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submitted to the
House Appropriations Subcommittee
on Labor, Health and Human Services, Education, and Related Agencies
March 29, 2012

Seeking Support for the Following Agencies and Programs in FY 2013:
Institute of Museum and Library Services – Office of Museum Services
Department of Education – 21st Century Community Learning Centers
and Eligibility for STEM Teacher Professional Development

Introduction

Chairman Rehberg, Ranking Member DeLauro, 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 Chief Executive Officer of the Association of Science-Technology Centers (ASTC). My testimony will address the importance of science, technology, engineering, and mathematics (STEM) education, and will focus on the fiscal year (FY) 2013 budgets for specific areas within two federal agencies for which your Subcommittee has jurisdiction: (1) the Office of Museum Services (OMS) at the Institute of Museum and Library Services (IMLS), which would receive $30.859 million, the same amount as the FY 2012 estimated level, and (2) the 21st Century Community Leaning Centers (21st CCLC) program at the Department of Education (ED), which would receive $1.152 billion for FY 2013, also the same amount as the FY 2012 estimated level. I will also touch upon eligibility requirements for teacher professional development funds authorized by the Elementary and Secondary Education Act (ESEA).

Our Request

On behalf of ASTC and the 359 U.S. science center and museums we represent, I urge the Subcommittee to continue its strong support for critical education programs within the Institute of Museum and Library Services and the Department of Education as your work on the Labor, Health and Human Services, Education, and Related Agencies Appropriations Bill for fiscal year 2013 progresses.

Specifically, I urge you to do all you can to fully fund the Institute of Museum and Library Services' Office of Museum Services by providing at least the Congressionally-authorized level of funding, $38.6 million, for fiscal year 2013, and to provide a $100 million increase for the Department of Education's 21st Century Community Learning Centers program in fiscal year 2013. In addition, I urge the Subcommittee to allow non-profit, community-based science centers to be eligible to compete for teacher professional development opportunities and other STEM-related activities authorized by ESEA.

About ASTC and Science Centers

ASTC is a nonprofit organization of science centers and museums dedicated to providing quality educational experiences to students and their families as well as furthering public engagement

with science among increasingly diverse audiences. Now, more than ever before, we must spark the interests of our young people in all that science has to offer. This is exactly why community-based science centers throughout the country are providing unique educational programs that excite, energize, and enrich our understanding of science and its many applications—often with support from IMLS and ED, in addition to other federal agencies.

Science centers are unique places where visitors can discover, explore, and test ideas and, most importantly, learn how science impacts their quality of life. Their offerings are varied, and include interactive exhibits, hands-on science experiences for children, professional development opportunities for teachers, and educational programs for adults.

ASTC now counts more than 600 members, including 455 operating or developing science centers and museums in 45 countries. Collectively, these institutions garner 82 million visits annually worldwide. **Here in the United States, your constituents pass through science center doors nearly 60 million times to participate in intriguing educational science activities and explorations of scientific phenomena.** The most recent *Science and Engineering Indicators* (2012) generally affirms this data, offering that:

Involvement with S&T outside the classroom in informal, voluntary, and self-directed settings—such as museums, science centers, zoos, and aquariums—is another indicator of the public's interest in S&T. By offering visitors the flexibility to pursue individual curiosity, such institutions provide a kind of exposure to S&T that is well-suited to helping people develop further interest. In the 2008 [General Social Survey], 61% of Americans indicated that they had visited an informal science venue during the previous year. About half (52%) said they had visited a zoo or aquarium, and more than one-quarter had visited a natural history museum (28%) or an S&T museum (27%).

Science centers come in all shapes and sizes, from large institutions in big metropolitan areas—like the California Science Center in Los Angeles, the Connecticut Science Center in Hartford, Pacific Science Center in Seattle, and the Museum of Science and Industry in Chicago—to relatively smaller centers in somewhat less populated areas—like ExplorationWorks in Helena, Montana, the Discovery Center of Idaho in Boise, and the Science Zone in Casper, Wyoming. ASTC works with science centers and museums—small, large, and everywhere in-between—to educate and inform visitors on 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 including energy, the environment, infectious diseases, and space; increase understanding of important new technologies; and promote meaningful informed debate between citizens, scientists, policymakers, and the local community.

<u>Science Centers as an Integral Part of the Nation's Educational Infrastructure</u>

Science centers are physical—and virtual—places where science and citizens meet. Many have scientists on staff, and some feature research facilities on-site. Through exhibits and programming—like lectures and science cafés—science centers bring current research findings to the public while encouraging discussion and debate of current science issues. More and more, science centers are also getting members of the public involved in research projects themselves.

Our centers reach a wide audience, a significant portion of which are school groups. **Here in the U.S., 90% of our members offer school field trips, and we estimate that nearly 11 million children attend science centers and museums as part of those groups each year.** Field trips, however, are just the beginning of what science centers and museums contribute to our country's educational infrastructure, as:

- 90% offer classes and demonstrations
- 89% offer school outreach programs
- 82% offer workshops or institutes for teachers
- 75% offer curriculum materials
- 71% offer programs for home-schoolers
- 56% offer after-school programs
- 41% offer programs that target senior citizens, and
- 39% offer youth employment programs.

The Importance of Federal Support for STEM Education

As the Subcommittee knows, there is a strong consensus that improving STEM education is critical to the nation's economic strength and global competitiveness in the 21st century. Reports like the National Academies' *Rising Above the Gathering Storm* (2005) and the President's Council of Advisors on Science and Technology's *Prepare and Inspire* (2010) have emphasized the need to attract and educate the next generation of American scientists and innovators, and have recommended that we increase our talent pool by vastly improving K-12 science and mathematics education. Clearly, in order to improve STEM education, we must draw on a full range of learning opportunities and experiences, including those in non-school settings.

In its report entitled *Learning Science in Informal Environments: People, Places, and Pursuits* (2009), the National Research Council (NRC) of the National Academies said "beyond the schoolhouse door, opportunities for science learning abound..." The NRC found, among other things, that there is ample evidence to suggest that science learning takes place throughout the lifespan and across venues in non-school settings. Furthermore, the report highlighted the role of after-school STEM education in promoting diversity and broadening participation, finding that non-school environments can have a significant impact on STEM learning outcomes in historically underrepresented groups, and that these environments may be uniquely positioned to make STEM education accessible to all. Given the important role science centers and museums play in the education of both students and teachers, ASTC strongly supports—and greatly appreciates—the educational offerings provided by the Institute of Museum and Library Services and the Department of Education.

Institute of Museum and Library Services

The mission of IMLS is to inspire libraries and museums to advance innovation, lifelong learning, and cultural and civic engagement, and the agency provides valuable leadership through research, policy development, and grant making. For years, science centers—and the communities they serve—have benefitted from competitively-awarded grants offered by IMLS.

Just last year, the Yale Peabody Museum of Natural History in New Haven, Connecticut (an ASTC member) received a $148,015 grant from the IMLS Museums For America program to help fund "EVOLUTIONS," an after-school program for 60 New Haven public school students in grades 9 to 12. As a result, these students—from groups traditionally underrepresented in the sciences—will become engaged in an academically rigorous, for-credit program focused on science literacy, college preparation, and career awareness. Students will spend one afternoon a week at the museum during the academic year. There, they will help produce a museum exhibition, attend seminars, explore museum collections, participate in college field trips, and even serve as interns in Yale laboratories. Older students will participate in a "career ladder" program—one that a number of science centers do extremely well—where they will learn to interpret the museum's exhibits for the public. Students will also be trained by a professional museum evaluator to implement tracking studies and other evaluative methods to assess the impact of their activities on museum visitors.

Funding for the IMLS Office of Museum Services reached a high in FY 2010, when it received $35.212 million. The FY 2013 requested level of $30.859 million—though equal to the amount available for FY 2012—reflects a $4.353 million (12.4%) cut from the FY 2010 level.

Department of Education

21st Century Community Learning Centers

The Department of Education's 21st Century Community Learning Centers program supports the creation of community learning centers that provide academic enrichment opportunities during non-school hours for children—particularly those students who attend high-poverty and low-performing schools. The 21st CCLC program helps students meet state and local student standards in core academic subjects, such as reading and math; offers students a broad array of enrichment activities that can complement their regular academic programs; and offers literacy and other educational services to the families of participating children.

As previously noted, more than half of ASTC's science centers and museums offer after-school programs, which is especially noteworthy given that more than 15 million school-age children—including more than 1 million in grades K-5—are on their own after school. Research shows that kids who participate in such programs improved significantly in three major areas: feelings and attitudes, indicators of behavioral adjustment, and school performance. This translates, of course, to self-confidence and self-esteem, positive social behaviors, and accomplishment in school settings. In 2010, the Scottsdale Unified School District's Community Schools Department 21st CCLC was awarded a $24,000 grant from the Arizona Department of Education in partnership with the Arizona Science Center (another ASTC member). Funds are being used for STEM education at an elementary school, where a STEM club/camp will include family engagement, a full-day field trip to the Arizona Science Center, and club/camp instruction by the Science Center. The STEM club/camp pilot programs will assist Arizona 21st CCLC programs already committed to STEM during the day, and should significantly highlight STEM in the after-school program for students and their families.

Funding for the 21st CCLC program has remained relatively constant since FY 2010, when it received $1.166 billion in funding. The FY 2013 requested level of $1.152 billion is equal to the amount available for FY 2012 and roughly the same amount available for FY 2011.

STEM Professional Development/Math and Science Partnerships

Under the Elementary and Secondary Education Act, districts and states may use Title II teacher professional development funds for a variety of purposes, but these resources often don't reach non-profit education organizations—such as science centers—who provide teacher professional development. For example, Section 2201 of the existing statute, currently titled "Mathematics and Science Partnerships," establishes cases upon which "eligible partnerships" are allowed to compete. Such partnerships *must* consist of an institution of higher education, a school of arts and sciences, and a high-need local education agency. It is only after that requirement is satisfied that eligible partnerships *may* also include other non-profit education institutions like science centers and museums. In short, science centers are considered an afterthought in the law when they are often at the forefront of providing the congressionally–intended activity of improving teacher quality.

This Subcommittee has the opportunity to fully recognize the vital role science centers play in providing teacher professional development by allowing them to directly compete for Title II teacher quality funds authorized by ESEA. Again, 82% of ASTC member institutions offer teacher professional development programs, aligning with research-based best practices and recommendations already found in ESEA. ASTC members reach 73,000 schools—that's 62% of the total schools in the country—impacting 9,000 school districts, 36 million students, and 2 million teachers.

I urge you to consider including report language that would allow non-profit, community-based science centers to be eligible to compete for teacher professional development opportunities and other STEM-related activities authorized by ESEA—language consistent with the Investing in Innovation (i3) grant program already offered by the Department of Education and funded by Congress.

Conclusion

While I appreciate the extremely challenging budget scenario that confronts this Subcommittee and others, I urge you to recognize the importance of the educational offerings science centers and museums provide to students, families, and teachers—and the integral related federal support provided by the Institute of Museum and Library Services and the Department of Education—by: (1) providing at least the authorized level of $38.6 million to fully fund IMLS and its Office of Museum Services for FY 2013; (2) providing an additional $100 million to ED's 21st Century Community Learning Centers program for FY 2013; and (3) allowing non-profit, community-based science centers to be eligible to compete for teacher professional development opportunities through ESEA. Thank you once again for your strong support for America's science centers and museums—and for the opportunity to present these views. I would be happy to respond to any questions or provide additional information as needed by the Subcommittee.