



# new and noteworthy at TMS

## TMS Presents 2015 JOM Best Paper Awards



The 2015 *JOM* Best Paper Awards for the TMS Light Metals Division (LMD) and TMS Structural Materials Division (SMD) were presented at the TMS 2015 Annual Meeting & Exhibition in March.

“Potential Applications of Concentrated Solar Thermal Technologies in the Australian Minerals Processing and Extractive Metallurgical Industry,” by Thomas Eglinton, Jim Hinkley, Andrew Beath, and Mark Dell’Amico, published in the December 2013 issue, is the 2015 LMD *JOM* Best Paper. In the paper’s abstract, the authors note that the Australian minerals processing and extractive metallurgy industries are responsible for about 20 percent of Australia’s total greenhouse gas emissions. Within this context, their paper “reviews the potential applications of concentrated solar thermal (CST) energy in the Australian minerals processing industry to reduce this impact.” The authors specifically focus on high-temperature applications, including the thermal decomposition of alumina and the calcination of limestone to lime in solar kilns, as well as the production of

syngas from natural gas and carbonaceous materials for various metallurgical processes.

The November 2013 article, “Materials Design and Discovery with High-Throughput Density Functional Theory: The Open Quantum Materials Database (OQMD),” by James E. Saal, Scott Kirklin, Muratahan Aykol, Bryce Meredig, and Christopher Wolverton, is the 2015 SMD *JOM* Best Paper. The authors review the high-throughput density functional theory database that they have developed, known as the Open Quantum Materials Database, which contains more than 200,000 DFT calculated crystal structures and is freely available at <http://oqmd.org>. The article describes the use of the OQMD in five materials problems. Both papers are available on SpringerLink. TMS members can access these articles for free by selecting the *JOM*: Issue Archive tab at [jom.tms.org](http://jom.tms.org) and logging on when prompted. Navigate to Volume 65 and then choose Issue 11 to read the SMD Best Paper or Issue 12 to read the LMD Best Paper.

Both awards recognize the author(s) of a paper published in an issue of the preceding year’s volume of *JOM* under a light metals-related or structural materials-related technical topic. The award winners are determined by the *JOM* advisors and the Council Award Committee representing their respective divisions.



## JOM Seeks Reviewers

Every technical paper submission to *JOM* undergoes a peer review process. The diligence of *JOM*’s advisors and guest editors in managing this have established the journal’s reputation as a leading publication in minerals, metals, and materials science and engineering, achieving a 2013 Impact Factor of 1.4. Concurrently, the number of papers published in *JOM* has increased by more than 30 percent since 2008, opening additional

opportunities to become involved in *JOM* as a volunteer reviewer.

To apply as a *JOM* reviewer, please submit a current curriculum vitae and list of publications to Justin Scott, *JOM* Technical Editor at [jscott@tms.org](mailto:jscott@tms.org). TMS membership is preferred, but not required. For additional information on *JOM*, including the most current technical emphasis calendar, please visit [www.jom.tms.org](http://www.jom.tms.org).

## AIME Recognizes 2015 Henry deWitt Smith Scholars

The American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) honored the 2015 AIME Henry deWitt Smith Scholars, Alexandra Anderson and Mohsen Seifi, at the TMS 2015 Annual Meeting & Exhibition in March.

Anderson earned her undergraduate degree in metallurgical engineering at Gonzaga University, where she worked as an undergraduate research assistant on a project that explored the mechanical properties of hydrogen exposed stainless steel. Currently, Anderson is working toward her master's degree at the Kroll Institute for Extractive Metallurgy at the Colorado School of Mines, focusing on a rare earth metal reduction research project. Upon graduation, Anderson plans to pursue a career as a metallurgist at a mining operation.

"I would like to thank TMS and the Material Advantage student program for supporting my graduate education. Material Advantage has played a major role in my professional development by providing me many opportunities to connect with working professionals in the materials and metallurgical industries. These interactions truly awakened an engineering passion that I never knew existed and led me to pursue graduate studies in the field of materials and metallurgical engineering," said Anderson. "I will make every effort to represent the values of Henry deWitt Smith as I continue to progress and contribute to the materials and mining fields."

Seifi is a graduate student at the Advanced Manufacturing and Mechanical Reliability Center (AMMRC) at Case Western Reserve University. Upon joining Case Western in 2011, Seifi focused his master's and Ph.D. research on naval aluminum-magnesium alloys, next-generation titanium aluminide, nickel tantalum high density metallic glasses, and Ti-6Al-4V made by electron beam additive manufacturing techniques. As part of this work, he has developed techniques to remotely monitor and control various testing machines.

"I think the Henry DeWitt Smith scholarship is the most prestigious honor and recognition that a materials science student can receive during his or her graduate study, and I am humbled to have been chosen for this award," said Seifi. "Since joining in 2009, my student membership in TMS has exposed me to a highly innovative and supportive materials community. I appreciate the various interactions with colleagues and friends that have been provided by TMS meetings, and I look forward to increasing my involvement as I continue my graduate studies and beyond."

Founded in 1967, the AIME Henry deWitt Smith Scholarship aims to advance the mineral industries by assisting students in the pursuit of graduate education in mining, metallurgical, materials, or petroleum-related disciplines. For additional information, visit the TMS Honors and Awards website at [awards.tms.org](http://awards.tms.org).



**Alexandra Anderson**



**Mohsen Seifi**

## Historic Marker Commemorates First AIME Meeting

In 1871, 22 mining engineers gathered in Wilkes-Barre, Pennsylvania with the intent of advancing "the more economical production of the useful minerals and metals [and] the greater safety and welfare of those employed in these industries." The event was the genesis of the American Institute of Mining Engineers, which later evolved into the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME). It was one of the first national engineering societies established in the United States and is known to this day as an Engineering Founder Society.

The Pennsylvania Historical and Museum Commission announced in March that it would commemorate the significance of that first meeting with a state historical marker installed at the site. It will join the nearly 2,300

cast aluminum markers along the roads and streets of Pennsylvania that chronicle the notable people, places, and events that have impacted both the commonwealth and the United States over the centuries.

TMS is one of four member societies of AIME, along with the Society for Mining, Metallurgy, and Exploration (SME), the Association for Iron & Steel Technology (AIST), and the Society of Petroleum Engineers (SPE). AIME supports its member societies by funding projects and programs through distributions and grant opportunities and supporting awards and scholarships that honor the AIME legacy and recognize outstanding society members and promising students.

Details on the installation and dedication of the AIME historical marker will be announced in the coming months.



Tresa Pollock



Alton D. Romig



Alan Taub

## TMS Members Named as Head Health Challenge III Judges

TMS members Tresa Pollock, Alton D. Romig, and Alan Taub are three of the seven judges named for the Head Health Challenge III, an open innovation competition awarding up to \$2 million for materials that better absorb or dissipate energy.

A 2009 TMS Fellow, Pollock is the Alcoa Professor of Materials and chair of the Materials Department at the University of California, Santa Barbara. She served as president of TMS in 2005. Romig, a 2005 TMS Fellow, recently joined the U.S. National Academy of Engineering as its Executive Officer. Immediately prior to this, he served as vice president and general manager of Advanced Development Programs Engineering and Advanced Systems for Lockheed Martin Aeronautics. Taub is currently the Chief Technology Officer at the American Lightweight Materials Manufacturing Innovation Institute (ALMMII) and a retired vice president of Global Research and Development for General Motors (GM).

Head Health Challenge III, supported by the National Institute of Standards and Technology, the National Football League (NFL), GE, and Under Armour, seeks to stimulate the development of a range of materials that can better protect athletes, military personnel, and others in dangerous occupations from traumatic brain injuries. This challenge is part of the overall Head Health Initiative, a 4-year, \$40 million research program between the NFL and GE, with an additional \$20 million set aside for open innovation challenges. Challenge I focused on better brain imaging to detect subtle changes after a traumatic event, and Challenge II encompassed new technologies and tools to track head impacts in real time and protect the brain.

## TMS Welcomes New Members

Please join us in congratulating the following new TMS members, approved by the TMS Board of Directors at its March meeting:

- Abbas, Ala R.; University of Akron, USA
- Abed, Farid H.; American University of Sharjah, United Arab Emirates
- Ajayan, Pulickel M.; Rice University, USA
- Al Qahtani, Noora; Qatar University, Qatar
- Aleji, Maryam M.; Qatar University, Qatar
- AlFadhlah, Khaled; Kuwait University, Kuwait
- Al-Maadeed, Mariam A.; Qatar University, Qatar
- Al-Muraikhi, Maitha; Qatar University, Qatar
- Anderson, Patrick; TimkenSteel Corporation, USA
- Ashhab, Sahel; Qatar Environment & Energy Research Institute, Qatar
- Ayoub, Georges; American University of Beirut, Lebanon
- Ayyavu, Chandramohan; Texas A&M University at Qatar, Qatar
- Balasubramanian, Ganesh; Iowa State University, USA
- Barnett, Russell S.; Harley Davidson Motor Company, USA
- Baxevanakis, Konstantinos; Drexel University, USA
- Baxevanis, Theocharis; Texas A&M University, USA
- Bell, David; Kraton Performance Polymers, Netherlands
- Bromilow, Kyle; Bawtry Carbon International Ltd.; UK
- Brossia, Christopher S.; Argus Tech, USA
- Cagin, Tahir; Texas A&M University, USA
- Caillard, Daniel; Centre National de la Recherche Scientifique, France
- Carrier, David J.; Cintube, Canada
- Cederqvist, Lars G.; Swedish Nuclear Fuel and Waste Management Company, Sweden
- Chafra, Moez; IPEI El Manar, Tunisia
- Chakrabarty, Aurab; Texas A&M University at Qatar, Qatar
- Chang, Kunok; Korea Atomic Energy Research Institute, South Korea
- Chatzigeorgiou, George; Arts et Métiers ParisTech, France
- Chemisky, Yves; Arts et Métiers ParisTech, France
- Chen, Wei; AVIC Aeronautical Manufacturing Technology Research Center, China
- Chesnel, Karine; Brigham Young University, USA
- Chohan, Shoaib; Texas A&M University, USA
- Chow, Agnes; Carl Zeiss X-ray Microscopy, USA
- Crane, Cortney; Exponent Failure Analysis Associates, USA

- Daly, Samantha H.; University of Michigan, USA  
Dekkiche, Ali; R&D Carbon Ltd., Switzerland  
Deschamps, Alexis; Genoble Institute of Technology, France  
Dessouky, Samer; The University of Texas at San Antonio, USA  
Dhindaw, Brij K.; Christ University, India  
Dulhanty, Kevin; Canada  
El Hajj Diab, Amer; King Abdullah University of Science & Tech, Saudi Arabia  
El Kadiri, Haitham; CAVS USA Inc., USA  
Entel, Peter; University Duesburg-Essen, Germany  
Erturk, Alper; Georgia Institute of Technology, USA  
Forakis, Pete; STAS Middle East Ltd. FZE, United Arab Emirates  
Grosko, Tom; USA  
Gudeczauskas, Donald; Uyemura International, USA  
Hammill, Kim T.; Alcoa Inc., USA  
Hasegwa, Masakatsu; Kyoto University, Japan  
Hassan, Mohammad K.; Qatar University, Qatar  
Holzenburg, Andreas; Texas A&M University, USA  
Ishino, Shiori; University of Tokyo, Japan  
Iyengar Srinath R.; Texas A&M University at Qatar, Qatar  
Jacques, Alan; IJL/CNRS, France  
James, Richard D.; University of Minnesota, USA  
Jian, Nicholas; East Penn Manufacturing, USA  
Jouiad, Mustapha; Masdar Institute, United Arab Emirates  
Karrab, Salem Ali Sadik; Misurata University, Libya  
Kart, Hasan Hüseyin; Pamukkaie University, Turkey  
Keralavarma, Shyam M.; Indian Institute of Technology Madras, India  
Kesler, Michael S.; University of Florida, USA  
Kim, Hansung; Purdue University Calumet, USA  
Kockar, Benat; Hacettepe University, Turkey  
Kogbara, Reginald B.; Texas A&M University at Qatar, Qatar  
Kolas, Steinar; Hydro Aluminium, Norway  
Kosishi, Hirokazu; Osaka University, Japan  
Kreuzpainter, Wolfgang; Technische University Muenchen, Germany  
Krupa, Igor; Qatar University, Qatar  
Lancaster, Drew; UTC, USA  
Lawalin, Joshua G.; Aleris Rolled Products, USA  
Lawalin, Sara B.; Aleris Rolled Products, USA  
Le Graverend, Jean-Briac; Texas A&M University, USA  
Little, Dallas; Texas A&M University, College Station, USA  
Liu, Yanwen; University of Manchester, Great Britain  
Marthinsen, Knut; Norwegian University of Science and Technology, Norway  
Masad, Eyad; Texas A&M University at Qatar, Qatar  
Meddeb, Amira; Pennsylvania State University, USA  
Medovar, Lev; Elmet-Roll, Ukraine  
Menapace, Ilaria; Texas A&M University at Qatar, Qatar  
Meraghni, Fodil; Arts et Métiers ParisTech, France  
Mody, Rustom K.; Baker Hughes Inc., USA  
Mohamed, Adel, M.A.; Qatar University, Qatar  
Mohney, Suzanne E.; Pennsylvania State University, USA  
Mrlik, Miroslav; Qatar University, Qatar  
Mukherjee, Sundeep; University of North Texas, USA  
Norman, Heather; USA  
Noyan, Ismail, Cevdet; Columbia University, USA  
Ojima, Mayumi; University of Tokyo, Japan  
Overman, Nicole R.; Pacific Northwest National Laboratory, USA  
Ozdemir Kart, Sevgi; Pamukkale University, Turkey  
Papagiannakis, Athanasios; The University of Texas, San Antonio, USA  
Pesavento, Paul; HTI, USA  
Popelka, Anton; Qatar University, Qatar  
Popovics, John S.; University of Illinois, USA  
Qi, Yue; Michigan State University, USA  
Randall, Clive A.; Pennsylvania State University, USA  
Restrepo-Gutierrez, Oscar A.; University of Montreal, Canada  
Ribarik, Gabor; Institute of Physics, Hungary  
Ruimi, Annie; Texas A&M University, USA  
Sadeq, Mohammed A.; Texas A&M University at Qatar, Qatar  
Samonds, Mark T.; ESI US R&D Inc., USA  
Saravanos, Dimitrios A.; University of Patras, Greece  
Scarpas, Tom; Delft University of Technology, Netherlands  
Schenk, Thomas; École des Mines de Nancy, France  
Sevik, Cem; Anadolu University, Turkey  
Shahbazian-Yassa, Reza; Michigan Technological University, USA  
Shakoor, Abdul; Qatar University, Qatar  
Sharma, Pradeep; University of Houston, USA  
Shukla, Rishabh; TRDDC, India  
Sobolciak, Patrik; Qatar University, Qatar  
Sohail, Muhammad; Qatar Environment & Energy Research Institute, Qatar  
Takamiya, Hiroyuki; Toyota Central R&D Laboratory Inc., Japan  
Tang, Yizhe; Shanghai University, China  
Trejo, David; Oregon State University, USA  
Turan, Rasi; Middle East Technical University, Qatar  
Vaddiraju, Sreeram; Texas A&M University, USA  
Van Der Bent, Steven; Hencon, Netherlands  
Van Der Ven, Anton; University of California, USA  
Volkert, Cynthia A.; University of Goettingen, Germany  
Wang, Peng; King Abdullah University of Science & Technology, Saudi Arabia  
Wang, Xiaoming; Purdue University, USA  
Wang, Huaiyuan; Northeast Petroleum University, China  
Wani, Irfan Samad; India  
Witulski, Thomas; Otto Fuchs KG, Germany  
Xiong, Liming; Iowa State University, USA  
Yan, Xinyan; Alcoa Inc., USA  
Yang, Mu-Jen; Harris Inc., USA  
Yang, Wei; Texas A&M University at Qatar, Qatar  
Yi, Jianzhang; Coherent Inc., USA  
Zadeh, Khadija M.; Qatar University, Qatar  
Zaric, Snezana D.; Texas A&M University at Qatar, Qatar  
Zhang, Wei; The Ohio State University, USA  
Zhang, Yuanbo; Central South University, China  
Zhao, Huijuan; Clemson University, USA