

Statement of

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and
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before the

**Committee on Science, Space and Technology
U.S. House of Representatives**

Chairman Smith, Ranking Member Johnson, and Members of the Committee, I appreciate the invitation to join you today to talk about the Committee on Science, Technology, Engineering, and Mathematics (STEM) Education and NASA's involvement in coordinating our STEM assets within a broader STEM framework.

For the United States to maintain its preeminent position in the world it will be essential that the Nation continues to lead in STEM, but evidence indicates that current educational pathways are not leading to a sufficiently large and well-trained STEM workforce to achieve this goal. Nor is the US education system cultivating a culture of STEM necessary for a STEM-literate public. Thus it is essential that the United States enhance U.S. students' engagement in STEM disciplines and inspire and equip many more students to excel in STEM, and NASA supports the President's goal of utilizing our resources to achieve improvements in STEM, education and instruction.

When Congress formed NASA in 1958, it was with a bold goal. Your predecessors charged us to reach for new heights and reveal the unknown so that all we discover and all we learn will benefit all humankind. This is what inspires us to come to work every single day. For me specifically, I know that the discoveries that we make and the things that we learn are directly tied to the quality and quantity of future scientists, technologists, engineers and mathematicians available and inspired to join us in our mission. NASA's expertise, passion, and resources play a unique role in the Nation's STEM education portfolio.

To that end, NASA Education's vision is to advance high quality science, technology, engineering and mathematics (STEM) education using NASA's unique capabilities. NASA's education programs are deliberate in developing and executing strategic partnerships with intergovernmental, academic, industrial, entrepreneurial, and international communities to ensure NASA's education mission and vision are properly addressed.

I am the Co-Chair of the Federal Coordination in STEM Education Task Force (FC-STEM), which has helped guide the development of the Administration's 5-year Strategic Plan for STEM education, as well as NASA's representative on the CoSTEM. My staff has served in leadership roles on the Fast Track Inventory, Evaluation, and Cross-Agency Priority Goal subcommittees and working groups. NASA is enthusiastically supportive of greater coordination among the federal agencies and strengthening the Nation's focus on STEM education which is called for in the STEM education reorganization proposal in the President's 2014 Budget. A recent report from the Partnership for Public Service highlights the growing number of jobs in STEM fields, while noting that the supply of STEM graduates available and interested in federal jobs is shrinking, challenging the government's ability to recruit and retain top STEM talent. In 2012, NASA, Health and Human Services, the Environmental Protection Agency, the Department of Commerce and other Federal Agencies employed over 524,900 STEM or medical personnel. That accounts for nearly 29% of the entire Federal workforce, and the number is growing.

For over two years, thirteen federal agencies have contributed expertise from their education and technical workforce to wrestle with this issue. FC-STEM has issued an interim report, and two comprehensive inventories of STEM education conducted or supported by the agencies, and we transmitted the Federal STEM Education 5-Year Strategic Plan to Congress recently. I believe the plan that my colleague, Joan Ferrini-Mundi of the National Science Foundation, and I have guided provides a framework for increased collaboration among agencies, strengthens accountability of federal project managers, places an emphasis on rigorous evaluation, and establishes increased linkages between federal, state and local education efforts.

For our part at NASA, we will capitalize on the excitement of the Agency's mission to stimulate innovative solutions, approaches, and tools that inspire learner and educator interest and proficiency in STEM disciplines. NASA education's vision is to advance high quality science, technology, engineering and mathematics education using NASA's unique capabilities. NASA's education programs are deliberate in developing and executing strategic partnerships with intergovernmental, academic, industrial, entrepreneurial, and international communities to ensure NASA's education mission and vision are properly addressed.

NASA's education portfolio, which will be implemented in collaboration with other STEM agencies, will focus on four priorities and will contribute toward the Administration's goals for STEM education:

- STEM Engagement: Providing opportunities for participatory and experiential learning activities that connect learners to NASA-unique resources.
- NASA Internships, Fellowships and Scholarships: Providing NASA work experiences and research opportunities to improve retention in STEM and prepare students for employment in NASA and STEM industry.
- Educator Professional Development: Preparing STEM educators and leaders to deliver quality STEM instruction using NASA-unique content.
- Institutional Engagement: Improving the capacity of U.S. institutions to deliver effective STEM education and conduct NASA mission-related research.

An overarching operating principle consistent throughout NASA's portfolio is a focus on making opportunities available to a diverse audience of educators and learners, including women, minorities, and persons with disabilities.

NASA will continue to support the National Space Grant College and Fellowship Program (Space Grant), Experimental Program to Stimulate Competitive Research (EPSCoR) and Minority University Research and Education Project (MUREP). These education investments link to NASA's research, engineering, and technology missions. Each of these investments provides unique NASA experiences and resources to students and faculty.

In support of the Administration's FY 2014 STEM education plan, NASA will restructure fundamentally the Agency's education efforts into a consolidated education program funded through the Office of Education, which will also lead the Agency's coordination with other Federal agencies in pursuit of the Administration's STEM education goals. The best NASA education and public engagement programs from throughout the Agency will be awarded funding through an internal competitive process. In a new approach, NASA will consolidate the education functions, assets and efforts of the Mission Directorates, Offices and Centers into a single coordinated STEM Education and Accountability Project (SEAP).

As part of NASA's STEM interagency coordination effort, NASA will ensure that the Agency's assets are put to use effectively in support of the STEM activities that will be directed by the National Science Foundation, the Smithsonian Institution, and the Department of Education. NASA will make its rich content knowledge and other assets available to these agencies as they facilitate federal STEM education activities through the Administration's CoSTEM process for agency coordination, bringing NASA's inspirational activities to a broader audience. This includes the infrastructure necessary to support the rigorous collection, evaluation, and dissemination of evidence of NASA's contributions towards the achievement of the wider STEM goals.

The Executive Office of the President recommended, and the President accepted, a FY14 Budget Request based in part on the work of the Committee on STEM, and the goals are the same. Representatives from the 13 federal agencies are meeting to ensure that the federal assets entrusted to each Agency are coordinated and put to best use in support of the Nation's educators and learners. NASA is committed to close collaboration with other STEM agencies and to inspiring future generations to seek careers in aerospace.

In summary, the CoSTEM Strategic Plan provides a significant resource through which the CoSTEM agencies can work together to improve the impact of Federal STEM education investments. The priority areas of the Strategic Plan and the proposed STEM education reorganization are aligned, and the Plan and the reorganization also share the common principles of commitment to evidence, efficiency, and coordination. I look forward to the participation of NASA in forging the partnerships with other agencies that will provide a coherent, cohesive set of STEM education investments for the benefit of the Nation.