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To: ASME Volunteers
From: Melissa Carl, Government Relations Manager
Subject: March 2013 STEM Education, Diversity, and Workforce Policy Update
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- FY2013 CR Signed into Law, President's FY2014 Budget to be Released April 10
- Obama Administration Announces New Steps to Meet President's Goal of Preparing 100,000 STEM Teachers
- NRC Report: "Emerging Workforce Trends In The U.S. Energy And Mining Industries: A Call To Action"
- New National Science Foundation Report: Underrepresentation In Stem Persists

FY 2013 CR SIGNED INTO LAW, PRESIDENT'S FY 2014 BUDGET TO BE RELEASED APRIL 10

President Obama recently signed the FY 2013 continuing resolution (CR) into law, which was passed by the House and Senate the previous week and funds the day-to-day operating budgets of every Cabinet agency through Sept. 30.

The legislation also provides full-year 2013 funding for several key R&D agencies, including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the National Institute of Standards and Technology (NIST), the National Oceanic and Atmospheric Administration (NOAA), the Department of Defense (DOD), and the U.S. Department of Agriculture (USDA). By providing full-year funding, these agencies have been given more flexibility to allocate funding to key investments than was available under the recent sequester but keeps the overall sequester in place. While agencies like NSF and NIST even received increases for their 2013 priorities in the CR, sequestration cuts will still be applied to the increased base funding level. For other R&D funding agencies, including the Department of Energy (DOE) and the National Institutes of Health (NIH), the CR extends current funding through the end of FY 2013 but does not allow the flexibility offered to other agencies.

While NSF does receive the aforementioned flexibility, the CR included a provision that restricts funding for political science research in FY 2013.

On a related note, the White House recently announced that the President plans to release his FY 2014 budget on April 10th.

OBAMA ADMINISTRATION ANNOUNCES NEW STEPS TO MEET PRESIDENT'S GOAL OF PREPARING 100,000 STEM TEACHERS

In mid-March, the White House announced new steps by the Administration and its partners to meet the President's goal of preparing 100,000 new math and science teachers over the next decade. These

include a new \$22.5M investment by the Howard Hughes Medical Institute (HHMI), which would approximately double the private-sector investment in the President's initiative.

These new investments, in support of a national competition to be run by the National Math and Science Initiative (NMSI), will enable a major expansion of the "UTeach" program beyond today's 35 participating universities. UTeach allows undergraduate students to receive a Bachelor's degree in a science, technology, engineering, or math (STEM) field simultaneously with a teaching certificate—all within a standard four-year period—while also providing early and intensive teaching experiences

NMSI estimates that this new grant, when combined with previous support that the UTeach model has received, will allow a total of 45 universities to cumulatively produce more than 17,000 new STEM teachers by 2022, with the HHMI investment creating more than 1,750 of those new teachers.

Additional information can be found at:

http://www.whitehouse.gov/sites/default/files/docs/stem_teachers_release_3-18-13_doc.pdf

NRC REPORT: "EMERGING WORKFORCE TRENDS IN THE U.S. ENERGY AND MINING INDUSTRIES: A CALL TO ACTION"

Recognizing the importance of understanding the state of the energy and mining workforce in the United States to assure a trained and skilled workforce of sufficient size for the future, the Department of Energy's (DOE's) National Energy Technology Laboratory (NETL) contracted with the National Research Council (NRC) to perform a study of the emerging workforce trends in the U.S. energy and mining industries. "Emerging Workforce Trends in the U.S. Energy and Mining Industries: A Call to Action" summarizes the findings of this study.

The report found that the outlook is bright for U.S. energy and mining jobs as these industries should continue to grow and pay well, but challenges exist for the future. The nation will have to overcome a looming retirement bubble and low number of prospective employees skilled in science, technology, engineering, and math (STEM) to address future expertise needs and ensure sufficient access to both energy and mineral resources.

Some of the report's recommendations are as follows:

- To address common goals and to provide a mechanism for industry's engagement with the education process and the graduates it produces, federal agencies should consider providing increased research funding to universities, with matching funding from industry.
- National industry organizations, in partnership with educational institutions, should embark on a national campaign to create and provide accurate and timely information on the industries and their careers, educational and career navigation resources, and experiential learning opportunities to explore jobs and career paths in energy and mining.
- In like fashion, national industry organizations and educational institutions should also embark on an informational campaign to educate students, parents, educators, and public policy makers about the importance of the energy and mining industries to our economic and national security, the relevance of STEM education to jobs and careers in these industries, and job availability.

- The BLS should work with industry and the Departments of Education and Labor to better define the STEM technical workforce needed to support STEM professions in our economy so that appropriate and useful data can be identified, collected, and analyzed.

A four-page summary of the report is available at: <http://dels.nas.edu/resources/static-assets/materials-based-on-reports/reports-in-brief/energy-mining-workforce.pdf>

The complete 390-page report may be downloaded from:
http://www.nap.edu/catalog.php?record_id=18250

NEW NATIONAL SCIENCE FOUNDATION REPORT: UNDERREPRESENTATION IN STEM PERSISTS
According to a new National Science Foundation report, women, persons with disabilities and three racial and ethnic groups--African Americans, Hispanics and American Indians--remain underrepresented in science and engineering (S&E). The report, *Women, Minorities, and Persons with Disabilities in Science and Engineering: 2013*, features the most recent data on S&E education and employment patterns for these groups.

Although women's participation has risen during the last 20 years in most S&E fields, the report's data shows that women still earn a smaller proportion of degrees in many S&E fields of study. Psychology is the field where women's participation is greatest; more than 70 percent of degrees in that field were awarded to women. Computer science and engineering are the fields where women's participation is lowest--18 to 28 percent of degrees in these fields were awarded to women since 1991.

The portion of S&E bachelor's and master's degrees awarded to underrepresented minorities has been rising over the last 20 years. Since 1991, psychology, the social sciences and computer sciences have seen the greatest rise in the share of S&E bachelor's degrees earned by underrepresented minorities.

Since 2000, however, the share of engineering and physical sciences degrees awarded to underrepresented minorities has been flat, while the participation of underrepresented minorities in mathematics has dropped.

This report includes an "interactive digest that highlights key issues and trends through graphics and text, along with detailed statistical tables that provide data on higher education enrollments, degrees, institutions and financial support and on employment status, occupations, sectors and salaries." The report also provides links to other NSF and non-NSF sources of data.

To review this report, please visit <http://www.nsf.gov/statistics/wmpd>.