


## MRS Seeks Nominations for 2006 Outstanding Young Investigator Award

The Materials Research Society is accepting nominations for the Outstanding Young Investigator (OYI) Award to be presented at the 2006 MRS Spring Meeting in San Francisco.

The OYI Award recognizes outstanding interdisciplinary scientific work in materials research by a scientist or engineer under the age of 36 (as of January 1,

2006). The award recipient must show exceptional promise as a developing leader in the materials area.

The award consists of a \$5,000 prize, a presentation trophy, and a citation certificate. Reasonable travel expenses to attend the MRS Meeting at which the award is presented and the meeting registration fee will be reimbursed.

The deadline for submission of nominations is midnight Eastern time (U.S.) on October 3, 2005. For guidelines and application forms, access the MRS Web site at [www.mrs.org/awards/](http://www.mrs.org/awards/) or contact Lorri Smiley, Materials Research Society, 506 Keystone Drive, Warrendale, PA 15086-7573, USA; e-mail [awardsprogram@mrs.org](mailto:awardsprogram@mrs.org). 

## MRS to Hold Workshop on 3D Multifunctional Ceramic Composites in October 2005

The Materials Research Society will offer a workshop on Three-Dimensional Multifunctional Ceramic Composites on October 3–5, 2005, to be held at the Beckman Institute, University of Illinois at Urbana-Champaign. The organizers are Paul V. Braun of the University of Illinois at Urbana-Champaign, C. Jeffrey Brinker of the University of New Mexico and Sandia National Laboratories, and Shanhui Fan of Stanford University.

The aim of the workshop is to bring together a diverse group of scientists and engineers from academic, industrial, and government laboratories to provide a forum to explore the state of the art in self-assembly of ceramic-based and hybrid ceramic/organic composites for the creation of multifunctional materials. New developments in three-dimensional (3D) photonic crystals, chemical and biological sensors, rapid fabrication techniques, active membranes, 3D holographic patterning, and modeling and theory of 3D optical devices will be explored.

The scientific and technical underpinnings of the self-assembly of ceramic and composite structures will be emphasized. The technical program will consist of invited presentations from renowned experts and selected contributed presentations, poster sessions, and hands-on tutorials given by expert faculty. Scholarships will be available for graduate students, post-doctoral scientists, and early-career faculty.

Tutorials will be held in the afternoon on October 3, with technical presentations

beginning in the morning on October 4. There have been a number of recent developments in the formation, properties, and modeling of 3D ceramics and composites. In the tutorials, experts in their respective fields will give a series of hands-on tutorials on these developments, with the goal of assisting the transition of these technologies to industry, national laboratories, Department of Defense organizations, and other universities. The tutorials will take place in the laboratories of the University of Illinois. There is no additional fee for the tutorials, but space is limited, so early registration is recommended.

Each participant will be able to sign up for two of the six tutorials:


1. Opal Synthesis, Assembly, and Characterization (Instructor: P.V. Braun, University of Illinois);
2. Introduction to Photonic Crystals (Instructor: S. Fan, Stanford University);
3. 3D Holographic Lithography (Instructor: P. Wiltzius, University of Illinois);
4. Robotic Deposition of 3D Structures (Instructor: J.A. Lewis, University of Illinois);
5. Mesoporous Materials (Instructor: C.J. Brinker, University of New Mexico and Sandia National Laboratories); and
6. DNA-Based Assembly and Sensing (Instructor: Y. Lu, University of Illinois).

The oral and poster presentations will cover a wide range of topics:

- controlling two- and three-dimensional placement, alignment, orientation, and configuration of meso- and nanoscale components;

- directed deposition and growth of multi-dimensional mesostructures;
- bio-inspired and bio-assisted assembly (e.g., using DNA, proteins, bioprocesses, or living cells);
- micro- and nanomanipulation and writing with particle/optical beams, probes, and pens;
- strategies for preserving and tuning properties in ceramic assemblies;
- experimental, theoretical, and computational studies of multifunctional ceramics;
- photonic-crystal device designs and simulations;
- the impact of colloidal forces on colloidal crystallization;
- thermodynamics and kinetics of assembly processes;
- thermal and mechanical stability of the assembled materials;
- the effects of external stimuli (e.g., mechanical, optical, electrical, and gradients) in directing assembly; and
- innovative *in situ* characterization techniques.

Among the invited speakers are Joanna Aizenberg of Lucent Technologies, Alfons van Blaaderen of Utrecht University, Chris Murray of IBM, Rajesh Naik of Wright Patterson Air Force Base, Daniel O'Brien of the Army Research Laboratory, and David Pine of New York University.

For more information on registration and updates, access Web site [www.mrs.org](http://www.mrs.org) or e-mail [info@mrs.org](mailto:info@mrs.org). 

## Three-Dimensional Multifunctional Ceramic Composites Workshop

October 3-5, 2005  
Beckman Institute  
University of Illinois at Urbana-Champaign

Preregistration now open at [www.mrs.org/meetings/workshops](http://www.mrs.org/meetings/workshops)

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## Benjamin Jay Gross Named 2005–2006 MRS/OSA Congressional Fellow

Benjamin Jay Gross has been named the MRS/OSA Congressional Science and Engineering Fellow for 2005–2006. His term will begin in September. As a recipient of this one-year appointment, sponsored jointly by the Materials Research Society and the Optical Society of America, Gross will work as a special legislative assistant on the staff of a member of Congress or congressional committee.

Gross earned a PhD degree in physical chemistry from Columbia University in 2004. "I have split my graduate studies near evenly between areas of study pertinent to nanotechnology and biotechnology," he said. "This unique combination of experiences leaves me with a broad base of scientific knowledge covering a wide range of strategic technologies." Gross's thesis research examined the development of solid-state nuclear magnetic resonance spectroscopy methods for application in structural biology. Prior to his thesis work, Gross spent two years studying molecular electronic materials by single-molecule spectroscopy and ultra-microscopy techniques.

After earning his doctorate, Gross spent the fall of 2004 at the National Academies as a Christine Mirzayan Science & Technology Policy Graduate Fellow. While there, he worked with the Division on Engineering and Physical Sciences on the review of the National Nanotechnology Initiative (NNI). It was during this fellowship that Gross decided to pursue a career in science policy.

"In preparing for the review of the NNI, I developed a new interest in, and appreciation for, the intricacies of the appropriations process for funding scientific research," Gross said. "My concerns lie in the fact that while funding for highly visible research initiatives has increased, overall spending in non-defense scientific research has



Benjamin Jay Gross

slowed. This decelerates the advancement of the sciences supported by government funding while giving the impression that the priority level of maintaining global leadership in scientific research has not been diminished." Furthermore, Gross said, "There are many scientific issues of public concern, ranging from embryonic stem cells to renewable energy, of which the resultant policies do not always reflect our stated priorities as politics demands. It is this balance of science, policy, and politics, leading to outcomes for good or ill, which I hope to get a better understanding of as a congressional fellow."

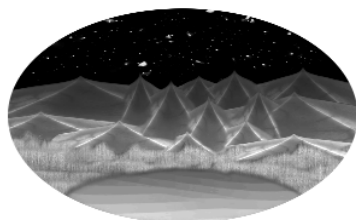
Eric Werwa, chair of the MRS Congressional Fellow Subcommittee, said, "MRS and OSA are fortunate to have found another outstanding candidate for the fellowship in Ben. His experience while working as a Mirzayan fellow at the National Academies helped him stand out in a very strong applicant pool. During the application and interview process, his obvious dedication to public policy and his strong desire to serve in the policy arena were clear to the selec-

tion committee. I am confident that Ben will continue the tradition of outstanding MRS/OSA Congressional Fellows, and even raise the bar higher for future fellows." Werwa served as the 2001–2002 MRS/OSA Congressional Fellow and is now a legislative assistant in Rep. Michael M. Honda's (D-Calif.) office.

While obtaining his MPhil (May 2004) and PhD degrees (September 2004)—both in chemistry and from Columbia University—Gross taught physical chemistry to senior-level undergraduates; tutored high school students in chemistry, physics, and mathematics; and served as a member of the Columbia Chemistry Careers Committee, which brings in professionals with PhD degrees in the sciences to speak of their careers outside of academic research, such as in patent law, venture capitalization, and intelligence. For one month between semesters, Gross served as a technical consultant to a venture capital firm regarding investment in an international nanotechnology startup company, where he assessed the scientific merit of novel nanoelectronic materials and distilled information for presentation to investors.

In 2001, Gross received the Jack Miller Award for excellence in teaching by a graduate student, presented by the Chemistry Department of Columbia University. Before that, he received the Columbia-Upjohn Fellowship (2000) and the Columbia University Graduate School of Arts and Sciences Faculty Fellowship (1999). He is co-author of technical articles published in *Physical Review Letters*, *Langmuir*, and *Inorganic Chemistry*. He is a member of the American Association for the Advancement of Science, the American Chemical Society, and the Materials Research Society. MRS

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[www.mrs.org/meetings/workshops/2006/icndst](http://www.mrs.org/meetings/workshops/2006/icndst)