



Updates on friends and colleagues in the materials community

Jones Selected as First Materials Societies Fellow

A polymer expert with an interest in science policy development has been selected to receive the first annual Materials Societies Congressional Fellowship award. In September, Ticora V. Jones will begin her one-year fellowship working with Congressional staffers on science and engineering legislation in Washington, D.C. The fellowship is administered through the American Association for the Advancement of Science and supported by the American Ceramic Society, the Materials Research Society, and TMS.



Jones earned a Ph.D. in polymer science and engineering from the University of Massachusetts at Amherst in 2006 and worked as a postdoctoral researcher at Lawrence Livermore National Laboratory after completing her doctorate. Prior to her graduate

work, Jones spent a year working for the American Association for the Advancement of Science, first as a middle school teaching fellow for a science and mathematics standards program in Washington, D.C., public schools and then building infrastructure and creating content for the Minority Scientists Network, an on-line portal for *Sciencecareers.org*.

Jones says she is looking forward to the opportunity presented by the fellowship to engage in the legislative process. She is interested in developing policies related to the funding of the scientific and technological enterprise, especially surrounding issues related to alternative energy, sustainability, and science education.

The one-year fellowship begins in September and provides an annual stipend plus money for health insurance, travel, and relocation expenses to the Washington, D.C. area. Information on applying for the 2009–2010 fellowship will be available this fall.

Ravindra Develops Bat Mobile Exhibit for New Jersey Science Center

This summer, visitors to the Liberty Science Center in New Jersey can become better baseball players through physics and materials. TMS Member Nugehalli M. (Ravi) Ravindra, a professor in the Department of Physics at the New Jersey Institute of Technology, and a team of students have developed a summer exhibit for the science center called the Bat Mobile.

The Bat Mobile is a motorized batting machine that rotates three bats made of composites, wood, and aluminum to hit baseballs thrown by a pitching machine. A sensor records the speed of the ball coming off of the bat and displays it on a screen.

The exhibit combines materials science and physics, Ravindra explains. Guests use data generated by the machine to estimate the velocity of a ball after it has been hit and determine where it would land on a baseball field. The different mechanical properties of

the materials cause different outcomes, so guests study the results with different types of bats to determine which bat they would choose and why.

The exhibit addresses an issue of some debate in New Jersey: whether aluminum bats hit the ball harder—and are therefore more dangerous—than wooden bats. After a little league player was seriously injured two years ago by a ball hit from a metal bat, state legislators considered banning the use of aluminum bats for players under 18.

Last year, Ravindra conducted an experiment where he froze baseballs in liquid nitrogen and determined the force with which they were hit by metal and aluminum bats by the size of the cracks in the nitrogen coating. Now, the Bat Mobile allows visitors to reach their own conclusions. The exhibit will be on display throughout baseball season at the Liberty Science Center in Jersey City, New Jersey.

STUDENTS NAMED NSF GRADUATE RESEARCH FELLOWS

In April, the U.S. National Science Foundation (NSF) announced this year's class of Graduate Research Fellows in a wide range of science, technology, engineering, and mathematics (STEM) fields. Of the more than 900 students selected to receive this year's awards, ten are current members of the Material Advantage student program that TMS operates with the American Ceramic Society, ASM International, and the Association for Iron & Steel Technology. Each of the students receives three years of funding at the institution they choose—up to \$121,500—for research-focused master's and doctorate degrees in STEM fields. The students receive a stipend of \$30,000 a year, plus \$10,500 a year as a cost of education allowance.

This year's awardees include:

- Emily Asenath Smith, Mount Holyoke College
- Lucas A. Berla, Stanford University
- Stephanie C. Chan, Northwestern University
- Allison M. Engstrom, Arizona State University
- Paul J. Kamenski, University of Wisconsin-Madison
- Alejandro X. Levander, Pennsylvania State University
- Alexander J. Moseson, Drexel University
- Stephen R. Niezgod, Drexel University
- Diana E. Proffit, Northwestern University
- Brian L. Spatocco, Rutgers, the State University of New Jersey

Graduate Research Fellows are expected to become experts who can contribute significantly to research, teaching, and innovations in science and engineering, according to the NSF. Previous NSF Graduate Research Fellows include 20 Nobel laureates. The purpose of the fellowship program is to ensure the vitality of the human resource base of science and engineering in the United States and to reinforce its diversity.