

Homeland Security Director Ridge Views Counter-Terrorism Technology Developed at DOE

In mid-November, Secretary of Energy Spencer Abraham hosted Director of the White House Office of Homeland Security Tom Ridge on a tour of some of the counter-terrorism technologies developed at the Department of Energy laboratories. Over two dozen technologies were on display.

Among them was a nuclear portal monitor and Palm Pilot neutron and gamma detector. The hand-held device uses a Palm Pilot computer as the operator interface to a cadmium-zinc-telluride crystal that detects both neutrons and gamma rays.

Also on display was a decontamination foam that includes ordinary household substances such as those found in hair conditioner and toothpaste and neutralizes both chemical and biological agents within minutes. It can be applied to a contaminated surface as a liquid spray, mist, fog, or foam. It has been recently used to rid Capitol Hill buildings of anthrax bacteria.

Another technology that has been patented and licensed for government use consists of polymers that sense toxic vapors. A ceramic metallic (cermet) microsensor array has also been developed and tested that detects and identifies small amounts of cyanides.

DOE's National Nuclear Security Administration funds counter-terrorism work as part of its national security mission. According to DOE, some of the technologies were developed for use in fields such as environmental cleanup and can be adapted to counter-terrorism applications.

Marburger Confirmed as OSTP Director

The Senate confirmed John H. Marburger, III, of New York, to be director of the Office of Science and Technology Policy (OSTP) on October 23. Marburger comes to OSTP following a directorship at Brookhaven National Laboratory and a period of time as president of Brookhaven Science Associates. He was president and a professor at the State University of New York—Stony Brook (SUNY) (1980–1994), continuing as a university professor of physics and electrical engineering (1994–1997). Prior to SUNY, he served as the dean of the College of Letters, Arts and Sciences at the University of Southern California (1976–1980). He has been a member of numerous professional organizations including the Universities Research Association. He received a PhD degree in applied physics from Stanford University.

In his statement to the Senate Commit-

tee on Commerce, Science, and Transportation, Marburger acknowledged the positive economic implications of federally funded scientific research and development. He described how development in the technology of instrumentation and access to powerful computing has altered the way science is conducted and will further influence the government's approach to the four "grand challenges" of the Bush administration: national security, environmental protection, health care, and education.

In the wake of the September 11 terrorist attacks, Marburger emphasized that new technologies are necessary to strengthen the U.S. goals of counter-proliferation, counter-terrorism, peace-keeping, and stewardship of the nuclear-weapons stockpile.

Marburger said, "The struggle against terrorism has many fronts, and science and technology pervade them all. From instruments of surveillance that are consistent with our nation's love of individual freedom, to basic advances in science that feed technologies important for long-term economic strength, and the international collaborations that awaken in other cultures the spirit of objectivity and the quest for truth, the security of our nation depends upon thoughtful management of our scientific and technical resources."

As OSTP director, Marburger co-chairs (with Floyd Kvamme) the President's Council of Advisors on Science and Technology (PCAST) and oversees the President's National Science and Technology Council (NSTC).

U.S.-EC Nanotech Collaboration Launched

The National Science Foundation (NSF) and the European Commission (EC) have expanded a program of workshops and funding of mutual research goals in materials science to include nanotechnology.

"The creation and modification of materials at the nanoscale...will be a critical factor in shaping future technologies," Lance Haworth, executive officer of NSF's Materials Research Division, said in announcing the collaboration last month.

Under the cooperative program, research goals will be determined jointly by U.S. and European researchers. NSF grants will support the U.S. side of research teams in areas such as surface structure and thin films, carbon nanotubes, and the role of defects in materials. The EC will fund the Europeans' participation.

Four joint workshops planned for 2002 follow up on an initial workshop held in 2000 to identify opportunities for nanoscale research. The first, "Nanomanu-

facturing and Processing," was scheduled for January 5–7 in San Juan, Puerto Rico, to explore processes and techniques for design, modeling, tooling, and fabrication of devices and materials.

"Nanotechnology—Revolutionary Opportunities and Societal Implications" is scheduled for January 31–February 1 in Lecce, Italy. It will highlight U.S. and European "roadmaps" for nanotechnology and impacts of the field for society and various industries.

The other workshops are "Instrumentation and Tools for Nanotechnology," Grenoble, France, June 12–14, to examine tools, instruments, and devices needed for nanoscale manufacturing; and "Nanostructured Materials," Boston, Mass., December 5–6, to review developments in metals, polymers, ceramics, and other advanced materials.

Bement Confirmed by Senate as NIST Director

The Senate confirmed Arden L. Bement Jr. as director of the National Institute of Standards and Technology. Commerce Secretary Don Evans said, "He brings a wealth of experience in both the private and public sector vital to this position."

Bement was most recently the David A. Ross Distinguished Professor of Nuclear Engineering and head of the School of Nuclear Engineering at Purdue University. His positions in industry, government, and academia include vice president of science and technology for TRW Inc.; senior research associate, General Electric Co.; deputy under-secretary of defense for research and engineering; director, Office of Materials Science, DARPA; manager, Fuels and Materials Department and the Metallurgy Research Department, Battelle Northwest Laboratories; and professor of nuclear materials, Massachusetts Institute of Technology.

Within NIST, Bement previously served as head of the Visiting Committee on Advanced Technology, the agency's primary private-sector policy advisor; as head of the advisory committee for the Advanced Technology Program; and on the Board of Overseers for the Malcolm Baldrige National Quality Award. Bement succeeds Raymond Kammer, who retired in December 2000. NIST Deputy Director Karen Brown has served as acting director in the interim.

Bement holds a doctorate degree in metallurgical material engineering from the University of Michigan and an honorary doctorate degree in engineering from Cleveland State University. □