

**U.S. HOUSE OF REPRESENTATIVES  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
SUBCOMMITTEE ON RESEARCH**

**HEARING CHARTER**

*An Overview of the National Science Foundation Budget for Fiscal Year 2014*

**Wednesday, April 17, 2013  
2:00 p.m. - 4:00 p.m.  
2318 Rayburn House Office Building**

**1. Purpose**

On Wednesday, April 17, 2013, the Subcommittee on Research will review the Administration's fiscal year 2014 (FY14) budget request for the National Science Foundation.

**2. Witnesses**

**The Honorable Dr. Cora Marrett**, Acting Director, National Science Foundation

**The Honorable Dr. Dan Arvizu**, Chairman, National Science Board

**3. Hearing Overview**

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense..." With a budget request of \$7.626 billion for FY 2014, 8.4% or \$593 million over FY 2012 enacted, the NSF is the funding source for over 20 percent of all federally-supported basic research conducted at almost 1,900 American colleges, universities, and other research institutions. The NSF has supported the research of over 200 Nobel Laureates, including ten Nobel prize winners named in 2012. For over 60 years, NSF investments in fundamental research have fueled scientific, technological, and engineering innovations that directly affect the everyday lives of Americans. This hearing will discuss how the Administration set funding priorities for NSF research in its FY 2014 budget request and the proposal to consolidate more Science, Technology, Engineering, and Mathematics (STEM) education within NSF, the Department of Education, and the Smithsonian Institute from other federal science agencies.

***NSF Overview***

The NSF is the primary source of federal funding for non-medical basic research. The NSF is the major source of federal funding for many fields like mathematics, computer science, and the social sciences. It supports the fundamental investigations that ultimately serve as the foundation for progress in nationally significant areas such as national security, technology-driven economic growth, energy independence, health care, nanotechnology, and networking and information technology.

Through over 11,700 competitive awards per year, NSF supports an average of 326,000 scientists, engineers, educators and students at universities, laboratories and field sites all over the U.S. and throughout the world. These grants fund specific research proposals that have been judged the most promising by a merit-review system.

### *National Science Foundation (NSF) Spending*

*(dollars in millions)*

Account	FY12 Actual	FY13 CR/ Placeholder*	FY14 Request	FY14 Request Versus			
				FY12 Actual		FY12 Enacted	
				\$	%	\$	%
<b>Research and Related Activities (RRA)</b>	<b>5758.3</b>	<b>5689</b>	<b>6212.29</b>	<b>453.99</b>	<b>7.9</b>	<b>523.29</b>	<b>9.2</b>
<i>Biological Sciences (BIO)</i>	712.3	712.38	760.58	48.3	6.8	48.2	6.8
<i>Computer and Info. Science and Engineering (CISE)</i>	937.2	865.23	950.25	13.09	1.4	85.02	9.8
<i>Engineering (ENG)</i>	824.6	826.17	911.12	86.57	10.5	84.95	10.3
<i>Geosciences (GEO)</i>	1321.4	1321.14	1393.86	72.49	5.5	72.72	5.5
<i>Mathematical and Physical Sciences (MSP)</i>	1308.7	1308.94	1386.12	77.42	5.9	77.18	5.9
<i>Social, Behavioral, and Economic Sciences (SBE)</i>	254.2	254.25	272.35	18.16	7.1	18.1	7.1
<i>International Science and Engineering (OISE)</i>	398.6	399.44	536.62	138.02	34.6	137.18	34.3
<i>U.S. Arctic Research Commission</i>	1.5	1.45	1.4	-0.05	-3.8	-0.05	-3.8
<b>Education and Human Resources (EHR)</b>	<b>830.5</b>	<b>829</b>	<b>880.29</b>	<b>49.75</b>	<b>6</b>	<b>51.29</b>	<b>6.2</b>
<b>Major Research Equipment &amp; Facilities Construction (MREFC)</b>	<b>198.1</b>	<b>197.06</b>	<b>210.12</b>	<b>12.04</b>	<b>6.1</b>	<b>13.07</b>	<b>6.6</b>
<b>Agency Operations &amp; Award Management</b>	<b>299.3</b>	<b>299.4</b>	<b>304.29</b>	<b>4.99</b>	<b>1.7</b>	<b>4.89</b>	<b>1.6</b>
<b>National Science Board (NSB)</b>	<b>4.4</b>	<b>4.44</b>	<b>4.47</b>	<b>0.1</b>	<b>2.3</b>	<b>0.03</b>	<b>0.7</b>
<b>Office of Inspector General (OIG)</b>	<b>14.1</b>	<b>14.2</b>	<b>14.32</b>	<b>0.2</b>	<b>1.4</b>	<b>0.12</b>	<b>0.8</b>
FY 2013 Adjustment		43.04					
<b>Totals:</b>	<b>7105.41</b>	<b>7076.14</b>	<b>7625.78</b>	<b>520.37</b>	<b>7.3</b>	<b>592.69</b>	<b>8.4</b>

\*This column represents placeholder budget for FY 2013 that NSF provided to the Committee on April 10, 2013. These amounts do not reflect the Consolidated and Further Continuing Appropriations Act of 2013 (P.L. 113-6, enacted March 26, 2013)

### *NSF Budget Summary<sup>1</sup>*

The FY14 budget request for NSF is \$7.63 billion, an increase of 8.4 percent, or \$593 million over the FY12 enacted level. NSF has not yet provided its actual budget for FY 2013 for the agency, as the Consolidated and Further Continuing Appropriations Act of 2013 (P.L. 113-6) was enacted on March 26, 2013. The budget for NSF is divided into three major accounts: Research and Related Activities, Education and Human Resources, and Major Research Equipment and Facilities Construction. It also includes funding requests for Agency Operations and Award Management, the National Science Board, and the Office of Inspector General.

In the NSF's FY 2014 budget presentation provided to the Committee, the NSF identified 6 priority investments, which encompass roughly 11 percent of the FY 2014 budget.

<sup>1</sup> <http://www.nsf.gov/about/budget/fy2014/index.jsp>

These priorities are:

- 1) Cyber-enabled Materials, Manufacturing, and Smart Systems;
- 2) Cyber-infrastructure Framework for 21<sup>st</sup> Century Science, Engineering, and Education;
- 3) NSF Innovation Corps;
- 4) Integrated NSF Support Promoting Interdisciplinary Research and Education;
- 5) Science, Engineering, and Education for Sustainability;
- 6) Secure and Trustworthy Cyberspace.

While the NSF's FY 2014 budget presentation provided to the Committee did not highlight the NSF's contribution to the Administration's Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative as a priority, \$14 million in additional spending is requested for Cognitive Science and Neuroscience. The Administration's BRAIN Initiative is a joint research project between federal science agencies— NSF, the National Institutes of Health (NIH), and the Defense Advanced Research Projects Agency (DARPA)— and private sector partners in research of brain disorders ranging from Alzheimer's and Parkinson's disease, epilepsy, autism, and injuries. President Obama announced the BRAIN Initiative on April 2<sup>nd</sup> prior to presenting his FY 2014 budget request.<sup>2</sup> The initiative has been met with some skepticism by the research community for its intent and how it might divert funds from other research.<sup>3</sup>

The NSF has also highlighted its plan to invest \$210 million in major research equipment and facilities construction (MREFC), with an initial funding request for the Large Synoptic Survey telescope, as well as funding to further development of the National Ecological Observatory Network, the Advanced Technology Solar Telescope, the Ocean Observatories Initiative, and the Advanced Laser Interferometer Gravitational-Wave Observatory.

The budget request also reflects the Administration's proposal for a government-wide reorganization of federal STEM education programs. NSF will lead the Administration's work on undergraduate STEM education with a new \$123 million program—Catalyzing Advances in Undergraduate STEM Education (CAUSE). The request also includes over \$325 million for a National Graduate Research Fellowship program, building on the current Graduate Research Fellowship (GRF) program; \$55 million for NSF Research Traineeship, building on the Integrative Graduate Education and Research Traineeship IGERT program; and over \$79 million to enhance Research Experiences for Undergraduates (REU) Sites and Supplements.

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<sup>2</sup> <http://www.whitehouse.gov/blog/2013/04/02/brain-initiative-challenges-researchers-unlock-mysteries-human-mind>

<sup>3</sup> <http://www.npr.org/2013/04/05/176303594/researchers-question-obamas-motives-for-brain-initiative>