

PROFESSIONAL PREFACE

Volume 17, Number 2

The Newsletter for Student Members of The Minerals, Metals & Materials Society



WELCOME!

TMS offers many avenues for students to receive funding to continue their studies in materials science and engineering. Funding is available throughout the year and especially for the TMS 2011 Annual Meeting & Exhibition to be held February 27–March 3, in San Diego, California. During the annual meeting, TMS will showcase student events including the 5th Annual Materials Bowl and student mixer. Don't miss the deadline to enter the Materials Bowl and other student competitions. For more on student events at the TMS Annual Meeting, see the "Prepare for TMS 2011" article in this issue of *Professional Preface*.

Following graduation, TMS offers a complimentary one-year professional membership. Simply complete the "Recent Graduate" application available online. We invite you to take advantage of this opportunity to become involved!

For all the details on TMS student activities, visit www.tms.org/Students/students.aspx. Please do not hesitate to let me know if you have any questions about your student membership through the Material Advantage partnership. TMS is here to serve you, our member.

Deborah Price
Student Affairs & Awards Administrator
price@tms.org

TMS AWARDS SUPERALLOYS SCHOLARSHIPS AT MS&T'10

At this fall's Materials Science and Technology 2010 conference (MS&T'10), TMS presented the International Symposium on Superalloys Scholarship to two Material Advantage students. The two \$2,000 scholarships are funded annually by the Organizing Committee of the International Symposium on Superalloys and are available to undergraduate and graduate students majoring in metallurgical and/or materials science and engineering with an emphasis on all aspects of the high-temperature, high-performance materials. This year's awards were presented by Ken Green of the Rolls Royce Corporation. Green is the awards chair of the International Symposium on Superalloys organizing committee.

"One of our core missions is to educate the next generation of materials engineers and scientists," Green said of the committee. "Over the past 20 years, we've given more than \$100,000 in scholarships, and we hope to do it long into the future."

Mengtao Xie of the Illinois Institute of Technology accepted his 2010 Superalloys Scholarship award from Green at the student awards ceremony during MS&T'10 (Figure 1a). Ian Markon (Figure 1b) of the South Dakota School of Mines & Technology, could not attend the awards ceremony, but expressed his gratitude for being selected to receive the award.

"I am very thankful for this scholarship on a variety of levels, but two stand out," Markon said. "First, I am honored that TMS would consider me a worthy recipient of such a prestigious award. Second, the chance to work with exotic materials is what caused me to pursue metallurgical engineering as my major, and this award has been very influential in expanding my opportunities to work with such materials. Going forward, I hope to put this scholarship to good use as I move towards an exciting career in the field of metallurgy. Thank you, TMS, and I hope that you can continue to help other rising students the way you have helped me."

TMS offers over \$40,000 in scholarships for a variety of achievements in materials science and engineering. For a complete list of TMS scholarships, visit www.tms.org/Students/Scholarships.aspx.



Figure 1. (a) Mengtao Xie, left, of the Illinois Institute of Technology, accepts his 2010 Superalloys Scholarship from Ken Green of the Rolls Royce Corporation at MS&T'10. (b) Ian Markon was the second recipient of the 2010 Superalloys Scholarship.

STUDENT GROUPS WIN AWARDS

Several Material Advantage student chapters were recognized for their outstanding achievements at Materials Science & Technology 2010 (MS&T'10) held in October. For more on how to apply for 2011 chapter awards, visit www.tms.org/Students/studentchapters.aspx.

Outstanding Student Chapter and Chapters of Excellence

Each year, the Material Advantage program recognizes student chapters that plan excellent programming, career development, service, and social activities. The student chapter that garnered the most points from judges in this year's Chapters of Excellence Contest was Iowa State University, which was named the Outstanding Student Chapter for 2010 (Figure 2).

This year's other Chapter of Excellence winners were:

- Pennsylvania State University
- Missouri University of Science and Technology
- Virginia Polytechnic Institute and State University
- University of Connecticut
- Florida International University

Nominations for the 2011 awards are due June 1.

World Materials Day Award

The World Materials Day Award recognizes outreach projects by student chapters that inform K–12 students about materials engineering and encourage them to learn more about the study of materials. At MS&T'10, George T. "Rusty" Gray III, TMS president, presented World Materials Day Chapter Awards to the following schools:

- Georgia Institute of Technology
- Iowa State University
- Missouri University of Science and Technology

Entries for the 2011 World Materials Day Award must be submitted by June 1.



Figure 2. Students from Iowa State University display their Outstanding Student Chapter plaque awarded at MS&T'10.

PREPARE FOR TMS 2011: A CHECKLIST

The TMS 2011 Annual Meeting & Exhibition offers a wide variety of technical, networking, and financial opportunities for students each year. With a little advance planning, the conference can be educational, financially rewarding, and a lot of fun. So visit the TMS 2011 Annual Meeting web site at www.tms.org/annualmeeting.html to begin planning for TMS 2011, which runs February 27–March 3 in San Diego, California. Here's how:

- **Register Early:** Save money on registration by signing up for the conference in advance. Student members who register early pay only \$100 to attend. See the "Registration" section of the Annual Meeting web site for an on-line registration form. *Registration Deadline: February 4*
- **Book a Hotel:** Out-of-town guests should make hotel reservations as early as possible to ensure the best rates. TMS has blocks of rooms set aside at discounted rates at several hotels near the conference site. Or search for good deals on your own. See the "Housing and Travel" section of the Annual Meeting web site for details.
- **Seek Out Travel Funding:** Traveling to a conference can be expensive, but remember that you don't have to finance the trip entirely on your own. TMS provides travel grants to active Material Advantage student chapters, and often, schools have special funds set aside to finance special projects. Check with your Material Advantage student chapter advisor or department head about potential funding from your school. If not, you can always hold a bake sale . . .
- **Form a Team for the TMS 2011 Materials Bowl:** This quiz-show-style competition, sponsored by Alcoa, is a fun way to earn money for your student chapter—and possibly yourself. Challenge last year's Materials Bowl winners, the Colorado School of Mines, and see if your team can take home the 2011 Materials Bowl trophy. See the "Student Activities" section of the Annual Meeting web site for details. *Team Application Deadline: December 15*
- **Practice for the Materials Bowl:** If you've never competed before, you can get a taste of the kinds of questions asked at previous years' events on the TMS Facebook page. Contest questions are posted regularly. And it also couldn't hurt to read up on issues of *JOM* from the past year . . .
- **Submit an Entry for the TMS, MSE & Me Contest:** It's the most fun you can have trying to win \$2,011. Simply gather your classmates and create a video that explains what TMS membership means to you. Serious, funny, creative—TMS encourages all types of entries. The winner will be announced at the TMS 2011 Annual Meeting. See the "Networking & Events" section of the Annual Meeting web site for details. *Entry Deadline: December 20*
- **Enter the TMS Technical Division Student Poster Competition:** It may not be as much fun as answering quiz questions or creating a movie, but the poster competition can provide a huge financial boost and valuable recognition to the contest's winners. For more information on how to submit a poster of your research work, visit the "Student Activities" section of the Annual Meeting web site. *Submission Deadline: January 15*
- **Plan for TMS Student Activities:** Each year, the TMS Annual Meeting includes a full day of activities geared specifically toward student needs, including an orientation session that welcomes students to the meeting, a career forum to provide students with a taste of what's ahead, and a networking mixer where students can relax, have fun, and talk with professionals and other students in a casual atmosphere.

DO YOU KNOW THE ANSWERS?

The Materials Bowl, held each year at the TMS Annual Meeting, asks students to draw on a broad spectrum of materials knowledge. Do you think you have what it takes to compete in the 2011 Materials Bowl? See how many answers you know to the following questions from past competitions:

- What two actinides are used to generate nuclear energy?
- The type of solar cell that currently dominates the solar energy market is made predominantly of what material?
- Although this comic book and movie character constructed his signature armour from a gold-titanium alloy, the name he goes by is based on this metal. What is the name of this character?
- Carbon nanotubes offer many promising properties, but they also raise health and safety concerns in the event of a spill. University of Pittsburgh researchers have announced that a favorite condiment might help reduce concerns. What is the condiment?
- EBSD is used to obtain the orientations of grains in polycrystalline samples. What does EBSD stand for?

Find the answers to these and more Materials Bowl questions on the TMS Facebook page (www.facebook.com/home.php?#!/pages/TMS-The-Minerals-Metals-Materials-Society/101838981680). New questions are added to the site weekly, so check in regularly to practice for the upcoming Materials Bowl in February at TMS 2011.

TMS VISITS UNIVERSITY OF BRITISH COLUMBIA

Each year, the current president of TMS visits one Material Advantage student chapter to speak to the students and learn about the projects they are working on. In October, 2010 TMS President George T. "Rusty" Gray III and TMS Executive Director Warren Hunt visited the Materials Engineering Department at the University of British Columbia (UBC) in Vancouver, British Columbia, Canada.

In honor of Gray's visit, UBC's Materials Joint Student Chapter and Department of Materials Engineering held a "TMS President Visit" event. Students from the university's undergraduate and graduate materials engineering programs attended the event to hear presentations by Gray and their fellow students (and for pizza and refreshments).

Gray, who is a laboratory fellow at Los Alamos National Laboratory in New Mexico and a member of the National Materials Advisory Board of the U.S. National Academies, kicked off the afternoon with a presentation on the Material Advantage program (Figure 3). After that, two graduate students delivered presentations on their research work. Victor Leung delivered the presentation, "Electrospun Nanofibers as the Next Generation Scaffolds for Tissue Repair," and Holly Duan spoke on "Physical and Computational Models for Free Surface Related Defects in Low Pressure Die-Cast Aluminum Alloy Wheels."

The visit was part of a TMS trip to Canada that included a stop at the Metallurgical Society (MetSoc) of the Canadian Institute of Mining, Metallurgy, and Petroleum. There, Gray and Nathan Stubina, 2009–2010 MetSoc president, signed an agreement for MetSoc to join the American Ceramic Society, ASM International, the Association for Iron and Steel Technology, and TMS as sponsors of the Materials Science and Technology 2013 (MS&T'13) conference, which will be held in Montreal, Canada. This new agreement means that students and other attendees will have access to even broader technical programming and activity options for the 2013 meeting.

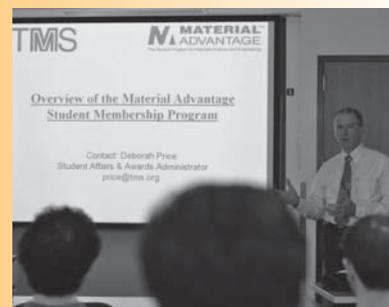


Figure 3. TMS President George T. "Rusty" Gray III addresses students at the University of British Columbia.