

MEMA 2015: A Global Conversation on Energy Materials

Kaitlin McMahon

A meeting in the Middle East to discuss energy technologies laid the groundwork for collaboration and knowledge exchange on a global scale.

“In the last 10 years, there has been tremendous investment in science and education in some of the Middle Eastern and Mediterranean countries,” said Ibrahim Karaman, Texas A&M University (TAMU) and organizer of the TMS Middle East–Mediterranean Materials Congress on Energy and Infrastructure Systems (MEMA 2015). He continued: “Especially in gulf states, the establishment of new universities and research institutions has attracted top-notch researchers and students from the region and across the world to these countries, nucleating clusters of excellence. Furthermore, vast conventional and renewable energy resources in the region call for more structured fundamental and applied research efforts in the region’s countries and scientific collaboration among themselves and with the rest of the world.”

All of these factors motivated TMS, along with several supporting organizations, including TAMU and Texas A&M University at Qatar, to organize MEMA 2015, held January 11–14 in Doha, Qatar. The congress focused on three technical tracks: Sustainable Infrastructure Materials; Materials for Energy Extraction,



Raymundo Arroyave, MEMA 2015 organizer, makes introductory comments at the Monday morning plenary session.

Conversion, and Storage; and Computational Materials Design. Leveraging regional interests and expertise, particularly along the three tracks, was a main goal of the congress, giving attendees the opportunity to develop relationships with experts in the Qatar region.

The opportunity was taken up by a diverse audience: 170 attendees from 23 countries participated in the congress. The breadth and depth of that international participation was a highlight of the event, said Raymundo Arroyave, TAMU and MEMA 2015 organizer. “We had many highly accomplished speakers and nice presentations from scientists all over the world,” he said

Karaman noted that support from Qatari institutions, in addition to the forming of regional and international partnerships, played a significant role in the success of the congress. “There were talks that led to new ideas and collaborations on how to address the region’s specific infrastructure materials challenges,” he said.

This Energy-and-Environment themed issue of *JOM* offers a sampling of the knowledge shared at MEMA 2015. Four papers from the congress are included, with Arroyave serving as guest editor.

“I think that the papers constitute a good representation of the talks that were presented at the conference,” said Arroyave. Those four papers are:

- “Photocatalytic Degradation of Methylene Blue by Hydrothermally Prepared Ag-doped TiO₂ under Visible Light Irradiations,” by Matiullah Khan, Sahar Ramin Gul, Jing Li, and Wenbin Cao
- “Optimization of Soft Magnetic Properties in Nanocrystalline Fe-



The Tuesday poster session offered attendees the chance to network, share their latest work, and establish collaborations with other researchers from around the world.

- “Rich Glass-Coated Microwires,” by V. Zhukova, A. Talaat, M. Ipatov, J.J. del Val, J.M. Blanco, L. Gonzalez-Legarreta, B. Hernando, R. Varga, P. Klein, M. Churyukanova, and A. Zhukov
- “Tuning of Magnetic Properties of Ni-Mn-In-Co Heusler-Type Glass-Coated Microwires,” by V. Zhukova, M. Ipatov, A. Aronin, G. Abrosimova, A. Kiselev, and A. Zhukov
- “A Preisach-Based Non-equilibrium Methodology for Simulating Performance of Hysteretic Magnetic Refrigeration Cycles,” by Timothy D. Brown, Nickolaus M. Bruno, Jing-Han Chen, Ibrahim Karaman, Joseph H. Ross Jr., and Patrick J. Shamberger

The MEMA 2015 proceedings CD can be purchased for \$149.95 at wiley.com. Individual files can be purchased through the Wiley Online Library: onlinelibrary.wiley.com. TMS members receive a 35 percent discount. Access the discount code in the TMS-Wiley Bookstore section of the TMS Knowledge Resource Center at knowledge.tms.org.

