Fact Sheet on the Administration’s FY2014 Budget Proposal for STEM Education Programs
April 2013

**Big Picture Facts**

- The Budget allocates $3.1 billion in programs across the Federal government on STEM education, an increase of 6.7 percent over 2012/3 funding levels. (see funding chart at end)
- The budget consolidates or restructures 114 of the 226 existing federal STEM programs:
  - 78 are terminated with funds redirected to other agencies (this totals $176 million)
    - DOD: 6 programs (of 16)/$49.4 million
    - NASA: 38 programs (of 61)/$47.5 million
    - NIH: 9 programs (of 24)/$27.6 million
    - EPA: 2 programs (of 7)/$16.1 million
    - NOAA: 6 programs (of 15)/$13.0 million
    - USDA: 6 programs (of 16)/$10.9 million
    - Energy: 8 programs (of 18)/$10.9 million
    - DHS: 1 program (of 3)/$1.0 million
    - Nuclear Regulatory Commission: 1 program (of 3)/$0 million
  - 49 are consolidated within agencies
  - 13 new programs have been proposed

- Of the $176 million in funds from the 78 terminated programs:
  - $100.3 million is moved to K-12 STEM programming at the Dep. of Education
  - $25 million is moved to the Smithsonian for a new STEM engagement initiative.
  - $51.1 million is moved to the NSF for STEM undergraduate education and fellowship programs.

**Major Administrations Goals:** (quoted directly from the Administration’s FY2014 STEM Fact Sheet):

- “**Recruiting, preparing and supporting excellent STEM teachers,** with $80 million to support the President’s goal of preparing 100,000 excellent STEM teachers and $35 million to launch a pilot STEM Master Teacher Corps.”

- “**Supporting more STEM-focused high schools and districts,** with an investment of $150 million to create new STEM Innovation Networks to better connect school districts with local, regional, and national resources. In addition, the Department of Education (ED) will invest $300 million to support re-design of high schools to encourage partnerships with colleges, employers, or community partners…”

- “**Improving undergraduate STEM education,** with the National Science Foundation (NSF) launching a $123 million new program to improve retention of undergraduates in STEM fields and improve undergraduate teaching and learning in STEM subjects to meet the President’s goal of preparing 1 million more STEM graduates over the next decade.”

- “**Investing in breakthrough research on STEM teaching and learning,** with approximately $65 million for the Advanced Research Projects Agency for Education (ARPA-ED), which would allow the Department of Education to support high-risk, high-return research on next-generation learning technologies, including for STEM education.”
Details on Specific Proposed Initiatives:

(Quoted from the Department of Education and NSF budget documents, with annotations in [bold])

Department of Education

- **STEM Innovation Networks ($150 million).** This program will provide competitive grants to local educational agencies (LEAs) in partnership with institutions of higher education, nonprofit organizations, other public agencies, and businesses to increase the number of students who are effectively prepared for postsecondary education and careers in STEM fields. Eligible partnerships will develop comprehensive plans for identifying, developing, testing and implementing evidence-based practices to provide rich STEM learning opportunities for students in participating LEAs and schools. To support the implementation of these plans, STEM Innovation Networks (STEM-INs) will employ a wide range of strategies—depending on local needs—in areas such as the recruitment, preparation, and professional development of effective STEM educators; the development and testing of teaching and learning models that enable students to successfully meet STEM-focused college- and career-ready standards; and student engagement in STEM subjects. [Would require Congressional/ESEA authorization]

- **The STEM Virtual Learning Network (approximately $5 million).** The STEM Virtual Learning Network (STEM-VLN) will create a professional learning community of STEM educators. This community, operating primarily but not exclusively online, will enable STEM educators to share innovative STEM content, effective STEM teaching strategies, and research on STEM education. The funding for the STEM-VLN will come from a set aside from the larger STEM-INs program. [Would be a part of the previous initiative, but could likely be implemented through current funding with consent of Appropriators]

- **STEM Master Teacher Corps ($35 million).** In July 2012, the President proposed creating a national STEM Master Teacher Corps that would enlist America’s best and brightest science and math teachers to improve STEM education. The Corps would recognize and reward the most accomplished STEM educators by offering them membership in a national community of talented STEM educators, opportunities to serve as instructional leaders in their schools and communities, and additional pay in exchange for their leadership and service. The President’s budget request includes $35 million to pilot the STEM Master Teacher Corps before it is taken to scale. [Nominally, included in ESEA reforms, but could be implemented through Appropriations process as a pilot program]

- **STEM Teacher Pathways ($80 million).** To support the President’s ambitious goal of preparing 100,000 excellent STEM teachers over the next decade, STEM Teacher Pathways will provide competitive grants to recruit and train effective and highly effective STEM teachers for high-need schools.
• Effective Teaching and Learning: STEM ($150 million). Formerly the Mathematics and Science Partnerships program, this program will fund partnerships between local education authorities (LEAs) and institutions of higher education (IHEs) that will help States improve teaching and learning in science, technology, engineering and mathematics. Funds will be used to support State implementation of comprehensive, evidence-based plans; professional development that aligns Federal, State, and local resources to promote high-quality STEM instruction; and for subgrants to high-need LEAs to support comprehensive STEM instruction in the grades and schools with the greatest needs. [Renames and repackages the current MSP formula-based program, but nominally retains the formula-based focused – budget justification includes a caveat that: “If Congress does not reauthorize the ESEA prior to enactment of fiscal year 2014 appropriations, the Administration will request authority through appropriations language to improve the awarding and use of subgrants under Mathematics and Science Partnerships (while retaining the program’s formula grant structure) to align with the evidence-based STEM Innovation Networks proposal.”]

• Fund for the Improvement of Education ($30 million). These funds will be used to expand the Improving Mathematics Achievement and Transition to College from High School (IMATCH) program, a joint initiative between ED and NSF. The program will help develop, evaluate, and scale up effective practices that increase student achievement in mathematics during the critical transition period from the last two years of high school.

Smithsonian:

• The Budget provides an additional $25 million to the Smithsonian Institution to improve the reach of informal STEM education by ensuring that materials are aligned to what students are learning in the classroom. The Smithsonian will work with Federal S&T agencies such as the National Aeronautics and Space Administration (NASA), the U.S. Department of Agriculture (USDA), the National Institutes of Health (NIH), and other science partners to harness their unique expertise and resources to create relevant materials and curricula, on-line resources, and effective delivery and dissemination mechanisms to reach more teachers and students both inside and outside the classroom. [This would need approval of appropriators as a new initiative, does not explicitly need a new authorization, but could be included in America Competes Act.]

National Science Foundation:

• The National Graduate Research Fellowship program (NGRF) ($325.14 million) builds on and expands the longstanding NSF Graduate Research Fellowship program (GRF) to incorporate features and opportunities that allow fellows to gain specialized experiences and training in key STEM areas. Through this expanded program, an increase of approximately 700 fellows is expected, bringing the total estimated number of new fellows awarded in FY 2014 to 2,700. [Many of the consolidated programs at other agencies will be combined into the NSF graduate fellowship program.]

• The NSF Research Traineeships (NRT) program ($55.07 million) is the Foundation’s investment in traineeships that focus on strategically identified research areas, mutually leveraging NSF’s traineeship and research investments. NRT will build on NSF’s previous investments – particularly the Integrative Graduate Education and Research Traineeship (IGERT)
program – to encourage effectual innovation and design of graduate programs to support opportunities within specific disciplines.

- **Catalyzing Advances in Undergraduate STEM Education (CAUSE)** ($123.08 million) is a comprehensive agency-wide program for FY 2014 that aims to maximize the impact of NSF’s considerable ongoing investments in STEM undergraduate education. CAUSE aims to improve STEM learning and learning environments; broaden participation in STEM and increase institutional capacity; and build the STEM workforce of tomorrow. [This is a completely new initiative that combines several existing NSF initiatives under a unified program, $36 million of the $50 million consolidated to NSF would move into this program]

- Funding for the **Research Experiences for Undergraduates (REU) Sites and Supplements** ($79.18 million total) is increased $13.19 million over the FY 2012 Enacted. This additional funding will support enhanced research experiences for students in their first two years of college, as recommended by the President’s Council of Advisors on Science and Technology (PCAST)…

### Overall Federal Agency STEM Funding Chart:

<table>
<thead>
<tr>
<th>Agency</th>
<th>FY 2012 Enacted</th>
<th>FY 2014 Budget</th>
<th>Change FY 12-14 Amount</th>
<th>Change FY12-14 Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>88</td>
<td>85</td>
<td>-3</td>
<td>-3.70%</td>
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<tr>
<td>Commerce</td>
<td>41</td>
<td>36</td>
<td>-5</td>
<td>-12.70%</td>
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<td>Defense</td>
<td>178</td>
<td>136</td>
<td>-42</td>
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<tr>
<td>Education</td>
<td>529</td>
<td>814</td>
<td>284</td>
<td>53.90%</td>
</tr>
<tr>
<td>Energy</td>
<td>47</td>
<td>33</td>
<td>-14</td>
<td>-29.90%</td>
</tr>
<tr>
<td>Health and Human Services</td>
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<td>533</td>
<td>-45</td>
<td>-7.80%</td>
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<tr>
<td>Homeland Security</td>
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<td>-1</td>
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<tr>
<td>Interior</td>
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<td>3</td>
<td>0</td>
<td>-9.00%</td>
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<tr>
<td>Transportation</td>
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<td>92</td>
<td>-8</td>
<td>-7.50%</td>
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<td>Environmental Protection</td>
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<td>3</td>
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<td>-86.80%</td>
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<tr>
<td>NASA</td>
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<td>100</td>
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<tr>
<td>National Science Foundation</td>
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<td>1,243</td>
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<td>7.70%</td>
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<tr>
<td>Nuclear Regulatory</td>
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<td>-15</td>
<td>-95.50%</td>
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<tr>
<td>Commission</td>
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<tr>
<td>Smithsonian Institution</td>
<td>0</td>
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<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Total STEM Education</strong></td>
<td>2,918</td>
<td>3,112</td>
<td>195</td>
<td>6.70%</td>
</tr>
</tbody>
</table>

**OSTP- April 10, 2013**

STEM- Science, technology, engineering and mathematics

All comparisons are between 2012 and 2014 because of the late enactment of 2013 appropriations