NSF Notes

FY 1990 Budget Request Increases to $2.15 Billion

The National Science Foundation's budget request for fiscal 1990 is $2.15 billion—14% above the FY 1989 appropriation of $1.89 billion. The request is in line with the administration's proposal to double the NSF budget over five years.

NSF is requesting increased funds for science and engineering education, individual investigators, and cooperative research centers. Increases are also sought for graduate fellowships, computer research, upgrading of supercomputer facilities and networks, and for multidisciplinary research centers.

More than 60% of the requested 1990 budget would fund individual research projects and the facilities needed to support them. NSF is seeking $130 million more than FY 1989, which would bring total support for individual researchers and supporting facilities to $1.32 billion in FY 1990. Increased funding is requested for materials research, high performance computing, and mathematics.

Proposed increases for disciplinary research facilities include $15 million to upgrade hardware for NSF's National Supercomputer Centers and $6 million for NSFNET. Also requested is a doubling of funds for materials research facilities, including a proposed High Magnetic Field Laboratory. The laboratory would be used by materials scientists and also physical and biological scientists.

The FY 1990 request also includes more than $347 million to support education, and career opportunities for teachers and young scientists—an increase of $63 million over 1989. Among the targets for this support are: undergraduate programs, which would increase 63% to nearly $105 million; three-year graduate fellowships, earmarked for $31 million; and programs to broaden participation in science and engineering activities to include minorities, women, the disabled, and geographic regions. Funding here would rise from $49.2 million to $58.7 million, or 19.2%.

The FY 1990 request includes $376 million for research centers and group research, an increase of $56 million over the 1989 budget. Among the recipients:

- the 11 new Science and Technology Centers established in FY 1989, plus 10-12 additional centers if a $20 million increase is honored;
- 2-4 new Engineering Research Centers;
- 8-11 new Industry/University Cooperative Research Centers; and
- Materials Research Laboratories and Groups.

DOE Notes

Super Collider Adds to FY 1990 Budget Request

The U.S. Department of Energy's proposed budget for fiscal 1990 requests $250 million to begin construction of the Super Collider—classified as a long-term, high-risk research and development project. Similarly classified projects which would receive DOE support are construction of the Compact Ignition Tokamak at Princeton, New Jersey (a nuclear fusion project) and

https://doi.org/10.1557/S0883769400063120 Published online by Cambridge University Press

the 6-7 GeV Synchrotron Light Source at Argonne National Laboratory in Illinois.

The Super Collider is part of the department's $2 billion request for funding of basic sciences research. In addition to the Super Collider, DOE is requesting,

- $616.2 million for high energy physics (up from $559.4 million);
- $299.3 million for nuclear physics (up from $260.9 million);
- $590 million for basic energy sciences (up from $549.3 million; and
- $271.4 million for biological and environmental research (up from $257.5 million).

NMAB Announces New Studies

The National Materials Advisory Board recently announced studies of three advanced materials technologies:

- Fully Integrated Processing Systems for Beam Technologies. An NMAB committee will evaluate methods for bringing together the equipment for various beam techniques in fully integrated processing systems. The committee will examine plausible schemes, analyze the problems, outline the benefits, and identify military and industrial applications. Beam processing technologies that will be considered include basic chemical vapor deposition, cluster beam deposition, laser ablation, spray pyrolysis, sputtering, evaporation, microwave heating, ion implantation, and molecular beam epitaxy.
- High-Performance Synthetic Fibers. Although fiber-reinforced composites are used extensively in military and civilian aircraft, automobiles, and articles of civilian commerce, there is great potential for broadening their use through improvement of their properties by lowering costs, developing new types of fibers, or exploiting other fiber properties (e.g., electrical, magnetic, and optical) in addition to mechanical strength. Under DOD and NASA auspices, this committee will study these possibilities.
- Materials for High-Density Electronic Packaging. Concerns have been expressed about the ability of advanced packaging technology to effectively use high-density electronic chips, and about the higher speeds of new electronic materials and components. A committee to assess current packaging materials and processing technologies in terms of the available electrical, thermal, and mechanical response. A major objective of the study is to recommend the directions R&D should take to develop new and novel materials and processing techniques that can meet the more stringent packaging requirements of highly integrated electronic systems. □

https://doi.org/10.1557/S0883769400063120 Published online by Cambridge University Press