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CNSASU is a listserv targeted to social scientists, natural scientists and engineers, decision makers in the public and private sector, and other interested members of the community.

### ASU'S NANOTECH IN SOCIETY CENTER LAUNCHED

Nanotechnology promises to have a profound impact on society. How can scientists, citizens, and policy makers be adequately engaged in a dialogue about nanotechnology's potential for good and ill? How can we successfully govern nanotechnology?

On January 30<sup>th</sup> a distinguished panel of scientists, policy experts and ethicists convened for this important discussion. The panel included remarks from ASU President **Michael Crow**, **David Guston**, director of the Center for Nanotechnology in Society; **George Poste**, director of the Biodesign Institute; and **Jonathan Moreno**, University of Virginia Professor of Biomedical Ethics and co-chair of the National Academies' committee on human embryonic stem cell research.

Guston called the event "the beginning of an unprecedented effort to expand our knowledge of how emerging technologies like nanotechnology interact with society, to train students to understand those

interactions, and to involve the general public in helping to make decisions, along with scientists and engineers and policy makers, about what nanotechnology's future will be like.”

Last fall, the National Science Foundation awarded ASU \$6.2 million to establish the Center for Nanotechnology in Society (CNS-ASU). The Center is a collaboration of the Consortium for Science, Policy and Outcomes (CSPO) and the Biodesign Institute at ASU.

CNS-ASU is the largest in a network of \$14.3 million in newly funded NSF activities on nanotechnology and society, which includes a \$5 million center at the University of California-Santa Barbara and additional projects at Harvard University and the University of South Carolina. The ASU Center will be a “center of excellence” for the National Nanotechnology Initiative (NNI), a federal R&D program established to coordinate the multi-agency efforts in nanoscale science, engineering, and technology.

According to the NNI, federally supported nanotechnology R&D in 2005 was \$1 billion, and the future global marketplace for goods and services using nanotechnologies will grow to \$1 trillion by 2015. However, nano- scientists and engineers are still working out the rules and techniques for imaging, manipulating and manufacturing matter at this minute atomic scale, 10,000 times smaller than the width of a human hair. And social scientists and humanists are just starting to understand how such inquiries and technologies interact with the broader society.

The launch event gathered a broad network of CNS-ASU researchers and collaborators, including researchers from the University of Wisconsin, Madison; Georgia Institute of Technology, Atlanta; North Carolina State University, Raleigh; University of Colorado, Boulder; Rutgers University, New Brunswick, N.J.; and other universities and private and public sector groups.

CNS-ASU focuses on two broad research themes: freedom, privacy, and security; and human identity, enhancement, and biology. The Center is also experimenting with a novel approach of teaming social scientists and nano-scientists to consider the ethical and social dimensions of nanotechnology as the new technologies are developed in real-time. The Center also incorporates regular meetings with and feedback from citizens, policy makers, and business leaders on their perspectives on nanotechnology.

“The Center helps both researchers and citizens develop a better understanding of where scientific and social values come from, what they mean, and how they shape the direction that nanotechnology takes,” said Guston. By understanding the interactions between nanotechnology and society, the Center hopes to encourage informed discussions and improve policy choices and technological outcomes for the benefit of society.

The vision of CNS-ASU is that research into the societal aspects of nanoscale science and engineering (NSE), carried out in close collaboration with NSE scientists and combined with public engagement, will improve deliberation and decision making about NSE. Its goal is nothing less than charting a path toward new ways of organizing the production of knowledge and developing and testing new processes of anticipatory governance to meet the emerging promises and challenges of NSE. For more information on the CNS-ASU, visit <http://cns.asu.edu>. For more information on BioDesign at ASU, visit: <http://www.biodesign.asu.edu/>

### **CNS-ASU BEGINS "SCIENCE CAFÉ" SERIES**

Science Café steals a page from the salons of France, Café Philosophique and our CNS-ASU colleagues at Wisconsin to bring together community members and academics concerned with how science, including nanotechnology, will change the future. The typical café is a casual event in an informal setting where a scientist speaks for 5-20 minutes on a topic, and the public has the opportunity to ask questions and interact with the scientist. The Center for Nanotechnology in Society at ASU is offering the first gathering March 23 at 7:30 p.m. at Mills End Espresso and featuring **Stuart Lindsay**, PhD, who will make a short presentation and then engage the audience in discussion. His specialty is biophysics at the molecular level and scanning probe microscopy. Much of his work is aimed at speedier diagnosis and at medical breakthroughs needed to understand and cure a wide variety of diseases. The Lindsay Lab researchers are interested in how genes work and how proteins switch genes on and off. One project seeks a new method for DNA sequencing that would make it much faster and cheaper. Related link: Denver's counterpart:

[http://news.com.com/Science+comes+to+the+masses/2100-11395\\_3-6043170.html](http://news.com.com/Science+comes+to+the+masses/2100-11395_3-6043170.html)

### **FOUR GRADUATE RESEARCH ASSISTANTSHIPS AVAILABLE FALL, 2006**

An essential element of the research and education programs of CNS is the involvement of underrepresented groups. The participative processes used by CNS researchers will focus especially on the unique location of ASU, therefore on Latinos and Native Americans, and on other groups who are underrepresented in the scientific/technology/engineering/math (STEM) fields, such as people with disabilities and women. This commitment is more than just a matter of equity. It speaks to the conceptual core of the Center--that contextual knowledge is critical in shaping research choices and outcomes.

The Center's NSF grant includes four graduate assistantships, starting in Fall 2006, which are renewable for up to four years. Qualifications for the graduate assistantships include:

- full-time enrollment in a relevant graduate program at ASU;
- demonstrated interest at the intersection of scientific and technical advance and societal impacts;
- strong research and writing skills, and
- excellent scholarly potential.

Graduate assistant applicants may be enrolled in any relevant field of study at ASU, but selection will in part be based on the ability of the applicant to support the research needs of CNS-ASU faculty. Relevant fields of study include, *but are not limited to*, science and society, political science, history and philosophy of science, anthropology, and design. Support will include full tuition and a significant stipend, as well as additional opportunities through CNS-ASU for funded research travel domestically and internationally.

The CNS assistantships have the potential to provide significant scholarly development as well as support for students traditionally underrepresented. Any assistance you can provide in getting the word out to graduate students in your sphere of influence would be appreciated. Details on the GRAs are available on our website: <http://cns.asu.edu/>. To apply, submit a cover letter describing your interest in nanotechnology in society, a C.V. or resume, a writing sample, and the names and contact information for three reference to Cory Dillon at [Corinne.Dillon@asu.edu](mailto:Corinne.Dillon@asu.edu).

## NANO-RELATED EVENTS

- “Nanotechnology in Society’s Context,” NABIS Conference, March 29, 2006, at Chicago’s University Club. Sponsored by: *Illinois Institute of Technology’s Center on Nanotechnology and Society*. For information, [http:// www.nabisconference.com/2006](http://www.nabisconference.com/2006). To register, call NABIS Headquarters: (708)361-6000 - ex. 202

**Jason Robert**, Assistant Professor of Life Sciences in the School of Life Sciences and co-leader of the Human Identity, Enhancement, and Biology theme of the Center for Nanotechnology and Society at ASU will be on the first panel at the March NABIS Conference—“[Overview - The Societal Implications of Nanotechnology – The Ethical, Legal, and Societal Implications of Nanotechnology.](#)” He teaches in the Bioethics Program within the Center for Biology and Society, and is a faculty affiliate of the Consortium for Science, Policy, and Outcomes. His first book, *Embryology, Epigenesis, and Evolution: Taking Development Seriously*, was published by Cambridge University Press in 2004.

- On March 13, 2006, at the biweekly Nanotechnology Colloquium held by the Nanomaterials Applications Center at Texas State University, **Michael Moffitt**, a collaborative partner and industry liaison for the National Science Foundation and the National Nanotechnologies Initiative’s Center for Nanotechnology in Society at ASU, will speak on "[Nanotechnology & Society: In Synchrony?](#)"

## NANOLINKS

- <http://www.worldmag.com/articles/11580>. World Magazine’s coverage of the AAAS session in St. Louis on the future of Nano in February.
- [http://phoenix.bizjournals.com/phoenix/stories/2006/02/06/newscolumn2.html?jst=pn\\_pn\\_lk](http://phoenix.bizjournals.com/phoenix/stories/2006/02/06/newscolumn2.html?jst=pn_pn_lk). The Phoenix Business Journal’s coverage of the launch of the Center at ASU in January.

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