

# the YOUNG LEADER

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*The Newsletter of the TMS Young Leaders Committee*



## INTERNATIONAL SCHOLAR PROGRAM OFFERS NEW AVENUES OF COLLABORATION

Nitin Chopra, assistant professor, Metallurgical and Materials Engineering, University of Alabama, Tuscaloosa, will be traveling to Tokyo in March as the 2011 TMS Young Leader International Scholar. The highlight of his busy itinerary is presenting a paper—"Multi-component and Multi-functional Nanoscale Heterostructures: Their Morphological Control and Assembly on High Curvature 1-D Nanostructures"—at the 2011 Annual Spring Meeting of the Japan Institute of Metals (JIM). In addition, he is looking forward to visiting the National Institute for Materials Science in Tsukuba City and the Tokyo Institute of Technology in Yokohama City, as well as other Japanese industrial research centers, universities, and research laboratories.

"Visiting select industrial facilities and laboratories will aid in my establishing strong collaborations with distinguished materials scientists and metallurgists," said Chopra. "This opportunity will not only develop my leadership skills, but also strongly contribute towards my professional development, both as a scientist and an educator."

Chopra learned of the International Scholar program through his involvement on the TMS Young Leader Committee. "It seemed like an excellent opportunity to interact with scientists and engineers in Japan, as well as to present my work at JIM, which is a very esteemed scientific society," he said. "Above all, it is a great honor for me to represent TMS at JIM as a Young Leader International Scholar."

The research that Chopra will be presenting at the JIM meeting combines expertise in nanostructures growth, nano/microfabrication techniques, and a variety of characterization methodologies to design and understand newer kinds of nanomaterials for a wide range of applications. "The ultimate aim of this research endeavor is to realize real-life devices based on the developed nanomaterials," he said. Chopra noted that his group's research themes are specifically focused on novel energy and photocatalytic technologies, multi-functional and innovative chemical and biological sensor design, and smart hybrid nanocomposites.

"The TMS Young Leader International Scholar is an excellent exchange program that provides young professionals like me a great opportunity to interact with global scientific leaders," Chopra continued. "This experience will facilitate my developing new collaborations with scientists and engineers on the other side of the world and provide me with a critical platform for learning more about other work in the area of nanotechnology."

For additional information and to access an application for the International Scholar program, visit the TMS Young Leaders home page at <http://www.tms.org/YoungLeaders/YLscholar.aspx>.

## THE YOUNG LEADER

A Young Leader is any TMS professional member in good standing age 35 or under. The goals of the TMS Young Leaders Committee are to recognize young professionals, develop in them an appreciation and awareness for TMS activities, provide services specifically tailored to young members, and encourage networking with TMS leaders and prominent society members. For more on TMS Young Leader activities, visit <http://www.tms.org/YoungLeaders/YLhome.aspx>.

## YOUNG PROFESSIONALS GAIN LEADERSHIP

Ethics, risk management, conflict resolution, and working effectively across multiple generations were some of the provocative topics tackled this year by the Emerging Leaders Alliance (ELA), a joint venture of leading engineering societies—including TMS—representing a variety of disciplines. Admission into the program is competitive, and participants are selected based upon their potential for leadership in the engineering and scientific community.

Five of TMS's Young Leaders were tapped to participate in the program in 2010. Two of these individuals attended ELA's first international capstone event in Amsterdam, November 30 to December 1. Frank Balle is completing his postdoctoral work at the University of Kaiserslautern Institute of Materials Science and Engineering, Germany, with a research focus on the ultrasonic welding of light metals, composites, and hybrid joints. Balle was also a 2010 TMS Light Metals Division Young Leader Professional Development Award recipient. Heike S. Emmerich is a professor for Materials and Process Simulation, University of Bayreuth, Germany, with a joint appointment to lead a research team for New Materials GMbH Bayreuth, a small company specializing in the transfer of knowledge from university to industry. She also serves as an associate editor for *Philosophical Magazine*.

Nitin Chopra, assistant professor, Metallurgical and Materials Engineering, University of Alabama, Tuscaloosa, participated in the capstone event held in Denver, November 4 to 6, along with Srikanth Bontha, assistant professor, Mechanical Engineering, Temple University, and Subhadarshi Nayak, founder and senior engineer for Science Tomorrow, LLC. Bontha is a member of the TMS Process Technology and Modeling Committee, the Titanium Committee, and the Integrated Computational Materials Engineering Committee, and was the 2009 Materials Processing & Manufacturing Division Young Leader Professional Development Award Winner. The 2007 Electronic, Magnetic & Photonic Materials Division Young Leader Award Winner, Nayak is the past chair of the Young Leader Committee and the current chair of the Professional Registration Committee.

For additional information on the Emerging Leaders Alliance, visit the ELA website at [www.EmergingLeadersAlliance.org](http://www.EmergingLeadersAlliance.org).

## SAVE THE DATE: YOUNG LEADERS TUTORIAL LUNCHEON LECTURE

Don't miss the 2011 Young Leaders Tutorial Luncheon Lecture on Tuesday, March 1, during the TMS 2011 Annual Meeting in San Diego. Diana Lados, assistant professor, Worcester Polytechnic Institute, will present "Integrative Materials-Process-Component Design: A Prospective View." Her talk will examine the challenges of successfully integrating several important—and sometimes competing—concepts in modern materials-process-component design, including high performance and reliability, societal impact, and economics.

## TMS YOUNG LEADER COMMITTEE OFFICERS

Alpesh Shulka, Chair  
Ben Poquette, Vice Chair

Kinga Unocic, Secretary  
Gregory Thompson, Past Chair

## TMS ANNOUNCES 2011 YOUNG LEADER PROFESSIONAL DEVELOPMENT AWARD WINNERS

Congratulations to the ten young professionals selected to receive the 2011 TMS Young Leader Professional Development Award. Chosen from each of the five TMS technical divisions, the winners receive support from the TMS Foundation to attend two TMS technical conferences and are provided with opportunities to become more involved with the society and to network with TMS leadership.



**Antoine Allanore**

*Extraction & Processing Division*

Currently a project leader at the Massachusetts Institute of Technology (MIT), Allanore is engaged in developing a molten oxide electrolysis process for steelmaking. He earned his Ph.D. in electrochemical engineering from the Institut National Polytechnique de Lorraine and received his process engineer diploma from the Ecole Nationale Supérieure des Industries Chimiques, France.



**Edouard Asselin**

*Extraction & Processing Division*

An assistant professor at the University of British Columbia (UBC), Asselin is also UBC's Junior Industrial Chair in Hydrometallurgy and Material Advantage faculty advisor. His research interests encompass electrochemical and thermochemical techniques for the characterization and development of hydrometallurgical processes, with a current focus on nickel and cobalt leaching, as well as the semi-conductive properties of minerals as they pertain to leaching. Asselin earned his undergraduate degree from the University of Ottawa and his Ph.D. in materials engineering from UBC.



**Dincer Bozkaya**

*Materials Processing & Manufacturing Division*

Bozkaya is a senior research engineer with H.C. Stark, Inc., where he is responsible for all modeling activities with the research and development group. His current projects include developing next generation tantalum PVD sputtering targets from design to commercialization. Bozkaya received his undergraduate degree from Middle East Technical University, and his master's and Ph.D. in mechanical engineering from Northeastern University, Boston.



**Kyle S. Brinkman**

*Electronic, Magnetic, & Photonic Materials Division*

A senior engineer in the Materials Science and Technology Directorate at the Savannah River National Laboratory (SRNL), Brinkman has amassed extensive experience in materials processing and properties, with a focus on electronic properties of materials and materials for energy technology, including work in advanced ceramics for energy conversion. He earned his Ph.D. in materials science and engineering (MSE) from the Swiss Federal Institute of Technology, Lausanne, Switzerland, and his master's and undergraduate degrees from Clemson University, Clemson, South Carolina.



**Samrat Choudhury**

*Electronic, Magnetic, & Photonic Materials Division*

Choudhury is currently serving as a Director's Postdoctoral Fellow in the Material Science and Technology Division of Los Alamos National Laboratory. His current research focus is developing a multi-scale computational approach for studying radiation-resistant nanoclustered alloys. He earned his Ph.D. in MSE from The

Pennsylvania State University (Penn State), his master's degree from the Indian Institute of Science, Bangalore, and his bachelor's degree from the Regional Engineering College in Durgapur, India.



**Frank W. DelRio**

*Structural Materials Division*

A staff scientist at the National Institute of Standards and Technology (NIST), DelRio is currently the project leader for the Nanoscale Strength Measurements and Standards group focused on developing new mechanical test structures and methodologies based on micro- and nano-electromechanical systems fabrication methods that enable assessment, prediction, and optimization of device reliability. He received his Ph.D. in mechanical engineering from the University of Colorado, earned his master's at Boise State University, and his undergraduate degree at Carnegie-Mellon University, Pittsburgh, Pennsylvania.



**Julia Greer**

*Structural Materials Division*

Greer is an assistant professor in Materials Science and Mechanics at the California Institute of Technology. Her work has been recognized with a Defense Advanced Research Projects Agency Young Faculty Award, and a National Science Foundation CAREER Award. She received her master's degree and Ph.D. in MSE from Stanford University, Palo Alto, California, and earned her undergraduate degree from MIT.



**Eric D. Schmidt**

*Structural Materials Division*

A research engineer with Vallourec Research Aulnoye (V&M France/Vallourec), Schmidt is also training as a research and development manager with V&M Star/Vallourec. He is currently the lead researcher on projects related to steelmaking technology modeling and optimization in Vallourec's Youngstown, Ohio, and Saint-Saulve, France, steel plants. He earned both his undergraduate degree and Ph.D. in MSE from Carnegie Mellon University.



**Dongwon Shin**

*Light Metals Division*

Shin is an Alvin M. Weinberg Fellow at Oak Ridge National Laboratory, with a particular interest in applying computational materials science to support lightweight alloys development. He earned his Ph.D. in MSE at Penn State, after receiving a master's and bachelor's degree from Pusan National University, Korea.



**Cong Wang**

*Light Metals Division*

Wang specializes in high temperature processing, microstructure characterization, mechanical testing, failure analysis, chemical analysis, corrosion testing, and non-destructive examination as a senior research engineer at the Alcoa Technical Center. He earned both master's degree and a Ph.D. in MSE from Carnegie Mellon University, as well as a master's degree from the Chinese Academy of Sciences and his undergraduate degree from Northeastern University, Shenyang, China.

For additional information on the Young Leader Professional Development Award and to access an application, visit the TMS Young Leader home page at <http://www.tms.org/YoungLeaders/YLhome.aspx>.