

INTEGRATIVE ACTIVITIES (IA)

\$431,520,000
+\$81,930,000 / 23.4%

IA Funding

(Dollars in Millions)

	FY 2011 Actual	FY 2012 Estimate	FY 2013 Request	Change Over FY 2012 Estimate	
				Amount	Percent
Communicating Science Broadly	\$3.38	\$2.00	-	-\$2.00	-100.0%
EPSCoR	146.82	150.90	158.19	7.29	4.8%
Graduate Research Fellowship	15.09	88.50	121.49	32.99	37.3%
INSPIRE	-	12.35	31.00	18.65	151.0%
Major Research Instrumentation	89.99	90.00	90.00	-	-
Science & Technology Centers Admin	0.88	1.30	1.30	-	-
Science & Technology Centers Class of 2013	-	-	25.00	25.00	N/A
Science and Technology Policy Institute	3.04	3.14	3.14	-	-
STAR Metrics	0.40	1.40	1.40	-	-
Total, IA	\$259.60	\$349.59	\$431.52	\$81.93	23.4%

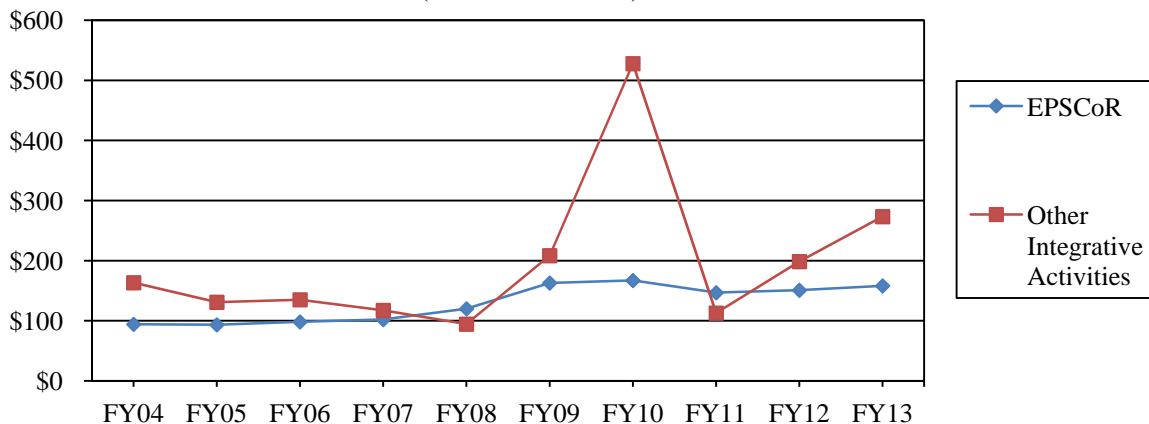
Totals may not add due to rounding.

About IA

IA includes a diverse array of Foundation-wide activities. Through IA, funding is provided for high priority, well-established activities such as the Science and Technology Centers (STCs), Experimental Program to Stimulate Competitive Research (EPSCoR), Major Research Instrumentation (MRI), and Graduate Research Fellowship (GRF) programs. IA also invests in new activities, such as Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE), that will have a significant impact on the way NSF supports novel science and engineering research at the intersection of traditional disciplines. Other IA activities, such as piloting enhancements in the merit review process and developing new tools and approaches to evaluation and assessment, will influence how NSF conducts its core business functions.

IA Subactivity Funding

(Dollars in Millions)



FY 2009 funding reflects both the FY 2009 omnibus appropriation and funding provided through the American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

FY 2013 Summary/Major Investments

All funding decreases/increases represent change over the FY 2012 Estimate.

- In FY 2013, there is no request for funding to support the Communicating Science Broadly activity. This reflects a decrease of \$2.0 million from the FY 2012 Estimate. FY 2012 is the final year of this activity. Related peer-reviewed activities will continue to be supported through the Advancing Informal STEM Learning (AISL) program – formerly known as the Informal Science Education program – in the Directorate for Education and Human Resources.
- The Experimental Program to Stimulate Competitive Research (EPSCoR) assists the Foundation in its mandate to promote scientific progress nationwide. EPSCoR investments attempt to bring about lasting improvements in the research capacity of institutions in participating states and promote broader engagement at the frontiers of discovery and innovation in science and engineering. EPSCoR's FY 2013 \$158.19 million budget request is an increase of \$7.29 million over the FY 2012 Estimate.
- The Graduate Research Fellowship (GRF) program builds the critical human capital base required for future STEM investigation and innovation. Research and Related Activities (R&RA) investments in GRF, funded within the IA budget line, will increase by \$32.99 million above the FY 2012 Estimate to a total of \$121.49 million. This constitutes 50 percent of total GRF funding. In FY 2013, total NSF investments in GRF will support 2,000 new graduate research fellows and 4,900 fellows overall.
- Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) was established in FY 2012 to address some of the most complicated and pressing scientific problems that lie at the intersections of traditional disciplines, in keeping with NSF's strategic goal of *Transform the Frontiers*. INSPIRE will continue to strengthen NSF's support of interdisciplinary, potentially transformative research by complementing existing efforts with a suite of new, highly innovative Foundation-wide activities and funding opportunities. In FY 2013, IA will invest \$31.0 million in INSPIRE, representing an increase of \$18.65 million above the FY 2012 level of \$12.35 million.
- Advanced research instrumentation is essential for breakthrough discoveries. In addition, state-of-the-art research instrumentation motivates and enables researchers at all career levels. In FY 2013, the Major Research Instrumentation (MRI) program investments will support awards that strengthen the Nation's research instrumentation capacity and modern research infrastructure. Funding for MRI is unchanged from the FY 2012 Estimate of \$90.0 million.
- The Science and Technology Policy Institute (STPI), a Federally Funded Research and Development Center sponsored by the NSF on behalf of the White House Office of Science and Technology Policy (OSTP), provides analysis on significant domestic and international science and technology policies and developments for OSTP and other federal agencies. STPI funding is unchanged in FY 2013 from the FY 2012 Estimate of \$3.14 million.
- Science and Technology for America's Reinvestment: Measuring the Effect of Research on Innovation, Competitiveness and Science (STAR METRICS) is an interagency pilot activity that represents a new approach to developing information on how NSF and other federal R&D investments affect the innovation ecosystem. STAR METRICS' FY 2013 funding of \$1.40 million is unchanged from the FY 2012 Estimate. This funding will enable NSF to meet commitments to the interagency STAR METRICS partnership, promote the integration of elements of STAR METRICS

into a developing assessment and evaluation information system linked to NSF management information systems, and support assessment and evaluation pilots in NSF programs using STAR METRICS tools. The project supports the assessment and evaluation plans described in the FY 2011-FY 2016 NSF Strategic Plan. There are ongoing interagency conversations about the future of the STAR METRICS effort.

IA Support for OneNSF and Other Major Investments

IA Major Investments

(Dollars in Millions)

Area of Investment	FY 2011 Actual	FY 2012 Estimate	FY 2013 Request	Change Over FY 2012 Estimate	
				Amount	Percent
Clean Energy Technology	\$12.00	\$12.00	\$10.50	-\$1.50	-12.5%
INSPIRE	-	12.35	31.00	18.65	151.0%

Major investments may have funding overlap and thus should not be summed.

- IA’s support of \$10.50 million for clean energy will enhance research on solar energy technologies and biomass energy generation. The IA clean energy investments represent existing RII awards within the EPSCoR program.
- The NSF Office of Integrative Activities (OIA) serves as the organizational lead for INSPIRE. During FY 2013, improvements will be made in how NSF supports science and engineering that fall outside the scope of existing NSF programs. In addition, INSPIRE will support the development of new funding opportunities to better enable investigators to propose and NSF to support innovative, potentially transformative, interdisciplinary research projects. In FY 2013, IA will invest \$31.0 million in INSPIRE, which is an increase of \$18.65 million above the FY 2012 Estimate level of \$12.35 million.

IA Funding for Centers Programs

IA Funding for Centers Programs

(Dollars in Millions)

	FY 2011 Actual	FY 2012 Estimate	FY 2013 Request	Change Over FY 2012 Estimate	
				Amount	Percent
Centers Programs Total	\$0.88	\$1.30	\$26.30	\$25.00	1923.1%
Science & Technology Admin	0.88	1.30	1.30	-	-
Science & Technology Centers Class of 2013	-	-	25.00	25.00	N/A

Totals may not add due to rounding.

For detailed information on individual centers, please see the NSF-Wide Investments chapter.

- NSF’s investments in Science and Technology Centers (STCs) create platforms to support interdisciplinary discovery. The STC Integrative Partnerships program — which in FY 2013 will fund a total of 16 centers (11 existing centers and five new centers) nationwide — supports innovative, potentially transformative, complex research and education projects that require large-

scale, long-term efforts. STCs engage the Nation's intellectual talent through partnerships between academia and other sectors including industry, national laboratories, and government. These collaborations attempt to enhance innovation and the timely transfer of knowledge and technology from the laboratory to industry and policymakers; they support the training of the next generation of scientists, engineers and educators; and they regularly foster the launch of spin-off companies and the creation of job opportunities. In FY 2013, the increase of \$25.0 million for IA STC funding is to support five new centers. The remaining \$1.30 million will support administrative costs associated with post-award management for the existing 11 centers.

Program Monitoring and Assessment

The Performance Information chapter provides details regarding the periodic reviews of programs and portfolios of programs by external Committees of Visitors and directorate Advisory Committees. Please see this chapter for additional information.

A number of program reviews and performance improvement activities are underway or planned for FY 2012-2013.

Committee of Visitors (COV):

- In FY 2012, a COV review will take place for EPSCoR.

Report by the National Academy of Science (NAS):

- In FY 2011, the NAS was charged with conducting a study of the EPSCoR and EPSCoR-like programs as directed in, Section 517 of P.L. 111-358: the America COMPETES Reauthorization Act of 2010. Agencies with active programs are the Department of Energy (DOE), the Environmental Protection Agency (EPA), the National Aeronautics and Space Administration (NASA), the National Institute of Health (NIH), NSF, and the United States Department of Agriculture (USDA). The output for this evaluation will provide recommendations that may have policy implications for federal agencies that have EPSCoR and EPSCoR-like programs. The anticipated completion date for this evaluation is August 2013.

Science and Technology Policy Institute (STPI) Evaluation:

- In FY 2011, EPSCoR contracted STPI to perform an in-depth, life-of-program assessment of NSF EPSCoR activities and their outputs and outcomes and, based on this assessment, provide recommendations for better targeting funds to those jurisdictions for which the EPSCoR investment can result in the largest incremental benefit to their research capacity. This evaluation focuses on progress in research competitiveness, infrastructure development, broadening participation in science and engineering, and STEM workforce development within EPSCoR jurisdictions. The completed report is due December 2013.

**EXPERIMENTAL PROGRAM TO STIMULATE
COMPETITIVE RESEARCH (EPSCoR)**

**\$158,190,000
+\$7,290,000 / 4.8%**

EPSCoR Funding

(Dollars in Millions)

	FY 2011 Actual	FY 2012 Estimate	FY 2013 Request	Change Over	
				FY 2012 Estimate Amount	Percent
Total, EPSCoR	\$146.82	\$150.90	\$158.19	\$7.29	4.8%
Research Infrastructure Improvement (RII)	106.20	110.00	116.19	6.19	5.6%
Co-Funding	39.44	39.40	40.00	0.60	1.5%
Outreach and Workshops	1.18	1.50	2.00	0.50	33.3%

Totals may not add due to rounding.

The Experimental Program to Stimulate Competitive Research (EPSCoR) assists the National Science Foundation (NSF) in its statutory function "to strengthen research and education in science and engineering throughout the United States and to avoid undue concentration of such research and education." EPSCoR goals are: 1) to provide strategic programs and opportunities for EPSCoR participants that stimulate sustainable improvements in their R&D capacity competitiveness; and 2) to advance science and engineering capabilities in EPSCoR jurisdictions for discovery, innovation and overall knowledge-based prosperity.

EPSCoR's FY 2013 \$158.19 million budget request is an increase of \$7.29 million over the FY 2012 Estimate. It is focused on three strategic investment tools: Research Infrastructure Improvement (RII) awards, co-funding, and outreach. RII awards support development of physical, human, and cyber-based research infrastructure in EPSCoR jurisdictions with emphasis on collaborations among academic researchers, the private sector, and state and local governments to effect sustainable improvements in research infrastructure.

Research Infrastructure Improvement (RII)

- RII awards are designed to improve the research competitiveness of jurisdictions by strengthening their academic research infrastructure in areas of science and engineering supported by NSF and critical to the particular jurisdiction's science and technology initiative or plan. These areas are identified by the jurisdiction's EPSCoR governing committee as having the best potential to improve the jurisdiction's future R&D competitiveness. RII awards also enable broader regional and topical collaborations among jurisdictions and facilitate the enhancement of discovery, learning, and economic development of EPSCoR. The FY 2013 Request for RII increases by \$6.19 million to a total of \$116.19 million over the FY 2012 Estimate of \$110.0 million.

Co-Funding of Disciplinary and Multidisciplinary Research

- EPSCoR co-invests (co-funds) with NSF directorates and offices on meritorious proposals from individual investigators, groups, and centers in EPSCoR jurisdictions that are submitted to the Foundation's research and education programs, and to crosscutting initiatives. These proposals are merit reviewed in NSF disciplinary programs and recommended for award, but cannot be funded without the combined, leveraged support of EPSCoR. The FY 2013 Request for co-funding increases by \$600,000 to a total of \$40.0 million over the FY 2012 Estimate of \$39.40 million.

Outreach

- The EPSCoR Office solicits requests for support of workshops, conferences, and other community-based activities designed to explore opportunities in emerging areas of science and engineering, and to share best practices in strategic planning, diversity, communication, cyberinfrastructure, evaluation, and other capacity-building areas of importance to EPSCoR jurisdictions.

In general, about 40 percent of the EPSCoR portfolio is available for new research awards. The remaining 60 percent funds continuing awards made in prior years.

Number of People Involved in EPSCoR Activities

	FY 2011 Actual Estimate	FY 2012 Estimate	FY 2013 Estimate
Senior Researchers	734	755	790
Other Professionals	229	235	245
Postdoctorates	73	75	80
Graduate Students	462	475	495
Undergraduate Students	599	615	645
K-12 Teachers	500	515	540
K-12 Students	1,750	1,800	1,885
Total Number of People	4,347	4,470	4,680

Totals may not add due to rounding.