

**WASHINGTON NEWS**  
**From the Federation of Materials Societies**  
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**STEM EDUCATION TAKES THE STAGE**

September 16-17 saw key developments in K-12 Science, Technology, Engineering and Math (STEM) Education programs as implemented by both the government and the private sector. The President's Council of Advisors on Science and Technology (PCAST) issued a report making specific recommendations to better prepare K-12 students in STEM subjects and also to inspire those students – including girls, minorities, and others underrepresented in STEM fields – to challenge themselves, engage in STEM activities outside the classroom, and consider pursuing careers in those fields. Among the recommendations in the report, *Prepare and Inspire: K-12 Education in Science, Technology, Engineering and Math (STEM) for America's Future*, are that the Federal government should:

- Recruit and train 100,000 STEM teachers over the next decade who are able to prepare and inspire students;
- Recognize and reward the top 5 percent of the nation's STEM teachers by creating a STEM master teachers corps;
- Create 1,000 STEM-focused schools over the next decade;
- Use technology to drive innovation, in part by creating an advanced research projects agency for education, modeled on DARPA;
- Create opportunities for inspiration through individual and group experiences outside the classroom
- Support the current state-led movement for shared standards in math and science.

President Obama also announced the launch of *Change the Equation* as part of his "Educate to Innovate" campaign. The new non-profit organization was founded by astronaut Sally Ride, former Intel Chairman Craig Barrett, Xerox CEO Ursula Burns, Time Warner Cable CEO Glenn Britt, and Eastman Kodak CEO Antonio Perez with support from the Bill and Melinda Gates Foundation and Carnegie Corporation. Membership currently stands at 100 CEO's, with a first-year budget of \$5 million which will be used to support the organization's three goals:

- Improving STEM teaching at all levels;
- Inspiring student appreciation and excitement for STEM, especially among women and under-represented minorities;
- Achieving a sustained commitment across the nation to improving STEM education.

The President also announced specific public-private partnerships involving *Change the Equation* members, including increased opportunities for student engagement in science

museums, improved teacher professional development in Newark, New Jersey, harnessing the power of electronic games for STEM education, and dramatically expanding the number of skilled volunteers participating in National Lab Day.

## **VICE PRESIDENT’S REPORT ON RECOVERY ACT IMPACT ON INNOVATION**

On August 24, Vice President Biden released a new report, “The Recovery Act: Transforming the American Economy through Innovation.” According to the analysis, “the U.S. is now on track to achieve four major breakthroughs:

- “Cutting the cost of solar power in half by 2015, putting it on par with the cost of retail electricity from the grid
- “Cutting the cost of batteries for electric vehicles by 70 percent between 2009 and 2015, putting the lifetime cost of an electric vehicle on-par with that of its non-electric counterpart
- “Doubling U.S. renewable energy generation capacity and U.S. renewable manufacturing capacity by 2012
- “Bringing the cost of a personal human genome map to under \$1,000 in five years”

A White House fact sheet is available at <http://www.whitehouse.gov/the-press-office/2010/08/24/vice-president-biden-releases-report-recovery-act-impact-innovation>

## **NEW DEFENSE SCIENCE BOARD TASK FORCE TO FOCUS ON BASIC RESEARCH**

The Defense Science Board will establish a new task force on basic research to “assess matters relating to (DOD) planning and managing the defense basic research program.”

“The Task Force on Basic Research will serve as a mechanism for external validation of the quality of the basic research program and for advice on long term research plans and strategies for the corporate-wide defense basic research portfolio,” according to DoD Under Secretary Ashton Carter. He directed the Task Force to give DoD officials “strategic guidance” by assessing:

- The appropriateness of broad scientific goals as a basic research program, specifically whether the 6.1 funded work is basic or applied in character;
- The manner in which the components assess the quality of their basic research investments;
- Basic research portfolio across DoD, and opportunities for increased information sharing and cooperation among the components and with other federal research agencies;

- Potential gaps in the current Department-wide basic research program;
- Overall program balance, including a balance between single-principal investigators, Multi-University Research Initiatives, university-based centers, and high-risk high-payoff vs. lower risk research; and
- Intellectual competitiveness of intramural and extramural basic research programs.

The Task Force is chaired by Lydia Thomas, the former president and CEO of Noblis, and by Craig Fields, previous director of DARPA and Chairman of the Defense Science Board.

## **ENERGY EDUCATION AND WORKFORCE DEVELOPMENT**

The Department of Energy’s Technology Offices recently released an “Energy Education and Workforce Development” request for information (RFI). Through the RFI, the technology offices seek to gauge the status, prevalence, quality, and gaps in energy relevant education and workforce development activities. Information received will be used to help define the scope and priorities of DOE education and workforce development efforts. The RFI can be found at <http://www.fedconnect.net/FedConnect/?doc=DE=FOA-0000402&agency=DOE> on the right-hand side of the page under “Documentation.” To simplify the response process, simply send submissions to [workforceRFI@hq.doe.gov](mailto:workforceRFI@hq.doe.gov)

## **PCAST PROPOSES ACCELERATING NEW ENERGY TECHNOLOGIES**

The President’s Council of Advisors for Science and Technology recently approved a task force recommendation for a Quadrennial Energy Review across all federal agencies in order to pull together the full amount being spent on energy research and development. In addition, the task force recommended:

- A full examination of all energy-related incentives and subsidies and their efficacy and impacts;
- Examination of the structure of programs within the Department of Energy;
- Initiating a job training grant program and a “robust” social science research program;
- Dividing the DOE Office of Policy and International Affairs into two offices.

The report will be available at [www.pcast.gov](http://www.pcast.gov)