

everything from ancient methods of timekeeping to Einstein's merging of space and time. Particle physics labs worldwide are collaborating on a physics comic book for adults.

The World Year of Physics gained visibility in fall 2002, when it was endorsed by the International Union of Pure and Applied Physics. UNESCO signed on a year later, and initiatives are under way for the US Congress and the UN to declare 2005 the World Year of Physics.

For a schedule of events during the World Year of Physics and information about how to participate, see <http://www.wyp2005.org> and <http://www.physics2005.org>.

Toni Feder

NSF Launches Large-Scale Network for Small-Scale Science

Thirteen universities are participating in NSF's National Nanotechnology Infrastructure Network, which aims to link user facilities for a broad spectrum of nanoscience research, including biology, chemistry, geoscience, materials, engineering, and physics.

Launched last month as an extension of NSF's earlier 10-year National Nanofabrication Users Network, the NNIN branches out to include characterization, modeling, educational outreach, and the impact of nanotechnology on society. NSF is funding NNIN with at least \$70 million over five years.

The NNIN dovetails with, and is to be funded by, the Nanotechnology Research and Development Act signed on 3 December 2003 by President Bush. That act requests \$849 million for fiscal year 2004 and has as a goal the establishment of a national network of advanced technology user facilities. "In effect we have presaged this," says Lawrence Goldberg, NSF program officer for the NNIN. "NSF is the lead agency in the federal government's investment in nanotechnology."

NNIN's capabilities include expertise in semiconductor electronics, molecular electronics, optics, microelectromechanical systems, nanofluidics, and computation; tools for making nanotubes, nanowires, porous materials, self-assembled and patterned materials, nanocomposites, biological templates, and other structures; and a host of microscopy techniques for characterizing nanoscale creations. NNIN facilities are open to international researchers from all R&D sectors.

"By assembling and offering to share our specialized resources with any and all qualified users, we have created the world's largest, most comprehensive, and accessible nanotechnology laboratory," says NNIN director Sandip Tiwari, a Cornell University electrical engineer.

Coordinating NNIN work on the implications of nanotechnology for society is Bruce Lewenstein, a professor of science communication at Cornell. Nanotechnology will impact workforce productivity, equity, privacy,

the environment, and global competitiveness, he says. "For example, we may have injectable devices floating around in our bloodstreams monitoring cholesterol or sugar levels. If I am walking down the street, can anybody with the right receiver—or my employer—check my blood chemistry? What are the implications for privacy?" At NNIN, Lewenstein adds, "our goal is to build the capacity of all users to be able to address social and ethical issues. We will do that through materials, speakers, access to resources, and making tools available."

In addition to Cornell, the NNIN partners are the Georgia Institute of Technology, Harvard University, Howard University, North Carolina State University, Pennsylvania State University, Stanford University, the University of California at Santa Barbara, and the universities of Michigan, Minnesota, New Mexico, Texas at Austin, and Washington.

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News Notes

Antiterrorism research center. The US Department of Homeland Security (DHS) has chosen the University of Southern California as the site for the first of what are expected to be several science and technology "centers of excellence" for antiterrorism research. The USC center, called the Homeland Security Center for Risk and Economic Analysis of Terrorism Events, is slated to receive \$12 million during the next three years. USC was selected from 70 applicants.

Randolph Hall, chairman of the university's School of Engineering, and Detlof von Winterfeldt of the School of Policy, Planning, and Development, will jointly head the center. Researchers will "address both the targets and means of terrorism, with emphasis on protecting the nation's critical infrastructure systems, such as electric power, transportation, and telecommunications," according to a USC statement.

USC researchers, who have extensive experience in how to respond to natural disasters such as earthquakes, will involve the school's advanced computer modeling and cybersecurity experts in the center. Representative Christopher Cox (R-CA), chairman of the House Committee on Homeland Security, applauded the selection of USC, saying, "The USC team is uniquely qualified to enhance homeland security as a result of the



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Clean rooms are just a part of the National Nanotechnology Infrastructure Network launched in January by NSF.