

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Lift-Off - Secondary Space Education (2)

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US DEPARTMENT OF EDUCATION/NASA COLLABORATION TO SUPPORT HIGH QUALITY
STEM IN SUMMER AND AFTERSCHOOL PROGRAMS THROUGH THE 21ST CENTURY
COMMUNITY LEARNING CENTERS**Abstract**

The major group setting policy and direction in US federally supported STEM Education is the Committee on Science, Technology, Engineering and Mathematics Education, or CoSTEM. They are actively crafting a cohesive strategy and set of policies that will be implemented in FY2014 and beyond to foster collaboration, efficiency and drive effectiveness among Federal Agency's supporting STEM. Under the CO-STEM effort, NASA and the US Department of Education (US Dept. of ED) have modeled an approach to interagency collaboration centered around space science and engineering design in afterschool settings.

In the Fall of 2013, the U.S. Dept. of ED and NASA entered into an interagency agreement (IAA) to launch an innovative pilot to expand high quality science, technology, engineering, and mathematics (STEM) programming in afterschool through the 21st Century Community Learning Centers (21CCLC). The US Dept. of ED's 21CCLC program provides grants to states to support academic enrichment opportunities during non-school hours for students and their families, particularly students who attend schools in under-resourced communities. The pilot provided sites in 3 states (Colorado, Virginia, Michigan) with a menu of design challenges intended to increase learners' involvement and interest in STEM, educate them on the value of STEM in their lives, and positively influence the perception of their ability to participate in STEM by connecting them to NASA-unique content resources.

NASA provided structured technical assistance to participating sites to support the facilitation of design challenges with site-based instruction staff. Supports included a blended professional development strategy with face-to-face training sessions, complimented by web seminars, online tutorials, and instructional materials. Through the leveraging of social media and collaborative technology sites had the opportunity to connect students with NASA scientists and engineers to discuss preliminary designs. Participating sites submitted student presentations on final design through YouTube to NASA.

As this was a first year pilot a process evaluation was implemented focusing on exploring implementation approaches, levels of resource utilization, and usefulness of resources and support for 21CCLC audiences. The evaluation approach included interviews with implementing educators and program designers, focus groups with participating students, and the use of an innovative new observation tool assessing factors of success in out of school time STEM programs.