Overview of President Obama’s Fiscal Year (FY) 2016 Budget Request
February 4, 2015

Summary
On Monday, February 2, President Obama sent his fiscal year (FY) 2016 budget request to Congress. The budget request seeks $74 billion over the $1.01 trillion limit on discretionary spending imposed by the 2011 Budget Control Act through sequestration. The proposed increase would be funded through changes in the tax code and roughly divided between defense and non-defense discretionary accounts. While the Republican controlled Congress is unlikely to accept the proposed changes to the tax code, there continues to be bipartisan support to at least partially overturn the sequestration budget caps.

Overall, President Obama’s request includes a 6 percent increase for research and development (R&D) across the agencies and continues to support previously announced initiatives, including a reorganization of the science, technology, engineering, and mathematics (STEM) programs across agencies, a continuation of the BRAIN initiative, and support for advanced manufacturing. The budget request also includes major new priorities, such as the new Precision Medicine program within the National Institutes of Health (NIH) and an emphasis on climate resilience and sustainability across the agencies. While many of the new programs proposed are unlikely to be fully funded, they do provide insight into agency priorities for the upcoming year.

Within education, the President’s budget request includes $22.5 billion for Pell Grants and would increase the maximum Pell Grant to $5,775 in award year 2015–2016, while also fully funding the program through award year 2017–2018 for a maximum award of $5,915. In addition, the President’s proposal would expand income based repayment options for federal student loan borrowers, would reduce the number of questions included on the Free Application for Federal Student Aid (FAFSA), and creates the America’s College Promise program to eliminate tuition and fees for qualifying community college students.

Below are top line numbers for the federal research and education agencies and programs along with details from specific agency requests.

<table>
<thead>
<tr>
<th>FEDERAL AGENCY</th>
<th>FY 2015 ENACTED FUNDING</th>
<th>FY 2016 BUDGET REQUEST</th>
<th>PERCENTAGE CHANGE (FY 2015 VS. FY 2016 REQUEST)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Institutes of Health (NIH)</td>
<td>$30.27 billion</td>
<td>$30.83 billion</td>
<td>1.8 percent</td>
</tr>
<tr>
<td>National Science Foundation (NSF)</td>
<td>$7.34 billion</td>
<td>$7.72 billion</td>
<td>5.2 percent</td>
</tr>
<tr>
<td>U.S. Department of Agriculture (USDA), NIFA Agriculture and</td>
<td>$325 million</td>
<td>$450 million</td>
<td>38 percent</td>
</tr>
</tbody>
</table>

FY 2016 Budget Request Summary
Sarah Spreitzer, Director of Federal Relations, University of Missouri System
<table>
<thead>
<tr>
<th>Initiative</th>
<th>FY 2015 Funding</th>
<th>FY 2016 Funding</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Research Initiative (AFRI)</td>
<td>$845 million</td>
<td>$1.1 billion</td>
<td>23.2%</td>
</tr>
<tr>
<td>Department of Commerce, NIST</td>
<td>$5.06 billion</td>
<td>$5.34 billion</td>
<td>5.4%</td>
</tr>
<tr>
<td>Department of Defense, Basic Research (6.1)</td>
<td>$2.29 billion</td>
<td>$2.10 billion</td>
<td>-8.3%</td>
</tr>
<tr>
<td>NASA</td>
<td>$18.00 billion</td>
<td>$18.52 billion</td>
<td>2.9%</td>
</tr>
<tr>
<td>National Endowment for the Humanities</td>
<td>$145.9 million</td>
<td>$147.9 million</td>
<td>1.3%</td>
</tr>
<tr>
<td>Department of Education, Pell Grants</td>
<td>$5,775*</td>
<td>$5,915</td>
<td>2.36%</td>
</tr>
</tbody>
</table>

*Note: $5,775 is the maximum Pell Grant for the 2015-2016 academic year.*

**National Institutes of Health (NIH)**
The President’s budget request includes $31.3 billion for NIH, a 4 percent increase over FY 2015 funding. Notably, the budget request includes $215 million to launch a new Precision Medicine initiative in partnership between NIH, the Food and Drug Administration (FDA), and the Office of the National Coordinator of Health Information Technology (ONC) within the U.S. Department of Health and Human Services (HHS). Notably, the budget request includes:

- $130 million to NIH for development of a voluntary national research cohort of a million or more volunteers to propel our understanding of health and disease and set the foundation for a new way of doing research through engaged participants and open, responsible data sharing;
- $70 million to the National Cancer Institute (NCI) to scale up efforts to identify genomic drivers in cancer and apply that knowledge in the development of more effective approaches to cancer treatment;
- $10 million to FDA to acquire additional expertise and advance the development of high quality, curated databases to support the regulatory structure needed to advance innovation in precision medicine and protect public health; and
- $5 million to ONC to support the development of interoperability standards and requirements that address privacy and enable secure exchange of data across systems.

On February 11-12 NIH will host a workshop to discuss the opportunities and challenges surrounding the Precision Medicine initiative. The workshop will be webcast here: [http://www.nih.gov/precisionmedicine/workshop.htm](http://www.nih.gov/precisionmedicine/workshop.htm).

The FY 2016 budget request also prioritizes investments in antimicrobial resistance ($100 million); the Administration’s BRAIN initiative ($70 million); and Alzheimer’s disease ($50 million).
The full NIH FY 2016 budget request can be found here:

National Science Foundation (NSF)
The NSF budget request would provide $7.7 billion dollars, an increase of $379.34 million of FY 2015 appropriations (5.2 percent over FY 2015). The budget request demonstrates that NSF is key to many of the Administration’s interagency priorities, including advanced manufacturing and the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) initiative. Within the NSF budget request, funding is included for the:

- BRAIN Initiative ($144 million)- with a focus on the cognitive processes, links between environment and brain function, and training the next generation of neuroscientists;
- Innovations at the Nexus of Food, Energy, and Water Systems ($75 million)- “to understand, design, and model the interconnected food, energy, and water system through an interdisciplinary research effort that incorporates all areas of science and engineering and addresses the natural, social, and human-built factors involved.”
- Risk and Resilience ($58 million)- research that addresses resilience and response to disasters.
- NSF INCLUDES ($15 million)- Creation of a new program: “Inclusion across the Nation of Communities of Learners that have been Underrepresented for Diversity in Engineering and Sciences” (INCLUDES) that “aims to develop a scalable, national initiative to increase the preparation, participation, advancement, and potential contributions of those who have been traditionally underserved and/or underrepresented in the STEM enterprise.”
- Clean energy technology ($377 million)- for “clean energy investments to support research and education in alternative energy for electricity (solar, wind, wave, geothermal) and fuels (chemical and biofuels).”
- Cyber-enabled Materials, Manufacturing, and Smart Systems ($257 million)- “aims to integrate a number of science and engineering activities across the Foundation – breakthrough materials, advanced manufacturing, robotics, and cyber-physical systems. It will address pressing technological challenges facing the Nation and promote U.S. manufacturing competitiveness.”
- Cyberinfrastructure Framework for 21st Century Science, Engineering, and Education (CIF21)- investments in supercomputers to allow institutions to share cyber capabilities. NSF will continue to lead the Big Data solicitation in partnership with NIH.
- NSF Innovation Corps ($30 million)
- Secure and Trustworthy Cyberspace ($124 million)- will align NSF’s cyber security investment with the national cybersecurity plan.

Within the major NSF accounts, the budget request provides $6.1 billion for Research and Related Activities (an increase of 4.3 percent), $962.5 million for Education and Human Resources (an increase of 4.3 percent) and $200.3 million for Major Research Equipment and Facilities Construction (MREFC). NSF does not plan any new starts in the MREFC account for FY 2016.

FY 2016 Budget Request Summary
Sarah Spreitzer, Director of Federal Relations, University of Missouri System
Reflecting Congress’ continuing interest in the NSF peer review process, the overall budget documents also emphasize the importance of the peer review process and the recent efforts by the agency to increase transparency and accountability.


**U.S. Department of Agriculture (USDA)**
The FY 2016 budget request includes $23.5 billion overall for the U.S. Department of Agriculture. The request proposes $450 million for the Agriculture and Food Research Initiative (AFRI) within the National Institute of Food and Agriculture (NIFA). This is a historically large increase ($125 million or 38 percent over FY 2015 funding) for the core competitive program at USDA. Within that increase, $80 million would be directed to create two new public-private innovation institutes related to biomanufacturing and nanocellulosic technology.

Other programs in the FY 2016 request:
- Hatch formula funds: $244 million, level with FY2015
- McIntire-Stennis Cooperative Forestry: $34 million, level with FY2015
- Smith-Lever: $300 million, level with FY2015
- Evans-Allen: $60.5 million, an increase of approximately $8 million over FY2015

USDA would also receive funding, along with Department of Defense and the Department of Veterans Affair, to combat antibiotic-resistant bacteria, and carry out research about the relationships between microbes and livestock, the environment, and human health. The budget request would also establish a new food safety agency within the U.S. Department of Health and Human Services (HHS) and move the USDA food safety division into the new agency. It would also create a new $20 million program for a “competitive capacity awards” for the 1862 and 1890 land-grant institutions. Additionally, USDA research priorities will focus on adaptation areas such as to climate change vulnerability and resilience, sustainable small farms, vertical farming, improving pollinator health, combatting antimicrobial resistance, and increasing the speed and effectiveness of crop and animal breeding.


**U.S. Department of Commerce, National Institute for Standards and Technology (NIST)**
The President’s FY 2016 budget request includes $1.1 billion for NIST, $255.8 million above the FY 2015 enacted level. Within the budget request, the Administration is focused on support for advanced manufacturing, cybersecurity, disaster resilience and “smart cities.” The request includes:
- $150 million in support of the recently authorized National Network for Manufacturing Innovation (NNMI) program;
- $141 million for the Hollings Manufacturing Extension Partnership (MEP);
• $15 million for the Advanced Manufacturing Technology Consortia (AMTech) program, which provides program grants to industry-led consortia to identify and prioritize research projects critical to long-term industrial advances;

• $6.7 million in support of Smart Cities/Cyber-Physical Systems to develop “the measurement science foundations for advanced smart city technologies that improve the livability, workability, safety, and resilience of communities across the Nation”; and

• $4 million for NIST to “expand lab to market and technology transfer activities through the development and deployment of data sharing and collaborative tools and services” and allow NIST to coordinate activities across the federal agencies.


**Department of Energy (DOE)**

The President’s budget request would provide $29.92 billion for the Department of Energy (DOE), a 9.2 percent increase over FY 2015. The Office of Science would receive $5.34 billion, a $272 million or 5.4 percent increase over FY 2015 funding. Within the Office of Science, funding would increase for High Energy Physics (increase of $22 million, 2.9 percent), Basic Energy Sciences (increase of $116.1 million, 6.7 percent), Biological and Environmental Research (increase of $20 million, 3.4 percent), Advanced Scientific Computing Research (increase of $80 million, 14.8 percent), Nuclear Physics (increase of $29.1 million, 4.9 percent), and Science Laboratory Infrastructure (increase of $34.4 million, 16.1 percent). Fusion Research funding would be reduced to $420 million (a reduction of $47.5 million, 10.2 percent).

The Advanced Research Projects Agency-Energy (ARPA-E) would receive $325 million, a $45 million or 16.1 percent increase over FY 2015. In FY 2016, ARPA-E expects to release funding opportunity announcements (FOA) for 7 – 10 focused technology programs, however it does not anticipate an open solicitation in FY 2016. Focused programs will include Transportation Systems and Stationary Power Systems (in the area of transportation fuels and feedstocks), Energy Materials and Processes; Dispatchable Energy (improving the dispatchability of electricity through effective, inexpensive, and reversible conversion of electrical energy to more easily stored forms); and Sensors, Information, and Integrations. In FY 2016, ARPA-E will continue its stand-alone Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program.

The budget request also includes $908 million for Nuclear Energy for ongoing research and development in advanced reactor and fuel cycle technologies, an increase of $74 million or 8.9 percent above FY 2015 funding. The office of Energy Efficiency and Renewable Energy (EERE) received a substantial increase in the President’s Budget at $2.723 billion, which is $809 million or 42.3% above the FY2015 level.

Details on the DOE Office of Science FY 2016 budget request can be found here:

Details on the DOE ARPA-E FY 2016 budget request can be found here: http://arpa-e.energy.gov/sites/default/files/ARPA-E%202016%20Budget.pdf.

Details on the DOE EERE FY 2016 budget request can be found here: http://energy.gov/eere/eeres-2016-budget.

Department of Defense (DOD)
The FY 2016 budget request includes an increase for the “applied” research accounts within the Department of Defense (DOD) and a decrease for basic research. This includes:
- $2.088 billion for 6.1 research (8.3 percent below FY 2015 funding);
- $4.713 billion for 6.2 research (1.4 percent above FY 2015 funding);
- $5.464 billion for 6.3 research (2.5 percent above FY 2015 funding).

Total funding for Science and Technology (S&T) is $12.265 billion or 0.1 percent above the FY 2015 funding level.

The Defense Advanced Research Projects Agency (DARPA) would be funded at $2.97 billion, an increase of $60 million over FY 2015 funding.

The full FY 2016 budget request for DOD can be found here: http://comptroller.defense.gov/budget.aspx

National Aeronautics and Space Administration (NASA)
The President’s budget request for FY 2016 includes $18.529 billion for NASA an increase of $519 million (2.9 percent) above FY 2015 funding. This includes $5.289 billion for Science, an increase of $43.9 million above FY 2015 funding. Within Science, funding is included for:
- Earth Science: $1.947 billion, an increase of $174.8 million above FY15. Increases are directed toward the multi-decadal land imaging program.
- Planetary Science: $1.361 billion, a decrease of $76.6 million. Within planetary the Mars 2020 program will be ramped-up.
- Astrophysics: $709 million, an increase of $24.3 million.
- Heliophysics: $651 million, a decrease of $11.2 million.

Funding is also included for the James Webb Space Telescope ($620 million, a decrease of $25.4 million) and $97.1 million for the Hubble Space Telescope. $724.8 million is included for the Space Technology program, an increase of $128.8 million above FY15. Additional funds are directed toward Space Tech research grants. $24 million is included for the Space Grant program, $16 million below FY 2015. Under the FY 2016 budget request, the Administration continues to seek a reorganization of the STEM programs across the agencies.

The full FY 2016 NASA budget request can be found here:
National Endowment for the Humanities (NEH)
The President’s FY 2016 budget request includes $147.9 million, a $1.92 million increase over FY 2015, for the National Endowment for the Humanities (NEH). The budget request includes $104.2 million for the NEH grant programs, including $5.5 million for “The Common Good: The Humanities in the Public Square” a new program created by NEH Chairman Bro Adams. The Common Good program will fund projects that demonstrate the critical role the humanities play in our public life. It will also include the initiative “Standing Together” that NEH program that is supporting humanities projects for veterans and active duty military.


U.S. Department of Education (ED)
President Obama continues to prioritize education in the FY 2016 budget request. The budget provides $70.7 billion in discretionary funding for the Department of Education in 2016, an increase of $3.6 billion, or 5.4 percent, over the 2015 level. The budget request also includes several policy changes, including a plan to simplify the Free Application for Federal Student Aid (FAFSA) by eliminating up to 30 questions and a proposal to include Department of Defense tuition assistance and Department of Veteran Affairs GI bill benefits in the 90/10 calculation for Title IV eligibility. Highlights in the FY 2016 budget request includes:

- $1.36 billion for the America’s College Promise program to eliminate tuition and fees for qualifying community college students.
- $22.5 billion for Pell Grants which would increase the maximum Pell Grant to $5,775 in award year 2015–2016 and fully fund the program through award year 2017–2018 for a maximum award of $5,915.
- $860 million for the federal TRIO programs, a $20 million increase over FY 2015 funding.
- $200 million for the new First in the World program, a $140 million increase from FY 2015 funding, to improve postsecondary completion rates.

The budget would also simplify and expand higher education tax credits and income based loan repayment programs.

The full FY 2016 Department of Education budget request can be found here: http://www2.ed.gov/about/overview/budget/budget16/index.html.

Source: http://www.whitehouse.gov/the-press-office/2015/01/30/fact-sheet-president-obama-s-precision-medicine-initiative