INTEGRATIVE ACTIVITIES $134,900,000

The FY 2006 Budget Request for Integrative Activities (IA) is $134.90 million, an increase of $4.99 million, or 3.8 percent, above the FY 2005 Current Plan of $129.91 million.

Integrative Activities Funding
(Dollars in Millions)

	FY 2004 Actual	FY 2005 Current Plan	FY 2006 Request	Change over FY 2005 Amount	Change over FY 2005 Percent
Integrative Activities	$163.52	$129.91	$134.90	$4.99	3.8%

RELEVANCE

Integrative Activities supports emerging cross-disciplinary research and education, recognizing the importance of these types of integrative efforts to the future of science and engineering. IA is a source of federal funding for the acquisition and development of research instrumentation at U.S. academic institutions. It also funds a number of integrative research and education centers and programs that support and enhance NSF research investments in discovery and workforce development.

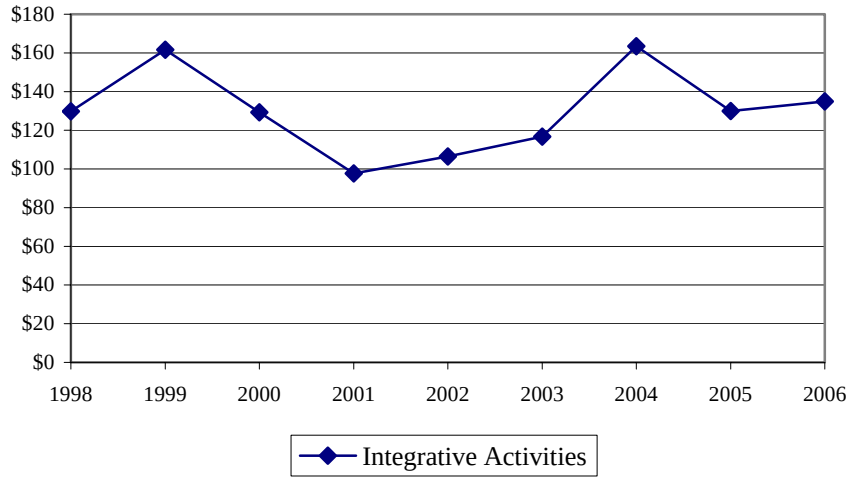
Funds requested and appropriated to IA are managed by a variety of organizations within NSF, which provides the Foundation the flexibility needed to broaden support for emerging cross-disciplinary research programs and activities. For example, the Science and Technology Centers program currently supports 13 Centers and is managed cooperatively by six NSF directorates/offices and the Office of Integrative Activities. The Centers are interdisciplinary, they use high-risk approaches, provide access to state-of-the-art instrumentation and facilities, and graduate students capable of pursuing innovation in industry, government and academe.

Integrative Activities Funding by Program
(Dollars in Millions)

	FY 2004 Actual	FY 2005 Current Plan	FY 2006 Request	Change over FY 2005 Amount	Change over FY 2005 Percent
Science of Learning Centers	37.56	19.84	23.00	3.16	15.9%
Science and Technology Centers	2.37	6.90	8.90	2.00	29.0%
Major Research Instrumentation	109.63	89.28	89.53	0.25	0.3%
Partnerships for Innovation	9.94	9.92	9.50	-0.42	-4.2%
Science and Technology Policy Institute/RaDiUS	4.02	3.97	3.97	0.00	0.0%
Total, Integrative Activities	$163.52	$129.91	$134.90	$4.99	3.8%

Totals may not add due to rounding.

Integrative Activities Funding
(Dollars in Millions)



Summary of Major Changes *(Dollars in Millions)*

IA FY 2005 Current Plan…….. $129.91

Science of Learning Centers (SLC) +$3.16

The $3.16 million increase brings FY 2006 funding for the SLCs to $23.0 million. NSF's investment builds on the Foundation's support for multidisciplinary research that advances fundamental knowledge about the science of learning. SLCs are built around a unifying research focus and incorporate a diverse, multidisciplinary environment involving appropriate partnerships with academia, industry, international partners, all levels of education, and other public and private entities.

In FY 2006, NSF continues the third of five initial years of support for four Centers awarded in the program's first competition and provides startup support for a second cohort of up to four SLCs. 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 the science of learning research.

Science and Technology Centers (STC) +$2.00

An increase of $2.0 million to a total of $8.90 million continues funding for two Centers initiated in FY 2005. NSF created the Science and Technology Centers program in 1987. STCs are university-based research efforts that foster partnerships and collaborative cultures among researchers and educators at all levels of academia, industry, government laboratories, and other public and private organizations. Centers provide opportunities to explore complex research problems that often require interdisciplinary expertise and high-risk approaches, access to state-of-the-art instrumentation and facilities, and a commitment of high levels of support for sustained periods of time. FY 2005 support of the STC program at a level of $6.90 million provides $6.0 million startup funding (to initiate recruitment of new faculty and staff and acquisition of major equipment) for two Centers selected in the FY 2005 competition; and $900,000 for ongoing administrative support of 13 STCs (e.g., annual site

visits, contractor support costs, meetings, workshops). The $2.0 million increase above FY 2005 enables the two new Centers to become fully operational in FY 2006.

Major Research Instrumentation (MRI) +$0.25

An increase of $250,000 brings FY 2006 funding for MRI to $89.53 million. Funding supports a diverse portfolio of projects that emphasizes (1) funding for the acquisition and development of major state-of-the-art instrumentation, that is too costly to support through regular NSF programs, for research, research training, and integrated research and education activities at U.S. institutions, (2) improving access to and increasing use of modern research and research training instrumentation by scientists, engineers, graduate and undergraduate students, (3) enabling academic departments or cross-departmental units to create well-equipped learning environments that integrate research with education, (4) promoting partnerships between academic researchers and private sector instrument developers, and (5) ensuring that at least $20.0 million goes to support teaching-intensive institutions and minority-serving institutions, including Historically Black Colleges and Universities, Tribal Colleges, and community colleges, with a focus on research training for American students.

In the FY 2004 MRI competition, NSF received 838 proposals and funded 324 (a funding rate of 39%). Included within this group were 56 proposals from minority-serving institutions (both Ph.D. granting and non-Ph.D. granting) and 311 proposals from non-Ph.D. granting institutions (including minority-serving institutions.) Minority-serving institutions received 26 awards that totaled $6.10 million and non-Ph.D. granting institutions received 132 awards that totaled $32.02 million. Funding provided for FY 2005 (Current Plan) and requested for FY 2006 will enable NSF to make approximately 260 awards each year.

Partnerships for Innovation (PFI) -$0.42

A decrease of $420,000 for the Partnerships for Innovation program brings funding to a total of $9.50 million. PFI funding will support partnership grants that seek to (1) 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, (2) broaden the participation of all types of academic institutions and all citizens in NSF activities to more fully meet the broad workforce needs of the national innovation enterprise, and (3) catalyze or enhance enabling infrastructure necessary to foster and sustain innovation in the long-term. These awards are up to $600,000 for a maximum of three years, and more than 90 percent involve academic institutions that do not normally receive a large amount of funding from NSF. This budget level supports from 15 to 25 PFI awards.

Science and Technology Policy Institute (STPI)/RaDiUS No Change

NSF's FY 2006 budget provides $2.98 million for the Science and Technology Policy Institute (STPI), and $990,000 for a research and development database (RaDiUS), which is unchanged from the FY 2005 Current Plan level. 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. In addition, the Institute supports OSTP by assembling and analyzing information regarding significant science and technology developments and trends. Since 2003, the Institute for Defense Analysis (IDA) has operated STPI. RaDiUS (Research and Development in the United States) is a database that was developed and is maintained by RAND Corporation in cooperation with NSF to support the work of OSTP.

Subtotal, Changes	+$4.99
FY 2006 Request, IA ……..…….	**$134.90**

QUALITY

NSF uses various internal and external mechanisms to ensure the quality and relevance of existing and proposed programs and to help identify new and emerging opportunities that support agency-specific goals. These mechanisms include merit-based review of proposals, Committees of Visitors, advisory committees and other expert panels, academy and other reports, workshops, and long-range planning documents.

NSF maximizes the quality of the R&D it supports through the use of a competitive, merit-based process. To ensure the highest quality in processing and recommending proposals for awards, NSF convenes Committees of Visitors, composed of qualified external evaluators, to review each program. These experts assess the integrity and efficiency of the processes for proposal review and provide a retrospective assessment of the quality of results of NSF's investments. IA programs undergoing Committees of Visitor expert reviews in FY 2005 include the Major Research Instrumentation (MRI) program.

Programs such as the Science and Technology Centers (STC): Integrative Partnerships program maintain a variety of ongoing practices that ensure quality during the 10-year tenure of each project. These practices include strategic planning, annual review by an external team of expert site visitors, fourth-year in-depth, competitive review of renewal proposals, training of NSF technical coordinators, and shared governance between research directorates and the Office of Integrative Activities. Additionally, each Center is required to submit an annual report to NSF, participate in annual workshops developed for Center directors and the center education network, provide ethics training, provide specialized communications equipment, and maintain and convene annually a conflict-free external advisory board that provides guidance, advice and oversight.

PERFORMANCE

NSF's FY 2006 budget is also aligned to reflect funding levels associated with the Foundation's four strategic outcome goals and the ten investment categories highlighted in the FY 2003-2008 Strategic Plan. These categories were designed as a mechanism to better enable assessment of program performance and to facilitate budget and performance integration.

Integrative Activities
By Strategic Outcome Goal and Investment Category
(Dollars in Millions)

	FY 2004 Actual	FY 2005 Current Plan	FY 2006 Request	Change over FY 2005 Amount	Change over FY 2005 Percent
People					
Individuals	-	-	-	-	-
Institutions	-	-	-	-	-
Collaborations	9.94	9.92	9.50	-0.42	-4.2%
	9.94	9.92	9.50	-0.42	-4.2%
Ideas					
Fundamental Science and Engineering	-	-	-	-	-
Centers Programs	39.93	26.74	31.90	5.16	19.3%
Capability Enhancement	-	-	-	-	-
	39.93	26.74	31.90	5.16	19.3%
Tools					
Facilities	-	-	-	-	-
Infrastructure and Instrumentation	109.63	89.28	89.53	0.25	0.3%
Polar Tools, Facilities and Logistics	-	-	-	-	-
Federally-Funded R&D Centers	4.02	3.97	3.97	-	-
	113.65	93.25	93.50	0.25	0.3%
Organizational Excellence	-	-	-	-	-
Total, IA	$163.52	$129.91	$134.90	$4.99	3.8%

Totals may not add due to rounding.

Recent Research Highlight

Partnerships for Innovation Program, University of Washington,
Professor Gretchen Kalonji

The University of Washington (UW) **Partnerships for Innovation** program focuses on building multi-sector, multinational alliances on environmental education and research between the U.S. and the People's Republic of China. Teams of professors and students on both sides are working together with state and local government, industrial partners and non-profit organizations on research projects which address water quality and wastewater treatment, the development of solid oxide fuels, and the design of more environmentally-friendly materials processing technologies. Partners in the state of Washington include the Washington State Office of Trade and Economic Development, the Northwest Environmental Business Council, the Washington State China Relations Council, the Washington–Sichuan Friendship Association and EarthTech.

A similar set of organizations has been mobilized on the Chinese side, where the academic headquarters of the project is at Sichuan University, in Chengdu. Support from the National Science Foundation is matched with a generous grant from the Natural Science Foundation of China.