



*Updates on friends and colleagues in the materials community*

## Seventeen TMS Members Named 2009 ASM International Fellows

ASM International recently elected 17 TMS members as 2009 Fellows of the Society. Established in 1969, the Fellow of the Society honor recognizes ASM International members for their distinguished contributions to materials science and engineering and develops a broadly based forum of technical and professional leaders to serve as advisors to the Society.

The TMS members are:

- **David E. Alman:** director, Materials Performance Division, National Energy Technology Laboratory
- **Teiichi Ando:** professor, Department of Mechanical and Industrial Engineering, Northeastern University
- **John G. Banker:** senior vice president, Customers and Technology, Dynamic Materials Corp.
- **Alan W. Cramb:** provost and senior vice president of Academic Affairs, Illinois Institute of Technology
- **Gary L. Doll:** chief technologist, Tribology, The Timken Co.

- **Donald U. Gubser:** superintendent, Materials Science and Technology Division, Naval Research Laboratory
- **Kevin J. Hemker:** professor and chair, Department of Mechanical Engineering, Johns Hopkins University
- **Kevin S. Jones:** professor and chair, Department of Materials Science and Engineering, University of Florida
- **Rajiv S. Mishra:** Curator's Professor, Department of Materials Science and Engineering, Missouri University of Science and Technology
- **Roger J. Narayan:** professor, Joint Department of Biomedical Engineering, University of North Carolina at Chapel Hill
- **Philip Nash:** professor, Department of Mechanical, Materials, and Aerospace Engineering, Illinois Institute of Technology
- **Ian M. Robertson:** Donald B. Willett Professor of Engineering,

Department of Materials Science and Engineering, University of Illinois

- **Brian G. Thomas:** C.J. Gauthier Professor of Mechanical Engineering, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign
- **Kenneth S. Vecchio:** professor and chair, Department of Nanoengineering, University of California, San Diego
- **Paul T. Vianco:** distinguished member, technical staff, Sandia National Laboratories
- **Wego Wang:** aerospace engineer, Federal Aviation Administration
- **Zhenguo "Gary" Yang:** chief research scientist, Pacific Northwest National Laboratory

To view each of the elected Fellows' citations, visit ASM International's Membership and Networking homepage at <http://asmcommunity.asminternational.org/portal/site/www/MemberNetworking/ASMFellows/>.

## John Stuart Porthouse Receives IOM<sup>3</sup> Outstanding Service Award



The Institute of Materials, Minerals & Mining (IOM<sup>3</sup>) presented John Stuart Porthouse with the 2009 Outstanding Service Award. He has been a TMS member since 2005.

The annual award

is given in recognition of achievement and commitment that has not previously been acknowledged and recognizes significant contributions to IOM<sup>3</sup> made through a local group, affiliated society, or branch.

Porthouse joined the North of England Institute of Mining and Mechanical Engineers in 1968. He served as President from 1980–1981 when it was

known as the North of England Institute of Mining, Electrical and Mechanical Engineers, and again from 2006–2007; Secretary from 2002–2006; and has been serving as Treasurer since 2000.

Porthouse received the 2009 Outstanding Service Award for his selfless commitment, leadership, and loyalty to the Society in order to ensure its continuous existence.

## Neeraj Thirumalai Receives the 2009 Alfred W. Allen Award

Neeraj Thirumalai, a research associate for ExxonMobil Research & Engineering Corp., was awarded the 2009 Alfred W. Allen Award. He is one of six co-authors to receive this award for the paper "Erosion—Corrosion-Resistant Titanium Diboride Cermets for High-Temperature Process Applications."

The Alfred W. Allen Award is a biennial award given by the Refractory

Ceramics Division of the American Ceramic Society. The award is presented to the authors of the technical paper on refractory ceramics that reflects the highest level of technical quality.

Thirumalai has been a member of TMS since 2003. He received the award in March at the Refractory Ceramics Division's 45th Annual Symposium on Refractories in St. Louis, Missouri.

### CORRECTION

Pete Ribotto, 91, is an original member of the Hazardous Abandoned Mine Finders and a long-time member of the American Institute of Mining, Metallurgical, and Petroleum Engineers. His name was omitted from the Meet a Member feature in the August issue.



## TMS Member Profiles

### Meet a Member: Bob Shull: A Good Taste for Zymurgy

By Francine Garrone

Bob Shull knew there was something missing in his life two decades ago. Even with a wonderful family, a great education from Massachusetts Institute of Technology and the University of Illinois at Urbana-Champaign, and a job at the National Bureau of Standards (NBS), there still was that void. He just could not find a good-tasting beer.

Shull, a group leader at the National Institute of Standards & Technology and the 2007 TMS president, had a hankering for a delectable brew that eventually led him to zymurgy, or beer-making. Having made stouts, lagers, weiss (wheat) beer, and brown, light, and dark ales over the past 25 years, he has become a beer-making expert. His passion to create a tasty brew began following an failed wine-making experience. "I began my foray into beverage making while in graduate school. A fellow volleyball player introduced me to her scientist father who had been making wine for years," said Shull. "By serving me a few samples of his very good products, he got me interested in trying my hand at it."

After mixing a batch of his "never-fail" wine recipe, making vapor locks ("S" shaped devices that allow fermentation gases to escape), and tending to the brew for over a year, Shull was disappointed when it resulted in a terrible port wine. "At that point, I decided this hobby was not for me," he said.

In 1984, while discussing his desire for a quality beer with TMS member Michael Kaufman, Shull learned of Kaufman's experience in beer-making and became enthusiastic about trying it. "I had convinced Mike to show me how to brew a batch of beer," said Shull. "After the first batch, I was hooked and for several months thereafter every Monday evening he and I would alternate meeting at each other's house to bottle the brew from the previous week's batch, 'sample' it, and make two more batches of different types of

beers." At the time, Shull and Kaufman contemplated marketing the beer under the label "Skull & Kaufbones."

Shull recommends making beer in a home kitchen "as long as one's spouse doesn't mind the additional mess that can accompany production." To make beer, he first slightly dilutes a molasses-consistency malt (the strained remainder of a grain that has been germinated and boiled down to release flavors, sugars, and starches) in a small amount of water. Brewing sugar or dried malt extract and hops (which give beer its bitterness and acts as a preservative) are then added to the malt and brought to a low boil for about 30 minutes. "This is a critical stage when your attention should not get diverted. A thick (and thermally insulating) broth will form on top," said Shull. "The insulation will enable the mixture to continue boiling well after it has been removed from the heat, thereby commonly causing an overflow of this hot

'molasses-like' liquid," (see Figure 1).

After boiling the wort (unfermented beer), Shull places it into a fermentation container with yeast and more water and seals it with a vapor lock. After the wort sits for about 10 days, he adds a little brewing sugar (for a small amount of fermentation in the bottles and carbonation build up), siphons it into another container, and then places it into bottles. Two weeks later, Shull is enjoying a delicious beer (Figure 2).

"There is a lot of science in the art of zymurgy. Similar to chemical processing in the laboratory, the containers and anything else which comes into contact with the liquid must be clean and sterile," he said. "My scientific background has shown me the usefulness of keeping track of my experiments. Since day one, I have been keeping a log book of every batch I have made, indicating changes and my successes and failures."

Shull returned to wine-making in 2003. With new technology, his wine products began to steadily improve. However, this operation stopped last year due to the greater length of time and work involved in wine-making.

Today, Shull enjoys his homemade beer and gives it away as gifts. He warns anyone who dares to take up this hobby: "Two things happened as a result of my picking up the art of zymurgy," he said. "One, I found I ended up drinking more beer than I used to, and two, I found I have more 'friends' than I used to. I used to be able to rationalize the first effect on the basis that I needed to free up empty bottles for the next batch. The second effect is more life-changing, and could be of concern to those who are antisocial."



Figure 1. Bob Shull stirs the boiling wort prior to placing it into a fermentation container.



Figure 2. Shull enjoys a beer two weeks after brewing it.

Each month, *JOM* features a TMS member and his or her activities outside of the realm of materials science and engineering. To suggest a candidate for this feature, contact Francine Garrone, *JOM* news editor, at [fgarrone@tms.org](mailto:fgarrone@tms.org).