



## TMS Releases New Study; Welcome to New TMS Members

### TMS Releases *Harnessing Materials Innovations*

An analysis of seven highest priority opportunities enabled by manufacturing breakthroughs is the focus of *Harnessing Materials Innovations to Support Next Generation Manufacturing Technologies*, a new technical report released on March 1 by TMS. Developed by TMS on behalf of and in

coordination with the Alliance for Manufacturing Foresight (MFOresight), the report is available for free download at [www.tms.org/mforesightworkshop](http://www.tms.org/mforesightworkshop).

Drawing on the contributions of more than 40 leading experts who participated in a facilitated workshop in October 2017, *Harnessing Materials Innovations* specifically proposes and examines the following opportunity areas:

- Analytics for Nondestructive Evaluation (NDE) and Sensors
- Joining of Dissimilar Materials
- Machine Learning for Accelerated Materials Discovery and Design
- Qualification for New Materials and Processes
- Next-Generation Conductive Materials
- Materials for Smart Manufacturing & Digital Thread Technologies
- Smart Materials

“One of the things I found especially valuable from this workshop was the vast experience and knowledge of the participants,” said George Spanos, TMS

Technical Director, and *Harnessing Materials Innovations* project leader. “It was truly a ‘dream team’ of experts who offered incredibly valuable perspectives and insights on the nexus between materials innovations and manufacturing. It was also great to work with MFOresight in that they are looking at manufacturing from a broader perspective, and coordinating several such workshops to connect many pieces of the next-generation manufacturing puzzle”.

*Harnessing Materials Innovations* individually explores each of the seven opportunity areas within the context of some example technology breakthroughs for enabling them. Justifications for investment in these opportunity areas and discussion of actionable pathways and/or follow-on studies that will facilitate future research and implementation efforts are also provided.

Noted Spanos, “The report captures some especially promising opportunities specific to materials innovations.”

*Harnessing Materials Innovations* is the latest in an ongoing series of impactful technical reports that TMS has led on topics critical to the advancement of the minerals, metals, and materials fields. It also marks an important milestone in a comprehensive series of workshops coordinated by MFOresight.

To access previous TMS technical reports, as well as *Harnessing Materials Innovations*, visit the TMS Studies home page at [www.tms.org/studies](http://www.tms.org/studies).



### member news

Share the good news about your professional accomplishments!

Contact Lynne Robinson, JOM Magazine Editor, at [lrobinson@tms.org](mailto:lrobinson@tms.org).

Please note that only news submitted by current TMS members will be considered.



Christian M. Bickert

### In Memory of Chris Bickert

TMS extends its sympathies to the family, friends, and colleagues of Christian M. Bickert, consultant, Aluminium Pechiney, France, who passed away on January 11, 2018. He was 84 years old.

A TMS member since 1983, Bickert received the TMS Light Metals Division (LMD) Technology Award in 2002, and the LMD Distinguished Service Award in 2005. His volunteer leadership contributions to TMS included Aluminum Committee

chair, editor of the 1990 *Light Metals* proceedings, and JOM advisor. He noted, upon receipt of his LMD Distinguished Service Award, “I found with TMS a real core of famous scientists from both academia and industry with whom we tried to promote the spirit of TMS. We have been successful, I think, in creating a true web of people from different cultures, countries, and disciplines promoting the development of our industry.”

## TMS Welcomes New Members

The TMS Board of Directors approved professional membership for the following individuals at its March 2018 meeting. Please join us in congratulating and welcoming them as our newest TMS members.

Adkins, Cynthia; Idaho National Laboratory, United States	Belyakov, Sergey A.; Imperial College London, United Kingdom	Flores Vazquez, Francisco U.; NanoAl, United States	Ilevbare, Gabriel; Idaho National Laboratory, United States
Aga, Roberto; General Dynamics/Air Force Research Laboratory, United States	Capelatto, Paulo Augusto; Sapa Aluminuim Brasil S.A., Brazil	Friedrich, Ralph; SGL CFL CE GmbH, Germany	Ísleifsson, Kristmann Már; Nordural, Iceland
Agarwal, Shradha; University of Tennessee Knoxville and Oak Ridge National Laboratory, United States	Chen, Hui; National Energy Technology Laboratory, United States	Galetz, Mathias C.; DECHEMA Forschungsinstitut, Germany	Jain, Anubhav; United States
Agarwal, Sumit; United States	Chen, Ming; Air Force Research Laboratory, United States	Gallagher, Craagen M.; United States	Jang, Shian Ching; National Central University, Taiwan
Agianntis, Panagiotis; Bridgnorth Aluminum Ltd, United Kingdom	Chen, Xinqi; Hubei University of Education, China	Gandhi, Megha; United States	Janney, Dawn; Idaho National Laboratory, United States
Ahmad, Azkar Saeed; Southern University of Science and Technology, China	Cheng, Jinquan; Composite Solutions and Digital Manufacturing LLC, United States	Ghosh, Malay K.; Institute of Minerals and Materials Technology, India	Jata, Kumar V.; Jata Materials Solutions, United States
Akanda, Sajedur; National Energy Technology Laboratory, United States	Cote, Jules; Aluminerie Alouette Inc, Canada	Ghosh, Suddhodhan; Gautschi Engineering GmbH, Switzerland	Jonas, Robert K.; Honeywell International Inc, United States
Alam, Talukder; University of North Texas, United States	De Bakker, Jan S.; Sipi Metals Corporation, United States	Gong, Cajer; Naval Air Systems Command, United States	Jozwik, Pawel; Military University of Technology, Poland
Allen, Janet K.; University of Oklahoma, United States	Deganello, Francesca; CNR-ISMN Palermo, Italy	Greiner, Nathan; Air Force, United States	Kane, Sean; Naval Air Systems Command, United States
An, Qi; United States	DeLorme, Richard D.; GARD Engineering, United States	Griffiths, James P.; Magnesium Elektron UK, United Kingdom	Kang, Heon; Hyundai-steel, South Korea
Angrisani, Gian Luigi; Leibniz Universitat Hannover, Germany	Diaz, Agustin; REM Surface Engineering, United States	Griffo, Anthony; Schlumberger, United States	Kaya, Serhat; Luxfer Superform, United States
Argade, Gaurav R.; United States	Drazin, John; Naval Research Laboratory, United States	Grogan, Joseph; Gopher Resource, United States	Khanal, Rabi; University of Idaho, United States
Asmussen, Matthew; Pacific Northwestern National Laboratory, Canada	Dunsmoor, Ronald R.; Novelis, United States	Haghayeghi, Reza; Azad University, United States	Kilgo, Alice; Sandia National Laboratories, United States
Aydiner, Cahit Can; Bogazici University, Turkey	Dye, Megan; Resco Products, United States	Haider, Waseem; Central Michigan University, United States	Kim, Seong Nyeong; Hyundai-steel, South Korea
Baker, Kate Hadley; United States	Edgerton, David; Entecco Filtration Technology Inc, United States	Hall, Jody N.; SMDI, United States	Kirsch, Mathew S.; Air Force Research Laboratory, United States
Balaz, Peter; Slovak Academy of Sciences, Slovakia	Elahinia, Mohammad; University of Toledo, United States	Hamer, Shaun; AluMOre, United States	Kurtz, Timothy J.; Stryker, United States
Barnett, Russell S.; Harley Davidson Motor Company, United States	Esposito, Giuseppe; TRIMET Aluminium SE, Germany	Hamlyn, Angela; CIM, Canada	Lalwani, Sanjiv; Lynntech Inc, United States
Belianinov, Alex; Oak Ridge National Laboratory, United States	Ewing, William; Boron Specialties LLC, United States	Harmon, Aaron M.; Aleris, United States	Lazarus, Nathan; US Army Research Laboratory, United States
	Feng, Lin; University of Illinois at Urbana-Champaign, United States	Hesebeck, Mareike; Danfoss Power Solutions, Germany	Lee, Eunkyung; Worcester Polytechnic Institute, United States
	Fiske, Michael R.; Jacobs Space Exploration Group, United States	Hodaj, Fiqiri; Grenoble Institute of Technology, France	
		Hu, Yongjie; University of Michigan, United States	
		Hudson, Brett A.; Novamet, United States	
		Hussain, Syed Faisal; Maaden Aluminum, India	

- Lee, JaeWoo; Hyundai Steel, South Korea
- Li, Jin; Purdue University, United States
- Li, Ta M.; Washington Group International Inc, United States
- Lloyd, Jeffrey T.; US Army Research Laboratory, United States
- Lookman, Turab; Los Alamos National Laboratory, United States
- Lu, Jenny; DNVGL, United States
- Lu, Yang; City University of Hong Kong, Hong Kong
- Ma, Fengcang; University of Shanghai, China
- Madugundo, Rajasekhar; BCMaterials, Spain
- Mahajanam, Sudhakar; Pinnacle ART, United States
- Mallat, Jeffrey R.; Doosan ATSA, United States
- Manimunda, Praveena; Hysitron Inc, United States
- Mantovani, Diego; Laval University, Canada
- Martins, Marmo Do Prado; Billets Do Parana Ltda, Brazil
- Mashhadi Jafarlou, Davoud; University of Massachusetts Amherst, United States
- Mathew, M D.; Saintgits College of Engineering, India
- Matteis, Paolo; Politecnico Di Torino, Italy
- Maxwell, James; Leidos, United States
- McGannon, Patrick; Aleris, United States
- McNamara, Patrick D.; Resco Products Inc, United States
- Medved, Jozef; University of Ljubljana, Slovenia
- Meyer-Olsen, Jens; Hycast AS, Norway
- Mike, Jared; Lynntech, United States
- Miljkovic, Nenad; University of Illinois at Urbana-Champaign, United States
- Miller, F. Scott; Missouri University of Science and Technology, United States
- Mitic, Vojislav; University of Nis, Serbia and Montenegro
- Mitrasinovic, Aleksandar; University of Toronto, Canada
- Mizuguchi, Takashi; Ehime University, Japan
- Moon, Kil-Won; National Institute of Standards and Technology, United States
- Mostaed, Ehsan; Michigan Technological University, United States
- Mrvar, Primoz; University of Ljubljana, Slovenia
- Mu, Sai; United States
- Nabhan, Sirina N.; United States
- Nagwanshi, Manoj; India
- Nahin, Ayeman Mazdi; Rajshahi University of Engineering & Technology, Bangladesh
- Nanda, Avi; United States
- Nene, Saurabh Sanjay; University of North Texas, United States
- Neubert, Steffen; AMAG casting GmbH, Austria
- Nigay, Pierre-Marie; Worcester Polytechnic Institute, United States
- Nishimura, Shinya; Ministry of Education, Culture, Sports, Science and Technology, Japan
- Noyrez, Eric; Neo Performance Materials, France
- Odunuga, Samson; Intel, United States
- Olason, Pall E.; Nordural Century Aluminum, Iceland
- Palani, Mani; Texan Stone LLC, United States
- Peng, Fei; Clemson University, United States
- Peterson, Dean E.; United States
- Pettersen, Mathieu; STAS, Canada
- Ram-Mohan, Ramdas; Worcester Polytechnic Institute, United States
- Raza, Mohsin Ali; University of Punjab Lahore, Pakistan
- Sa Neto, Valmiro C.; Praxair Inc, United States
- Saboo, Abhinav; QuesTek Innovations LLC, United States
- Samuelson, Jeffery W.; GE Power, Switzerland
- Sanchez Cortezon, Emilio; Industrial Quimica Del Nalon, S.A., Spain
- Sanfrey, Steven L.; West Materials Inc, United States
- Scott, Phil; United States
- Sheffield, Paul; Praxis Technology, United States
- Sherman, Andrew J.; Powdermet Inc/Terves Inc, United States
- Shi, San-Qiang; Hong Kong Polytechnic University, Hong Kong
- Shin, Jaehyuck; Korea Automotive Technology Institute, South Korea
- Sohr, Thomas; Bharat Forge Aluminiumtechnik GmbH, Germany
- Somerville, Ellie A.; United States
- Srivastava, Vivek; Hindalco Industries Limited, India
- Stan, Marius; Argonne National Laboratory, United States
- Sukhomlinov, Dmitry; Aalto University, Finland
- Sunday, Katie Jo; Hoeganaes Corporation, United States
- Sutherland, Douglas; TK Holdings Inc, United States
- Takaki, Tomohiro; Kyoto Institute of Technology, Japan
- Taylor, Rocky S.; Memorial University, Canada
- Tewksbury, Graham; Portland State University, United States
- Tremblay, Etienne; STAS, Canada
- Ulvund, Ola; Hycast, Norway
- Vahling, Michael; Honeywell, United States
- Vasinko, Robert; Kennametal, United States
- Von Kruger, Paulo; Universidade Federal De Ouro Preto, Brazil
- Wibowo, Agus; PT Indonesia Asahan Aluminium (PERSERO), Indonesia
- Winsand, Robert N.; Ross Controls, United States
- Wu, Junchi; Intel Corporation, United States
- Wu, Wenzhuo; Purdue University, United States
- Xenos, Epameinondas; Elval Halcor S.A., Greece
- Yang, Mei; Worcester Polytechnic Institute, United States
- Yu, Ming; University of Louisville, United States
- Zalisko, Benjamin E.; University of Chicago, United States
- Zeik, Kevin L.; US Steel Group, United States
- Zhang, Yuanbo; Central South University, China
- Zhao, Shijun; Oak Ridge National Laboratory, United States
- Zhuang, Houlong; United States