INTEGRATIVE ACTIVITIES

INTEGRATIVE ACTIVITIES $132,450,000

The FY 2004 Budget Request for Integrative Activities (IA) is $132.45 million, an increase of $21.84 million, or 19.7 percent, above the FY 2003 Request of $110.61 million.

Integrative Activities Funding
(Dollars in Millions)

	FY 2002 Actual	FY 2003 Request	FY 2004 Request	Change Amount	Change Percent
Integrative Activities	105.76	110.61	132.45	21.84	19.7%
Integrative Activities	$105.76	$110.61	$132.45	$21.84	19.7%

Integrative Activities supports emerging cross-disciplinary research and education efforts, recognizing the importance of these types of integrative efforts to the future of science and engineering. In FY 2004, IA provides funding for Major Research Instrumentation, Science of Learning Centers, Partnerships for Innovation, and the Science and Technology Policy Institute. In addition, funding is requested for the ADVANCE program, Disaster Response Research Teams, and for administration of the Science and Technology Centers.

Areas within Integrative Activities
(Dollars in Millions)

	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	Change Amount	Change Percent
Partnerships for Innovation[1]	[10.97]	5.00	10.00	5.00	100.0%
ADVANCE[2]	[16.12]	[17.14]	4.00	4.00	N/A
Science and Technology Centers[3]	25.88	26.61	3.45	-23.16	-87.0%
Science of Learning Centers	0.00	20.00	20.00	0.00	0.0%
Disaster Response Research Teams	0.00	1.00	1.00	0.00	0.0%
Major Research Instrumentation	75.89	54.00	90.00	36.00	66.7%
Science and Technology Policy Institute	3.99	4.00	4.00	0.00	0.0%
Total, Integrative Activities	$105.76	$110.61	$132.45	21.84	19.7%

Totals may not add due to rounding.

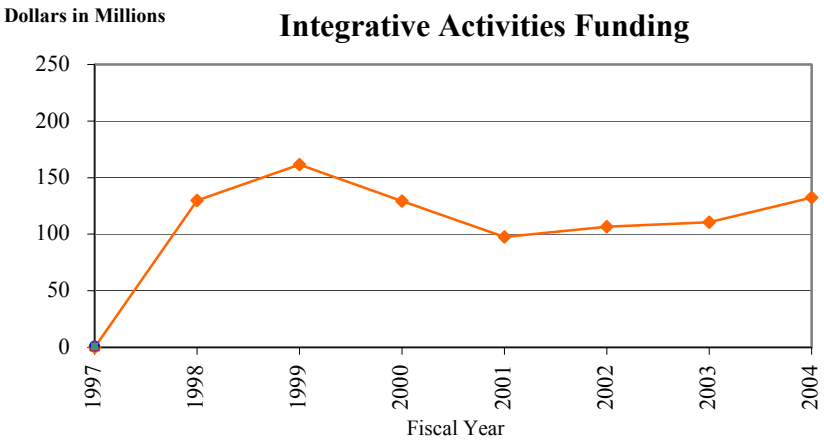
[1]The Partnerships for Innovation effort was funded within the Education and Human Resources Account in FY 2002.

[2]ADVANCE is an NSF-wide program. Additional funding is found within the Research and Related Activities Account. The requested increase in IA will bring the NSF total for this program in FY 2004 to $21.16 million.

[3]The decrease for Science and Technology Centers funding reflects new awards made in September 2002. These funds are shown in Integrative Activities in the FY 2003 Request, and are transferred to the appropriate managing R&RA Activity in FY 2004.

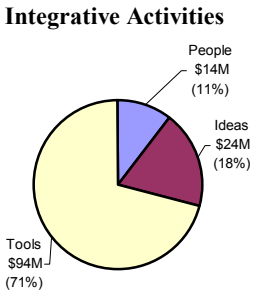
RELEVANCE

IA is a source of federal funding for the acquisition and development of research instrumentation at U.S. academic institutions. IA also funds a number of research centers and programs that support and enhance NSF workforce preparation strategies.



NSF uses various internal and external mechanisms to review the relevance of proposed and existing programs and to help identify emerging opportunities for agency-wide foci and their associated goals for the future. These include Committees of Visitors, advisory committees, academy and other reports, workshops, and long-range planning documents, among others. Three aims (strategic goals) guide NSF's Integrative Activities efforts:

STRATEGIC GOALS



- PEOPLE: Supports promising partnerships among academe, state/local/federal government and the private sector that will explore new approaches to support and sustain innovation.
- IDEAS: Facilitates the advancement of scientific knowledge and learning research through support of Science and Technology Centers, Science of Learning Centers and other disciplinary research.
- TOOLS: Enables enhancement of the infrastructure for the conduct of research. Investments support acquisition of research instrumentation and the development of laboratories and other facilities needed to do world-class research.

Summary of Integrative Activities Funding by Strategic Goal
(Dollars in Millions)

	FY 2002	FY 2003	FY 2004	Change	
	Actual	Estimate	Estimate	Amount	Percent
People	0.00	5.00	14.00	9.00	180.0%
Ideas	25.88	47.61	24.45	-23.16	-48.6%
Tools	79.88	58.00	94.00	36.00	62.1%
Administration and Management	0.00	0.00	0.00	0.00	0.0%
Total, IA	$105.76	$110.61	$132.45	$21.84	19.7%

Budget Highlights

People (+$9.0 million, for a total of $14.0 million)
Supports promising partnerships among academe, state/local/federal government and the private sector that will explore new approaches to support and sustain innovation. The FY 2004 IA budget will provide enhancements in multidisciplinary education, teaching, and training activities through:

- *Partnerships for Innovation*. Doubled the funding from $5.0 million proposed in the FY 2003 Request for the Partnerships for Innovation (PFI) program for a program total of $10.0 million. The goals of the PFI program are: to stimulate the transformation of knowledge created by the national research and education enterprise into innovations that create new wealth, build strong local, regional and national economies and improve the national well-being; to broaden the participation of all types of academic institutions; and, to catalyze or enhance infrastructure necessary to foster and sustain innovation in the long-term.

- *ADVANCE*. Increased funding of $4.0 million in IA for the ADVANCE program brings the NSF total to $21.16 million. The goal of ADVANCE is to expand and strengthen the academic science and engineering workforce through increased representation of women, particularly in the senior and leadership ranks. To meet this goal, the ADVANCE program provides award opportunities for both individuals and organizations, including Fellows Awards, Institutional Transformation Awards, and Leadership Awards. Institutional transformation awards link faculty and university leadership in partnerships to examine, analyze and improve policies and practices that enhance the recruitment, retention, and promotion of women faculty. Leadership awards stimulate and sustain outstanding contributions with widespread impact by individuals, small groups and organizations such as professional societies on increasing the participation and advancement of women in academic science and engineering careers. Fellows awards are offered for individuals at particular career junctures that impact progression of women into and through the academic ranks. These awards provide research support to individuals to establish a strong, sustainable independent research and education career in academe. With each of the three types of ADVANCE awards, NSF seeks to support new approaches to improving the climate for women in U.S. academic institutions and to facilitate women's advancement to the highest ranks of academic leadership.

Ideas (-$23.16 million, for a total of $24.45 million)
Facilitates the advancement of scientific knowledge and learning research through support of Science and Technology Centers, Science of Learning Centers and other disciplinary research. The FY 2004 IA budget will provide support of multidisciplinary research activities and interagency partnerships through:

- *Science of Learning Centers*. Continued funding at the FY 2003 Request level for Science of Learning Centers at $20.0 million. NSF's investment in Science of Learning Centers (SLC), proposed to begin in FY 2003, will build on the Foundation's support for learning research in multiple disciplines including biology, psychology, education, neuroscience, cognitive science, linguistics, computer and information science, robotics, mathematics and statistics, engineering, the physical sciences, and the social and behavioral sciences. SLCs will be built around a unifying research focus and will incorporate a diverse, multidisciplinary environment involving appropriate partnerships with academia, industry, international partners, all levels of education, and other public and private entities.

  SLCs must demonstrate an effective implementation strategy that will achieve all three of the SLC principal goals, which are to: (1) advance the frontiers of the science of learning through multidisciplinary research, (2) connect this research to specific educational, scientific, technological,

and workforce challenges, and (3) develop research communities that can capitalize on new opportunities and discoveries and respond to new challenges. FY 2004 support for the SLCs totals $20.0 million, providing funds for three to four centers and a number of catalyst projects that could eventually develop into centers. This funding level is designed to support a diverse portfolio of research projects, providing leadership across a broad range of science and engineering approaches to science of learning research.

- *Disaster Response Research Teams*. Continued funding at the FY 2003 Request level of $1.0 million for Disaster Response Teams that will respond to events such as terrorist attacks. These teams will conduct rapid, post-event studies that will provide invaluable data and insights into disaster response. NSF's broad base of support for fundamental science and engineering provides the underlying capability that enables the nation to respond rapidly and aggressively in time of national need.

The FY 2004 Request for IA transfers $23.16 million for six Science and Technology Centers awarded in FY 2002 from within IA to the appropriate managing Subactivities in Research and Related Activities Account (CISE, ENG, GEO, and MPS).

Tools (+$36.0 million, for a total of $94.0 million)
Enables enhancement of the infrastructure for the conduct of research. Investments support acquisition of research instrumentation and the development of laboratories and other facilities needed to do world-class research. The FY 2004 IA budget will provide enhancements in infrastructure and institutional research programs through:

- *Major Research Instrumentation*. Increased funding of $36.0 million above the FY 2003 request of $54.0 million for a total of $90.0 million to support the acquisition and development of research instrumentation in academic institutions. The Major Research Instrumentation (MRI) program is designed to increase access to state-of-the-art scientific and engineering equipment for research and research training in U.S. academic institutions. This program seeks to foster the integration of research and education by providing instrumentation for research-intensive learning environments where more American students will be trained for careers in science and engineering. In FY 2004, the MRI program will focus on ensuring the availability of cutting-edge research instrumentation to a broad set of academic institutions, including undergraduate institutions, minority-serving institutions, and community colleges. To facilitate broader participation in the MRI program, NSF will significantly reduce or eliminate the MRI cost-sharing requirement for small and minority institutions. The cost-sharing requirement was eliminated for non-PhD granting institutions in 2003.

- *Science and Technology Policy Institute*. Continued funding at the FY 2003 Request level of $4.0 million for the Science and Technology Policy Institute (STPI). STPI is a federally-funded research and development center established by Congress in 1992 to support the complex task of devising and implementing science and technology policy. The Institute provides analytical support to the Office of Science and Technology Policy (OSTP), to identify near-term and long-term objectives for research and development and to identify options for achieving those objectives.