also to actively interact with the scientific materials community and through that build highly relevant global network of peers.”

## LMD LIGHT METALS AWARD

This award honors the author(s) of a paper presented in the preceding year in an LMD-sponsored session at the annual meeting, which notably exemplified the solution of a practical problem.



Bradley Hogan

**Bradley Hogan, Principal Process Engineer, WorleyParsons, Australia; Andrew Furlong, Principal Process Engineer, WorleyParsons**

**Paper:** “Going Far (Floating Alumina Refinery),” *Light Metals 2016*.

“It is an extreme honor to accept this award,” said Hogan. “TMS is a highly respected organization in the minerals, metals, and materials industries and the society gives me the opportunity to understand all the exciting work that is being done outside my field of expertise. It also gives me a great opportunity to network with colleagues.”

**Note:** This paper also earned the Light Metals Alumina & Bauxite Subject Award.



Andrew Furlong

## LMD ENERGY AWARDS

The professional and student best paper awards recognize the individual excellence of a paper exemplifying the application of science in solving a practical problem, and therefore must be technological in nature and present new and significant information related to an energy topic.

## LMD ENERGY BEST PAPER AWARD: PROFESSIONAL



Tao Wang

**Tao Wang, Metallurgical Engineer, Nucor Steel; Rama Mahapatra, Chief Metallurgist, Castrip LLC; Walter Blejde, Director of Technology, Castrip LLC**

**Paper:** “Novel Thin Strip Casting Process and Its Energy Consumption”

## LMD ENERGY BEST PAPER AWARD: STUDENT



Caryn Havlovick

**Caryn Havlovick, Graduate Teaching Assistant, Idaho State University; Chaston Ellis, Research Intern, Idaho National Laboratory; Donna Post Guillen, Distinguished Research Engineer, Idaho National Laboratory; Kevin Feris, Professor, Boise State University; Erik Coats, Professor and Director of Engineering Management Program, University of Idaho; Armando McDonald, Professor, University of Idaho**



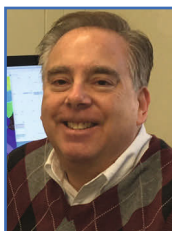
Donna Post Guillen

**Paper:** "Reduction of GHG Emissions through the Conversion of Dairy Waste to Value-Added Materials and Products," *Energy Technology 2016: Carbon Dioxide Management and Other Technologies*.

"This award is a validation of all the work that went into the the project and paper," said Havlovick. "I also feel that by winning this award, others were able to better comprehend and understand the work I did, and that it will hopefully be of some significance to them. I am honored that my paper will be published so anyone who wants to read it has the opportunity to do so."

## MATERIALS PROCESSING & MANUFACTURING DIVISION (MPMD) DISTINGUISHED SERVICE AWARD

Honors an individual whose dedication and commitment to the MPMD have made a demonstrable difference to their objectives and capabilities of the division and TMS.



**Mark Stoudt  
Materials Research Engineer, National Institute of Standards and Technology**  
**Citation:** *For tireless service throughout TMS, across multiple divisions, and throughout several committees within MPMD, as recognized by your contributions in programming,*

*recruitment and training.*

"My membership in TMS has been very rewarding, enriching my professional life in many ways. Through organizing symposia and the various positions that I have held, I have forged lasting friendships with people who share a passion for their profession, and it is the recognition of those efforts by my colleagues that makes receiving this award so special," Stoudt noted. "I hope that I can continue to advance the goals of TMS and give back to the society as much as it has given me."

## MPMD DISTINGUISHED SCIENTIST/ ENGINEER AWARD

This award recognizes an individual who has made a long-lasting contribution to design, syntheses, processing, and performance of engineering materials, with significant industrial applications.



**Neville Moody  
Retired, Sandia National Laboratories**  
**Citation:** *For ground-breaking work in hydrogen embrittlement, thin film mechanical behavior, novel uses of nanoindentation, as well as inspiring and mentoring future generations of materials scientists.*

"It is an honor to be recognized with this award. I have been a part of TMS since graduate school and active in MPMD for many of those years," stated Moody. "TMS has provided me the opportunity to meet and work with many scientists and engineers across the materials science and engineering community. My involvement in committees and organizing symposia has added opportunities and benefited my professional career."

## STRUCTURAL MATERIALS DIVISION (SMD) DISTINGUISHED SCIENTIST/ENGINEER AWARD

*Recognizes long-lasting contributions to the fundamental understanding of microstructure, properties, and performance of structural materials for industrial applications.*



**Somnath Ghosh  
Professor, Johns Hopkins University**  
**Citation:** *For innovative and sustained contributions in the field of computational mechanics of materials and tireless efforts to bridge materials and computations for industrial benefits.*

"It is indeed a tremendous honor for me to receive this prestigious award from the TMS SMD," said Ghosh. "I am grateful to the Awards Committee for finding me worthy of this tremendous honor. This is special recognition by my peers in the field of materials modeling, which is a great endorsement of my activities in research."

## LIGHT METALS SUBJECT AWARDS

The following awards recognize individual excellence of papers presented at the previous year's TMS annual meeting in an LMD-sponsored session.

### Aluminum Alloys

**Dimitry G. Sediako**, *Canadian Nuclear Laboratories, Canada*; **Wojciech Kasprzak**, *CanmetMATERIALS, Canada*; **Frank Czerwinski**, *CanmetMATERIALS*; **Ahmed M. Nabawy**, *Canadian Nuclear Laboratories*; **Amir R. Farkoosh**, *Postdoc Fellow, McGill University, Canada*

**Paper:** "High Temperature Creep Evolution in Al-Si Alloys Developed for Automotive Powertrain Applications: A Neutron In-Situ Study on hkl-Plane Creep Response," *Light Metals* 2016.

### Aluminum Reduction Technology

**Nick Depree**, *Senior Project Engineer, University of Auckland, New Zealand*; **Roman Duessel**, *Reduction Dept. Manager, TRIMET Aluminium SE, Germany*; **Pretesh Patel**, *Business Development Manager, University of Auckland*; **Till Reek**, *Potroom Manager, TRIMET Aluminium SE*

**Paper:** "The 'Virtual Battery': Operating an Aluminum Smelter with Flexible Energy Input," *Light Metals* 2016.

### Electrode Technology

**Wojciech Gebarowski**, *Norwegian University of Science and Technology, Norway*; **Camilla Sommerseth**, *SINTEF, Norway*; **Arne Petter Ratvik**, *Senior Scientist, SINTEF*; **Espen Sandnes**, *Associate Professor, Norwegian University of Science and Technology*; **Lorentz Petter Lossius**, *Principal Engineer, Hydro Aluminium AS, Norway*; **Hogne Linga**, *Manager, Carbon R&D, Hydro Aluminium AS*; **Ann Mari Svensson**, *Professor, Norwegian University of Science and Technology*

**Paper:** "Interfacial Boundary between Carbon Anodes and Molten Salt Electrolyte," *Light Metals* 2016.

### Warren Peterson Cast Shop for Aluminum Production

**Michael Powell**, *Industrial Engineer, Southwire Company LLC*; **Kiran Manchiraju**, *Director R&D, Southwire Company LLC*; **Qingyou Han**, *Professor, Purdue University*

**Paper:** "Ultrasonic Grain Refining of Continuous Cast Aluminum: Microstructure and Properties," *Light Metals* 2016.

## LMD MAGNESIUM TECHNOLOGY AWARDS

The following celebrate individual excellence of papers published in the previous year's volume of *Magnesium Technology* on specific topics or presented during the TMS annual meeting at the *Magnesium Technology Symposium*.

### Application

**Sindo Kou**, *Professor, University of Wisconsin-Madison*; **Tao Yuan**, *Beijing University of Technology, China*; **Xiao Chai**, *Metallurgy Scientist, Novelis Global Research and Technology Center*

**Paper:** "Effect of Filler Wires on Cracking along Edges of Magnesium Welds," *Magnesium Technology* 2016.

### Fundamental Research

**Jan Bohlen**, *Scientist, Helmholtz-Zentrum Geesthacht, Germany*; **Oliver Schlung**, *Helmholtz-Zentrum Geesthacht*; **Sven Gall**, *Professor, Technische Universität Berlin, Germany*; **Sören Müller**, *Head of Research Extrusion, Technische Universität Berlin*; **Dietmar Letzig**, *Head of Department, Helmholtz-Zentrum Geesthacht*

**Paper:** "Formability of Extruded Magnesium Sheet Alloys with Different Textures," *Magnesium Technology* 2016.

### Student Paper

**Ellen Solomon**, *Student, University of Michigan*; **Emmanuelle Marquis**, *Associate Professor, University of Michigan*

**Paper:** "The Structure of  $\beta''$  and  $\beta'$  in an Aged Mg-Nd Alloy," *Magnesium Technology* 2016.

### Poster

**Chaitanya Paramatmuni**, *Research Scholar, Indian Institute of Technology, Madras, India*; **Anand Kanjarla**, *Assistant Professor, Indian Institute of Technology, Madras*

**Title:** "Modeling Deformation and Texture Evolution in Mg Alloy AZ31 Using the Crystal Plasticity Fast Fourier Transforms"

