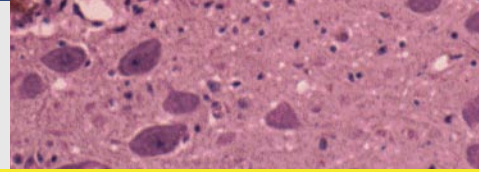


Chronic Wasting Disease in Mule Deer

This photograph shows tissue from the brain of a healthy mule deer. It does not show lesions from chronic wasting disease (CWD), a group of infectious diseases caused by transmissible proteins called prions. Prion proteins accumulate in the brain of affected individuals, causing neural degeneration and, inevitably, death. Similar diseases include scrapie in sheep and goats, bovine spongiform encephalopathy in cattle ("mad cow disease"), and Creutzfeldt-Jacob disease in humans. CWD poses a potentially major threat to members of the deer family throughout Western North America, and although current evidence suggests that the transmission of CWD to people is unlikely, this possibility cannot be ruled out. The only place in the world where these infectious diseases are known to occur in free-ranging wildlife is in northeastern Colorado and southeastern Wyoming, where an epidemic of CWD has been ongoing in populations of mule deer and elk for at least two decades. In their National Science Foundation-supported research, researchers from Colorado State University are studying the CWD epidemic to learn how the disease is transmitted and whether it can be transmitted from animal residues that accumulate in the environment. These scientists hope to develop mathematical models that will predict the spread of the disease and evaluate ways to contain it.

Credit: Elizabeth Williams, Colorado State University



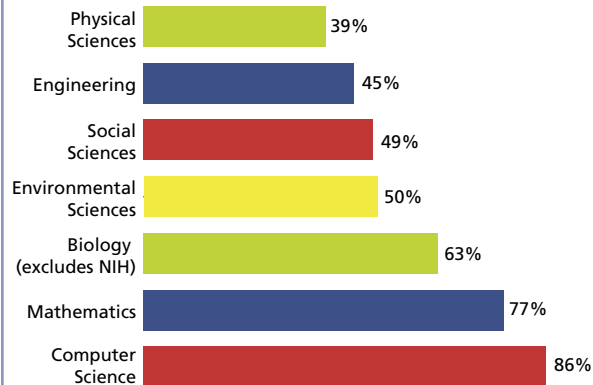
INVESTING IN THE FUTURE

The National Science Foundation (NSF) is the steward of America's science and engineering enterprise. Its mission is to promote and advance the progress of research and education in science and engineering in the United States. While the agency's \$5.65 billion budget accounts for only 4 percent of the total federal investment in research and development, NSF provides half of the federal support for nonmedical basic research at the nation's academic institutions. In many fields, including computer science, mathematics, and the environmental sciences, NSF is the primary source of federal funding at America's colleges and universities.


NSF is often called "America's investment in the future." During its 54-year history, NSF has had a transformative effect on the nation's overall capability in science, engineering, and technology. Discoveries and innovations emerging from NSF-supported activities have contributed directly to U.S. productivity and competitiveness in the global marketplace, helping to sustain the high quality of life we enjoy while at the same time promoting sound environmental stewardship. NSF investments over the years have also advanced math and science education at all levels. The agency has supported generations of outstanding researchers and educators, including more than 150 of the U.S. and U.S.-based recipients of the Nobel Prize.

Moreover, not since World War II have advances in science and technology been more critical for ensuring our national security and combating terrorism at home and abroad. A host of advances are helping to increase safety and security. New technologies now monitor and protect the food supply against intentional contamination; new sensors and filters protect buildings against chemical attack; new techniques sniff out biological infections before symptoms appear; and improved security architectures and cryptographic techniques are adding new levels of protection to the nation's critical infrastructure, from telecommunication systems to water supplies.

NSF Support as a Percentage of Total Federal Support of Academic Basic Research in Selected Fields



For more information:

 *America's Investment in the Future: NSF Celebrating 50 Years:*
<http://www.nsf.gov/about/history/nsfo05o/index.jsp>

People. Ideas. Tools. Organizational Excellence.

To achieve its mission to promote the progress of science and engineering, NSF invests in four strategic areas: People, Ideas, Tools, and Organizational Excellence.

People: Leadership in today's knowledge economy requires world-class scientists and engineers and a workforce that is scientifically, technically, and mathematically strong. Investments in people aim to improve the quality and reach of science, engineering, and math education and enhance student achievement. NSF investments support over 200,000 researchers, postdoctoral associates, teachers, and students at every level across all science and engineering disciplines. Embedded in every NSF program is an effort to build a more inclusive, globally engaged workforce that reflects the strength of the nation's diverse population.

Ideas: Investments in ideas are aimed at the frontiers of science and engineering to ensure that America maintains its global leadership. These investments build the intellectual capital and fundamental knowledge that drive technological innovation, spur economic growth, and increase national security and welfare. They also seek answers to fundamental questions about the origin and nature of the universe and humankind.

Tools: NSF investments provide state-of-the-art tools and facilities that boost the overall productivity of the research and education enterprise. The strategy is to invest in a wide range of instrumentation, multiuser facilities, distributed networks, digital libraries, and computational infrastructure that add unique value to research and are accessible and widely shared among researchers across the nation.

Organizational Excellence: Excellence in management underpins all NSF activities. The Foundation strives to maintain an agile, innovative organization that fulfills its mission through leadership in core business processes such as financial management and electronic government with a results-oriented workforce that operates in a continuous learning environment.

Estimated Number of People Involved in NSF Activities in fiscal year (FY) 2004

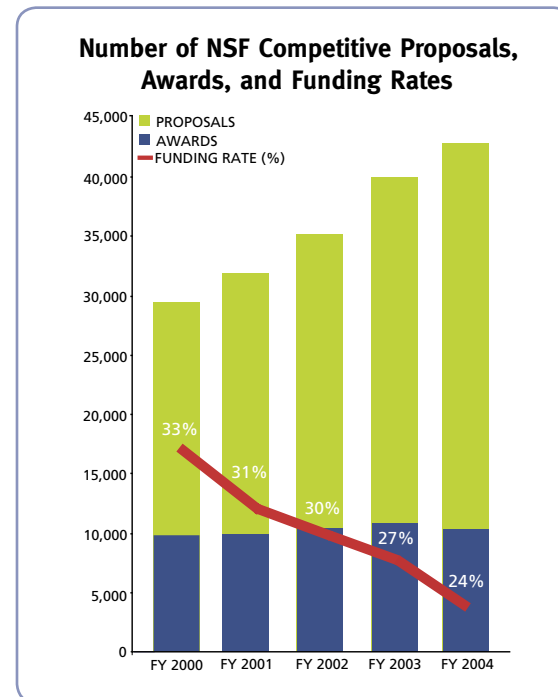
Senior Researchers	31,000
Other Professionals	15,000
Postdoctoral Associates	6,000
Graduate Students	29,000
Undergraduate Students	35,000
K-12 Students	14,000
K-12 Teachers	86,000
TOTAL	216,000

A Catalyst for Innovation

NSF has a broad impact on the nation's science and engineering enterprise. Its role in discovery, learning, and innovation is that of a catalyst, seeking out and funding the best ideas and the most capable people and making it possible for them to pursue new knowledge, discoveries, and innovation. The agency does not itself conduct research and operates only those laboratories or facilities associated with the U.S. Antarctic Program. In fiscal year (FY) 2004, NSF received a record 43,817 proposals and funded 10,380 new awards to nearly 2,000 colleges, universities, and other public institutions throughout the country.

About 90 percent of NSF funding is allocated through a merit-based competitive process that is critical to fostering the highest standards of excellence. NSF's merit review is recognized throughout the federal government and by other nations as the gold standard of public investments in learning and discovery. Each year, about 50,000 members of the science and engineering research and education community volunteer their time to serve as external reviewers and help NSF conduct more than 200,000 merit-based reviews. Reviewers focus on two primary criteria: the intellectual merit of the proposed activity and its broader impact—how well it promotes teaching, training, and learning and what the potential benefit to society is.

Reviewers also consider how well the proposed activity fosters the integration of research and education and attracts a diverse set of participants, particularly those from underrepresented groups.



In the past 5 years, proposals have increased at an average annual rate of over 10 percent.

For more information:

 Merit Review: www.nsf.gov/nsb/documents/2004/MRreport_2003_final.pdf

Commitment to Excellence

NSF is recognized as a well-managed agency with a long record of success in leveraging its agile and motivated workforce, its management processes, and its technological resources to enhance productivity and effectiveness. One major emphasis is the President's Management Agenda (PMA), a government-wide effort that was launched in FY 2001 to improve the management, performance, and accountability of federal agencies. An Executive Management Scorecard is issued quarterly by the Office of Management and Budget (OMB) to track agencies' progress in meeting specific criteria for each of the initiatives that constitute the PMA.

NSF is the only agency to have achieved a "green" successful rating for financial performance for 4 consecutive years and a "green" successful rating for electronic government for 3 consecutive years. In FY 2004, NSF progressed to "yellow" status on the Human Capital Initiative. Efforts currently under way will facilitate achievement of both the Human Capital and Budget and Performance Integration Initiatives in FY 2005.

Looking ahead, the agency faces budgetary and workload challenges. Historically, administrative overhead has accounted for only about 5 percent of the agency's total budget. NSF recognizes that modest increases will likely be necessary, given the dramatic increase in its workload. In the past 4 years, the number of proposals submitted to NSF

President's Management Agenda Scorecard	Baseline 9/30/2001	Status 9/30/2002	Status 9/30/2003	Status 9/30/2004
Strategic Management of Human Capital	Red	Red	Red	Yellow
Competitive Sourcing	Red	Red	Red	Red
Improving Financial Performance	Green	Green	Green	Green
Expanded Electronic Government	Yellow	Green	Green	Green
Budget and Performance Integration	Red	Red	Yellow	Yellow

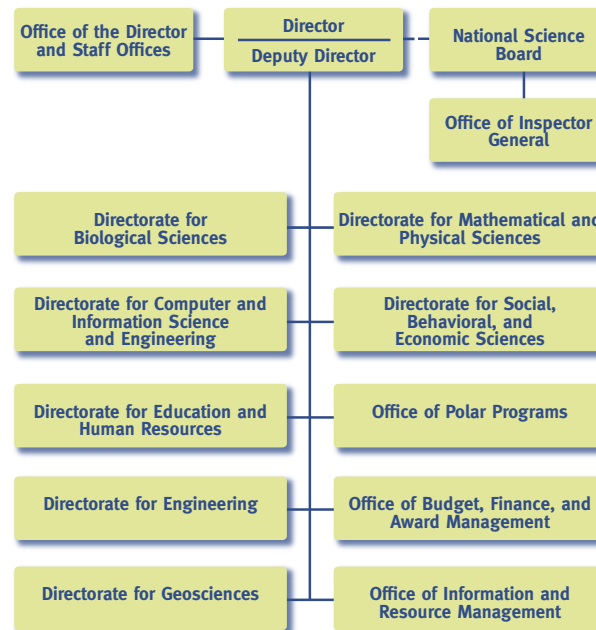
Note: Green represents success, yellow is for mixed results, and red is for unsatisfactory. Ratings are issued quarterly by the Office of Management and Budget.

has increased at an average annual rate of over 10 percent. In addition to this increase, the complexity of the task has grown significantly with the rise in multidisciplinary, collaborative projects and international activities, as well as new investments in major research facility projects and the continuing need for increased accountability and transparency.

To better prepare and position itself to meet these challenges, NSF, in partnership with an external management consultant firm, is engaged in a multiyear comprehensive Business Analysis to examine its core business processes, human capital management, and information technology (IT) architecture. The Business Analysis focuses on the needs and opportunities that will help guide NSF's long-term investments in administration and management.


In FY 2004, the Business Analysis team completed a number of major projects, including assessments of external merit review practices and award management and oversight (AM&O) practices in both government and private industry; improvements to core merit review and AM&O processes; an agency-wide workload analysis; a plan to streamline human resource management; an examination of change management processes, with a particular emphasis on technology implementation; a Technology Governance Framework; and a long-term IT implementation plan.


FY 2004 Organization Chart



The National Science Foundation is headed by a Director who is appointed by the President and confirmed by the U.S. Senate. A description of each directorate and management office and a listing of NSF's executive staff and officers can be found in Appendixes 1 and 2, respectively. A 24-member National Science Board (NSB) oversees the policies and programs of the Foundation. The Board is appointed by the President with the consent of the Senate and consists of prominent members of the science, mathematics, engineering, and education communities. The NSB also serves the President and Congress as an independent advisory body on policies related to the U.S. science and engineering enterprise. A listing of the NSB members for FY 2004 can be found in Appendix 3.

For more information:

 Administration and Management Strategic Plan: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf03012

 President's Management Agenda: www.results.gov/agenda/scorecard.html