U.S. National Science Foundation: An Overview

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Summary

The National Science Foundation (NSF) was created by the National Science Foundation Act of 1950, as amended (P.L.81-507). The NSF has the broad mission of supporting science and engineering in general and funding basic research across many disciplines. The agency provides support for investigator-initiated, merit-reviewed, competitively selected awards, state-of-the-art tools, and instrumentation and facilities. The majority of the research supported by the NSF is conducted at U.S. colleges and universities. Approximately 82.3% ($3,900.6 million) of NSF's estimated FY2009 $4,742.0 million research and development (R&D) budget was awarded to U.S. colleges and universities.

The Administration's FY2013 budget request for NSF is $7,373.1 million, 4.8% above the FY2012 estimated level of $7,033.1 million. The FY2013 request includes $5,983.3 million for Research and Related Activities (R&RA), $875.6 million for Education and Human Resources, $196.2 million for Major Research Equipment and Facilities Construction (MREFC), $299.4 million for Agency Operations and Award Management, $4.4 million for the National Science Board (NSB), and $14.2 million for the Office of Inspector General.

Contents

Figures

Contacts

Background

The National Science Foundation's (NSF's) primary responsibility is to maintain the health and vitality of the U.S. academic science and engineering enterprise. In addition to ensuring the nation's supply of scientific and engineering personnel, the NSF promotes academic basic research and science and engineering education across many disciplines.[1] Other federal agencies, in contrast, support mission-specific research (i.e., health, agriculture, defense).

The NSF provides support for investigator-initiated, merit-reviewed, competitively selected awards, state-of-the-art tools, instrumentation, and facilities. NSF receives approximately 45,000 proposals for research, graduate, and postdoctoral fellowships, and science, mathematics, and engineering projects annually, and makes about 11,500 new funding awards.[2] Support is provided to academic institutions, industrial laboratories, private research firms, and major research facilities and centers. In addition, NSF makes more than $400.0 million in annual awards for professional and service contracts. While NSF does not operate any laboratories, it does support Antarctic research stations, selected oceanographic vessels, and national research centers. Additionally, NSF supports university-industry relationships and U.S. participation in international scientific ventures.

The majority of the research supported by the NSF is conducted at U.S. colleges and universities. Preliminary data reveal that approximately 82.3% ($3,900.6 million) of NSF's estimated FY2009 $4,742.0 million research and development (R&D) budget was awarded to U.S. colleges and universities.[3] Disaggregated data further reveal that in FY2009, NSF provided approximately 63.8% of all federally funded *basic* research conducted at the nation's colleges and universities, with the exclusion of biomedical research sponsored by the National Institutes of Health.[4]

The NSF is an independent agency in the executive branch and under the leadership of a presidentially appointed Director and a National Science Board (NSB) composed of 24 scientists, engineers, and university and industry officials involved in research and education. The NSB and the Director make policy for the NSF.

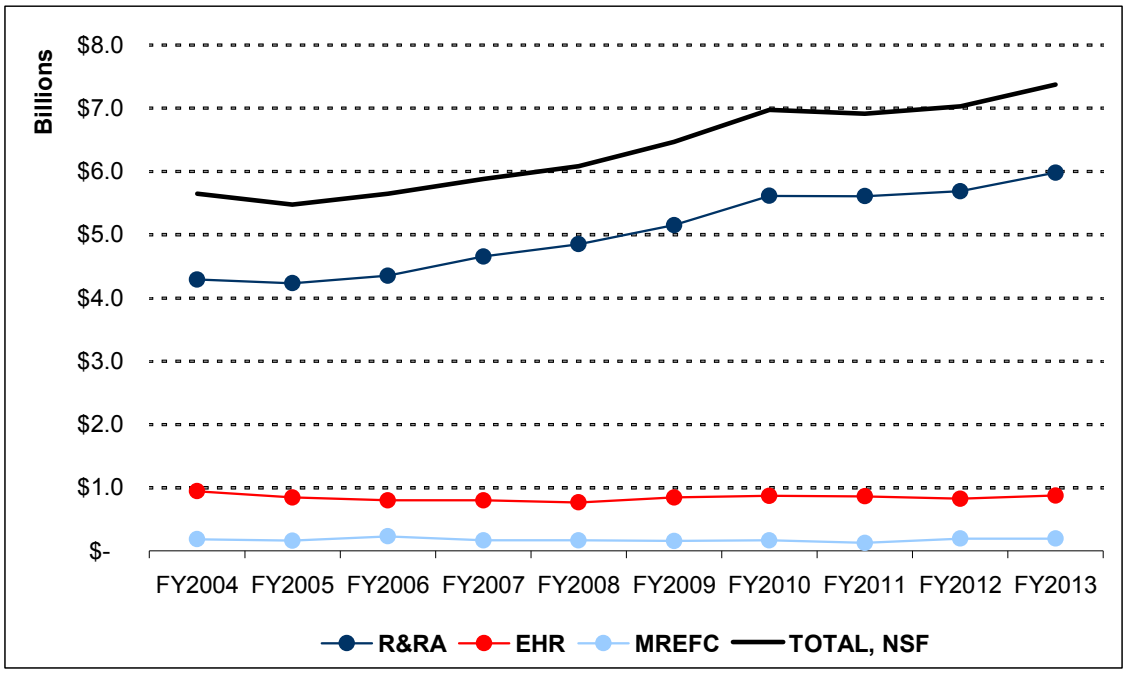
[1] The NSF does not provide funding for research in clinical medicine, commerce, social work, or the arts and humanities. However, its investments in basic research contribute to scientific advances in drug delivery, regenerative medicine, and the design and manufacturing of pharmaceuticals.

[2] For a discussion of the merit review process see for example National Science Board, *Merit Review Criteria-Review and Revisions*, NSB/MR-11-22, Arlington, VA, December 14, 2011, 300 pp.

[3] National Science Foundation, *Federal Funds for Research and Development: Fiscal Years 2007-2009*, Detailed Statistical Tables, NSF10-305, Arlington, VA, May 2010, Table 10.

[4] While the FY2009 R&D appropriation of $4,742.0 million for NSF was only 4.1% of the total federal R&D budget, the agency plays a significant role in maintaining the academic research enterprise. Preliminary FY2009 data reveal that the NSF provided 15.1% of all federally supported basic research and 15.2% of federal academic research. In addition, NSF was the second largest federal supporter of academic research in FY2009, eclipsed by the Department of Health and Human Services, which provided 66.3%. The Department of Defense, the third largest supporter of academic research, provided 8.2%. *Federal Funds for Research and Development: Fiscal Years 2007-2009,* Tables 10 and 67.

Figure 1. NSF R&D Support, FY2004-FY2013



Source: U.S. National Science Foundation, *FY2013 Budget Request to Congress*, Arlington, VA, February 13, 2012, Summary Tables - 6.

Notes: R&RA = Research and Related Activities, EHR = Education and Human Resources, and MREFC= Major Research Equipment and Facilities Construction. (Funding levels for FY2009-FY2011 exclude the additional support provided by the American Recovery and Reinvestment Act of 2009.)

Organization and the FY2013 Request

The NSF has witnessed moderate growth during a period of constrained research budgets. Its total appropriation increased approximately 31.0% in 10 years—FY2004, $5,652.0 million; FY2008, $6,084.0 million; and the FY2013 request, $7,373.1 million. (See **Figure 1**.) The FY2013 budget request for the NSF of $7,373.1 million represents a 4.8% increase ($340.0 million) above the FY2012 estimate of $7,033.1 million.[5] (When inflation is taken into account, NSF's budget increased 7.3% in the past 10 years.)[6] Under President Barack Obama's Strategy for American Innovation, the Administration proposed doubling the federal investment in basic research over a period of 10 years relative to FY2006 levels.[7] However the recommendation for doubling funding

[5] The FY2013 request presented by the Administration for NSF proposes 11 recommended cuts and consolidations, totaling $67.0 million. These include the elimination of three Computer and Information Science and Engineering Research Programs; termination of the Cyber-enabled Discovery and Innovation program; elimination of four Mathematics and Physical Sciences Research programs; reduced funding for Nanoscale Science and Engineering Centers; and elimination of two public outreach programs. U.S. National Science Foundation, *FY2013 Budget Request to Congress*, NSF12-036, Arlington, VA, February 13, 2012, p. Overview-10.

[6] From the period FY2004 to the proposed budget for FY2013. FY2012 constant dollars used in the calculation.

[7] The time frame for a doubling effort has changed due primarily to economic conditions, deficit, and debt. The doubling effort was to occur over a period of 10 years, it was then extended to 11 years, and is now to occur over an indefinite period of time.

for the NSF and other targeted agencies[8] does not appear achievable considering the focus on the nation's current economic situation, debt, and budget deficit. There has been significant pressure on cutting discretionary funding.[9] The Administration has proposed that the FY2013 request will be an installment toward a doubling effort.[10]

NSF has identified several priorities in the FY2013 request, including cyberinfrastructure framework for 21st century science and engineering; integrated NSF support promoting interdisciplinary research and education; advanced manufacturing; science, technology, engineering, and mathematics education; research at the interface of the biological, mathematical, and physical sciences; enhancing access to the radio spectrum; widening implementation and demonstration of evidenced-based reforms, and clean energy. NSF's core commitment to developing a qualified and diverse scientific workforce continues as a priority. In the FY2013 budget, the agency will measure the percentage of colleges and universities supported through NSF undergraduate programs to determine the degree that they use proven instructional practices. The agency has set a goal of 80.0% for this measure.

The FY2013 budget request provides support for seven major directorates and other programs and activity accounts. The Research and Related Activities (R&RA) account is proposed at $5,983.3 million in the FY2013 request, $294.3 million (5.2%) above the FY2012 estimated level. R&RA funds research projects, research facilities, and education and training activities. R&RA includes Integrative Activities, and is a source of funding for the acquisition and development of research instrumentation at U.S. colleges and universities, disaster research teams, Partnerships for Innovation, and the Science and Technology Policy Institute. The R&RA also provides support for the Office of Polar Programs. The directorates receiving support are the Biological Sciences; Computer and Information Science and Engineering; Education and Human Resources; Engineering; Geosciences; Mathematical and Physical Sciences; and Social, Behavioral, and Economic Sciences. Six of the seven directorates are in the R&RA account. The seven major directorates are described below.

Biological Sciences (BIO)

The FY2013 request of $733.9 million for the BIO Directorate is structured to improve scientific understanding of biological phenomena, ranging from the study of fundamental molecules of

[8] In addition to NSF, doubling efforts were proposed at other federal agencies that have a strong focus on physical sciences and engineering—the Department of Energy's Office of Science, and the Department of Commerce's National Institute of Standards and Technology. See for example CRS Report R41951, *An Analysis of Efforts to Double Federal Funding for Physical Sciences and Engineering Research*, by (name redacted)

[9] The nation's current economic situation, debt, and budget deficit are placing increased focus on cutting discretionary spending. See for example Mervis, Jeffrey, "NSF Goes Back to Basics to Preserve Basic Research," *Science*, v. 334, November 11, 2011, pp. 756-757; and Mervis, Jeffrey, "Fewer Dollars, Forced Choices," *Science*, v. 334, November 11, 2011, pp. 750-752.

[10] Office of Science and Technology Policy Director John Holdren stated that the Administration is committed to doubling the budget of NSF. He described the doubling effort as being maintained, but delayed. He acknowledged that while the budgetary landscape and time period has changed, President Obama's goal remains the same. He further stated that "New funding levels set in the Budget Control Act of 2011 mean delaying the original target completion date for doubling these budgets. Consistent with the Budget Control Act spending caps, these fiscally responsible increases are part of a 2013 Budget that freezes non-security discretionary spending at the 2011 levels for a second year and reduces projected deficits while making crucial investments to build American manufacturing, American energy, and American skills." White House Office of Science and Technology Policy, "The President's Plan for Science and Innovation," February 13, 2012, http://www.whitehouse.gov/sites/default/files/microsites/ostp/fy2013rd_doubling.pdf.

living organisms to the complexity of biological systems. Types of support to be provided included research workshops, symposia, conferences, the improvement of research collections, purchase of scientific equipment, and operation of research facilities.

Computer and Information Science and Engineering (CISE)

The CISE Directorate is proposed at $709.7 million in the Administration's FY2013 request. Programs in CISE focus on the fundamental understanding of computing and information processing, and the use of state-of-the-art computational techniques in scientific and engineering research. Currently, areas of research emphasis include parallel processing, automation and robotics, large-scale integrated electronic systems, scientific computing, and networking.

Engineering (ENG)

The activities of the ENG, proposed at $876.3 million in the FY2013 request, are directed at enhancing the long-term economic strength and security of the nation by fostering innovation and excellence in engineering education and research. The ENG is focused on integrating education and research in interdisciplinary areas such as information and communication technologies, biotechnology, and environmental research.

Geosciences (GEO)

The FY2013 request of $906.4 million for the GEO Directorate is to support programs that promote knowledge and discussions concerning earth, including the sun, atmosphere, continents, oceans, and interior, and the linkages among them. One of the objectives of the GEO is to expand the knowledge of the biological, chemical, geological, and physical processes in the ocean, and at its boundaries, with the atmosphere and the earth's crust.

Mathematical and Physical Sciences (MPS)

The FY2013 request of $1,345.2 million for the MPS is in support of programs designed to increase the knowledge base in the relevant sciences; improve the quality of educational programs, with emphasis at the undergraduate level; improve the rate at which research efforts are translated into societal benefits; and increase the diversity of approaches and individuals in the mathematical and physical sciences.

Social, Behavioral, and Economic Sciences (SBE)

The SBE Directorate, proposed at $259.6 million in the FY2013 request, is to support programs directed at developing basic scientific knowledge about human behavior, culture, interaction, and decision making, and about social, political, and economic systems, organizations, and institutions. The SBE serves as the nation's primary data source on science and engineering human, institutional, and financial resources.[11]

[11] For a discussion of social and behavioral sciences at NSF on a decadal scale see for example National Science Foundation, *Rebuilding the Mosaic*, NSF11-086, Arlington, VA, October 2011, 65 pp.

Education and Human Resources (EHR)

The EHR is a principal account of the NSF. The FY2013 budget request of $875.6 million for EHR is $46.6 million below the FY2012 estimated level of $829.0 million. The EHR is designed to support science, engineering, mathematics, and technology education at all educational levels. People receiving funding from the EHR include senior researchers, postdoctoral associates, graduate and undergraduate students, and teachers and students at the precollege level. Additional support is provided to individuals through informal science activities.

Other Program Activities and Accounts

The Major Research Equipment and Facilities Construction (MREFC) account is proposed at $196.2 million in the FY2013 request, slightly below the FY2012 estimated level of $197.1 million.[12] The MREFC supports the acquisition and construction of major research facilities and equipment that extend the boundaries of science, engineering, and technology. According to NSF, it is the primary federal agency providing support for forefront instrumentation and facilities for the academic research and education communities. NSF states that "Modern and effective research infrastructure is critical to maintaining U.S. leadership in science and engineering. The future success of entire fields of research depends upon access to new generations of powerful research tools. Increasingly, these tools are large and complex, and have a significant information technology component."[13] NSF gives highest priority to ongoing projects, and second-highest priority to projects that have been approved by the National Science Board for new starts. To qualify for support, NSF requires MREFC projects to have "the potential to shift the paradigm in scientific understanding."[14] The FY2013 request provides continued support of four projects: Advanced Laser Interferometer Gravitational Wave Observatory, $15.2 million; Advanced Technology Solar Telescope, $25.0 million; Ocean Observatories Initiative, $65.0 million; and the National Ecological Observatory Network, $91.0 million. NSF indicates that no additional funding is required for the Atacama Large Millimeter Array, last funded in FY2012.[15]

Language had been included in the conference report for the FY2012 appropriation for NSF giving it the authority to move $50.0 million into the MREFC from the R&RA. Such flexibility for movement gave the account funding at a level close to that which was requested in FY2012.[16] Additional language in the conference report was directed at the management of construction funding in the MREFC. The report stated that

> The conferees remain concerned about how NSF and its grantees are defining, estimating and managing construction funding, particularly contingency funds. Stronger management

[12] For expanded discussion of the MREFC account see CRS Report RS21267, *U.S. National Science Foundation: Major Research Equipment and Facility Construction*, by (name redacted).

[13] U.S. National Science Foundation, *National Science Foundation: FY2013 Budget Request to Congress*, Arlington VA, February 13, 2012, p. MREFC-1.

[14] Ibid.

[15] Currently, project closure activities including reconciliation of project costs are being finalized for IceCube Neutrino Observatory and for South Pole Station Modernization.

[16] See for example Mervis, Jeffrey, "Senate Plan Gives NSF a Choice on Facilities vs. Research," *ScienceInsider*, September 2011, http://news.sciencemag.org/scienceinsider/2011/09/senate-plan-gives-nsf-a-choice.html?ref=em&elq=f7e5e60837d04112846.

> and oversight of these funds could result in improved project efficiencies and, ultimately, cost savings. NSF is directed to report to the Committee on Appropriations on the steps it is taking to impose tighter controls on the drawdown and use of contingencies, as well as steps intended to incentivize grantees to complete construction under budget, for projects managed through the MREFC appropriation and for other large facility projects. This report should be submitted no later than 90 days after the enactment of this Act.[17]

The FY2013 request for the EHR Directorate is $875.6 million, $46.6 million (5.6%) above the FY2012 enacted level of $829.0 million. The EHR portfolio is focused on, among other things, increasing the technological literacy of all citizens; preparing the next generation of science, engineering, and mathematics professionals; and closing the achievement gap of underrepresented groups in all scientific fields. Priorities at the precollege level (learning in formal and informal settings) include Research on Education and Learning ($59.4 million); Math and Science Partnership ($57.1 million); Project and Program Evaluation ($24.0 million); and Discovery Research K-12 ($109.9 million). Discovery Research is structured to encourage innovative thinking in K-12 science, technology, engineering, and mathematics education, and to develop tools for measuring learning impacts in a variety of forms. Funding at the precollege level in the FY2013 request is $309.5 million.

NSF contends that its undergraduate level program is intended to address the needs of the 21st century while transforming undergraduate science, engineering, and mathematics education. Priorities at the undergraduate level in the FY2013 request include the Robert Noyce Scholarship Program ($54.9 million); Advanced Technological Education ($64.0 million); STEM Talent Extension Program ($16.3 million); Transforming Undergraduate Education in STEM ($61.5 million); and Federal Cyber Service; Scholarship for Service/Cybercorps ($25.0 million).[18] The total support proposed at the undergraduate level in the FY2013 request is $246.7 million. At the graduate level, NSF's priorities are Integrative Graduate Education and Research Traineeship ($22.9 million); Graduate Research Fellowships ($121.5 million); and the Graduate STEM Fellows in K-12 Education ($27.0 million).[19] The proposed level of graduate support in the FY2013 request totals $184.8 million.

An additional priority in the EHR is to support a new comprehensive program to increase the participation of undergraduates at Historically Black Colleges and Universities, tribal colleges and universities, and Hispanic-serving institutions. The new program, Broadening Participation and Institutional Capacity in STEM ($5.0 million) is designed to build on and amplify the

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[17] U.S. Congress, House Committee on Appropriations, *Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Programs for the Fiscal Year Ending September 30, 2012, and for Other Purpose,* Hearing, 112th Congress, 1st Sess., H.Rept. 112-284, to accompany H.R. 2112, November 14, 2011, p. 264 (Consolidated and Further Appropriations Act, 2012, Signed by the President on November 18, 2011).

[18] The FY2012 request had proposed reductions or terminations in certain EHR programs. NSF had indicated that the proposed changes did not result from dissatisfaction with program performance, but rather that the changes were necessary to allow for proposed initiatives. Conferees did not completely dismiss such proposed changes. Language in the conference report for FY2012 found no objections to the proposed changes except for support given to the Robert Noyce Scholarship Program and the Math and Science Partnership program.

[19] In the FY2012 budget request, NSF proposed the eventual termination of the Graduate STEM Fellows in K-12 Education, citing that while the program had been effective in its goal, the agency had devised plans to expand graduate experiences through other programs. See Written testimony of Subra Suresh, Director, National Science Foundation, House Committee on Science, Space, and Technology, *The President's Fiscal Year 2012 Budget Request for the National Science Foundation,* p. 7, and Mervis, Jeffrey, "Outrage Greets NSF Decision to End STEM Fellows Program," *Science*, v. 331, March 4, 2011, p. 1127. The funding in the FY2013 request is to support continuing grant increments. It is estimated that the FY2013 request will provide support for an estimated 800 Graduate K-12 fellows.

existing NSF programs that are directed at strengthening and expanding the participation of underrepresented groups and diverse institutions in the scientific and engineering enterprise. Additional programs in the FY2013 request to expand and advance the institutional capacity of minority-serving institutions and participation of underrepresented minorities in STEM fields, including women and persons with disabilities, are the Historically Black Colleges and Universities Program (HBCU-UP, $31.9 million); Tribal Colleges and Universities Program (TCUP, $13.3 million); Louis Stokes Alliances for Minority Participation (LSAMP, $45.6 million); and Centers for Research Excellence in Science and Technology (CREST, $24.2 million).

Policy Issues

In April 2011, the NSF released the report, *Empowering the Nation Through Discovery and Innovation – NSF Strategic Plan for Fiscal Years FY2011-2016*.[20] The report builds on previous strategic plans and addresses the accelerating pace of scientific discoveries that are occurring in a more competitive international environment. The *Strategic Plan* lists several investment priorities that are targeted for increased emphasis or funding over the next five years. The investments include supporting the development of innovative learning systems; achieving management excellence through leadership, accountability, and personal responsibility; infusing learning as an essential element of the NSF culture with emphasis on professional development and personal growth; and encouraging and sustaining a culture of creativity and innovation across the agency to ensure continuous improvement and achieve high levels of customer service.

There has been considerable debate in the academic and scientific community and in Congress about the management and oversight of major projects selected for construction and the need for prioritization of potential projects funded in the MREFC account. One continuing question has focused on the process for including major projects in the upcoming budget cycle. In a management report on major projects, NSF contends that because of the changing nature of science and technology, it is necessary to have the flexibility of reconsidering facilities at the various stages of development.[21] In addition, NSF asserts that it must be able to respond, effectively, to possible changes in interagency participation, international and cooperative agreements, or co-funding for major facilities. NSF maintains that while some "concepts" may evolve into major research projects, others may prove infeasible for project support.

In February 2008, NSF released its third annual *Facility Plan*.[22] The *2008 Facility Plan* covers readiness stage projects through those projects that are in the process of completion. The *Facility Plan* describes NSF's goals and strategies for incorporating the existing approaches and practices into a system for selecting, managing, and overseeing large facility projects to make certain that a large facility is both constructed properly and is the appropriate facility to build. All projects

[20] National Science Foundation, *Empowering the Nation Through Discovery and Innovation-NSF Strategic Plan for Fiscal Years FY2011-2016*, NSF11-047, Arlington, VA, April 2011, 20 pp.

[21] National Science Board, *Setting Priorities for Large Research Projects Supported by the National Science Foundation*, NSB05-77, Arlington, VA, September 2005, 31 pp. See also National Science Foundation, *Large Facilities Manual*, NSF10-12, Arlington, VA, March 31, 2011, 68 pp.

[22] National Science Foundation, *2008 Facility Plan*, NSF08-24, Arlington, VA, February 2008, 44 pp. Note: The *2010-2011 Facility Plan* is currently pending approval (e-mail communication from the NSF Office of Legislative and Public Affairs, December 13, 2011).

seeking funding in the MREFC move through a sequence of increasingly detailed stages and assessments in order to be considered for construction support.[23]

Several pieces of competitiveness legislation have been introduced during the 112th Congress to strengthen science and mathematics education. Concerns have been expressed about the nation's continued ability to compete in world markets and to produce a scientific and technical workforce that would ensure economic prosperity and military capability. A priority of the NSF is to advance the productivity of research for students and teachers and to increase the number of U.S. students pursuing scientific and technical disciplines. However, the FY2013 budget request has proposed reductions for some science education programs. The America COMPETES Act authorized increased funding for selected science and mathematics education programs, and the establishment of some new programs.[24] Several of these programs did not receive the level of funding in the budget request. Questions have been raised as to whether the NSF can effectively continue in its explicit mission and responsibility to improve science and mathematics education.

On October 18, 2010, Subra Suresh was sworn in as the 13th director of the NSF.[25] He replaced Arden L. Bement, who had held the position since 2004.[26] Suresh, a mechanical engineer and former dean of the school of engineering at the Massachusetts Institute of Technology, has conducted research in materials science and biology. Suresh indicated that some changes at NSF that may be necessary to make include the peer review system, a reevaluation of the requirement for a "broader impact" measure in grant proposals, and the loss of talent along the scientific and technical pipeline.[27] These issues and others are to be addressed in a climate of rising national debt concerns, budget constraints, and the changing political structure of a 112th Congress.[28] In his presentation of the FY2013 budget, Suresh acknowledged that while the agency is operating in a constrained budget environment, it is a fiscal environment in which NSF will continue to have a "pivotal role in ensuring America's future."[29]

On January 4, 2011, President Obama signed into law the America COMPETES Reauthorization Act, FY2010 (P.L. 111-358).[30] The law authorized appropriations for the NSF from FY2011 through FY2013. Within the authorization levels, the R&RA was to receive the following: FY2011, $5,974.8 million; FY2012, $6,234.3 million; and FY2013, $6,637.8 million. The EHR was authorized at the following levels: FY2011, $937.9 million; FY2012, $979.0 million; and FY2013, $1,041.8 million. In addition, committee action denied the Administration's request to

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[23] National Science Foundation, *Large Facilities Manual*, p.6.

[24] See CRS Report R41231, *America COMPETES Reauthorization Act of 2010 (H.R. 5116) and the America COMPETES Act (P.L. 110-69): Selected Policy Issues*, coordinated by (name redacted).

[25] Suresh was confirmed by the Senate on September 30, 2010. The appointment is for a six-year term.

[26] Bement resigned his position at NSF in May 2010 to become Director, Global Policy Research Institute, Purdue University.

[27] Mervis, Jeffrey, "A World of Changes Prepares Subra Suresh to Tackle Change at NSF," *Science*, v. 330, November 19, 2010, pp. 1034-1035. See also Mervis, Jeffrey, "Suresh Expects Low-Cost Ideas Will Mean a Big Payoff for NSF," *Science*, v. 334, December 16, 2011, pp. 1492-1493.

[28] See for example Young, Kerry, "GOP Aims Down, Not Up in Reversal of Budget Goals," *Congressional Quarterly*, December 15, 2010, http://www.cq.com/alertmatch/116816465.

[29] National Science Foundation, "NSF FY2013 Budget Presentation", Director Subra Suresh, February 13, 2012, http://www.nsf.gov/news/speeches/suresh/12/ss120213_fy13budget.jsp.

[30] For expanded discussion of the America COMPETES Reauthorization Act see CRS Report R41819, *Reauthorization of the America COMPETES Act: Selected Policy Provisions, Funding, and Implementation Issues*, by (name redac ted).

merge the programs directed at broadening participation in the sciences—Historically Black Colleges and Universities Undergraduate Program, Tribal Colleges and Universities Program, and Louis Stokes Alliances for Minority Participation. It was stated that "These three programs each have different purposes and engage students and colleges and universities in a different manner. One size will not fit all."[31]

On April 19, 2012, the Senate Committee on Appropriations reported the Commerce, Justice, Science, and Related Agencies Appropriations Bill, FY2013 (S. 2323, S.Rept. 112-158). The Senate proposes $7,273.1 million for the NSF in FY2013, $100.0 million below the Administration's request, and $240.0 million above the FY2012 estimate. The Senate proposes $196.2 million for MREFC and $875.6 million for the EHR, amounts equal to that of the request. The Senate was in agreement with NSF's proposal to consolidate or eliminate a total of 11 programs from the FY2012 level. Such a restructuring included the elimination of three Computer and Information Science and Engineering Research programs; termination of the Cyber-enabled Discovery and Innovation program; elimination of four Mathematical and Physical Sciences Research programs; and reduced support for the Nanoscience and Engineering Centers. The Senate Committee did express concern relative to NSF's proposal to cut some of its core programs in support of its multi-disciplinary initiatives (OneNSF initiatives). Language is included in the Senate report directing the NSF to take reductions out of the multi-disciplinary activities rather than the core programs of the agency.

On May 2, 2012, the House Committee on Appropriations reported its version of the bill—H.R. 5326, H.Rept. 112-463). The NSF is proposed at $7,332.5 million in FY2013, $40.6 million below the request and $299.4 million above the FY2012 level. H.R. 5326 provides $5,942.7 million for R&RA, $40.6 million below the request and $223.7 million above the FY2012 level. Language is included in the report directing the NSF to prioritize their activities toward cybersecurity and cyberinfrastructure improvements; materials research; and disciplinary and interdisciplinary research in the natural and physical sciences, mathematics, and engineering. The Committee provides $196.2 million for MREFC, and directs the agency to continue managing the transition of projects in and out of this account in order to maintain a steady account profile. The EHR, funded at $875.6 million, includes the proposed program reductions and reallocations of the Administration. Support provided to the EHR will allow the agency to expand its efforts in both workforce development and short-term, goal-oriented education partnerships; and strategic education research.

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[31] Senate Committee on Appropriations, *Departments of Commerce and Justice, and Science, and Related Agencies Appropriations Bill, 2011*, 111th Sess., Report to accompany S. 3636, S.Rept. 111-229, July 22, 2010, p. 138.