

NSF Sub-Inflationary FY 2002 Budget Request Retains Support of New and Emerging Materials Areas

Rita Colwell, director of the National Science Foundation (NSF), held a briefing on April 9 to describe the agency's budget request for FY 2002. The agency has requested \$4.47 billion, an increase of \$56 million, or 1.3% over FY 2001—a sub-inflationary increase, consistent with President George W. Bush's policy of fiscal restraint in the executive branch.

Within the Directorate for Mathematical and Physical Sciences, the budget request calls for the astronomy program to increase by \$7.62 million (5%). Chemistry is cut by a small margin, materials research loses \$4.33 million (2.1%), and physics loses \$3.96 million (2.1%), while mathematics increases by \$20 million, or 16.5%. The five Divisions of the Directorate will have increasingly comparable budgets.

The Division of Materials Research (DMR) will continue moving along paths set in recent years. There will be continuing emphasis on nanoscience and related technologies. The Division will continue to support research in new and emerging areas, de-emphasizing more mature areas, and striving to respond to new developments (e.g., the discovery of superconducting MgB₂), many of which already spring from DMR-funded projects. The Division will respond actively to agency-wide agendas such as education, information-technology research (ITR), and work force preparation. There will be a continuing move to increase levels of funding per grant, with a consequent decrease in the number of grants. There will be some emphasis on younger investigators, and long-standing DMR grantees will face increasing competitiveness in the renewal of their grants.

Within the shrinking resource base, a number of significant reallocations within NSF have been made, notably

- research and related activities shrink by 0.5%;
- education and human-resource budgets increase by 11%, as NSF assumes part of the administration's education agenda; and
- major research equipment budgets (e.g., large telescope arrays and hadron colliders) shrink by 20.6% as no new starts for such items are anticipated in 2002.

NSF is judiciously focusing on its strategic goal of developing a "diverse, internationally competitive, and globally engaged work force," as the portion of the budget

dedicated to "people programs" increases by 12.8% while "ideas" and "tools" budgets shrink by 1.4% and 3.5%, respectively. Much attention will be focused on the administration's "no child left behind" agenda, with \$1 billion committed to this over the next five years. Strong links are to be forged between universities and K-12 education. A new "children's research initiative" will receive \$5 million.

Another major initiative is to raise graduate-fellowship stipends from \$18,000 to \$20,500, with a longer term goal of reaching \$25,000 within a few years.

Other research priority areas will be in biocomplexity, ITR, nanoscience and engineering, and learning for the 21st century. About 10% of the ITR awards will go toward research on societal impact, which is an important theme running through all major programs, including nanotechnology.

The nanoscience and engineering area will address

- fundamental research (e.g., nanostructures and novel phenomena);
- grand challenges (e.g., multiscale modeling, nanostructured materials by design, and manufacturing);
- centers and networks of excellence; and
- society and education implications.

According to NSF, as the agency realigns programs in response to the administration's agenda, principal investigators will be well advised, in discussions with their congressional representatives, to stress the educational aspects of their work. Typical grants place highly trained workers in the economy in a two- to four-year timescale, compared with a 10- to 20-year timescale for the transfer of technology into the marketplace.

House and Senate Reaffirm Commitment to NSF

On May 8, the House of Representatives passed a resolution (H. Con. Res. 108) acknowledging 50 years of achievement of service of the National Science Foundation (NSF) and reaffirmed the House' commitment "for the next 50 years to support research, education, and technological advancement and discovery" through the agency. Rep. Nick Smith (R-Mich.), chair of the Science Committee's Subcommittee on Research and cosponsor of the resolution said, "Today's NSF-led research in nanotechnology, advanced materials... and countless other areas are setting the foundation for the technologies of the future and in the process, training the scientists, engineers, and technology

entrepreneurs of tomorrow."

Other NSF-funded research praised by various members of the House included that which improved energy efficiency, space flight, common plastics, complex microprocessors, fiber optics, and laser technology.

The resolution's cosponsor Rep. Eddie Bernice Johnson (D-Texas), ranking minority member of the Subcommittee on Research, furthermore argued for more funding than the administration requested. She said, "I am extremely disappointed by the fiscal year 2002 budget request for NSF, which provides only a 1% increase. This is much less than what is needed to sustain the NSF's ongoing program."

Rep. Johnson, along with other representatives, pushed for passage of their NSF authorization bill, H.R. 1472, that would increase funding by 15% annually for fiscal years 2002 through 2005.

The Senate passed the resolution on May 9.

NIST June Workshop Examines Draft Language for Materials Data Exchange

At a workshop scheduled for June 26-27, 2001, an international working group of materials scientists and engineers will present the draft of new software—Materials Markup Language, or MatML—designed to facilitate the exchange of data on materials and their properties over the Internet. Representing industry, national laboratories, universities, and standards and professional organizations, the working group will seek input from participants on the technical aspects and strategic direction of MatML. The National Institute of Standards and Technology (NIST) has been coordinating the MatML development effort for the past 18 months.

The workshop will be held at NIST, Green Auditorium, in Gaithersburg, Maryland. To register, contact Teresa Vicente, NIST, 100 Bureau Dr., Stop 3461, Gaithersburg, MD 20899-3461, USA; tel. 301-975-3883, fax 301-948-2067, or e-mail teresa.vicente@nist.gov; or access Web site www.nist.gov/public_affairs/confpage/010626b.htm. For more information about the MatML software-development effort, contact Ed Begley, NIST, 100 Bureau Dr., Stop 8520, Gaithersburg, MD 20899-8520, USA; tel. 301-975-6118, fax 301-975-5334, or e-mail begley@nist.gov. The MatML Web site is www.ceramics.nist.gov/matml/matml.htm. □

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