National Science Foundation
FY 2013 Program Inventory

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Introduction

The GPRA Modernization Act of 2010 requires a central inventory of all Federal programs. The Federal Program Inventory has the potential to facilitate coordination across programs by making it easier to find programs that can contribute to a shared goal, as well as improve public understanding about what Federal programs do and how programs link to budget, performance and other information.

This document describes each National Science Foundation (NSF) program as well as how the program supports the Foundation's broader Strategic Goals and Strategic Objectives. Please refer to www.Performance.gov for details on specific program contributions to our Agency Priority Goals. NSF is also a key participant in the Science, Technology, Engineering, and Mathematics (STEM) Education and the Entrepreneurship and Small Business Cross-Agency Priority Goals.

Approach

The National Science Foundation was selected to pilot the Federal Program Inventory with other agencies that had subcomponents relating to trade, export and competitiveness. NSF found during the pilot that a categorization system based on specific topical outcomes would be too limiting for a number of reasons.

- NSF programs fund basic research, which often produces outcomes far beyond the initial topic area of investment (e.g. an investment in engineering may produce a breakthrough in biology).
- Investments in basic research may produce outcomes in a range of fields (e.g. an investment in engineering could result in an interdisciplinary breakthrough relevant to biomedicine, materials science, and computer science).
- Investments in basic research may also produce human resource outcomes (e.g. an investment in engineering may provide the funding necessary to enable a student to complete their degree and enter the workforce).

NSF is categorizing its programs by initial topic area of investment. This approach mirrors its budget structure, and the programs presented here are consistent with the program activity (PA) lines presented in the President's Budget Appendix. This aligns to the way the agency executes its budget and is complementary with the expectations of external stakeholders. The ordering of this list follows the budget structure, with programs funded through the two program accounts (Research and Related Activities and Education and Human Resources) listed first, followed by Major Research Equipment and Facilities Construction, Agency Operations and Award Management, National Science Board, and Office of Inspector General.

List of NSF Strategic Goals and Objectives
FY 2011-FY 2016

Strategic Goal *Transform the Frontiers (T)* emphasizes the seamless integration of research and education as well as the close coupling of research infrastructure and discovery.	
T-1:	Make investments that lead to emerging new fields of science and engineering and shifts in existing fields.
T-2:	Prepare and engage a diverse science, technology, engineering, and mathematics (STEM) workforce motivated to participate at the frontiers.
T-3:	Keep the United States globally competitive at the frontiers of knowledge by increasing international partnerships and collaborations.
T-4:	Enhance research infrastructure and promote data access to support researchers' and educators' capabilities and to enable transformation at the frontiers.
Strategic Goal *Innovate for Society (I)* points to the tight linkage between NSF programs and societal needs, and it highlights the role that new knowledge and creativity play in economic prosperity and society's general welfare.	
I-1:	Make investments that lead to results and resources that are useful to society.
I-2:	Build the capacity of the nation's citizenry for addressing societal challenges through science and engineering.
I-3:	Support the development of innovative learning systems.
Strategic Goal *Perform as a Model Organization (M)* emphasizes the importance to NSF of attaining excellence and inclusion in all operational aspects.	
M-1:	Achieve management excellence through leadership, accountability, and personal responsibility.
M-2:	Infuse learning as an essential element of the NSF culture with emphasis on professional development and personal growth.
M-3:	Encourage and sustain a culture of creativity and innovation across the agency to ensure continuous improvement and achieve high levels of customer service.

List of FY 2012-2013 NSF Priority Goals

Goal Short Title	Type of goal	Goal Statement
NSF Innovation Corps	Agency	Increase the number of entrepreneurs emerging from university laboratories. By September 30, 2013, 80 percent of teams participating in the NSF Innovation Corps program will have tested the commercial viability of their product or service.
Access to Digital Products of NSF-Funded Research	Agency	Increase opportunities for research and education through public access to high-value digital products of NSF-funded research. By September 30, 2013, NSF will have established policies for public access to high-value data and software in at least two data-intensive scientific domains.
Undergraduate Programs	Agency	Develop a diverse and highly qualified science and technology workforce. By September 30, 2013, 80 percent of institutions funded through NSF undergraduate programs document the extent of use of proven instructional practices.

List of programs

Biological Sciences (BIO)

Program Title	Biological Sciences (BIO)
Program Description	This activity promotes scientific progress in biology through support of research on all levels, including molecules, cells, organisms, and ecosystems. This activity also supports a comprehensive research initiative on plant genomes, including research on economically significant crops. The Divisions within the Directorate for Biological Sciences are: • Biological Infrastructure (BIO/DBI) • Environmental Biology (BIO/DEB) • Emerging Frontiers (BIO/EF) • Integrative Organismal Systems (BIO/IOS) • Molecular and Cellular Biosciences (BIO/MCB) Current information about the program can be found at http://nsf.gov/about/budget/fy2014/pdf/17_fy2014.pdf.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported Agency Priority Goals	NSF Innovation Corps Access to Digital Products of NSF-Funded Research Undergraduate Programs

Computer and Information Science and Engineering (CISE)

Program Title	Computer and Information Science and Engineering (CISE)
Program Description	This activity supports investigator initiated research in all areas of computer and information science and engineering, helps develop and maintain cutting-edge national computational and information infrastructure for research and education generally, and contributes to the education and training of the next generation of computer and computational engineers. The divisions within the Computer and Information Science and Engineering Directorate are: • Advanced Cyberinfrastructure (CISE/ACI) • Computing and Communication Foundations (CISE/CCF) • Computer and Network Systems (CISE/CNS) • Information & Intelligent Systems (CISE/IIS) • Information Technology Research (CISE/ITR) Current information about the program can be found at http://nsf.gov/about/budget/fy2014/pdf/18_fy2014.pdf.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported Agency Priority Goals	NSF Innovation Corps Access to Digital Products of NSF-Funded Research (lead) Undergraduate Programs

Engineering (ENG)

Program Title	Engineering (ENG)
Program Description	Research supported by this activity aims to increase U.S. engineering capability and strength, and focus that capability and strength on areas that are relevant to national problems and long-term needs. This activity also includes small business innovation research. The Divisions within the Engineering Directorate are: • Chemical, Bioengineering, Environmental, and Transport Systems (ENG/CBET) • Civil, Mechanical and Manufacturing Innovation (ENG/CMMI) • Electrical, Communications and Cyber Systems (ENG/ECCS) • Engineering Education and Centers (ENG/EEC) • Emerging Frontiers in Research and Innovation (ENG/EFRI) • Industrial Innovation and Partnerships (ENG/IIP) Current information about the program can be found at http://nsf.gov/about/budget/fy2014/pdf/19_fy2014.pdf.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported Agency Priority Goals	NSF Innovation Corps (lead) Access to Digital Products of NSF-Funded Research Undergraduate Programs

Geosciences (GEO)

Program Title	Geosciences (GEO)
Program Description	This activity supports research and associated infrastructure to advance knowledge of the properties and dynamics of the planet on which we live. Research includes understanding the causes and implications of climate change, as well as disruptive processes such as earthquakes and storms. Additionally, this activity supports Arctic and Antarctic research and operational science support and other related activities for United States polar research programs, including the funding to reimburse Federal agencies for logistical and other related activities supported by the United States Antarctic Program. The Divisions within the Geosciences Directorate are: • Atmospheric and Geospace Sciences (GEO/AGS) • Earth Sciences (GEO/EAR) • Integrative and Collaborative Education and Research (GEO/ICER) • Ocean Sciences (GEO/OCE) • Polar Programs (GEO/PLR) Current information about the program can be found at http://nsf.gov/about/budget/fy2014/pdf/20_fy2014.pdf.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported Agency Priority Goals	NSF Innovation Corps Access to Digital Products of NSF-Funded Research Undergraduate Programs

Mathematical and Physical Sciences (MPS)

Program Title	Mathematical and Physical Sciences (MPS)
Program Description	Research in this activity is directed at increasing understanding of natural laws and phenomena across the astronomical sciences, chemistry, materials sciences, mathematical sciences, and physics. This fundamental research provides the long-term underpinnings for advances in areas such as sustainable energy and economic competitiveness. The Divisions within the Mathematical and Physical Sciences Directorate are: • Astronomical Sciences (MPS/AST) • Chemistry (MPS/CHE) • Materials Research (MPS/DMR) • Mathematical Sciences (MPS/DMS) • Physics (MPS/PHY) • Office of Multidisciplinary Activities (MPS/OMA) Current information about the program can be found at http://nsf.gov/about/budget/fy2014/pdf/21_fy2014.pdf.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported Agency Priority Goals	NSF Innovation Corps Access to Digital Products of NSF-Funded Research Undergraduate Programs

Social, Behavioral and Economic Sciences (SBE)

Program Title	Social, Behavioral, and Economic Sciences (SBE)
Program Description	This activity supports research, education, and infrastructure in the social, behavioral, cognitive, and economic sciences and funds the collection and dissemination of statistics on the science and engineering enterprise. The Divisions within the Social, Behavioral, and Economic Sciences Directorate are: • Social and Economic Sciences (SBE/SES) • Behavioral and Cognitive Sciences (SBE/BCS) • Office of Multidisciplinary Activities (SBE/OMA) • National Center for Science and Engineering Statistics (SBE/NCSES) Current information about the program can be found at http://nsf.gov/about/budget/fy2014/pdf/22_fy2014.pdf.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported Agency Priority Goals	NSF Innovation Corps Access to Digital Products of NSF-Funded Research Undergraduate Programs

International and Integrative Activities (IIA)

Program Title	International and Integrative Activities (IIA)
Program Description	This activity supports emerging cross disciplinary research efforts; major research instrumentation; and promotes an integrated strategy for international science and engineering that complements and enhances NSF's broader research and education goals and facilitates international collaboration. This activity also provides support for the Science and Technology Policy Institute. The Experimental Program to Stimulate Competitive Research broadens participation of States and regions in science and engineering by helping institutions expand their research capacity and competitiveness. The subactivities housed within the Office of International and Integrative Activities are: • Communicating Science Broadly (CSB) • The Experimental Program to Stimulate Competitive Research (EPSCoR) • Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) • International Science and Engineering (ISE) • Major Research Instrumentation (MRI) • NSF Graduate Research Fellowships (NGRF) • NSF Research Traineeships (NRT) • Science and Technology Centers (STC) • Science and Technology Policy Institute (STPI) • Science and Technology for America's Reinvestment (STAR METRICS) Current information about the program can be found at http://nsf.gov/about/budget/fy2014/pdf/23_fy2014.pdf.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported Agency Priority Goals	None

United States Arctic Research Commission (USARC)

Program Title	United States Arctic Research Commission (USARC)
Program Description	The United States Arctic Research Commission promotes Arctic research and recommends national Arctic research policies to guide Federal agencies in developing and implementing their research programs in the Arctic region.
Supported Strategic Goals	Transform the Frontiers
Supported Strategic Objectives	T-3
Supported Agency Priority Goals	None

Education and Human Resources (EHR)

Program Title	Education and Human Resources (EHR)
Program Description	The Education and Human Resources (EHR) appropriation funds and manages a comprehensive set of programs that further NSF's goals of ensuring a diverse, globally competitive U.S. science, technology, engineering, and mathematics (STEM) workforce, as well as a scientifically literate population. To advance those goals, EHR collaborates with other NSF research units, federal agencies, and promotes public-private partnerships. EHR supports research on STEM teaching and learning to provide the evidence base for improvements in education at all levels in the STEM disciplines. Supporting development and effective implementation of new learning technologies is also a priority. EHRs pre-K–12 education-research programs, for example, develop and test new instruction materials for students and teachers, which incorporate the latest advances in teaching, learning, and education technologies. STEM teacher-education opportunities occur throughout the full continuum, from pre-service and in-service, through life-long learning. Research programs at the undergraduate level improve curricula, strengthen laboratory courses, enhance faculty effectiveness and lead education reforms in STEM disciplines. Advanced technological education programs strengthen student preparation for the high-technology workforce. Support of graduate-level STEM education primarily includes fellowships and traineeships to sustain U.S. leadership in global science and technology. All EHR programs aim to broaden participation of groups underrepresented in STEM fields by, for example, improving infrastructure and academic programs at minority-serving institutions. STEM-education evaluation activities ensure accountability by developing indicators that measure program impact and informing the education community of best practices and other relevant findings. EHR activities also include programs supported by H–1B non-immigrant visa fees, which provide undergraduate and graduate scholarships in STEM disciplines, improve educational opportunities for students, and provide research opportunities for STEM teachers and students. The Divisions within the Education and Human Resources Directorate are: • Research on Learning in Formal and Informal Settings (EHR/DRL) • Graduate Education (EHR/DGE) • Human Resource Development (EHR/HRD) • Undergraduate Education (EHR/DUE) Current information about the program can be found at http://nsf.gov/about/budget/fy2014/pdf/25_fy2014.pdf.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported	NSF Innovation Corps

Agency Priority Goals	Access to Digital Products of NSF-Funded Research Undergraduate Programs (lead)

Major Research Equipment and Facilities Construction (MREFC)

Program Title	Major Research Equipment and Facilities Construction (MREFC)
Program Description	The Major Research Equipment and Facilities Construction activity supports the acquisition, construction, and commissioning of unique national research platforms and major research facilities and equipment. Performance of each construction project is measured against an established baseline at regular intervals and at major milestones.
Supported Strategic Goals	Transform the Frontiers
Supported Strategic Objectives	T-3
Supported Agency Priority Goals	None

Agency Operations and Award Management (AOAM)

Program Title	Agency Operations and Award Management (AOAM)
Program Description	This account funds NSF's scientific, professional, and administrative workforce, the physical and technological infrastructure necessary for a productive, safe and secure work environment, and the essential business operations critical to NSF's administrative processes.
Supported Strategic Goals	Perform as a Model Organization
Supported Strategic Objectives	M-1, M-2, M-3
Supported Agency Priority Goals	None

Office of the National Science Board (NSB)

Program Title	Office of the National Science Board (NSB)
Program Description	This appropriation provides policy-making and related responsibilities for NSF and provides guidance on significant national policy issues in science and engineering research and education, as required by law.
Supported Strategic Goals	Transform the Frontiers Innovate for Society
Supported Strategic Objectives	T-1, T-2, T-3, T-4 I-1, I-2, I-3
Supported Agency Priority Goals	None

Office of Inspector General (OIG)

Program Title	Office of Inspector General (OIG)
Program Description	This appropriation provides agency-wide audit and investigative functions to identify and correct management and administrative deficiencies which create conditions for existing or potential instances of fraud, waste, and mismanagement consistent with the Inspector General Act of 1978, as amended (5 U.S.C. App. 3).
Supported Strategic Goals	Perform as a Model Organization
Supported Strategic Objectives	M-1
Supported Agency Priority Goals	None