UNITED STATES
National Science Foundation

FY 2015
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.

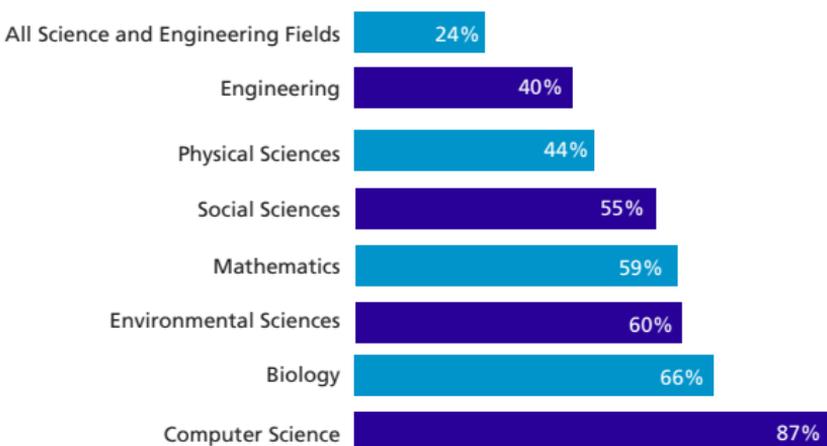*—From the National Science Foundation (NSF) Act of 1950*

VISION: A Nation that creates and exploits new concepts in science and engineering and provides global leadership in research and education.

—From Investing in Science, Engineering, and Education for the Nation's Future: NSF Strategic Plan for 2014-2018

ABOUT NSF

- Created by Congress in 1950 as an independent federal agency to promote American science and engineering (S&E)

- Only federal agency that funds basic non-biomedical research and education across all fields of S&E and at all levels of education

- Seeks high-risk, potentially transformative projects that will generate path-breaking discoveries and new technologies

- Supports research and workforce development programs that help drive future economic growth, global competitiveness, and the creation of high-wage jobs for American workers

- Funds advanced instrumentation and facilities, Arctic and Antarctic research and operations, cooperative research between universities and industry, and U.S. participation in international scientific efforts

- Allocates nearly 90 percent of research funding through a competitive merit review process as grants or cooperative agreements to individual researchers and groups at colleges, universities, academic consortia, nonprofit institutions, and small business

- Has supported 212 Nobel laureates since its inception, including 26 in the last 5 years

NSF Support of Academic Basic Research in Selected Fields
(as a percentage of total federal support)

Field	Percentage
All Science and Engineering Fields	24%
Engineering	40%
Physical Sciences	44%
Social Sciences	55%
Mathematics	59%
Environmental Sciences	60%
Biology	66%
Computer Science	87%

Note: Biology includes Biological Sciences and Environmental Biology; excludes National Institutes of Health.
Source: NSF/National Center for Science and Engineering Statistics, Survey of Federal Funds for Research & Development, FY 2011

Investing in Science, Engineering, and Education for the Nation's Future

FY 2015 BUDGET REQUEST

NSF Budget by Appropriation (dollars in millions)					
	FY 2013 Actual	FY 2014 Estimate	FY 2015 Request	Change Over FY 2014 Estimate	
				Amount	Percent
Research and Related Activities	$5,558.88	$5,808.92	$5,807.46	-$1.46	-0.03%
Education and Human Resources	$834.62	$846.50	$889.75	$43.25	5.1%
Major Research Equipment and Facilities Construction	$196.49	$200.00	$200.76	$0.76	0.4%
Agency Operations and Award Management	$293.50	$298.00	$338.23	$40.23	13.5%
National Science Board	$4.10	$4.30	$4.37	$0.07	1.6%
Office of Inspector General*	$14.33	$14.20	$14.43	$0.23	1.6%
TOTAL	$6,901.91	$7,171.92	$7,255.00	$83.08	1.2%

Totals may not add due to rounding.
*Includes FY 2013 obligations from funds appropriated through the American Recovery and Reinvestment Act of 2009.

FY 2015 INITIATIVES

- Cognitive Science and Neuroscience: $29 million
- Cyber-Enabled Materials, Manufacturing, and Smart Systems (CEMMSS): $213 million
- Cyberinfrastructure Framework for 21st Century Science, Engineering, and Education (CIF21): $125 million
- Science, Engineering, and Education for Sustainability (SEES): $139 million
- Secure and Trustworthy Cyberspace (SaTC): $100 million
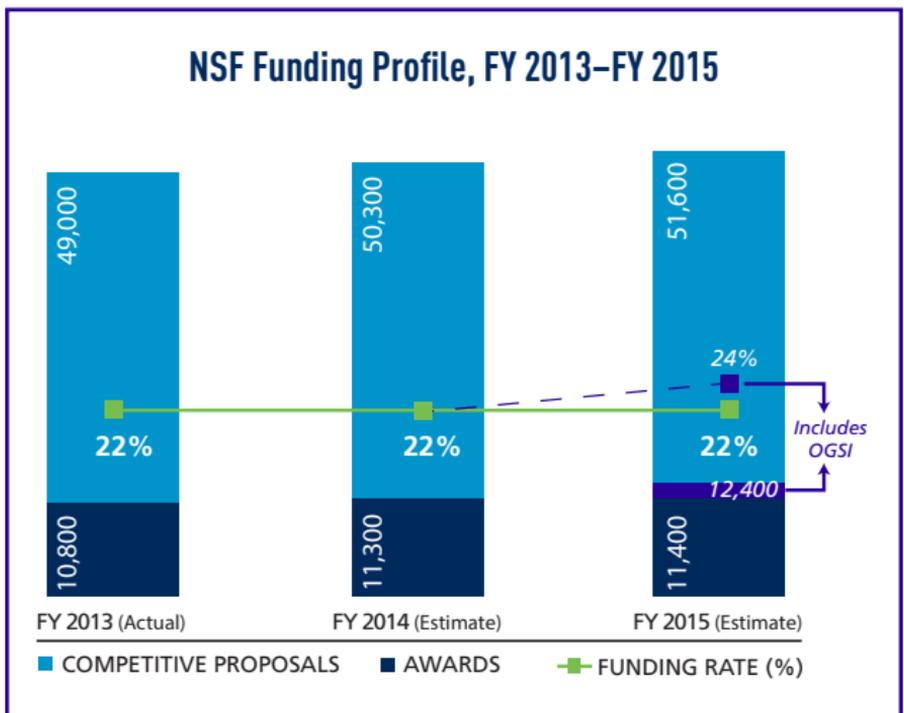
OTHER FY 2015 INVESTMENT HIGHLIGHTS

- Clean Energy: $362 million
- Advanced Manufacturing: $151 million
- Research at the Interface of Biological, Mathematical and Physical Sciences, and Engineering (BioMaPS): $29 million
- NSF Innovation Corps (I-Corps): $25 million
- Graduate Research Fellowships (GRF): $333 million
- Improving Undergraduate STEM Education (IUSE): $118 million
- NSF Research Traineeships (NRT): $58 million

NSF by the Numbers	
$7.3 billion	FY 2015 Budget Request
$552 million	Additional funding provided through the Opportunity, Growth, and Security Initiative
1,922	Colleges, universities, and other institutions receiving NSF funding
49,000	Proposals evaluated through a competitive merit review process
10,800	Competitive awards funded
233,000	Proposal reviews conducted
299,000	Estimated number of people NSF supported directly (researchers, postdoctoral fellows, trainees, teachers, and students)
47,800	Students supported by NSF Graduate Research Fellowships since 1952

Figures other than Budget Request represent FY 2013 actuals.

OPPORTUNITY, GROWTH, AND SECURITY INITIATIVE (OGSI)

- Provides $552 million to NSF to spur economic progress, promote opportunity, and strengthen national security

- Will accelerate progress in broad areas of science and engineering that address national priorities such as advanced manufacturing, clean energy, cybersecurity, neuroscience, and Science, Technology, Engineering, and Mathematics (STEM) workforce development

- Supports core activities through the addition of 1,000 new awards from across the NSF portfolio

- Strengthens support for NSF priority investments including Cognitive Science and Neuroscience, CEMMSS, SaTC, and BioMaPs

- Provides $34 million for the NSF Research Traineeships (NRT), to support about 3,000 graduate students over the next 5 years

- Provides $20 million for Cybercorps—Scholarship for Service

NSF Funding Profile, FY 2013–FY 2015

	FY 2013 (Actual)	FY 2014 (Estimate)	FY 2015 (Estimate)
Competitive Proposals	49,000	50,300	51,600
Awards	10,800	11,300	11,400
Funding Rate (%)	22%	22%	22%

24%

Includes OGSI

12,400

■ COMPETITIVE PROPOSALS ■ AWARDS ■ FUNDING RATE (%)
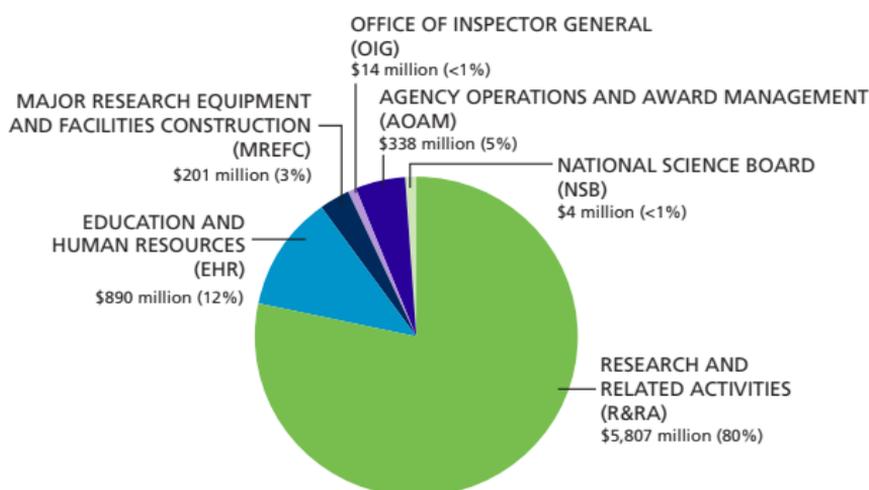
FY 2015 PERFORMANCE GOALS

NSF's new strategic plan for 2014–2018 outlines three strategic goals—*Transform the Frontiers of Science and Engineering*; *Stimulate Innovation and Address Societal Needs Through Research and Education*; and *Excel as a Federal Science Agency*. NSF's FY 2015 Performance Plan sets three priority goals that reflect leadership's top implementation-focused performance improvement priorities. In addition, there are seven performance goals that cover the other areas of NSF's mission.

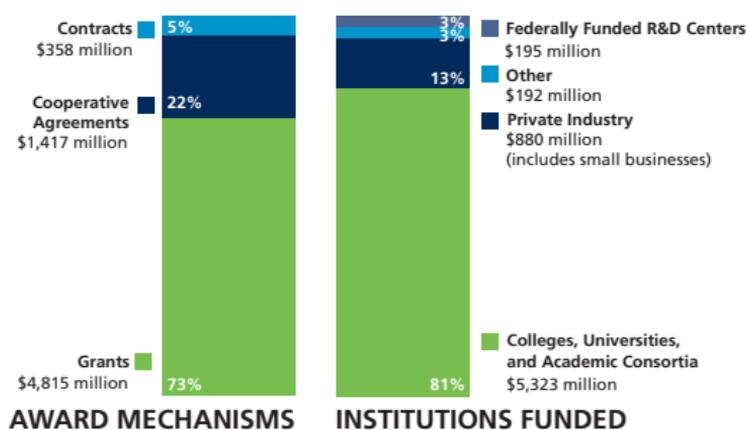| Goal	Goal Statement
Priority Goal: Ensure Public Access to Publications	Increase public access to NSF-funded peer-reviewed publications. By September 30, 2015, NSF-funded investigators will be able to deposit versions of their peer-reviewed articles in a repository that will make them available to the public.
Priority Goal: Increase the Nation's Data Science Capacity	Improve the nation's capacity in data science by investing in the development of human capital and infrastructure. By September 30, 2015, implement mechanisms to support the training and workforce development of future data scientists; increase the number of multi-stakeholder partnerships to address the nation's big-data challenges; and increase investments in current and future data infrastructure, extending data-intensive science into more research communities.
Priority Goal: Optimize the Award Process To Level Workload	Improve agency and awardee efficiency by leveling award of grants across the fiscal year. By September 30, 2015, NSF will meet targets to level distribution of awards across the fiscal year and subsequently improve awardee capacity to effectively manage research funding.
Ensure That Key Program Investments Are On Track	Meet critical targets for key FY 2015 program investments.
Ensure That Infrastructure Investments Are On Track	Ensure program integrity and responsible stewardship of major research facilities and infrastructure.
Use Evidence To Guide Management Decisions	Use evidence-based reviews to guide management investments.
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.
Foster an Environment of Diversity and Inclusion	Foster an environment of diversity and inclusion while ensuring compliance with the agency's equal opportunity and civil rights programs.
Improve the Efficiency of Proposal Review	Identify new approaches to keep NSF's world-renowned merit review process innovative, effective, and efficient.
Evaluate NSF Investments	Enable consistent evaluation of the impact of NSF investments with a high degree of rigor and independence.

FOLLOWING THE MONEY

WHERE IT COMES FROM
FY 2015 NSF Budget Request by Account—$7,255 million

OFFICE OF INSPECTOR GENERAL (OIG)
$14 million (<1%)

AGENCY OPERATIONS AND AWARD MANAGEMENT (AOAM)
$338 million (5%)

MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION (MREFC)
$201 million (3%)

NATIONAL SCIENCE BOARD (NSB)
$4 million (<1%)

EDUCATION AND HUMAN RESOURCES (EHR)
$890 million (12%)

RESEARCH AND RELATED ACTIVITIES (R&RA)
$5,807 million (80%)

Note: Totals may not add due to rounding.

WHERE IT GOES AND HOW IT GETS THERE
Obligations for Research and Education Programs— $6,590 million

AWARD MECHANISMS

Contracts
$358 million — 5%

Cooperative Agreements
$1,417 million — 22%

Grants
$4,815 million — 73%

INSTITUTIONS FUNDED

Federally Funded R&D Centers
$195 million — 3%

Other
$192 million — 3%

Private Industry
$880 million
(includes small businesses) — 13%

Colleges, Universities, and Academic Consortia
$5,323 million — 81%

This chart shows the distribution of NSF's obligations by institution type and funding mechanism. While the data shown are based on FY 2013, the relative shares should provide a good indication of the FY 2015 distribution.

Note: 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 2015 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

Investing in Science, Engineering, and Education for the Nation's Future: NSF Strategic Plan for 2014-2018
www.nsf.gov

Driving Federal Performance
www.performance.gov

NSF

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RESEARCH AND EDUCATION HIGHLIGHTS

### Temporal Dynamics of Learning Center

Credit: Howard Poizner, Institute for Neural Computation, University of California, San Diego

How do humans learn, and how is the element of time critical for learning? The Temporal Dynamics of Learning Center, headquartered at University of California, San Diego, aims to find out. Its interdisciplinary team of scientists and educators includes more than 40 individuals at 17 partner research institutions in three countries and several San Diego schools. The center's projects are diverse and cutting-edge. Researchers delve into topics that include: How does our brain change over time as we become experts? How does musical training affect brain development, and can music interventions improve language and cognitive development? Can we train kids with autism to become "face experts" to improve their social skills? Answers to these questions and more could have far-reaching consequences.

Students Practice Hands-on STEM Activities to Define Problems and Determine Solutions
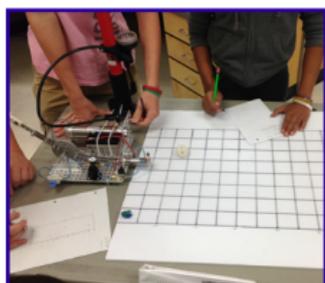
Credit: Georgia Institute of Technology

AMP-IT-UP is among more than 100 currently active projects supported by NSF's STEM–C Partnerships program designed to improve math, science, computer science, and engineering learning at the K-12 level, through local school district partnerships with higher education institutions. AMP-IT-UP, a partnership between the Georgia Institute of Technology and the Griffin-Spalding County School System, is using a novel approach to encourage student creativity and make science and math courses come alive. The new courses integrate basic science and math content with hands-on engineering design and construction. The idea is to get youngsters to think about engineering and to better understand engineering concepts by using math and science to actually design and build projects, often with a specific "client" in mind.

NEON Begins Operations

Credit: NASA and Thinkstock (design by NSF)

The National Ecological Observatory Network (NEON) is a precedent-setting, nationwide, multidisciplinary infrastructure that will generate snapshots of ecosystem health by measuring ecological activity from strategic locations throughout the United States. At each NEON location, ecological variables—such as air quality levels, land use, diversity of plant and animal species, health of vegetation, soil conditions, and air temperature and humidity—will be captured through 539 unique measurements, which will be recorded through calibrated instruments. Because of its standardized design, data produced by NEON will enable the scientific community to generate the first apples-to-apples comparisons of ecosystem health throughout the United States over multiple decades. Some of NEON's data collection and educational operations have already begun, and others will begin incrementally until NEON becomes fully functional in 2017.