UNITED STATES
National Science Foundation

FY 2014
BUDGET REQUEST TO CONGRESS

MISSION: To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.

—From the National Science Foundation (NSF) Act of 1950

VISION: NSF envisions a nation that capitalizes on new concepts in science and engineering and provides global leadership in advancing research and education.

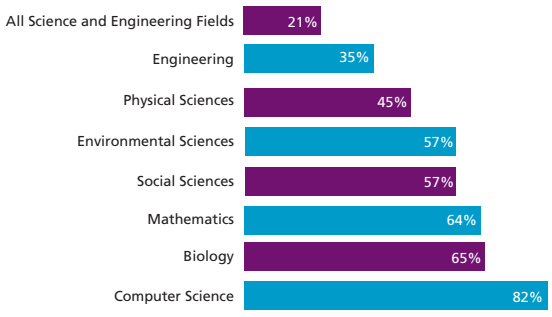
—From Empowering the Nation Through Discovery and Innovation: NSF Strategic Plan for Fiscal Years (FY) 2011-2016

ABOUT NSF

- Created by Congress in 1950 as an independent federal agency to promote American science and engineering (S&E)
- Funds basic non-biomedical research and education across all fields of S&E and at all levels of S&E education—the only federal agency to do so
- Seeks high-risk, potentially transformative projects that will generate path-breaking discoveries and new technologies
- Funds advanced instrumentation and facilities
- Supports Arctic and Antarctic research, science operations, and other related activities for the U.S. polar research program
- Supports cooperative research between universities and industry and U.S. participation in international scientific efforts
- Allocates nearly 90 percent of research funding through a merit review process as grants or cooperative agreements to individual researchers and groups at colleges, universities, academic consortia, nonprofit institutions, and small business
- Supported 204 Nobel laureates, including 23 in the last 5 years

NSF Support of Academic Basic Research in Selected Fields

(as a percentage of total federal support)



Note: Biology includes Biological Sciences and Environmental Biology; excludes NIH.

Source: NSF/National Center for Science and Engineering Statistics, Survey of Federal Funds for Research & Development, FY 2010

Empowering the Nation Through Discovery and Innovation

FY 2014 BUDGET REQUEST

NSF Budget by Appropriation (dollars in millions)				
	FY 2012 Enacted	FY 2014 Request	Change Over FY 2012 Enacted	
			Amount	Percent
Research and Related Activities	$5,689.00	$6,212.29	$523.29	9.2%
Education and Human Resources	829.00	880.29	51.29	6.2%
Major Research Equipment and Facilities Construction	197.06	210.12	13.07	6.6%
Agency Operations and Award Management	299.40	304.29	4.89	1.6%
National Science Board	4.44	4.47	0.03	0.7%
Office of Inspector General	14.20	14.32	0.12	0.8%
TOTAL	**$7,033.10**	**$7,625.78**	**$592.69**	**8.4%**
Totals may not add due to rounding.				

FY 2014 PRIORITIES

- Cyber-Enabled Materials, Manufacturing, and Smart Systems (CEMMSS): $300 million
- Cyberinfrastructure Framework for 21st Century Science, Engineering, and Education (CIF21): $155 million
- NSF Innovation Corps (I-Corps): $25 million
- Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE): $63 million
- Science, Engineering, and Education for Sustainability (SEES): $223 million
- Secure and Trustworthy Cyberspace (SaTC): $110 million

STEM EDUCATION: AREAS OF NSF LEADERSHIP

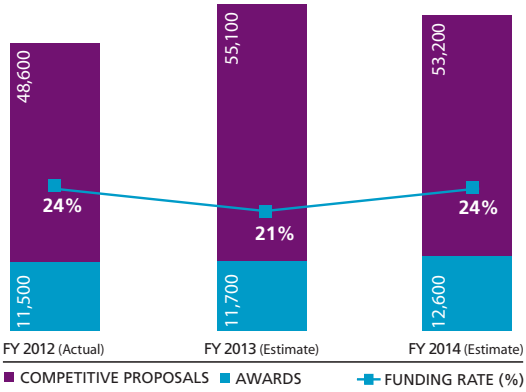
- Catalyzing Advances in Undergraduate STEM Education (CAUSE): $123 million
- National Graduate Research Fellowship program (NGRF): $325 million
- NSF Research Traineeships (NRT): $55 million

STEM: Science, Technology, Engineering, and Mathematics

OTHER FY 2014 INVESTMENT HIGHLIGHTS

- NSF Evaluation Capability: $6 million
- Merit Review Process Improvements: $4 million
- NSF Public Access Initiative: $3 million
- Cognitive Science and Neuroscience: $14 million
- Large Synoptic Survey Telescope (LSST): $28 million
- Research at the Interface of Biological, Mathematical and Physical Sciences, and Engineering (BioMaPS): $51 million

NSF Funding Profile, FY 2012–FY 2014



Note: Information presented for FY 2012 reflects actuals for that year. The estimated number of awards for FY 2013 is based on the FY 2012 enacted level.

NSF by the Numbers	
$7.6 billion	FY 2014 Budget Request
1,895	Colleges, universities, and other institutions receiving NSF funding
48,600	Proposals evaluated through a competitive merit review process
11,500	Competitive awards funded
236,000	Proposal reviews conducted
319,000	Estimated number of people NSF supports directly (researchers, postdoctoral fellows, trainees, teachers, and students)
45,800	Students supported by NSF Graduate Research Fellowships since 1952

Figures other than Budget Request represent FY 2012 actuals.

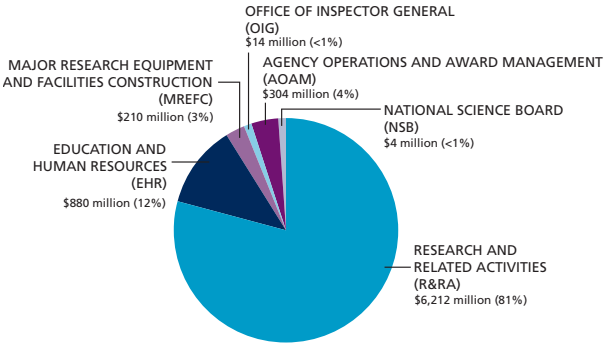
FY 2014 PERFORMANCE GOALS

NSF's FY 2014 Performance Plan reflects the agency's priorities as identified through the budget process. The major change from prior year plans is the development of a new performance framework for strategic monitoring of key program, infrastructure, and management investments.

	Goal	Goal Statement
1	**Ensure Key Program Investments are On Track**	Meet critical targets for key FY 2014 program investments.
2	**Ensure Infrastructure Investments are On Track**	Ensure program integrity and responsible stewardship of major research facilities and infrastructure.
3	**Use Evidence to Guide Management Decisions**	Use evidence-based reviews to guide management investments.
4	**Improve Undergraduate Education**	Establish an NSF-wide undergraduate STEM education program that is evidence-based and evidence-building.
5	**Enhance National Graduate Research Fellowships**	Enhance the Graduate Research Fellowship program to provide a wider range of career development opportunities.
6	**Promote Career-Life Balance Policies and Practices**	Promote policies and practices that support more fully utilizing the talents of individuals in all sectors of the American population, principally women, underrepresented minorities, and persons with disabilities.
7	**Foster an Environment of Diversity and Inclusion**	Foster an environment of diversity and inclusion while ensuring compliance with the agency's civil rights programs.
8	**Modernize Financial System**	Upgrade NSF's financial system.
9	**Make Timely Award Decisions**	Inform applicants whether their proposals have been declined or recommended for funding within 182 days, or 6 months, of deadline, target, or receipt date, whichever is later.
10	**Enable Increased Use of Virtual Merit Review Panels**	Improve the ability to use virtual merit review panels by incorporating technological innovations into review process.

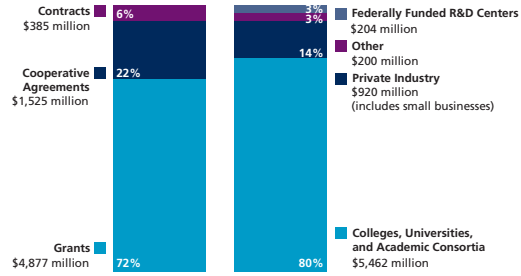
FOLLOWING THE MONEY

FY 2014 NSF Budget Request by Account—$7,626 million



Note: Totals may not add due to rounding.

Obligations for Research and Education Programs



This chart shows the distribution of NSF's obligations by institution type and funding mechanism. While the data shown are based on FY 2012, the relative shares should provide a good indication of the FY 2014 distribution.

Notes: NSF Research and Education Programs include Research and Related Activities, Education and Human Resources, and Major Research Equipment and Facilities Construction appropriations. Other institutions funded include federal, state, and local governments; nonprofit organizations; and international organizations.

For More Information:

NSF FY 2014 Budget Request to Congress
www.nsf.gov/about/budget

Research and Education Results Supported by NSF
www.nsf.gov/discoveries

NSF Budget and Performance
www.nsf.gov/about/performance

Empowering the Nation Through Discovery and Innovation: NSF Strategic Plan for Fiscal Years 2011–2016
www.nsf.gov/news/strategicplan

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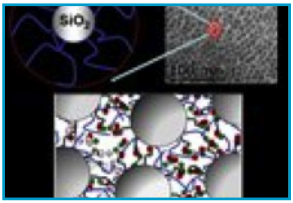
RESEARCH AND EDUCATION HIGHLIGHTS

Artificial Leaf Offers New Approach to Energy Production

Credit: Dan Nocera, Massachusetts Institute of Technology

Researchers at Caltech have created an artificial leaf. Just as a natural leaf converts sunlight into water, oxygen, and sugar, this stand-alone device captures solar energy and splits water into hydrogen and oxygen gas. The artificial leaf converts sunlight into chemical fuel using a silicon photovoltaic cell and relatively inexpensive catalysts—materials that jump-start chemical reactions. To compete with cheap fossil fuels, novel materials are needed to generate fuels from solar energy. The materials must be inexpensive and abundant and their production simple and low-cost. Through a sustainable distribution infrastructure, the artificial leaf could become a viable energy source for both developed and developing countries.

Longer Life Lithium Batteries



Credit: Lynden Archer, Cornell University

Researchers at Cornell University have created a hybrid material that is particularly suitable for use as a solid electrical conductor or electrolyte in high-energy lithium batteries, by designing and refining new materials composed of hard silica nanoparticles and a soft lithium-conducting polymer. The materials are stable, and have low flammability and volatility under battery operating conditions. Rechargeable lithium batteries are commonly used in consumer electronics and increasingly are finding applications in electric vehicles and defense. The new material will prolong the life of these batteries and allow them to provide higher powers than current technologies. A new start-up company–NOHMs Technologies–in Ithaca, N.Y., will manufacture and commercialize lithium batteries based on the new material.

PhysTEC Addresses Shortage of Physics Teachers

Credit: The Physics Teacher Education Coalition

Only 35 percent of high school physics teachers have a degree in physics or physics education. More than 250 colleges and universities have joined the Physics Teacher Education Coalition (PhysTEC), which seeks to engage physics departments more deeply in teacher education so that every student will have the opportunity to learn physics from a qualified teacher. PhysTEC members represent nearly one-third of all institutions offering physics degrees. Together these institutions graduate about 300 high school physics teachers per year, addressing a significant fraction of the growing national need for 1,400 new physics teachers per year.