

## John Bravman Receives 2004 Woody Award

John Bravman (Stanford University) received the 2004 MRS Woody Award in recognition of his service as president of the Materials Research Society in 1994 and, especially, for his contributions for almost 15 years on the programming committee, where he served as chair for five years. The award was presented by 2004 MRS president Howard E. Katz (the Johns Hopkins University) at the MRS Fall Meeting in Boston last November.

The Woody Award recognizes outstanding service and dedication to the Materials Research Society as exemplified by its namesake, Woody White, 1984 MRS president. The award is bestowed annually by the MRS president to an individual for extraordinary contributions to the Society.

As the MRS spring and fall meetings grew in both scope and impact, Bravman shouldered major responsibility for the programming efforts. He stimulated his committees of meeting chairs to stretch the meeting programming beyond what had been previously attempted and instilled in them the confidence to follow through on their most innovative ideas. MRS meetings are now the signature activity of the Society and are recognized worldwide as uniquely exciting and



*John Bravman (left) receives the 2004 MRS Woody Award, presented by 2004 MRS President Howard Katz (right).*

influential forums for the exchange of scientific information.

According to Kenneth P. Rodbell (IBM T.J. Watson Research Center), a 2002 meeting chair, Bravman was willing to take risks with new topics that had not been previously covered at MRS meetings. Rodbell said that Bravman "was skeptical of older topics that appeared to have become 'institutionalized' at the meeting." According to Chad Mirkin (Northwestern University), a 2001 meeting chair and recipient of the MRS

Outstanding Young Investigator Award in 1999, "John's eye for detail, enthusiasm, creativity, and commitment to excellence were key factors" in making his meeting a major success.

Not only did Bravman have a great impact on the meetings, he also had a great influence on the meeting chairs themselves. He provided valuable advice, common sense, and an example of efficient leadership that served many meeting chairs well as they went on to assume board and committee chair positions elsewhere within MRS. The meeting chairs expressed extreme appreciation of Bravman's efforts. Upon hearing of the award, 1999 meeting chair Fernando A. Ponce of Arizona State University said, "I know very few people that have been so dedicated and have given so much energy and effort on behalf of the Society."

Persevering through numerous three-hour conference calls and six-hour committee meetings, Bravman ensured that programs were assembled rigorously and on time. He displayed boundless patience with meeting chairs' questions and was able to sensitively diffuse awkward situations. As 2000 meeting chair Kevin Jones (University of Florida) put it, "we could not have asked for more." MRS

## MRS Invites Nominations for the Von Hippel Award, Turnbull Lectureship, and MRS Medal

The Materials Research Society is seeking nominations for the Von Hippel Award, the Turnbull Lectureship, and the MRS Medal. **The deadline for nominations is June 1, 2005.** These awards will be presented at the 2005 MRS Fall Meeting, November 28–December 2, in Boston.

The MRS Awards Program recognizes outstanding contributors to the progress of materials research. Nomination forms and details about eligibility and nomination criteria are available from Materials Research Society, 506 Keystone Drive, Warrendale, PA 15086-7573, USA; phone 724-779-3004, fax 724-779-8313, or the MRS Web site at [www.mrs.org/awards/](http://www.mrs.org/awards/).

### Von Hippel Award Acknowledges Outstanding Interdisciplinary Work in Materials Research

The Von Hippel Award, first presented to Arthur R. Von Hippel, whose interdisciplinary and pioneering research typified

the spirit of the award, is the Society's highest honor. The recipient is recognized for brilliance and originality of intellect, combined with vision that transcends the boundaries of conventional scientific disciplines. The Award includes a \$10,000 cash prize, honorary membership in MRS, and a unique trophy—a mounted ruby crystal symbolizing the many-faceted nature of materials research.

### Turnbull Lectureship Honors Career of an Outstanding Researcher and Communicator

The David Turnbull Lectureship recognizes the career of a scientist who has made outstanding contributions to understanding materials phenomena and properties through research, writing, and lecturing, as exemplified by the life work of David Turnbull. While honoring the accomplishments of the recipient, the Turnbull Lectureship is intended to support and

enrich the materials research community.

The recipient will give a technical lecture of broad appeal at a designated session of the 2005 MRS Fall Meeting. The Turnbull Lecturer will receive a \$5,000 honorarium and a citation plaque, along with travel allowance for speaking engagements throughout the year.

### MRS Medal Recognizes Recent Discovery or Advancement in Materials Science

The MRS Medal offers public and professional recognition of an exceptional recent achievement in materials research. A medal will be awarded for a specific outstanding recent discovery or advancement that is expected to have a major impact on the progress of any materials-related field.

The award consists of a \$5,000 cash prize, an engraved and mounted medal, and a citation certificate. MRS

# MRS Awards

The MRS Awards Program acknowledges outstanding contributors to the progress of materials research, and recognizes their exciting and profound accomplishments. A variety of awards are offered to honor those whose work has already had a major impact in the field, those who have defined the frontiers of the field, and those who are outstanding exponents of their science, as well as young researchers whose work shows great promise for future leadership.



## VON HIPPEL AWARD

The Von Hippel Award, the Society's highest honor, recognizes those qualities most prized by materials scientists and engineers—brilliance and originality of intellect, combined with vision that transcends the boundaries of conventional scientific disciplines. Presented annually at the MRS Fall Meeting, and named in honor of its first recipient, the Von Hippel Award includes a cash honorarium and a unique trophy—a mounted ruby crystal symbolizing the many-faceted nature of materials science.

### AWARD RECIPIENTS

**Arthur R. von Hippel** • 1977  
Massachusetts Institute of Technology

**William O. Baker** • 1978  
AT&T Bell Laboratories

**David Turnbull** • 1979  
Harvard University

**W. Conyers Herring** • 1980  
Stanford University

**James W. Mayer** • 1981  
Cornell University

**Clarence M. Zener** • 1982  
Carnegie Mellon University

**Sir Peter B. Hirsch** • 1983  
University of Oxford

**Walter L. Brown** • 1984  
AT&T Bell Laboratories

**John W. Cahn** • 1985  
National Bureau of Standards

**Minko Balkanski** • 1986  
Université Pierre et Marie Curie

**Sir Charles Frank** • 1987  
University of Bristol

**Jacques Friedel** • 1988  
Université de Paris-Sud

**John B. Goodenough** • 1989  
University of Texas-Austin

**Robert W. Balluffi** • 1990  
Massachusetts Institute of Technology

**Theodore H. Geballe** • 1991  
Stanford University

**Michael F. Ashby** • 1992  
University of Cambridge

**Frederick Seitz** • 1993  
The Rockefeller University

**Alfred Y. Cho** • 1994  
AT&T Bell Laboratories

**William W. Mullins** • 1995  
Carnegie Mellon University

**Sir Alan H. Cottrell** • 1996  
University of Cambridge

**Gabor A. Somorjai** • 1997  
University of California-Berkeley

**Larry L. Hench** • 1998  
Imperial College of Science,  
Technology and Medicine

**Richard S. Stein** • 1999  
University of Massachusetts-Amherst

**George M. Whitesides** • 2000  
Harvard University

**Simon C. Moss** • 2001  
University of Houston

**Howard K. Birnbaum** • 2002  
University of Illinois, Urbana-Champaign

**Julia R. Weertman** • 2003  
Northwestern University

**Nick Holonyak, Jr.** • 2004  
University of Illinois,  
Urbana-Champaign



## DAVID TURNBULL LECTURESHIP

The purpose of this lectureship is to recognize the career of a scientist who has made outstanding contributions to understanding materials phenomena and properties through research, writing, and lecturing, as exemplified by the life work of David Turnbull. Recipients of this award receive a cash honorarium and a citation plaque.

### AWARD RECIPIENTS

**Thomas R. Anthony** • 1992  
GE Research and Development

**Morris Cohen** • 1993  
Massachusetts Institute of Technology

**Arthur S. Nowick** • 1994  
Columbia University

**Didier R. de Fontaine** • 1995  
University of California-Berkeley

**Robert E. Newnham** • 1996  
The Pennsylvania State University

**Merton C. Flemings** • 1997  
Massachusetts Institute of Technology

**H. Eugene Stanley** • 1998  
Boston University

**Joseph E. Greene** • 1999  
University of Illinois, Urbana-Champaign

**Anthony G. Evans** • 2000  
Princeton University

**James R. Chelikowsky** • 2001  
University of Minnesota

**Robert W. Cahn** • 2002  
University of Cambridge

**Ellen D. Williams** • 2003  
University of Maryland

**Frank S. Bates** • 2004  
University of Minnesota



*New Web site from MRS celebrates the life and times of Arthur von Hippel*

<http://vonhippel.mrs.org/>

“At the root of human responsibility is the concept of perfection, the urge to achieve it, the intelligence to find a path towards it, and the will to follow that path, if not to the end at least the distance needed to rise above individual limitations and environmental impediments.”

Aung San Suu Kyi



**MRS MEDAL AWARD**

MRS Medals are intended to constitute public and professional recognition of outstanding recent achievements in materials research. An engraved medal and citation certificate are awarded, along with a cash honorarium, for a specific discovery or advancement which is expected to have a major impact on the progress of any materials-related field.



**OUTSTANDING YOUNG INVESTIGATOR AWARD**

This award recognizes outstanding interdisciplinary scientific work in materials research by a young scientist or engineer showing exceptional promise as a developing leader in the materials area. The annual award includes a cash honorarium, trophy, and citation certificate.

**AWARD RECIPIENTS**

**Arthur J. Freeman** • 1990  
Northwestern University

**Duward F. Shriver** • 1990  
Northwestern University

**Bernard S. Meyerson** • 1991  
IBM T.J. Watson Research Center

**Shigeyuki Sōmiya** • 1991  
Nishi Tokyo University

**L. Eric Cross** • 1992  
The Pennsylvania State University

**Stephen J. Pennycook** • 1992  
Oak Ridge National Laboratory

**Donald R. Huffman** • 1993  
University of Arizona

**Wolfgang Krätschmer** • 1993  
Max-Planck Institut für Kernphysik

**Max G. Lagally** • 1994  
University of Wisconsin–Madison

**Kenneth S. Suslick** • 1994  
University of Illinois,  
Urbana-Champaign

**Federico Capasso** • 1995  
AT&T Bell Laboratories

**Rudolf M. Tromp** • 1995  
IBM T.J. Watson Research Center

**Jerry D. Tersoff** • 1996  
IBM T.J. Watson Research Center

**Shuji Nakamura** • 1997  
Nichia Chemical Industries Ltd.

**William L. Johnson** • 1998  
California Institute of Technology

**M. George Craford** • 1999  
Hewlett Packard

**Stephen Forrest** • 1999  
Princeton University

**Dieter M. Gruen** • 2000  
Argonne National Laboratory

**Samuel I. Stupp** • 2000  
Northwestern University

**Norman C. Bartelt** • 2001  
Sandia National Laboratories

**Mathew Mate** • 2001  
IBM Almaden Research Center

**Uzi Landman** • 2002  
Georgia Institute of Technology

**Charles M. Lieber** • 2002  
Harvard University

**C. Jeffrey Brinker** • 2003  
Sandia National Laboratories/  
University of New Mexico

**Ivan K. Schuller** • 2003  
University of California–San Diego

**Jacob N. Israelachvili** • 2004  
University of California–Santa Barbara

**Toh-Ming Lu** • 2004  
Rensselaer Polytechnic Institute

**Sunil K. Sinha** • 2004  
University of California–San Diego/  
Los Alamos National Laboratory

**AWARD RECIPIENTS**

**Stuart S.P. Parkin** • 1991  
IBM Almaden Research Center

**David D. Awschalom** • 1992  
University of California–Santa Barbara

**Charles M. Lieber** • 1993  
Harvard University

**David J. Eaglesham** • 1994  
AT&T Bell Laboratories

**A. Paul Alivisatos** • 1995  
University of California–Berkeley

**Antonios G. Mikos** • 1996  
Rice University

**Christopher N. Bowman** • 1997  
University of Colorado

**Anne M. Mayes** • 1998  
Massachusetts Institute of Technology

**Chad A. Mirkin** • 1999  
Northwestern University

**Frances M. Ross** • 2000  
IBM T.J. Watson Research Center

**Kristi S. Anseth** • 2001  
University of Colorado

**Timothy J. Deming** • 2003  
University of California–Santa Barbara

**Peidong Yang** • 2004  
University of California–Berkeley

**Harold Y. Hwang** • 2005  
University of Tokyo

**GRADUATE STUDENT AWARD**

The Materials Research Society recognizes outstanding graduate students whose work is presented during symposia at its Spring and Fall Meetings. The Gold and Silver Award finalists are presented with a plaque or certificate and a cash honorarium during the Awards Ceremony.

**2005 DEADLINES FOR NOMINATIONS**

Von Hippel Award .....	June 1, 2005
David Turnbull Lectureship .....	June 1, 2005
MRS Medal .....	June 1, 2005
Outstanding Young Investigator .....	October 3, 2005
Graduate Student Awards	
2005 Fall Meeting .....	August 19, 2005

*Deadlines  
Approaching!  
Nominate Today!*

## Visitors Encounter *Strange Matter* from Boston and Halifax to Toledo and Boise

Children, their families, and their teachers continue to uncover the surprising science of materials behind everyday stuff as the Materials Research Society's science exhibition, *Strange Matter*, continues its travels. Beginning in the fall of last year, the two versions of the exhibition—6000 and 1700 square feet—were featured at the Museum of Science in Boston and the Discovery Centre in Halifax, Nova Scotia, respectively. The larger version is now on display at COSI in Toledo, Ohio, until May 8, 2005. By mentioning this article, visitors can receive \$3.00 off of the admissions fee at COSI. And visitors can still catch the smaller exhibition at the Discovery Center of Idaho in Boise until May 1, 2005.

### "Materials Science Day"

Thomas M. Menino, the mayor of Boston, gave recognition to the interactive science exhibition on display at the Museum of Science in his proclamation that named November 29, 2004, Materials Science Day. The proclamation coincided with the opening of the MRS 2004 Fall Meeting in Boston, where MRS has held its meeting every fall for the past 27 years. During the meeting, MRS coordinated a special program for high school science teachers at the museum in which over 90 educators from various parts of the United States participated. In conjunction with the *Strange Matter* exhibition, the teachers attended special demonstrations and sessions at the museum and the Hynes Convention Center site of the MRS Fall Meeting. They also enjoyed a special MRS President's reception at the Museum of Science to celebrate the exhibition. The program was funded by the National Science Foundation and Raytheon Company.

On opening day of the exhibition in October, the president and director of the Museum of Science, Ioannis Miaoulis, said, "*Strange Matter* will provide our visitors with a unique chance to explore a variety of materials and their properties firsthand."

*Strange Matter* featured 12 interactive "experience pods" that unveiled the magic and mystery of advanced materials used in daily life. Visitors transformed magneto-rheological fluid into a solid with the help of gloved hands and magnets at the ferrofluids pod. At another station, young visitors played scientist at the touch table, where they observed what different materials look like when placed under a microscope. In "Smash the Glass," visitors cranked up a bowling ball and let it fly to discover whether heat-tempered glass has the strength to withstand the shock.

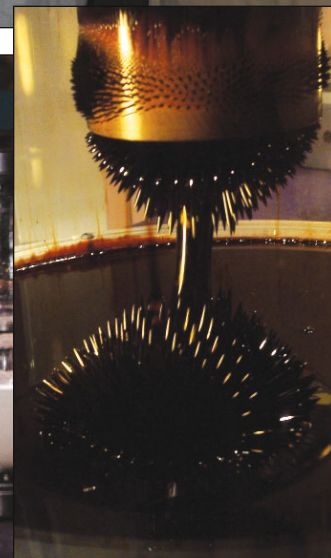
Miaoulis said, "We hope this interactive exhibit will inspire future generations of engineers and scientists."

### Local Olympians Connect Materials with Sports

Space exploration and cardiac surgery are known for their use of advanced materials, but Nova Scotians also learned how these materials have found their way into the stuff of everyday life—from cell phones to cameras, from duct tape to dinner plates, and canoes to kayaks. During the display of *Strange Matter* at the Discovery Centre in Halifax, Nova

Scotia, canoes and kayaks came alive as brothers Steve Giles, an Olympic canoer, and Peter Giles, an Olympic kayaker, spoke to a group of visitors about how materials science positively affected their paddling careers.

"In the 1980s, all the best racing canoes and kayaks were made out of wood by a small number of European craftsmen. The very best paddlers in the world could cover 1000 meters in about 4:05, under ideal conditions. At the 2004 Olympics, the winning time was 3:46. A big part of the difference is due to innovations in boat and paddle design," said Peter Giles. "What



used to be a craft has turned into an industry. New composite materials have made that innovation possible." Not only do the brothers share a passion for paddling, but they both have careers in science. Steve Giles, an electrical engineer, agrees with his brother and praised Discovery Centre for bringing such good, everyday science-related information to the general public.

During the local display of the exhibition, Mary Anne White of Dalhousie University in Halifax said, "Materials research affects us all. It's about stuff that helps us live each and every day, from new types of concrete to replacement heart valves. We are delighted to have this exhibit here to show the role of mate-

rials in our lives." White is the director of the Institute for Research in Materials at Dalhousie and is a member of MRS.

### Metals with Memory? Frozen Rubber?

Engineering students in Boise State University's materials science program have conducted a variety of demonstrations at the Discovery Center of Idaho as part of the center's *Strange Matter* exhibition, which runs through May 1.

Among the demonstrations is one involving ice and newspaper that illustrates how composite materials combine the strength of both materials. Other displays use sodium acetate to grow crystals, explore the properties of memory metals, and allow visitors to smash a rubber hose frozen with liquid nitrogen.

"Since volunteering at the *Strange*

*Matter* exhibit...I was able to speak with numerous 8th grade students, and my impression was that they have not been exposed to any hands-on chemistry or science in school," said graduate student Betsy Cheek of BSU's Electrical Engineering Department. She said, "The beauty of *Strange Matter* is the simplicity of the exhibits which make science real, fun, and interesting."

Sean Donovan, a research faculty member in materials science and engineering, also volunteered at the exhibition. "The interesting thing about demonstrating concepts like polymer cross-linking and shape-memory alloys to a young audience," he said, "is the way it renews one's own thinking about familiar topics. The hard-wired knowledge of these topics that has crystallized in our thoughts over the years is incompatible with the amorphous mind of a six-year-old."

The Boise State students will continue conducting the demonstrations through April from 10 a.m. to noon and 1:30 p.m. to 2:30 p.m. on Tuesdays, Wednesdays, and Thursdays, and from noon to 4:00 p.m. on Saturdays.

In addition to the student-led demonstrations, Boise State faculty in engineering, physics, and chemistry gave presentations in their respective fields. One more presentation will be given on April 16.

The *Strange Matter* exhibition offers visitors an understanding of how improvements and innovations in materials have driven technological change, said Amy Moll, chair of BSU's Materials Science and Engineering Department, which enrolled its first students in fall 2004. "After all, everything is made of something," Moll said. In fact, she said, there are more than 300,000 different materials—metals, ceramics, semiconductors, polymers, composites, biomaterials, and many others.

Moll, a member of MRS and the *Strange Matter* Subcommittee, played an integral role in bringing the exhibition to her hometown. She encourages her students' involvement and can also be contacted by other students and researchers interested in volunteering when the exhibition reaches their science centers. She can be reached at [amoll@boisestate.edu](mailto:amoll@boisestate.edu). Local presentation of *Strange Matter* in Boise is made possible by the Micron Technology Foundation.

The MRS *Strange Matter* exhibition was designed and fabricated by the Ontario Science Centre. The exhibition and its tour are made possible by the generous support of the National Science Foundation, Alcan, Dow, Ford Motor Company Fund, Intel Innovation in Education, and the 3M Foundation.



