



Updates on friends and colleagues in the materials community

TMS Elects New Board Members

Seven newly elected members will officially take their seats on the Board of Directors at the TMS 2011 Annual Meeting & Exhibition, February 27 through March 3, in San Diego.

Slotted to serve three-year terms, the new directors are:

- **Vice President:** Wolfgang A. Schneider, head of the research and development center at Hydro Aluminium and a professor of metallurgy at the Technical University of Berlin.
- **Information Technology Director & Chair:** William J. "Jud" Ready, adjunct professor in the School of Materials Science and Engineering at the Georgia Institute of Technology and senior research engineer on the research faculty of the Georgia Tech Research Institute.
- **Professional Development Director:** David A. Shifler, program officer at the U.S. Department of the Navy's Office of Naval Research.

- **Public & Governmental Affairs Director & Chair:** Kevin J. Hemker, professor and chair of the Department of Mechanical Engineering at Johns Hopkins University, with joint appointments in the Departments of Materials Science and Engineering and Earth and Planetary Sciences.
- **Publications Director & Chair:** Carl M. Cady, technical staff member on the dynamic properties and constitutive modeling team within the Materials Science Division of Los Alamos National Laboratory.
- **Electronic, Magnetic & Photonic Materials Division Director & Chair:** Srinivas Chada, senior engineering manager for Global Electronic Interconnects Reliability, Whirlpool Corporation.
- **Extraction & Processing Division Director & Chair:** Adrian C. Deneys, business development manager for Praxair, Inc.

Gregory Olson Awarded ASM Gold Medal

Gregory B. Olson, Walter P. Murphy Professor of Materials Science and Engineering at Northwestern University, will receive the ASM International Gold Medal during Materials Science



& Technology 2010, October 17–21 in Houston. The medal recognizes Olson for "contributions to understanding the science of steel, application of thermodynamics to the design of steel with prescribed properties, and applications of this design concept to industry and education." He has been a TMS member since 1986.

George T. "Rusty" Gray III to Serve on NMAB Lightweighting Committee

George T. "Rusty" Gray III, laboratory fellow, Los Alamos National Laboratory, and 2010 TMS president, has been named to the National Materials Advisory Board's (NMAB) Committee on Benchmarking the Technology and Application of Lightweighting. Gray is one



of 15 senior U.S. industry, national laboratory, and academic experts selected to assess the state of lightweighting implementation in military and civilian transportation platforms. The NMAB is the principal source of objective, independent, and informed scientific, technological, and policy assessments of materials, processes, and applications for use by U.S. industry, government agencies, and universities.

A Tribute to Akira Yazawa

By Florian Kongoli

Akira Yazawa, a renowned leader in copper smelting technologies, passed away on August 14, 2010 at his home at the age of 84. He was a member of TMS since 1982, and was honored at the TMS 2003 Annual Meeting with the Yazawa International Symposium, which attracted 300 papers from authors in 37 countries.



Professor Yazawa was recognized worldwide for his impact in the extractive metallurgy of copper, as well as Zn, Pb, Ni, Sn, Sb, Au, Hg, and Cd. His more than 300 publications dealt with a variety of subjects, such as slags, alloys, mattes, speiss, aqueous solutions, alcohols, and algae. He earned his bachelor's and Ph.D. degrees at Tohoku University in Japan. He became a professor at Tohoku University, where he served as director of the Research Institute of Mineral Dressing and Metallurgy from 1981 to 1986. He was president of Miyagi National College of Technology, also in Japan, from 1989 to 1995. He was president of the Society of Calorimetry and Thermal Analysis, Japan, from 1987 to 1989, and president of the Mining and Materials Processing Institute of Japan from 1989 to 1990.

Professor Yazawa has been recognized worldwide with many awards, prizes, and honors, including the TMS Extraction & Processing Division Distinguished Lecturer Award in 1979. He will be greatly missed by his colleagues and ex-students, but especially by his wife Kimi, his son, and two daughters.

Florian Kongoli is chief executive officer of FLOGEN Technologies Inc., Canada/USA and a longtime colleague of Akira Yazawa. Additional information on Professor Yazawa's many contributions is available at www.flogen.com/news.php?action=5.



TMS 2011 Symposium Honors Accomplishments of Carlos Tomé

By Lynne Robinson

Editor's Note: This is excerpted from an article that first appeared on the Materials Technology @TMS site at <http://materialstechnology.tms.org/EMT/article.aspx?articleID=3624>

On muddy rugby fields in Argentina, Carlos Tomé experienced how being open to an opportunity could yield a big benefit—and even a win. The perseverance, teamwork, and resourcefulness that he displayed for 20 years with his rugby club are also hallmarks of the scientific accomplishments he is being recognized for at “Polycrystal Modeling with Experimental Integration: A Symposium Honoring Carlos Tomé,” taking place at the TMS 2011 Annual Meeting & Exhibition, February 27–March 3, San Diego.

“I have been lucky to be often in the right place at the right time, which has given me the opportunity to get acquainted and work with very bright researchers,” said Tomé, technical staff member at Los Alamos National Laboratory. “Each of them shared with me their knowledge, their passion, and their personal style of reasoning. This, plus the fact that I developed good friendships with most of them, has leveraged my scientific experience.”

Much of Tomé’s work has focused on the analysis and simulation of the constitutive behavior of low symmetry metals, such as magnesium, zirconium, and uranium, as well as geologic materials, such as olivine and calcite. “These materials deform via a complex combination of slip and twin modes and are characterized by a very anisotropic mechanical response,” said Tomé. “As a consequence, more sophisticated and mechanism-based models and techniques are required than the ones used for understanding cubic materials.”

This search for understanding led Tomé and his collaborators to develop sophisticated polycrystal modeling techniques and numerical codes that are now considered the gold standard of predictive tools for parameter identi-

fication, interpretation of experiments, and multiscale calculations.

“Carlos Tomé is one of the pioneers of the self-consistent method for the modelling of the plastic deformation of polycrystalline materials. More in particular, he has been the first to develop it for some of the materials which are



Carlos Tomé: “The linking of length scales and the description of mechanical response using probabilistic approaches are two exciting future possibilities in the field of material simulation.”

of interest in the nuclear sector, namely zirconium,” said Paul Van Houtte, professor, Mechanical Metallurgy Section, Katholieke Universiteit Leuven, Belgium.

In describing Tomé as “the leading scientist worldwide in multi-level modeling of the plastic deformation of HCP metals,” Van Houtte also noted, “Carlos is not working alone. He has done remarkable scientific work with the help of a series of students whom he has put on the path of science. Most of them have become excellent researchers and several of them already enjoy high esteem at the international level. Guiding junior scientists towards such excellence is indeed one of Carlos Tomé’s most important achievements.”

One such scientist is Ricardo Lebensohn, researcher in the Materials Science and Technology Division of Los Alamos National Laboratory, and organizer of Tomé’s 2011 honorary symposium. Now a co-worker, Lebensohn was one of Tomé’s undergraduate students at the National University of Rosario, Argentina. Later, Tomé became his Ph.D. thesis supervisor, as well as a colleague and collaborator on a number of projects.

“Along his career, Carlos has pioneered the theoretical and numerical development of physically based modeling of mechanical behavior of polycrystals, with emphasis on the role played by texture and microstructure on the anisotropic properties of engineering materials,” said Lebensohn. “His many contributions have been critical to establishing a strong connection between models and experiments, and to bridge different scales in pursuit of robust multiscale formulations with experimental integration.”

Many of those presenting and attending the symposium note that Tomé is admired as much for his generosity as his scientific accomplishments. As Rob Wagoner, George R. Smith Chair, Department of Materials Science and Engineering, Ohio State University, remarked, “Like many others internationally, my group has used his codes with his unfailing assistance and without any kind of cost or obligation. I think it is this unselfish, caring attitude that sets Carlos apart from his peers, even more so than his tremendous technical achievements in creating and using his viscoplastic self-consistent (VPSC) code.”

Each month, *JOM* profiles a TMS member and his or her activities both in and out of the realm of materials science and engineering. To suggest a candidate for this feature, contact Maureen Byko, *JOM* editor, at mbyko@tms.org.