

SCIENCE POLICY

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Congress Reduces NSF Budget to \$5.47 Billion

The U.S. National Science Foundation (NSF) has announced its first budget cut in years, operating in 2005 at 1.9% below fiscal year 2004 spending levels. NSF will be funded at \$5.47 billion, \$105 million below 2004 and \$232 million below the FY 05 budget request.

The budget cut affects the two major NSF accounts: Research & Related Activities (R&RA) and Education and Human Resources (EHR). The R&RA account, which funds NSF's core research directorates and programs, falls to \$4.22 billion, which is \$30.8 million (0.7%) below FY 04 funding levels and \$200.95 million below the FY 05 request level. Funding decisions by directorate and program will be left to the discretion of NSF, pending congressional approval.



Bement Appointed as NSF Director

Arden L. Bement Jr. was appointed on November 24, 2004 as the 12th director of the U.S. National Science Foundation (NSF). Bement has been NSF's acting director since February 2004. For the time he was acting NSF director, he also held the position of director of the National Institute of Standards and Technology (NIST). As NSF director, Bement's term is for six years. His appointment coincides with his resignation as director of NIST.

Bement holds an engineer of metallurgy degree from the Colorado School of Mines, a master's degree in metallurgical engineering from the University of Idaho, a PhD degree in metallurgical engineering from the University of Michigan, an honorary doctorate degree in engineering from Cleveland State University, and an honorary doctorate degree in science from Case Western Reserve University. He is a member of the U.S. National Academy of Engineering.

His career spans nearly 40 years in industry, government, and academia. He served on the National Science Board (NSB), the 24-member policy body for NSF that advises the president and Congress on science and engineering issues, from 1989 to 1995. As NSF director, Bement will now serve as an ex officio member of the NSB.

Among his positions, Bement served as director of the Office of Materials Science, DARPA; professor of nuclear materials at the Massachusetts Institute of Technology; manager of the Fuels and Materials

Department and the Metallurgy Research Department at Battelle Northwest Laboratories; director of Keithley Instruments Inc. and the Lord Corp. and a member of the Science and Technology Advisory Committee for the Howmet Corp. (a division of ALCOA); and chair of the Commission for Engineering and Technical Studies and the National Materials Advisory Board of the National Research Council. Prior to his appointment as NIST director in 2001, Bement served as the David A. Ross Distinguished Professor of Nuclear Engineering and head of the School of Nuclear Engineering at Purdue University.

Selection Process for Presidential S&T Appointments Should be Enhanced

Concerns have been raised recently in the United States about the need to provide continuity in science and technology (S&T) advice—given national and homeland security concerns—and about whether appointments to S&T advisory committees are being increasingly politicized, said a report from the U.S. National Academies. The report was produced by the Committee on Ensuring the Best Presidential and Federal Advisory Committee Science and Technology Appointments.

Each presidential election year since 1992, the National Academies have issued a report on the presidential appointment process. In the latest report, the committee, chaired by former congressional representative John E. Porter, recommends that immediately following each general election, the president or president-elect should name a confidential "assistant to the president for science and technology" to provide advice in the event of a crisis and to help quickly identify strong candidates for crucial S&T appointments. Authorities also should make certain that appointments to advisory committees are not politicized or used to promote foregone conclusions. Scientists, engineers, and health professionals should be appointed to federal advisory committees based on their expertise and integrity. They should not be asked for information that would have no bearing on the scientific or technical expertise they would provide during committee discussions—such as political party affiliation, voting record, or personal positions on particular issues.

"Failure to attract qualified people to high-ranking S&T positions, or misuse of the federal advisory committee system, would compromise the government's effectiveness on important issues," said Porter, who served in congress for 21 years and who is currently a partner at

the law firm of Hogan & Hartson LLP, Washington, D.C. "To address the challenges of the 21st century, we need solid leadership and advice in scientific, medical, and technical areas—and certainly well-grounded scientific and technical information."

According to the committee, each candidate's selection process should be completed within four months, and positions that are key to national security should be filled even faster. Accelerating the process would reduce personal and financial burdens on nominees and give high-ranking leaders in science and technology earlier opportunities to contribute to relevant policy discussions, the report said. Efforts to streamline could include conducting one background check rather than separate reviews by the White House and Senate, clarifying job criteria, and simplifying financial disclosure rules. Conflict-of-interest requirements also should be reviewed to ensure that they are neither too burdensome nor too lenient, said the report.

Copies of the report are available from the National Academies Press, tel. 202-334-3313 or 1-800-624-6242 or on the Internet at www.nap.edu.

Tekes Launches FinNano

Tekes, the National Technology Agency of Finland, has launched its nanotechnology program FinNano this month. The cost of this five-year program (2005–2009) is €45 million, directing €25 million in research funding to universities and research centers and €20 million in corporate financing. Industry is expected to invest ~€25 million in projects within the FinNano program, bringing total invested in the program to ~€70 million over five years.

The mission of the nanotechnology program is to study, exploit, and commercialize nanoscale systems and phenomena occurring on a nanoscale. Tekes said the interdisciplinary program will focus on innovative nanostructured materials, nanosensors and nanoactuators, and new nanoelectronics solutions.

According to Tekes, the challenge of the program will be to put the result of the research studies it will fund to effective use. Applications based on nanoparticles and other nanostructures will be commercialized first through established enterprises. This is the program's principal commercialization strategy. Owing to the nature of nanotechnology, the majority of applications are, however, relatively remote from the actual commercialization phase. In this situation, small companies are also provided with opportunities for significant innovations.

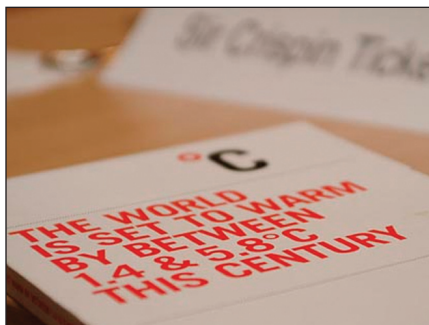
The program forms one part of the Finnish national nanotechnology program. Tekes and the Academy of Finland plan to spend €55 million to ensure that the Finnish industry can study and exploit nanosciences and nanotechnologies.

Germany and UK to Form Partnership for Climate Change Research

"The United Kingdom and Germany are partners with a pioneering role in climate protection," said Jürgen Trittin, Germany's Federal Minister of Environment, Nature Protection and Nuclear Safety. He was addressing the Germany-United Kingdom conference on "Climate Change: Meeting the Challenge Together," held in the British Embassy in Berlin on November 3, 2004.

The chair of the conference, Klaus Töpfer, Executive Director of the United National Environment Program (UNEP), said, "There is now no question that human-made climate change is a reality and that leadership is urgently needed to take the fight against its devastating impacts forward. This leadership is now here under the two industrialized countries whose emission reductions are so far amongst the highest and deepest in the world. I sincerely believe this Anglo-German partnership is the trigger needed to put Europe and the world onto a more stable, less carbon-dependent, path."

The Conference brought together scientists, policymakers, business leaders, and other stakeholders from the United Kingdom and Germany to explore how science can be used to meet the challenge of climate change and how business can put new technologies into practice. In addition to Trittin and Töpfer, participants heard from Margaret Beckett, British Secretary of State for Environment, Food and Rural Affairs, and Edelgard Bulmahn, German Federal Minister for Education and Research. Beckett announced that the two governments have agreed to sign a Memorandum of Understanding to estab-



Logo: The Climate Group. Photo by Nina Schwarz

lish a joint research platform to assist in the identification of joint priorities and the sharing and exchange of knowledge on climate change.

Beckett said, "Next year [2005] the UK holds the presidency of the G8 group of countries but, from July, also the presidency of the European Union. Climate change along with Africa for the G8 will be our top priority for these two presidencies." The conference is to provide recommendations to the prime minister of the United Kingdom.

A report delivered from the breakout group on "Technical and Social Innovations" delineated the current research status on combating climate change and recommendations for future research and development (R&D). According to the report, low-carbon supply options—such as renewable energy, nuclear power, and CO₂ capture and storage—tend to receive more R&D and policy support than material efficiency. The report said, "The demand for energy-intensive materials could be reduced by more efficient use of these materials (by improving their design or material properties), by increased recycling or substitution of those materials by less energy-intensive or biomass-based materials. This option of a future 'economy light' could con-

tribute to reducing the energy demand by 0.2 to 0.3 percent per year."

Among its recommendations for joint activities by the two countries, the breakout group suggests:

- a clearer identification of R&D areas that should be pursued by the 7th Framework Programme of the European Commission with reference to areas where the European Union has greatest potential to establish global leadership;
- a division of labor in particular fields of R&D with intensive exchange of research results and researchers supported by special incentive programs in the areas of new low-energy or zero-emitting technologies, materials science, or renewables; and
- a regular exchange of knowledge or successful R&D and mitigation policies among the relevant institutions.

New Zealand Uncovers S&T Opportunities in North Asia

A delegation representing New Zealand's research, science, and technology (RS&T) community has found many opportunities for potential collaboration during a visit in August 2004 to China, South Korea, and Japan. The delegation was headed by Pete Hodgson, Minister of Research, Science and Technology.

Among the areas of potential scientific collaborations with researchers in all three countries are nanotechnology and environmental science and technology. China and Japan specifically share a concern with New Zealand on climate change. The delegation listed energy and new materials among potential areas of collaboration with South Korea.

New Zealand's Ministry of Research Science and Technology (MoRST) is developing a strategy that will provide a framework for New Zealand's ongoing science and technology relationship with the three countries.

The science delegation was funded by the International Science and Technology Linkages Fund administered by MoRST. □



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