

EXPANDING FRONTIERS

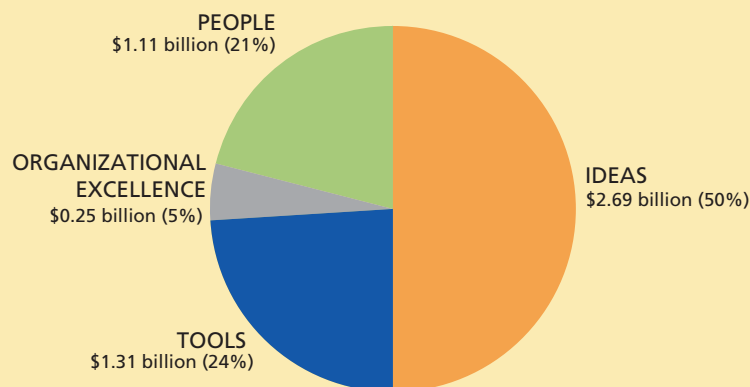


The bioglyphs painting depicts petri dishes coated with agar, which support colonies of bioluminescent bacteria. This piece was created by Angela Bowlds, a student at the Montana State University-Bozeman School of Art.

As steward of America's science and engineering enterprise, the National Science Foundation promotes and advances the progress of science and engineering in the United States. With a budget of about \$5 billion, NSF represents only 4 percent of the total federal funding for research and development. However, the Foundation accounts for one-fifth of the federally funded basic research conducted by America's colleges and universities, and in many fields such as math, computer science, and the social sciences, NSF is the major source of federal funding for academic research.

For more than 50 years, NSF has had an extraordinary impact on America's scientific and engineering knowledge and capacity. The Foundation's investments have helped train generations of outstanding researchers and educators—including many Nobel laureates—and the world has received a continuous stream of benefits from the technologies and capabilities emerging from these investments. Advances in science and engineering have enhanced every facet of our lives, from computing and communications to transportation, national security, the arts, architecture, design, and countless other areas.

NSF FY 2003 Budget Obligations—\$5.37 Billion



Note: Totals may not add because of rounding.

Moreover, not since World War II has progress in science and engineering been more important for ensuring our security, both at home and abroad. Research on the ecology of infectious diseases and microbial genome sequencing can contribute to a better understanding of potential bioterrorism threats and how to combat them. Identifying vulnerabilities in the nation's critical infrastructure—power grids, communications and transportation networks, and water supply systems—will allow us to better protect them. Today, in a society defined by and dependent on science and technology, advances in science and engineering are integral to meeting the challenge of securing the homeland and reducing international threats.

People. Ideas. Tools. Excellence.

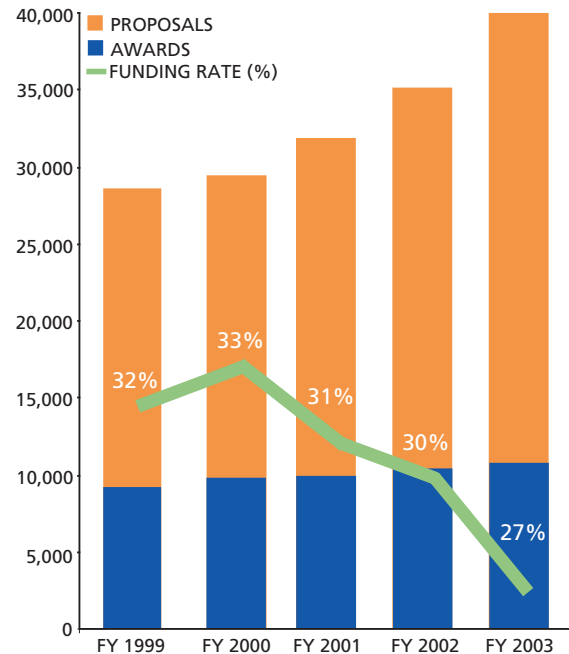
To promote the progress of science, NSF invests in four strategic areas.

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

Estimated Number of People Involved in Foundation Activities in FY 2003

Senior Researchers	30,000
Other Professionals	12,000
Postdoctoral Associates	6,000
Graduate Students	27,000
Undergraduate Students	32,000
K-12 Students	14,000
K-12 Teachers	85,000
TOTAL	206,000

Number of NSF Competitive Proposals, Awards, and Funding Rates



Ideas: Investments in ideas are aimed at the frontiers of science and engineering, to ensure that America maintains its global leadership. They 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 adds unique value to research and are accessible and widely shared among researchers across the nation.

Organizational Excellence: Excellence in management underpins all of the Foundation's activities. NSF strives to maintain an agile, innovative organization with a results-oriented workforce that operates in a continuous learning environment.

Catalyst for Innovation

NSF does not itself conduct research or operate laboratories. Instead, its role is that of a catalyst, seeking and funding the best ideas and the most capable people, making it possible for them to pursue new knowledge, discoveries, and innovation. In FY 2003, NSF received over 40,000 proposals—a record—and made 10,844 new awards to nearly 2,000 colleges, universities, and other public and private institutions throughout the country.

About 90 percent of the Foundation's funding is allocated through a merit-based competitive process that is critical to fostering the highest standards of excellence and accountability, standards for which NSF is known the world over. Each year, about 50,000 members of the science, engineering, and mathematics research and education community serve as external reviewers, helping 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 impacts on teaching, training, learning, and potential benefits to society. Reviewers also consider how well the proposed activity fosters the integration of research and education and broadens opportunities to include diverse participants, particularly those from underrepresented groups.

Commitment to Excellence

With the inclusion of Organizational Excellence as one of NSF's strategic goals, the Foundation's long-standing commitment to leadership in business processes is brought into sharper focus. 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 White House Office of Management and Budget (OMB) to track agencies' progress in meeting specific criteria under the government-wide initiatives that constitute the PMA.

For the second consecutive year, NSF remains the only federal agency to earn two "green" successful ratings: one for financial management and the other for advancing electronic government (E-Gov). On the Integration of Budget and Performance initiative, NSF progressed to "yellow" status in FY 2003. Although the Foundation has not fully met the success standards for the Strategic Management of Human Capital and Competitive Sourcing initiatives, a Human

Capital Management Plan has been developed; it will provide a roadmap to help NSF strategically manage its workforce—improve succession planning, recruitment and employee development, retention and recognition—to ensure the high quality of the NSF workforce. The Human Capital Management Plan will also allow NSF to make more informed decisions concerning competitive outsourcing in FY 2004.

FY 2003 saw a number of notable management accomplishments. In a recent congressional report on federal cybersecurity, NSF was one of only two agencies receiving the highest rating ("A"). NSF was also recently recognized for its achievements in E-Gov with a Presidential Award for Management Excellence. NSF receives virtually all of its research proposals electronically, has a comprehensive plan for continued improvement of its information technology security program, and continues as an active partner in several interagency E-Gov initiatives, including Grants.gov and E-authentication. NSF prepared its 2003 audited financial statements in 45 days, meeting the government-wide deadline a year earlier than required, and earned an unqualified opinion in its 2003 audit. In a survey of all federal employees conducted last spring by the Office of Personnel Management, NSF ranked second on the list of "Best Places to Work in the Federal Government." With respect to customer service, nearly 80 percent of award decisions were made within six months of receipt, despite a record 14 percent increase in the number of proposals received in FY 2003.

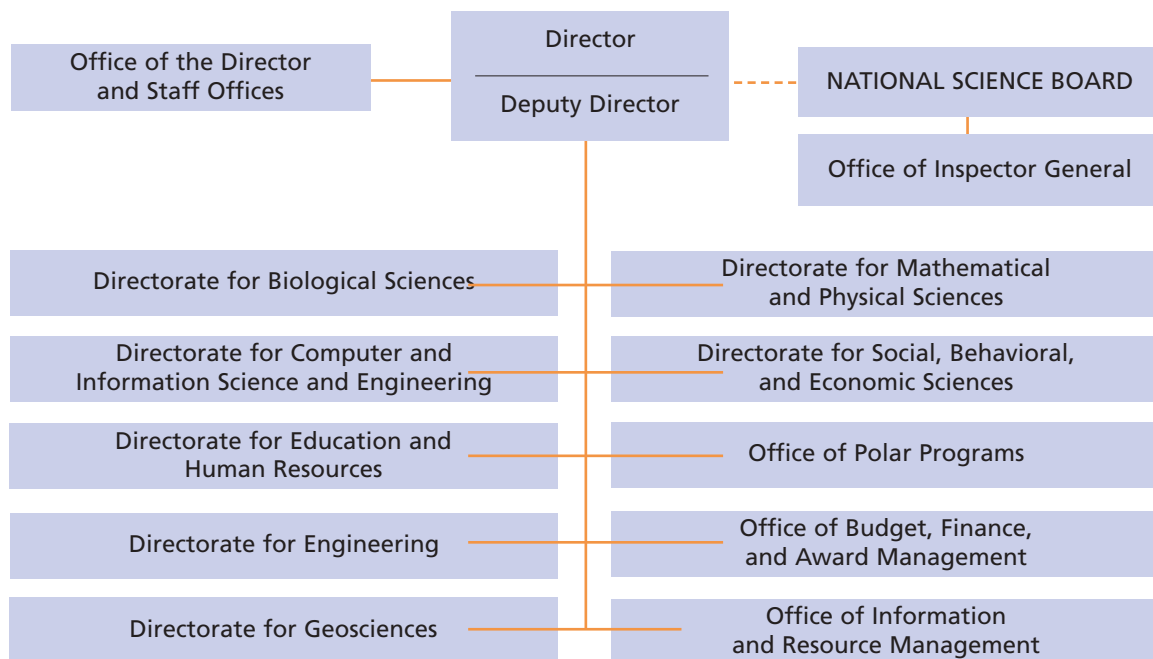
However, these accomplishments notwithstanding, challenges lie ahead. Although NSF's budget has nearly doubled in the past 10 years, staffing has increased by only 4 percent. Maintaining high standards of quality and customer service requires new strategies. In addition, the workload has grown more complex with NSF's involvement in more multidisciplinary, partnership, and international activities and large new research facility projects, while new accountability requirements have increased the workload as well. NSF is engaged in a major multiyear comprehensive business analysis that is being conducted in partnership with an external management consulting firm. In addition, other studies by the National Association of Public Administration and the National Academy of Science will help position NSF for future challenges. The results from these reviews will help guide the Foundation's long-term administration and management investments.

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President's Management Agenda Scorecard	Baseline 9/30/2001	Status 9/30/2002	Status 9/30/2003
Strategic Management of Human Capital: Build, sustain, and deploy a skilled, knowledgeable, diverse, and high-performing workforce; develop human capital strategies that are linked to agency mission and goals; develop a vision and roadmap for strategically managing the agency workforce to better accomplish the agency's mission.	Red Diamond	Red Diamond	Red Diamond
Competitive Sourcing: Use competitive sourcing to perform commercial functions more efficiently.	Red Diamond	Red Diamond	Red Diamond
Improving Financial Performance: Provide accurate and timely financial information that will enable better management decisions, integrate financial and performance management systems that support daily operations, maintain financial systems that meet federal requirements, prepare clean and timely financial statements with no material weaknesses.	Green Diamond	Green Diamond	Green Diamond
Expanded Electronic Government: Use technology to the fullest to provide services and information focused on citizens.	Yellow Diamond	Green Diamond	Green Diamond
Budget and Performance Integration: Align planning, budgeting, and performance in order to develop an integrated process in which strategic planning drives budgetary decisions and tracks accountability for performance and cost.	Red Diamond	Red Diamond	Yellow Diamond

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. For more information on the President's Management Agenda, see www.results.gov/agenda/scorecard.html.

NSF Organizational Chart



NSF is headed by a Director, who is appointed by the President and confirmed by the Senate. The current director, distinguished biologist Dr. Rita R. Colwell, was appointed in 1998 and holds the distinction of being the first woman to head the Foundation. See Appendix 1 and 2 for a detailed description of each directorate and management office and for a list of NSF Executive Staff and NSF Officers. A 24-member National Science Board (NSB) oversees the policies and programs of the Foundation. NSB members—prominent contributors to the science, mathematics, engineering, and education communities—are appointed by the President with the consent of the Senate. The Board also serves the President and the Congress as an independent advisory body on policies related to the U.S. science and engineering enterprise. See Appendix 3 for a list of NSB members.