



TASK FORCE ON THE FUTURE OF AMERICAN INNOVATION

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The National Science Foundation

Building the Research and Education Foundation for Our Innovation Future

From weather forecasting to aircraft design, from pioneering medical tools to robotics and fiber optics, from discovering how children learn to expanding computing capacity, NSF-supported scientific discovery has driven the nation's economy and improved quality of life for more than 50 years. NSF is the only federal agency supporting fundamental research and education in all major scientific and engineering disciplines. It tops all agencies in meeting the President's management agenda.

- **NSF Supports Today's Scientists and Helps to attract and train the Scientists of Tomorrow**
 - Each year, NSF funds some 10,000 research, education, and training projects at more than 1,700 colleges, universities, and other U.S. research and education organizations.
 - More than 170,000 people are involved directly in NSF research and education programs and activities: 43,000 senior researchers and other professionals, 60,000 postdoctoral, graduate, and undergraduate students, and 68,000 K-12 teachers and students.
- **NSF Is a Critical Supporter of University and Other Research and Education Activities**
 - NSF accounts for about 22 percent of federal support for basic research at academic institutions. It is the second largest sponsor of university research after the National Institutes of Health.
 - NSF investments reach faculty in most departments, schools, and academic disciplines, giving it a broader impact across university campuses than any other federal research agency.
 - NSF supports national research centers and user facilities around the country, oceanographic vessels, and Antarctic research stations.
 - It supports university-industry research partnerships, U.S. participation in international research, and programs to improve K-12 education and graduate and undergraduate instruction.
- **NSF Research Has Contributed Fundamentally to Improvements in Health Care and the Quality of Life**
 - Fundamental research in mathematics, computer engineering, chemistry and physics, supported by NSF, led to the development of Magnetic Resonance Imaging (MRI) technology.
 - NSF-funded research at universities and the National Center for Atmospheric Research was instrumental in the development of Doppler radar as a meteorological research tool.
 - Web browsers, such as Internet Explorer and Netscape, emerged from NSF-funded research. The program on which today's browsers are based was developed at an NSF supercomputing facility.
 - Google is based on NSF-sponsored research conducted by two graduate students.
 - NSF funding played a crucial role in the development and improvement of computer bar codes.
- **There Are Extraordinary Scientific Opportunities to Pursue With Additional NSF Funding**
 - Carbon nanotubes, expected to become the basis of nanoelectronics, are finding applications in composite materials, as wear-resistant surface coatings, and in scientific instruments.
 - Laser communications, expected to be widely used by the next decade, have a number of advantages over standard radiofrequency technologies, not least in the area of security.
 - Tumor detection will move from film-based to digital technologies, enabling location of cancerous signs using lower doses of radiation.
- **The President's American Competitiveness Initiative (ACI) Would Double Total Funding for the NSF and Other Key Research Agencies Over the Next Decade.**
 - The President's FY2007 budget would increase NSF funding by 7.9 percent, from \$5.58 billion to \$6.02 billion, providing as many as 500 more research grants in FY07 and opportunities for approximately 6,400 additional scientists, students, post-doctoral fellows, and technicians.