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TO: Gerard Robinson, Trump Transition Team (Gerard.Robinson@aei.org)
FR: Anita Krishnamurthi, Vice-President, Afterschool Alliance & Ron Ottinger, Director, STEM Next, University of San Diego (co-chairs of the Afterschool STEM Hub)
RE: Supporting afterschool programs as a core strategy for equitable access to STEM learning and workforce development

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The Afterschool STEM Hub[1] congratulates President Elect Trump on the results of the national election and we look forward to working with your Administration over the next four years. We laud your commitment to reducing inequality in our society by increasing equitable access to education and jobs.

Our complex and changing world demands an adaptable workforce that is prepared to solve tough problems and find creative solutions to the challenges of tomorrow. Improving educational opportunities in science, technology, engineering, and mathematics (STEM) will cultivate students' curiosity and creativity while teaching them to work as a team, base their reasoning on evidence, and solve problems through experimentation—all skills needed to participate effectively in today's workforce. From the shop floor to the research lab to the boardroom, virtually any job requires a strong foundation in the STEM subjects. Supporting high-quality STEM education for ***every student*** is therefore vital to our country's social and economic prosperity.

However, studies show that elementary school students receive less than an hour of science instruction per week[i]. As they grow older, low-income students are also less likely to have access to high-quality, hands-on STEM learning compared to their wealthier peers. Afterschool programs are playing a vital role in mitigating these inequities by providing elementary students with hands-on STEM learning, engaging older students in project-based STEM programs and supporting a wide range of students all across the nation identify with the STEM enterprise.

**Our Vision:** Imagine STEM learning opportunities as a network of charging stations across the country: Kids power up their STEM skills by plugging into afterschool activities in a broad array of immersive settings, including hobby clubs, afterschool and summer programs, museums, parks, libraries, and online activities. In communities without enough charging stations, children miss the chance to charge their learning and interest outside of school. That lack of extra STEM practice can have a draining effect on the knowledge and skills they accrue at school. Thus, it is vital to provide exposure to STEM subjects in a variety of settings to all children, beginning at an early age and continuing through high school.

**The Need:** 4.5 million kids from lower-income families currently attend afterschool programs, but 9.7 million more would take part if programs were available[ii]. Meanwhile, higher income parents now spend more than seven times than low-income parents on their children's enrichment activities, leading to a huge learning and opportunity gap[iii]. By 6th grade, middle class children have spent 4000 more hours in afterschool and summer learning programs than low-income youth. Afterschool programs support STEM

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[1] The Afterschool STEM Hub[1] is a collaboration of national afterschool leaders and stakeholders united in the belief that afterschool, summer and other out-of-school-time education programs are crucial components of a larger STEM learning ecosystem. This group is led by the Afterschool Alliance and supported by STEM Next at the University of San Diego, which houses the afterschool STEM work started by the Noyce Foundation. For more information, see www.afterschoolstemhub.org

learning independently from classroom learning, much like the way immersing oneself in a language in multiple settings increases fluency.

**Call to Action:** We call upon President Elect Trump to use the resources of the federal government to help close this "charging station" gap by **providing the 9.7 million young people waiting for access with quality afterschool STEM programing** so they have the chance to enhance their education and contribute to our nation's future and prosperity.

To realize this vision, we request that your Administration undertake the following steps:

1) **Provide funding in the new Administration's first budget proposal to increase the availability of high-quality afterschool STEM programs for those who need it the most:**

    a) **Fully fund Title IV Part A of the Every Student Succeeds Act at the authorized level of $1.65 billion.** Only full funding will give students the well-rounded education they need to be engaged and successful. Full funding will support crucial opportunities for hands on STEM learning, increase and improve computer science instruction, help integrate informal and formal STEM programs and increase the number of STEM specialty schools.

    b) **Provide increases in funding for both the 21st Century Community Learning Centers (21st CCLC) initiative and the Child Care Development Block Grant (CCDBG).** This investment will increase the number of low-income school age children regularly participating in federally assisted afterschool and summer learning programs and begin narrowing the opportunity gap.

    c) **Seek out and include informal STEM education stakeholder inputs as you establish federal agency priorities.** Ensure that afterschool and informal programs are eligible partners for federal grants that support STEM education goals. Create a comprehensive federal strategy to coordinate and manage investments in afterschool STEM education programs, resources and activities.

2) **Support a new paradigm for STEM teaching and learning.** There is a great need for competent STEM educators in both schools and afterschool programs. Afterschool programs complement and supplement classroom learning, reaching kids in a different way. 10 million additional kids in afterschool STEM programs will require at least 500,000 more afterschool educators who can lead high-quality STEM programming.

    a) **Use the reauthorization of the Higher Education Act to support professional development for both in-school and out-of-school educators.** Support the use of informal education spaces (such as science centers and afterschool programs) to revamp teacher training. Explore other non-traditional professional development programs for afterschool and STEM educators, relying on greater organizational collaboration and high-quality STEM facilitation training rooted in the best practices of youth development.

    b) **Leverage existing federal STEM education investments by encouraging and supporting federally funded researchers in STEM fields to engage** as volunteers, mentors or partners with afterschool program providers and provide hands-on learning. These STEM professionals may

also increase students' exposure to STEM research facilities through in-person or virtual distance-learning experiences.

c) **Appoint an afterschool leader to a high-profile position at the National Science Foundation.** For example, as scientists develop their broader impacts plans for their research grants, help them tap into existing expertise in informal science education institutions and demographically diverse student audiences in afterschool settings. Fund existing national, state, and city afterschool networks as partners to broker and support such connections.

3) **Invest in an ambitious afterschool STEM research agenda.** To expand research-based knowledge about productive strategies to support STEM learning in afterschool programs, prioritize investments in research at the National Science Foundation and the Department of Education to understand and document how STEM learning occurs across diverse settings and over time for a wide range of young people. This research should be used to inform education investments across the federal government and foster interagency collaborations in the afterschool STEM programming portfolio.

a) **Launch a systemic research initiative at the Institute of Education Sciences** to fund competitive proposals to develop a range of longitudinal, ecosystem-wide measures to monitor and measure the availability, uptake, and effects of afterschool and informal STEM learning programs on students' long term outcomes.

b) **Propose robust and sustained support for the National Science Foundation's Education and Human Resources Directorate** with directions to maintain a vibrant afterschool research portfolio.

We hope that your Administration will elevate the role of afterschool and informal programs in the larger STEM learning ecosystem by appointing afterschool and informal STEM education experts to a wide range of federal advisory bodies, such as the President's Council of Advisors on Science and Technology, the National Science Board and other senior federal agency policymaking positions. It would also be invaluable to install a high-profile afterschool or informal STEM education coordinator at the White House tasked with ensuring inclusion of out-of-school-time learning as a key component of the STEM education investment portfolio across the federal government.

We look forward to meeting in person with the Transition Team to talk through these and additional ideas for the President-Elect that will ultimately contribute to the success of our nation's children and to our shared well-being and prosperity.

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[i] *R. Dorph, P.Shields, J. Tiffany-Morales, A Hartry, T. McCaffrey, "High hopes–few opportunities: The status of elementary science education in California," Sacramento, CA: The Center for the Future of Teaching and Learning at WestEd, 2011.*

[ii] http://www.afterschoolalliance.org/AA3PM/

[iii] http://www.hamiltonproject.org/charts/enrichment_expenditures_on_children