

Testimony of Anthony F. (Bud) Rock  
President and Chief Executive Officer, Association of Science-Technology Centers  
submitted to the House Appropriations Subcommittee  
on Commerce, Justice, Science, and Related Agencies  
April 14, 2015

**Seeking Support for the Following Agencies and Programs in FY 2016:**  
**National Aeronautics and Space Administration – CP4SMP+**  
**National Oceanic and Atmospheric Administration – B-WET and CEG/ELG**  
**National Science Foundation – AISL**

**Introduction**

Chairman Culberson, Vice Chair Aderholt, Ranking Member Fattah, and Members of the Subcommittee, thank you for the opportunity to submit written testimony for the record. My name is Anthony (Bud) Rock, and I serve as the President and Chief Executive Officer of the Association of Science-Technology Centers (ASTC). As in previous years, my testimony today addresses the importance of science, technology, engineering, and mathematics (STEM) education, and will focus specifically on the fiscal year (FY) 2016 budgets for four specific programs at three federal agencies over which your subcommittee has jurisdiction, including: (1) the Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities (CP4SMP+) at the National Aeronautics and Space Administration (NASA), which would not be funded under the President's FY 2016 request; the Bay-Watershed Education and Training (B-WET) Regional Programs and Competitive Education Grants (CEG)/Environmental Literacy Grants (ELG) programs at the National Oceanic and Atmospheric Administration (NOAA), which would not be funded under the President's FY 2016 request; and the Advancing Informal STEM Learning (AISL) program at the National Science Foundation (NSF), which would receive \$60 million under the President's FY 2016 request.

**Our Request**

On behalf of ASTC and the nearly 400 science centers and museums we represent here in the United States, I urge the Subcommittee to continue its strong support for critical STEM education programs within NASA, NOAA, and NSF as the Commerce, Justice, Science, and Related Agencies Appropriations Bill for FY 2016 moves forward. Specifically, I urge you to:

- Provide \$10 million for the Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities at the National Aeronautics and Space Administration.
- Provide \$12 million for the Bay-Watershed Education and Training Regional Programs and \$8 million for the Competitive Education Grants/Environmental Literacy Grants programs at the National Oceanic and Atmospheric Administration.
- Provide \$60 million for the Advancing Informal STEM Learning program at the National Science Foundation.
- Continue to thoroughly examine any proposals that would seek to consolidate and/or reorganize federal STEM education programs in an effort to ensure that stakeholder input has been sought and that proven, successful programs are maintained.

Before providing more detail about ASTC and the science center and museum field, I want to first offer a brief snapshot of these federal programs and why they are so vital to communities across the country.

National Aeronautics and Space Administration

**NASA's Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities** provides support for education or research engagement projects, exhibits, and/or partnerships with K-12 schools to support inquiry- or experiential-based activities led by informal education institutions—like science centers and museums—that feature NASA missions, science, engineering, explorations, or technologies.

In recent fiscal years, NASA has awarded between 9-18 project grants, including those awarded to NASA Visitor Centers. In but one example from the 2011 cycle, the Franklin Institute in Philadelphia received funding to create “City Skies: Linking Neighborhoods with NASA through Urban Astronomy.” In the four-year project, the Franklin Institute sought to develop a city-wide astronomical observing program designed to engage 30 community-based organizations in neighborhoods across Philadelphia, and all School District of Philadelphia middle schools. The effort involves observing astronomical objects in day and night skies to stimulate interest in NASA’s online educational resources to help residents of urban neighborhoods better understand how much there is to see and do under a city sky.

Though Congress—and this Subcommittee—have been very supportive of this program since its inception in FY 2008, the agency has not indicated if any FY 2015 funds will be available for new grants. Furthermore, the President did not include funding for the program in his FY 2016 budget request. **I encourage the Subcommittee to continue its strong support for the CP4SMP+ by providing \$10 million for FY 2016.**

National Oceanic and Atmospheric Administration

**NOAA's Bay-Watershed Education and Training Regional Programs** are environmental education offerings that promote locally relevant, experiential learning in the K-12 environment. The program, which currently serves seven areas of the country (California, the Chesapeake Bay, the Great Lakes, the Gulf of Mexico, Hawai'i, New England, and the Pacific Northwest), promotes environmental literacy in society by supporting individuals to understand, protect, and restore watersheds and related ecosystems. With FY 2015 funding for 86 new and continuing awards, B-WET grants will reach an estimated 69,000 students and 2,600 teachers.

NOAA's **Competitive Education Grants/Environmental Literacy Grants program**, which the agency touts as “the longest-standing and most comprehensive national grants program focused on environmental literacy,” helps improve and increase the understanding and use of earth systems science while advancing STEM education. Since its beginnings in 2005, NOAA has made 111 awards to over 150 institutions across the country—all of which help advance its mission. The agency estimates that each year, an average of 60 million people visit an institution—like a science center or museum—that has a NOAA-funded exhibit or program.

Despite this measurable impact, the President's FY 2016 budget request once again proposes the

termination of both the B-WET and the CEG/ELG programs, which received \$7.2 million and \$4 million, respectively, for FY 2015. For FY 2016, **I urge the Subcommittee to remain supportive of the programs by providing \$12 million in funding for B-WET and \$8 million in funding for CEG/ELG.**

#### National Science Foundation

The **Advancing Informal STEM Learning** program, offered by NSF's Directorate for Education and Human Resources via the Division of Research on Learning in Formal and Informal Settings, seeks to advance new approaches to and evidence-based understanding of the design and development of STEM learning in informal environments; provide multiple pathways for broadening access to and engagement in STEM learning experiences; advance innovative research on and assessment of STEM learning in informal environments; and develop understandings of deeper learning by participants. FY 2016 funding for the **Advancing Informal STEM Learning** program will provide resources to support design, adaptation, implementation, and research on innovative modes of learning in the informal environment, with important emphases on citizen science, making, and cyberlearning.

The President's FY 2016 budget request includes \$60 million—\$5 million more than the FY 2015 appropriated level—for AISL. **I encourage the Subcommittee to support the President's request.**

#### STEM Education Consolidation and Reorganization

With regard to the federal STEM education consolidation plan first released by the Administration for FY 2014 and amended in each of the last two budget requests, I recognize the importance of creating efficiencies within the federal government whenever possible. Nevertheless, I continue to have serious concerns about a proposal that would eliminate effective programs that support informal STEM learning. Integral federal investments, including the aforementioned NASA and NOAA offerings, are once again slated for elimination in FY 2016. I sincerely appreciate the Subcommittee's thoughtful consideration of the harmful effect of the proposed terminations, and ask you to remain steadfast in your support of these programs.

#### About ASTC and Science Centers

The Association of Science-Technology Centers is a global organization providing collective voice, professional support, and programming opportunities for science centers, museums, and related institutions, whose innovative approaches to science learning inspire people of all ages about the wonders and the meaning of science in their lives. Science centers are sites for informal learning, and are places to discover, explore, and test ideas about science, technology, engineering, mathematics, health, and the environment. They feature interactive exhibits, hands-on science experiences for children, professional development opportunities for teachers, and educational programs for adults. In science centers, visitors become adventurous explorers who together discover answers to the myriad questions of how the world works—and why. As Members of this Subcommittee know, it is imperative that we spark an interest in STEM fields at an early age—a key role for community-based science centers and museums, who often undertake this effort with the aforementioned modest—but important—support from NASA, NOAA, and NSF, in addition to other federal agencies.

ASTC works with science centers and museums to address critical societal issues, locally and globally, where understanding of and engagement with science are essential. As liaisons between the science community and the public, science centers are ideally positioned to heighten awareness of critical issues like agriculture, energy, the environment, infectious diseases, and space; increase understanding of—and exposure to—important and exciting new technologies; and promote meaningful exchange and debate between scientists and local communities.

ASTC now counts 636 members, including 489 operating or developing science centers and museums in 45 countries. Collectively, our institutions garner 95 million visits worldwide each year. Here in the United States alone, our guests—and your constituents—pass through science center doors more than 73 million times to participate in intriguing educational science activities and explorations of scientific phenomena.

Science centers come in all shapes and sizes, from larger institutions in big metropolitan areas to smaller centers in somewhat less populated ones. ASTC represents institutions as diverse as the Children's Museum of Houston in Texas; the Mary G. Harden Center for Cultural Arts in Gadsden, Alabama; the Great Explorations Children's Museum in St. Petersburg, Florida and the Museum of Science and Industry in Tampa, Florida; the INFINITY Science Center (a NASA Visitor Center) in Pearlington, Mississippi; the Tech Museum of Innovation in San Jose, California; and the Future of Flight Foundation in Mukilteo, Washington.

Our centers reach a wide audience, a significant portion of which are school groups. Here in the U.S., 94% of our members offer school field trips, and we estimate that more than 13 million children attend science centers and museums as part of those groups each year. Field trips, however, are truly just the beginning of what science centers and museums contribute to our country's educational infrastructure, as: 92% offer classes and demonstrations; 90% offer school outreach programs; 76% offer workshops or institutes for teachers; 74% offer programs for home-schoolers; 67% offer programs that target adult audiences; 65% offer curriculum materials; 50% offer after-school programs; 34% offer youth employment programs; and 22% offer citizen science projects.

### Conclusion

With this in mind, and while I am fully aware of the significant budget challenges that face this Subcommittee, Congress, and the nation, I hope you will continue to recognize the important educational offerings science centers and museums make available to students, families, and teachers, along with the essential federal support they receive from NASA, NOAA, and NSF.

**Again, I respectfully request that you provide \$10 million for the Competitive Program for Science Museums, Planetariums, and NASA Visitor Centers Plus Other Opportunities at the National Aeronautics and Space Administration; \$12 million for the Bay-Watershed Education and Training Regional Programs and \$8 million for the Competitive Education Grants/Environmental Literacy Grants program at the National Oceanic and Atmospheric Administration; and \$60 million for the Advancing Informal STEM Learning program at the National Science Foundation. In addition, please continue to closely examine any proposals that would seek to consolidate and/or reorganize federal STEM education programs in an effort to ensure that stakeholder input has been sought and that proven,**

**successful programs are maintained.**

Thank you once again for your strong support for America's science centers and museums—and for the opportunity to present these views. My staff and I would be happy to respond to any questions or provide additional information as needed by the Subcommittee.