



the coalition for
science after school

A History of the Coalition for Science After School

The Coalition for Science After School was initiated through two NSF-funded meetings in 2004 and 2005 that brought STEM (science, technology, engineering, and math) education and out-of-school time leaders together to explore strategies for further merging the two fields. The first conference of 40 leaders was convened by the Exploratorium, the Lawrence Hall of Science, and TERC, and took place in Santa Fe, NM. At the meeting the group coalesced around common goals and results for the future of STEM in out-of-school time and conceptualized CSAS, establishing a Steering Committee that included the Lawrence Hall of Science at UC Berkeley, the Exploratorium, TERC, The After-School Corporation, the National After School Association, and the Children's Aid Society. Through the second conference, held in Marina del Rey, CA, a blueprint for CSAS was designed and finalized. Under the leadership of an eight-member Executive Committee, an expanded 20-member Steering Committee, and acting director Bronwyn Bevan, CSAS was launched with 40 members.

Reports from the two inaugural meetings, [*Science After School \(2004\)*](#), and [*A Blueprint for Action \(2007\)*](#) laid out CSAS priorities and structure. The convenings also produced a strategic alliance among individuals and organizations from STEM education, youth development, and out-of-school time programs. The group committed to working together to make STEM education an integral component of out-of-school time programming, consistent with the goals and values of these settings. In addition to its full-time Director, over its decade of operations CSAS employed a program manager and occasional part-time consultants. CSAS opted against becoming an independent nonprofit organization; it was hosted by the After School Corporation from 2005-2006, and the Lawrence Hall of Science from 2006-2014.

In 2005, Coalition partners published the [*Consumers Guide to Afterschool Science Resources*](#), a web-based resource created to share information collected from consumers (instructors, program leaders, parents, participants, evaluators) about sources of high-quality, hands-on STEM content for out-of-school time programs. Inspired by the popular Zagat Survey restaurant reviews, CSAS developers, with funding from the National Partnership for Quality Afterschool Learning at Southwest Educational Development Laboratory (SEDL) and the U.S. Department of Education, sought information through an open nomination process that asked out-of-school time practitioners to recommend programs and/or materials that they had used or seen in action and found to be of high quality. CSAS members with expertise in youth development and STEM content reviewed all nominations and selected those that seemed most promising, resulting in concise summaries of materials and curricula to help out-of-school time programs find resources to support their efforts to offer STEM, regardless of their budget, STEM backgrounds or grade levels of participants.

In 2006, director Jason Freeman joined the CSAS team and began work to develop STEM strands—workshops, plenaries, presentations, institutes, poster sessions, and receptions—for major national conferences focused on out-of-school time and on STEM education. Along with CSAS Steering Committee members, he gave presentations and

hosted receptions at multiple meetings, including the Afterschool for All Challenge hosted by the Afterschool Alliance, the 21st Century Learning Centers Summer Institute and Regional Conference, and the Association of Science-Technology Centers Annual Meeting and Meeting on Youth Initiatives. Additionally, Lucy Friedman of The After School Corporation and Jane Quinn of the Children's Aid Society, both founding members of CSAS, published a commentary piece in Education Week entitled [Science by Stealth](#). As part of a larger collaboration with the Afterschool Alliance to include STEM as a primary topic within the out-of-school time policy agenda, in September of that year CSAS, the Afterschool Alliance, the National Science Teachers Association and the National Council of Teachers of Mathematics, in conjunction with the Senate and House Science, Technology, Engineering and Math (STEM) Education Caucuses and the Senate and House Afterschool Caucuses presented *More Time for Math and Science: How Afterschool Programs Are Helping Kids Gain Math and Science Skills*. This interactive session for members of Congress and their staff highlighted the need to expand out-of-school time programs and how quality, affordable science and math out-of-school time programs have been effective in improving students' attitudes about, and understanding of, science and mathematics.

In the same year, CSAS partners initiated the Informal Learning and Science Afterschool (ILSA) research project, which sought to investigate the nature of STEM in out-of-school time programs around the country. The three-year study consisted of surveys of 1,000 programs, in-depth interviews with a subset of 50, and case studies at eight sites. The study sought to document the nature of student participation and learning in STEM activities in "typical" (non-STEM-specific) out-of-school time programs, and the infrastructure required to support these programs. "Infrastructure" included curriculum, staff recruitment and support, and program leadership and structures. The study was led by Bronwyn Bevan from the Exploratorium, Gil Noam of Harvard University, Rena Dorph from the Lawrence Hall of Science, and Reginald Clark of Reginald Clark and Associates and was funded by the National Science Foundation.

CSAS also supported an additional research project entitled "Why Science" during this period. The project was led by TERC in Boston, and The After School Corporation in NYC, and aimed to define STEM goals for out-of-school time, and to examine design questions related to why out-of-school time programs offer STEM programs to their participants, their learning goals and other intended outcomes. This research project developed and pilot-tested a process to help programs define their STEM learning goals through a series of in-depth discussions with program leaders and staff about possible goals, covering the range from affective outcomes to content knowledge, scientific thinking skills, social interaction and exposure to inquiry and exploration.

Additionally, under a subcontract from SEDL as part of a U.S. Department of Education grant, the Coalition began an investigation of the potential of out-of-school time programs as a network of early support for advanced STEM coursework, including Advanced Placement courses and their prerequisites. This undertaking responded to research findings that math and science are "critical filters," that continuation in STEM education and careers depends on opting for sequential and rigorous courses, and that young people need messages and preparation that encouraged them to choose these courses. The project, called "Pathways to Advanced Coursework" was completed in 2007. It aimed to synthesize research regarding the factors that support participation in advanced STEM courses and what is known about the role of out-of-school time programming in promoting that participation; organize a network of leaders in out-of-school time STEM to mobilize their constituencies to take action based on the research that expanded strategies and programs encouraging young people to participate in advanced STEM courses; and serve as a source of knowledge and ongoing forum for

communication in support of out-of-school time initiatives to promote young people's participation in advanced STEM courses.

As part of this effort, the SERVE Center at UNC-Greensboro prepared a [background paper and literature review](#). Three position papers were written in response to this background paper: [Linking After-School Programs and STEM Learning: A View from Another Window](#) by Lynn Dierking of Oregon State University, [Thoughts and Ideas for Action on After School Science Programs and Advanced Science Course Taking](#) by Yolanda George of the American Association for the Advancement of Science, and [Linking After-School Programs and STEM Learning – Proceed with Caution](#) by Nicole Yohalem of the Forum for Youth Investment and Andrew Shouse of the National Research Council. Finally, about 25 experts from out-of-school time and STEM met prior to the 21st Century Community Learning Centers conference in July 2007 to discuss next steps on this topic. Attendees at the conference recommended action in three areas to support the connection of out-of-school time with success in advanced STEM coursework: A national advocacy campaign for STEM in out-of-school time; opportunities for one-on-one, adult-youth mentoring relationships that promote engagement in STEM topics; and a longitudinal study of the impacts of out-of-school time programs on the course-taking and career decisions and overall achievement of youth.

Also in 2007, CSAS leadership presented or hosted events at several additional national meetings, including *Science and Society: Closing the Gap*, The National Afterschool Association conference, and the Association of Science-Technology Centers annual meeting. Additionally, during this year CSAS Steering Committee member Lucy Friedman published [a chapter on STEM in out-of-school time in Afterschool Advantage](#) by Foundations, Inc.

During 2008, CSAS worked to document the key projects, resources and people working to incorporate STEM learning opportunities as part of out-of-school time programs. This work resulted in the formation of three communities of practice: "Staff Capacity and Professional Development," "Development of STEM Learning Activities," and "Programs and Program Improvement." The purpose of these communities of practice was to strengthen the intellectual foundation of out-of-school time STEM education, and provide the professionals who serve the out-of-school time field with common concepts, models and vocabulary. The National Partnership for Quality Afterschool Learning provided funding for the "Development of STEM Learning Activities" and "Programs and Program Improvement" communities, supported by the U.S. Department of Education. The Noyce Foundation provided funding for the "Staff Capacity and Professional Development" community, which produced a research brief, [Staff Capacity and Professional Development for After-School STEM: A Summary of Key Research](#), and a 2009 report, [Strengthening After-School STEM Staff Development](#).

In the same year CSAS and Afterschool Alliance published an issue brief on STEM in out-of-school time, [Afterschool programs: At the STEM of Learning](#), and director Jason Freeman co-edited a STEM education issue of *The AfterSchool Review*, the quarterly journal published by the National AfterSchool Association. CSAS also received funding from the S.D. Bechtel, Jr. Foundation to produce [a market study](#) in partnership with the Center for Research, Evaluation, and Assessment at the Lawrence Hall of Science at UC Berkeley. The purpose of the market study was to help answer some highly practical questions for CSAS, including: Which out-of-school time programs are "doing STEM," what exactly are they doing, and what are their needs? By collecting data that answered these questions, CSAS aimed to gain a greater understanding of existing

STEM programs in out-of-school time settings.

Also in 2008, CSAS worked to increase its membership to include out-of-school time STEM stakeholders from across the country, beyond the initial 40 organizations that were part of the founding conference, and hosted the First National Conference on Science and Technology in Out-of-School Time. Funded by the Noyce Foundation with additional support from the Brinson Foundation, Science Chicago, the Motorola Foundation, and the United States Department of Education, the meeting took place in Chicago, IL and resulted in a 2009 report, [A Watershed Moment](#).

In 2009 CSAS entered into a partnership with Time Warner Cable to develop the National After School Science Directory (Connectory) as part of their Connect a Million Minds initiative. This partnership was highlighted by President Obama in his 2009 “Educate to Innovate” address. The directory is a searchable database designed to increase access to STEM education beyond the classroom for youth and families across the nation. It houses thousands of STEM opportunities, submitted by science centers, museums, schools and other youth-serving organizations.

CSAS hosted a second national conference in 2010, in partnership with Project Exploration. Led by interim director Mike Radke and Steering Committee member Gabrielle Lyon, the meeting took place in Los Angeles, CA. It was presented by Time Warner Cable with additional funding from the S.D. Bechtel, Jr. Foundation, Abbott, the Noyce Foundation, and the Motorola Foundation. Podcasts of meeting proceedings are [available on iTunes](#).

In addition to this convening, CSAS continued presenting at other national meetings across the country, including the Association of Science-Technology Centers and the National Science Teachers Association. During the same year CSAS also partnered with Radio Disney and PG&E to create “Science Rocks!” – a PSA campaign that was combined with assemblies and events in California to encourage youth to pursue careers in STEM. CSAS also completed a strategic plan in 2010, which resulted in the establishment of a smaller Steering Committee for the organization of up to 12 representatives.

In 2012 CSAS welcomed new director Carol Tang, and partnered with 826 National and Time Warner Cable's Connect A Million Minds initiative to incorporate STEM into 826 National's student writing workshops. CSAS also initiated a robust social media presence, including a [Twitter handle](#), [Facebook page](#), [blog](#), [Flickr](#), and [LinkedIn group](#), the contents of which remain archived and available.

Throughout its decade of operation CSAS continually contributed to STEM strands at major national out-of-school time conferences (e.g. National Afterschool Association, Foundations Inc, 21st Century Community Learning Centers), and STEM education conferences (e.g. the Association of Science-Technology Centers, National Science Teachers Association, etc.). The Coalition also maintained partnerships with national youth organizations such as 4-H, Girls Inc. and Girl Scouts of the USA regarding their STEM offerings. Additionally, the CSAS director and leadership served as advisors to multiple projects and studies, including “Great Science For Girls,” led by the Educational Equity Center at the Academy for Educational Development, “Learning Science in Informal Environments,” a study by the National Research Council, and the Learning in Afterschool & Summer Project, led by Temescal Associates and the Partnership for Children and Youth, among many others.

In 2014, the CSAS Steering Committee included the following representatives: Steering

Committee Chair Judy Nee of AlphaBEST, Elizabeth Stage of the Lawrence Hall of Science, Dennis Bartels of the Exploratorium, Lucy Friedman of TASC, Pam Garza of YMCA of the USA, Jane Quinn of the Children's Aid Society, Frank Davis of TERC, Gabrielle Lyon of Project Exploration, Kris Gutierrez of the University of Colorado, Boulder, and Jodi Grant of the Afterschool Alliance. Previous Steering Committee members included: Patrick Lopez of Explora, Bronwyn Bevan of the Exploratorium, Rob Semper of the Exploratorium, science educator Shannon C'deBaca, senior advisor Ellen Wahl, Maggie Daley of After-School Matters, Michelle Hailey of Girl Scouts USA, Eddie Locklear of National 4-H After-School, Dishon Mills of Boston Public Schools, Heather Johnston of Girls Incorporated, Gil Noam of the program in Education, Afterschool and Resiliency at Harvard University, Jennifer Rinehart of the Afterschool Alliance, and Maryann Stimmer of the Educational Equity Center at AED. During CSAS' decade of operation the Steering Committee convened monthly and provided strategic direction for the organization. CSAS actively balanced the membership and leadership of the Committee with thought leaders from the fields of STEM education, youth development and out-of-school learning.

The decision to conclude CSAS operations in 2014 reflected the CSAS Steering Committee consensus that CSAS leadership in its current form was no longer needed, given the robust and exciting status of the STEM in out-of-school time field. The decision to conclude operations was rooted in a belief that the field had moved into a new phase, with new challenges and opportunities, and that organizations and leaders had emerged over the past decade that would continue to advance the field. In 2014 Steering Committee member Jane Quinn published a column in *Youth Today* related to the CSAS sunset, *When Sunset Doesn't Mean the End of the Day*.

In preparation for its sunset of operations, the CSAS Steering Committee decided to organize a Summit, [*Passing the Torch: Advancing Opportunity for Quality Science Learning*](#). The meeting took place in March 2014, and was hosted by the Exploratorium in San Francisco. An invited group of sixty leaders came together from across the STEM education, youth development, and out-of-school time communities to assess the accomplishments, challenges, gaps, and essential resources needed to provide quality STEM learning opportunities for all youth, and to pass the torch for making STEM learning vital and indispensable in a range of learning environments.

CSAS established the following as goals for the Summit, which was sponsored by the S.D. Bechtel, Jr. Foundation and Time Warner Cable with additional support from the Noyce Foundation: (1) Celebrating a decade of progress in strengthening and expanding STEM learning opportunities; (2) Calling attention to critical issues around the need to ensure that all young people have opportunities for quality STEM experiences in their local communities; and (3) Stimulating ideas, strategies, and partnerships; and mobilizing collective commitments to increase opportunities for quality STEM experiences across settings. Among other meeting activities, Summit participants created and shared their own vision of STEM in out-of-school time in 2024 —ten years after the Coalition's sunset of operations. The results of this activity are detailed in the below image. The Summit resulted in a report, [*A Call to Action from the 2014 Coalition for Science After School Summit*](#). This document served to report out from the Summit and inspire others to continue to advance the field after the CSAS sunset of operations.



The leadership of the Coalition for Science After School is deeply grateful to the funders, partners, supporters, and constituents that worked together to advance STEM in out-of-school time during CSAS' decade of operations and that make up today's rich and varied STEM in out-of-school time landscape. The field has a lot to be proud of, but as a movement there is much more work to be done. As this work continues to expand and deepen, it is appropriate for the Coalition for Science After School to step down as the many other organizations that have emerged over the last decade take on leadership for the critical work that remains to be done.