

WASHINGTON NEWS

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FEDERAL RESEARCH INVESTMENT CONTINUES DOWNWARD TREND

The final appropriations for FY 2006 show an estimated \$134.8 billion research and development portfolio, a record high and an increase of 1.7 percent over F&Y 2005. But 97 percent of the funding goes to defense weapons development and human space exploration technologies. Otherwise, federal spending on R&D programs will fall nearly 2 percent after adjustment for inflation, according to the American Association for the Advancement of Science, whose analysis is recognized as authoritative by experts both on and off the Hill. The AAAS analysis also concludes that federal research investments are shrinking as a share of the U.S. economy, even as other nations are increasing their investments. “Despite an increasingly technology-based economy and a growing recognition among policymakers that federal research investments are the seed corn for future technology-based innovations,” according to AAAS, “the U.S. government research investment has failed to match the new realities and has also failed to match the competition. While the European Union goal of boosting its government research investments by 2010 may not be met, Asian nations are dramatically increasing their government research investments: both China and South Korea, for example, are boosting government research by 10 percent or more annually.” Full information on final FY 2006 funding levels and program details for individual agencies are available at www.aaas.org/spp/rd/

SKEPTICISM ON NEED FOR NEW EDUCATION COMMISSION

The National Science Board of the National Science Foundation is considering creation of a new commission to make recommendations on improving U.S. science, technology, engineering and math (STEM) education. At the first of three public hearings, held in conjunction with the House Science Committee, the reaction was mixed at best. Science Committee Chairman Sherwood Boehlert (R-NY), ranking minority member Bart Gordon (D-TN) and Subcommittee Chairman Vern Ehlers (R-MI) all expressed skepticism that a new commission would come up with any different conclusions than those reached by many others over the past 20 years. Instead, they and other Congressmen suggested, any new commission should focus on clarifying the role of NSF in K-16 education. Other witnesses focused on the need for improved teacher training. The National Science Board plans further public hearings this year in Boulder, CO, and in Los Angeles.

A NEW REGULATORY FRAMEWORK FOR NANOTECH?

The Woodrow Wilson International Center has released a report by Terry Davies, former Assistant Administrator of the Environmental Protection Agency, which calls for a new regulatory approach to nanotechnology. David Rejeski, director of the Wilson Center's Project on Emerging Nanotechnologies, said that "if nanotechnology is to succeed, there needs to be a dialogue around the proactive approach Davies suggests. Government, business and citizen groups need to exchange views and discuss options to assure the American public that as nanotechnology matures, any adverse health and environmental effects will be identified and prevented or controlled." Davies' report concludes that nanotechnology is difficult to address using existing regulations such as OSHA, FDA, and major environmental laws such as the Clean Air Act, Clean Water Act, Toxic Substances Control Act, and Resource Conservation and Recovery Act. Therefore, a new law may be required to manage potential risks of nanotechnology. The law would require manufacturers to submit a sustainability plan which would show that the nanotech product will not present an "unacceptable" risk. Davies acknowledges that "the political obstacles to passing new legislation are very large." The report also describes several mechanisms to encourage beneficial applications of nanotechnology, including research, tax breaks, acquisition programs, and regulatory incentives. It then outlines institutional needs in four areas: international harmonization, foresight capability, research on adverse health and environmental effects, and public participation. The report is available for downloading at www.wilsoncenter.org/events/docs/EffectsNanotechFINAL.pdf

NEW GOVERNMENT WEBSITES LAUNCHED

The latest version of Science.gov has been launched to allow more refined queries for searches of federal science databases. Science.gov 3.0 introduces "MetaRank" which uses a sophisticated method for ranking science queries by searching bibliographic information such as title, author, date, abstract or other keyword identifiers. It also offers enhanced Boolean search capability, improved fielded searching, intuitive site navigation and early viewing of results while the database and Web site searches continue in real time. Science.gov is the gateway to S&T information from 17 organizations across 12 federal science agencies. A single query searches across 30 databases and 1,800 Web sites. Science.gov is hosted by the Department of Energy's Office of Scientific and Technical Information. It is part of the updated DOE website, www.energy.gov which was officially launched on January 5. According to Secretary of Energy Samuel W. Bodman, "The refurbished site allows for easier navigation by organizing content into easy-to-use categories, such as educational resources for parents, teachers and students. Additionally, energy.gov highlights new state-by-state information ... (and) also links users to the latest news on the activities of the department and its national labs and sites across the country."

NANOTECHNOLOGY SAFETY TO BE ASSESSED

The National Institute for Occupational Safety and Health (NIOSH) is forming an interdisciplinary field team of researchers to partner with employers and others in conducting field studies to observe and assess occupational health and safety practices in facilities where nanotechnology processes and applications are used. The field team will assess and obtain insight on materials, processes, current and potential worker exposure, work practices, control procedures, and medical monitoring in operations where nanomaterials are developed or utilized. The findings will be used to periodically update “Approaches to Safe Nanotechnology,” an interim guidance document which can be viewed at www.cdc.gov/niosh/topics/nanotech

SURVEY SHOWS INCREASE IN TECH TRANSFER

The Association of University Technology Managers has released its 14th annual U.S. Licensing Survey. It shows that nearly 25 percent more new companies based on academic research were launched in FY 2004 than a year earlier. According to AUTM, “this accomplishment reverses two consecutive years of declines in 2002 and 2003, when the economic climate made it more difficult to secure early-stage funding.” The survey also shows that research funding at U.S. institutions was up 7.1 percent compared with FY 2003. Invention disclosures among U.S. institutions increased to 16, 871 while patents issued decreased 6.4 percent to 3,680. In FY 2004, 462 new companies based on academic discovery began operations in North America, with 74.5 percent in the originating institution’s home state. A summary and information on ordering the full survey is available at www.autm.net

S&E DOCTORATES UP, BUT STILL BELOW PEAK

A new survey released by the National Science Foundation on behalf of itself, the National Institutes of Health, Department of Education, Department of Agriculture, National Endowment for the Humanities, and NASA shows that the number of Ph.D. degrees granted in science and engineering fields increased in the 2004 academic year for the second year in a row. The 26,275 degrees are still below the 1998 peak of 27,728. The report cautions that there is not yet sufficient evidence to determine if the increase is a new trend. “Materials/Metallurgical Engineering” increased from 474 new doctoral degrees in 2003 to 509 in 2004 (there is no breakout for materials science). Biological sciences was the only S&E field to issue more doctorates than ever before. Physical sciences, psychology and engineering were still well below their historical peaks, with doctorates in physics declining nearly 20 percent in the last 10 years. According to the survey, over 50 percent of earned doctorates in several S&E fields went to non-U.S. citizens in 2004. See the survey summary at www.nsf.gov/statistics/infbrief/nsf06301/

NEW SCIENCE AND SECURITY PANEL

The National Academies ad hoc Committee on a New Government-University Partnership for Science and Security convened in January, and plans to hold three regional meetings and a final convocation later in the year. The panel will address issues such as the application of the USA Patriot Act to universities, the impact of export controls on university research, and sensitive but unclassified research. Details are available at www.nas.edu/weber.nsf/CommitteeDisplay/STLP-Q-02-04-A/