

THE NOYCE FOUNDATION 2010

"Optimism is an essential ingredient for innovation. How else can the individual welcome change over security, adventure over staying in safe places? A significant innovation has effects that reach much further than can be imagined at the time, and creates its own uses. It will not be held back by those who lack the imagination to exploit its use, but will be swept along by the creative members of our society for the good of all. Innovation cannot be mandated any more than a baseball coach can demand that the next batter hit a home run. He can, however, assemble a good team, encourage his players, and play the odds."

Robert N. Noyce

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About the Noyce Foundation

The Noyce Foundation aims to help young people become curious, thoughtful, and engaged learners. The Foundation focuses on a few key areas: expanding opportunities for students to experience hands-on science in out-of-school settings; supporting human capital efforts to develop effective teachers and principal leaders; and investing in models and policy for improving the teaching of math, science, and literacy.

The Noyce Foundation was created by the Noyce family in 1990 to honor the memory and legacy of Dr. Robert N. Noyce, co-founder of Intel and inventor of the integrated circuit which fueled the personal computer revolution and gave Silicon Valley its name. Although he was an individual of daunting talents and intellect who was honored by two presidents as well as his academic and industry peers around the world, Bob Noyce also remained a humble and approachable man who believed fervently in democracy. In everything the Noyce Foundation undertakes, we are committed to promoting the qualities that Bob Noyce embodied: optimism, creativity, risk taking, and determination.

In recognition of Bob's concern about the shrinking pipeline of students interested in and committed to science-related careers, the Noyce Foundation has focused on model and policy efforts for improving math, science, and literacy. Until recently, much of our focus had been on improving instruction in math, science, and early literacy in public schools. However, as schools focused on math and literacy in response to No Child Left Behind, leaving science behind, we began an emphasis on field-building initiatives for out-of-school science programs that show promise of sustaining and engaging students' interest in science, especially at middle school, a time when students tend to make critical decisions about subjects that interest them. Our informal science initiative includes support for leadership development in science centers. The Foundation's human capital investments have focused on organizations that are leading national thinking and initiatives to increase the quality and effectiveness of the teacher and principal workforce in particular, and to rethink human resource systems within school districts.

2010 Year in Review

Dear Friends and Colleagues,

In 2010, we intensified field-building work begun in the prior year in informal science and public education human capital. Our math work shifted to the inclusion of our Silicon Valley Mathematics Initiative (SVMI) professional development coaching and best-in-class videos and MARS tasks in a new multimedia website, www.insidemathematics.org.

Our informal science portfolio is focused on leadership, development, scaling, and research to build the foundation for reaching youth across the country with quality hands-on science, engineering, and technology programming to inspire them to see that science is a part of their everyday lives and is fun and engaging. A few highlights include:

Science center chief executives and their senior leadership are learning to deepen connections with their surrounding communities in the Noyce Leadership Institute. The Noyce Foundation, in partnership with the Association for Science-Technology Centers, Institute for Museum and Library Services, and the Gordon and Betty Moore Foundation, completed its second class of chief executive leadership development and launched its first class of senior managers. Members of the first and second classes have been featured in the national and local media for their transformational initiatives and have moved into leadership positions in the United States and overseas to influence the future direction of science centers.

Evidence of the impacts on youth of informal science programming is vital to demonstrate that informal science offerings are making a difference in sparking interest in science, changing attitudes and behaviors from fear to fun, and teaching kids to question and inquire. With Noyce support, the Program in Education, Afterschool & Resiliency (PEAR) now has a website with many of the known instruments to measure quality and impact. In addition, the leaders of PEAR and Noyce are working with several Noyce Foundation grantees to develop a pioneer common instrument that can be used to discern youth impacts across projects.

At the heart of the informal science portfolio is a diverse set of projects to model what is required to scale quality out-of-school science programming across multiple geographic settings to reach kids where they attend afterschool, community center, or summer programs. We are discovering what it takes to marry science with out-of-school settings with organizations who have the capacity and experience to scale wide and deep. These scaling projects include the National 4-H Council's multi-state science initiative, The After School Corporation's Frontiers in Urban Science Exploration (FUSE) initiative in New York City's afterschool programs, the scaling and adapting of the FUSE model to additional cities in the Collaborative for Building After-School Systems (CBASS) network of intermediaries, the NSF-funded Build IT program developed by SRI that is scaling nationally within Girls Inc., Chabot Space and Science Center's Techbridge program that is scaling nationally within Girl Scout councils, and the integration of science into the

Mott Foundation's State Afterschool Networks with Project Liftoff in Missouri plus eight surrounding Midwest states and in California.

In formal public education, we made large, multi-year investments in three leading organizations that are changing the way the nation recruits, trains, compensates, evaluates, and retains its most important assets: its teachers and principals. We are betting that The New Teacher Project, New Leaders for New Schools, and Education Resource Strategies will alter the landscape of how human resource departments are organized and how they focus on increasing the effectiveness of the teacher and principal human assets who make the critical difference in student learning and achievement.

And in mathematics, we launched the multimedia Inside Mathematics website (www.insidemathematics.org) featuring the Noyce Foundation's SVMl tools and resources. We also worked with the Charles A. Dana Center and Agile Mind to integrate SVMl's math tools and materials into both organizations' coaching and professional development assets.

We invite you to review our initiatives, grants, and resources at our website, www.noycefdn.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Ottinger". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Ron Ottinger
Executive Director

Highlighted Work: Informal Science

The Noyce Foundation has undertaken several major projects to support high quality science programming in out-of-school time (OST). These projects are impacting millions of youth, including a high percentage from populations underrepresented in technical fields. As these projects mature, we are learning valuable information about how to bring good programs to scale and sustain them over time.

Scaling quality science programming outside of school

The Noyce Foundation is supporting the scaling efforts of large organizations that either have science as a mission or are intermediaries or networks of traditional OST programs integrating science into their offerings. Initial Foundation efforts for scaling have been with the 4-H Science Initiative by the National 4-H Council; Techbridge, a program of the Chabot Space & Science Center scaling within the Girl Scouts national network; Build IT, a program co-developed by SRI and Girls Inc., expanding within the Girls Inc. national network; and The After-School Corporation (TASC)'s expansion of its Frontiers in Urban Science Exploration (FUSE) program within New York City and to other cities nationally through the Collaborative for Building After-School Systems. In addition, the Noyce Foundation is trying to leverage the Mott Foundation's national network of 39 state-level afterschool intermediaries by introducing science programming into statewide networks in California, Missouri, and New York.

Leaders of these seven Noyce-funded projects are passionate about their work, and are among the brightest and most knowledgeable in the field of informal science education. Our challenge for 2011 will be to bring them together to work on common problems. As described in the next section, the Common Goals, Common Assessments project represents an initial effort to bring our grantees together to develop a common assessment tool. A second effort is to research the potential of online support for professional development as a means for scaling up science in out-of-school time.

Outcomes and assessment of informal science programs

Four research projects are funded by the Noyce Foundation to go beyond individual program evaluations and gather data relevant to a broad range of OST programs. The Common Goals, Common Assessments project, co-led by Gil Noam of PEAR and informal science consultant Cary Sneider, is developing an instrument to measure changes in the interests and attitudes of youth involved in OST science programs which can be used by many of the Foundation's informal science grantees and potentially fieldwide. The Synergies research project by John Falk and Lynn Dierking at Oregon State University will investigate how science interest, engagement, and knowledge are influenced by participation in formal and informal science programs within a community. Project Exploration's ten-year retrospective study of its science programs for youth in Chicago revealed that its model, which provides a youth-centered learning environment, connects students with practicing scientists, and supports long-term relationships with adults,

has a measurable positive impact on students' interest in science majors and careers as well as students' high school graduation rate. Robert Tai at the University of Virginia has begun a large-scale, long-term, comparative study of the outcomes of OST science programs for adolescents. Unlike the report on Project Exploration, which focused on the effects of a single program, Tai and his colleagues will conduct a longitudinal study of approximately 50 OST science programs to determine impacts on participants' high school course-taking patterns and college and career choices.

Helping museums and science centers better serve their OST and youth communities

Museums and science centers are connected with several of the initiatives already described above, such as Techbridge, which was established at Chabot Space and Science Center, Project Exploration, which partners with the Field Museum of Natural History and the Museum of Science and Industry, and Missouri's Project Liftoff which includes the St. Louis Science Center and the Kansas City Science Center at Union Station. And, of course, the Noyce Leadership Institute for science center professionals supports efforts to broaden the engagement of science centers with their communities. In addition, the Noyce Foundation supports a project by the Exploratorium, Museums Afterschool—Principles, Data, and Design (MAPDD), which brings together educators from ten science centers and children's museums with afterschool organizations to study the underlying design principles driving quality programming. The Noyce Foundation is also supporting the New York Hall of Science to begin a shift of its human infrastructure from a focus on explaining exhibits to facilitating the visitors' experience by encouraging them to tinker, create their own activities, and become active learners. This effort has deep roots at the New York Hall of Science in the Career Ladder Program that engages youth as museum interpreters and in the new Maker Faire movement that is sweeping the country.

National policy and awareness efforts to broaden and support science in OST

The Noyce Foundation is working to marry the fields of informal science and OST youth development through policy, research, organizational and geographic scaling initiatives, tools for assessing impact and outcomes, and awareness efforts. Policy—which includes sharing the evidence for informal and OST science, expanding funding streams, and inclusion in state science education programs—is a key arena to promote and build the field of informal and OST science. Several grants are stimulating policy development and awareness, including support for The Afterschool Alliance's STEM Policy Director position; the collaboration by three major OST organizations – The Afterschool Alliance, the National AfterSchool Association, and the National Summer Learning Association – to coordinate joint publications, conference speakers, and special strands on science; and a set of case studies by the National Center on Time and Learning on how learning in science is progressing in schools with extended learning time. In addition, the Noyce Foundation sponsored a special report on informal science in Education Week, "Science Learning Outside the Classroom," as well as support for the second National Conference on Science & Technology in Out-of-School Time.

Highlighted Work: Human Capital

The Noyce Foundation's human capital efforts in 2010 focused in several areas led by investments in four organizations that are redefining human capital management systems: Education Resource Strategies, the Harvard Graduate School of Education's Doctorate in Education Leadership (Ed.L.D.) program, New Leaders for New Schools, and The New Teacher Project. The Foundation is supporting major research and development initiatives to create new models for the recruitment, compensation, development, evaluation, and accountability of school principals and teachers.

Our discussions with and learning from our human capital grantees are ongoing. Recent conversations have been on opportunities to effect wide-scale change of human capital systems in public schools. Key points from that ongoing conversation include:

Seizing the moment when changes in education policy can create great schools and systems at scale. Over the last few decades, policy change in education has often come incrementally—despite growing evidence that much of the nation's education policy infrastructure and funding streams fail to improve student achievement or educational equality. Yet in the months leading up to the \$4.3 billion Race to the Top competition, 12 states passed legislation to overhaul their teacher evaluation systems, and they and other states are including student academic growth in teacher evaluation and compensation decisions. Our grantees report they could not have anticipated the welcome pressure to transform the entire system that has resulted from the combination of increasing evidence that schools can achieve dramatic improvements in performance with high poverty children, the focus on teaching effectiveness and the nearly universal adoption of Common Core State Standards. The changes in education policy over the last 18 months resulted from a confluence of ideas, leadership, and funding. It is critical that education innovators be ready at a moment's notice to respond to the opportunities afforded by a new landscape.

There is a Clear Link between Effective Talent Management and Student Achievement.

In Washington, DC, The New Teacher Project (TNTP) has had an opportunity to assess the real impact of effective talent management through a three-year study of human capital practices across the city's charter school sector, involving hundreds of teachers at 37 charter schools. Using the results of an initial survey, TNTP created an Instructional Culture Index (ICI), which reflects three leading indicators of strong talent management, including the extent to which teachers agree that (1) they share a common vision of what effective teaching looks like at their school; (2) expectations for effective teaching at their school are clearly defined; and (3) their school is committed to improving their instructional practice. The ICI has allowed TNTP to pinpoint specific attitudes and behaviors that distinguish top-indexed schools from bottom-indexed schools in every major area of talent development. TNTP's preliminary analysis shows a correlation between schools with higher ICI scores and greater student achievement as measured by average proficiency in DC reading and math tests.

New Leaders for New Schools (NLNS) has developed an Urban Excellence Framework that includes guidance to principals on how to build positive school cultures to promote and lead to significant student achievement gains. Analysis of the data from principal interviews and visits to NLNS' highest performing schools revealed the following components of a coherent culture model:

- Having a clear vision, mission, and values is essential but not sufficient. Schools with positive and healthy cultures have translated values into specific behaviors that all adults and students are expected to embody at all times.
- Once those behaviors are identified, all adults in the school must develop common language and tools to teach students what the behavioral expectations are and how to successfully live them. Ongoing lessons about behavioral expectations must be explicitly connected to the school's mission and values so that students and adults understand why these specific behaviors are essential to student success.

Individual schools are achieving dramatic results—but we still need effective systems. The public is focusing on teacher evaluation and restructuring benefits, but we need to build on this to focus on continuous improvement of teaching teams and restructuring compensation to attract and keep the best.

Too many students get left behind if we take improvement school by school without changing the system around it. Systems of schools, including charter consortia, have opportunities to leverage human capital, share knowledge, create economies of scale, and engage with communities that individual schools just don't. Education Resource Strategies (ERS) now has online tools that help district and school leaders explore trade-offs of difficult resource options and build consensus on tough choices that could support transformation. In addition, the state and national focus on *individual* teacher effectiveness measured mostly by test scores, emphasis on hiring and firing, and reducing benefits spending has downsides that impact urban schools the most. We know that students soar when teams of teachers combine their expertise and energy to know students well, monitor their progress, and intervene to keep them on track or urge them higher every step of the way. In high-performing schools, students don't belong to a single teacher, but to the team of adults who work with them in that moment and over their career in the school. ERS is learning from teachers and principals that a simplistic focus on individual teacher scores and effectiveness can conflict with emphasis on building teacher teams.

The Harvard Graduate School of Education has launched a practice-based Doctorate in Education Leadership (Ed.L.D.) program to develop education sector leaders who can help lead the transformations needed at the district, state, and federal levels. The program integrates the fields of education, business, and public policy in visionary ways and is designed to prepare graduates for a variety of system-level leadership responsibilities in organizations such as school systems, state departments of education, U.S. Department of Education, national policy organizations, national nonprofits or mission-based for-profits, and foundations/funders.

Grants Made in 2010

Major Grants

Achieve, Inc. (Science Benchmarks and Mathematics Course Pathways)

Washington, DC

Publish and disseminate Achieve's report on internationally benchmarked science standards and Achieve's Model Mathematics Course Pathways based on the Common Core State Standards.

\$189,903

Afterschool Alliance (STEM Policy Director)

Washington, DC

Establish a Director of STEM Policy position to encourage greater investment in and support for science, technology, engineering, and mathematics learning in afterschool.

\$200,000 toward a total grant of \$400,000

Afterschool Alliance, National AfterSchool Association, and National Summer Learning Association (Collaboration to Promote Science in Out-of-School Time)

Washington, DC and McLean, VA

Collaborate to deliver complementary plenary sessions, conference strands, and keynote addresses on STEM in out-of-school time at each of their national conferences in 2011; bring students to their annual conferences; and co-produce and disseminate a series of articles on important issues, best practices, and recent developments in STEM learning in out-of-school-time.

\$195,000

Build IT (Scaling within the Girls Inc. Network)

SRI International, Menlo Park, CA

Scale the Build IT program, a technology design program for middle school girls, within the Girls Inc. network and evaluate its impact. The program will be implemented at 26 Girls Inc. affiliates through 2012 and will include the integration of the program materials into Girls Inc.'s intranet, professional development by SRI and by Girls Inc., and evaluation.

\$436,496 toward a total grant of \$707,300

California Afterschool Network (California Afterschool STEM Initiative)

University of California, Davis

A planning phase by the California Afterschool Network and partners to create and implement a robust, statewide system that can deliver high-quality STEM experiences during out-of-school time to over a million students in California and support the 40,000 OST professionals who serve them. The plan will include the creation of regional OST STEM Innovation Centers to support

OST programs with curriculum selection, staff professional development, communications tools, and, where appropriate, alignment with K-12 science efforts.

\$212,102

Dana Center, University of Texas at Austin (Integration of SVM I Content)

Austin, TX

Upgrade Dana Center content by adapting, publishing, and disseminating mathematics resources developed by the Silicon Valley Mathematics Initiative, including math coaching resources, formative assessment materials, Problems of the Month, performance assessment materials, and Number Talks.

\$32,268 toward a total grant of \$238,870

Dana Center, University of Texas at Austin (ACE Early Mathematics Initiative)

Austin, TX

In partnership with Experience Corps, develop a research-based framework for building a strong foundation in mathematics understanding and skills in young children, pre-kindergarten through third grade. The project will include a field-tested set of “proof of concept” activities/protocols as well as the delineation of training and support required for tutors to successfully deliver the interventions.

\$99,996

Editorial Projects in Education (Informal Science Coverage in Education Week)

Bethesda, MD

Produce a special pullout report on informal science learning, “Science Learning Outside the Classroom,” in April 2011 in Education Week and on edweek.org. Disseminate the special report online and engage users interactively in the content, including through a webinar and additional online features.

\$90,000

Education Champions for All (Proof Points State and District Reform)

New York, NY

The Proof Points initiative will leverage its network of expertise and resources to serve as a catalyst for change, helping reform-minded leaders in key states and school systems implement proven education reforms in a way that promises scalability and success across the country.

\$1,000,000

Education Resource Strategies, Inc. (Knowledge, Research and Organizational Expansion)

Watertown, MA

Develop and scale ERS’s Knowledge and Research infrastructure and practice, and position the organization for future growth.

\$1,026,000 toward a total grant of \$2,075,000

Experience Corps (Creating Innovation Schools)

Washington, DC

Prepare to open 2-4 Innovation Schools in the fall of 2011 which will serve as research and development labs to develop and test a math curriculum, 4th and 5th grade literacy curricula, and Experience Corps' intensive model to turn around failing schools. Increase staff resources and capacity to deliver Experience Corps programs.

\$250,000

Growth Sector (Science Teacher Pathway through Student Teaching in Afterschool)

San Francisco, CA

The addition of a pilot STEM Institute to the existing After School Teacher Pathway initiative, which targets economically disadvantaged individuals and combines employment in afterschool programs, post-secondary teacher training, and intensive support to create an accelerated teaching pathway in 4½ years. The pilot STEM Institute will serve 80-100 Bay Area participants at sites in San Francisco and Hayward with the potential to train up to 600 math and science teacher candidates each year across the Pathway initiative's ten sites in California.

\$157,000

Harvard Graduate School of Education Partners Network

Cambridge, MA

The Harvard Graduate School of Education has launched a practice-based Doctorate in Education Leadership (Ed.L.D.) program to develop leaders who will transform American education. As part of the program, Ed.L.D. students in their third year complete a year-long residency leading a significant improvement effort for their capstone project. The Noyce Foundation is supporting the development of a partner network of exceptional organizations that host Ed.L.D. students, which will coordinate the placement and supervision of Ed.L.D. students in residency sites, maintain close relationships with senior leaders in the partner organizations, and build a knowledge base that supports transformational work at the system level.

\$250,000 of \$500,000

LASER (i3 Validation Study)

Smithsonian Institution, National Science Resources Center, Washington, DC

Expand and validate the LASER program in high-poverty urban and rural schools in Texas, North Carolina, and Indiana over five years to reach 75,000 students and 3,000 teachers, and to test its impact with a rigorous, randomized control study.

\$30,000 toward a total grant of \$150,000

Massachusetts Business Alliance for Education (Teacher Evaluation and Compensation Recommendations)

Boston, MA

Engage the business community in developing policy recommendations to the Massachusetts Department of Education on teacher evaluation and compensation systems that include student achievement as a factor.

\$30,000

Massachusetts State Science and Engineering Fair (Teacher Training in Inquiry-Based Instruction)

Cambridge, MA

Expand the current Curious Minds Initiative professional development course for teachers, which provides training on the use of inquiry-based techniques in the classroom. Shape its initial training course into a year-round program and develop an intensive follow-up training to help teachers support independent student research projects.

\$96,000

Missouri AfterSchool Network (Project LIFTOFF)

University of Missouri, Columbia, MO

Develop a strategic model for a statewide system of informal STEM education in Missouri that reaches 20,000 students with quality informal science programming over three years. Create a model for replication in four other Midwestern states.

\$393,850 toward a total grant of \$1,918,994 (includes grants to other state networks)

National 4-H Council (4-H Science Initiative)

Chevy Chase, MD

Implement the multi-year evaluation plan for the 4-H Science program; build capacity of 4-H state and local leaders, including launching comprehensive professional development strategies that support state and local 4-H Science leaders in implementing their plans of action; and enhance core functions of the National 4-H infrastructure, including data collection, marketing, and web presence.

\$1,732,883

National Center on Time & Learning (Science in Expanded Learning Time)

Boston, MA

Identify and profile models in at least five schools for expanding science education in typical schools with an extended learning day. Disseminate the case studies through conferences and forums, web-based modes, and electronic newsletters to policy and education leaders, teachers, principals and district officials, funders and thought leaders.

\$70,500

National Governors Association Center for Best Practices (STEM Agenda for Governors and States)

Washington, DC

Assist states to include informal science education within comprehensive, equity-based and accountability-driving STEM education policy agendas. Identify best practices in informal science education and work to ensure integration of informal science within state education policy agendas.

\$100,000 toward a total grant of \$300,000

New Leaders for New Schools (Transformation of Principal Development)

New York, NY

Develop the capacity, tools, and knowledge to help districts transform their approach to recruiting, training, and supporting principals with the goal of significantly improving student learning and achievement.

Two grants: \$1,000,000 completing a total grant commitment of \$3,000,000; and an additional \$2,000,000 grant

The New Teacher Project (Models for Scaling Teacher Effectiveness)

Brooklyn, NY

Partner with districts and states to create replicable models of teacher effectiveness management systems to be implemented at scale, provide an increasing number of new teachers with demonstrated effectiveness to high-need schools and subject areas, and promote a supportive policy environment and identify sustainable revenue streams for teacher effectiveness.

\$1,725,000

Noyce Leadership Institute

Association of Science-Technology Centers, Washington, DC

Provide executive leadership programs for new and aspiring chief executives, primarily in the science center field. The Noyce Leadership Institute immerses science center executives in cutting edge knowledge and tools, promising practices, and professional networks, all designed to increase their capacity to lead effectively and have a greater public impact in their communities in the 21st century. The Cohort 2 program ran through April 2010; the Cohort 3 program runs through April 2011.

Cohort 2: \$365,978 toward a total grant of \$887,700

Cohort 3: \$750,000 toward a total grant of \$1,008,862

Oregon State University (SYNERGIES: Understanding and Connecting STEM Learning in the Community)

Corvallis, OR

A planning phase for a three-year, iterative research investigation resulting in the development of the first whole-community effort to engage all of the significant formal and informal STEM

education providers in a community in developing and testing a single, coordinated approach to facilitating STEM learning for youth and their families. This effort, led by researchers John Falk and Lynn Dierking, will result in specific, generalizable strategies for advancing public STEM learning that can be applied to other communities in the country.

\$94,481

PopTech Institute (Youth STEM Ambassadors)

Camden, Maine

Introduce youth to inspiring STEM professionals in the PopTech network at experiential events, including the PopTech conference itself; produce and distribute videos aimed at middle school students to promote STEM education and STEM careers.

\$50,000

Rennie Center for Education Research & Policy (Expanding Research and Capacity)

Cambridge, MA

Matching grant to deepen and sustain the Rennie Center's work in Massachusetts and nationally, including expanding its work from K-12 to P-20, establishing a national network of other state-based organizations that are focused on using education research to inform policy decisions, and building staff capacity for research and outreach.

\$300,000 toward a total grant of \$900,000

Science Buddies (Science Career Profiles and Engineering Project Resources)

Carmel, CA

Increase usage of career content on the Science Buddies website, evaluate how students access and use the existing career content, produce approximately 50 additional career profiles for the site, and develop and promote engineering project resources.

\$115,000

Science Friday Initiative (Sustaining and Expanding Science Friday Radio and Web Programming)

New York, NY

Matching grant support to sustain and expand Science Friday's funding base, as well as to produce the radio series, produce and distribute the Pick of the Week videos, promote educational materials to science centers and teachers, and produce TalkingScience Cabaret shows in English and Spanish with accompanying bilingual classroom materials.

\$500,000

Techbridge (Scaling within the Girl Scouts Network)

Oakland, CA

Scale up Girls Go Techbridge to provide science, engineering, and career exploration resources for 12,000 Girl Scouts in 12 Girl Scout councils across the U.S., including expanding national partnerships; expanding the train-the-trainer model to include online coaching tools and web-

based resources for leaders, volunteers, and parents; revision and refinement of curriculum; and evaluation.

\$358,667 toward a total grant of \$1,283,068

TERC (Research on Impact of Science Fairs)

Cambridge, MA

Two studies: (1) a study of science and engineering professionals in Massachusetts who report a science fair experience or similar independent research during high school to determine the perceived impact of science fair participation on their interest in science; and (2) an exploratory study of middle school students to compare students' interest in science topics, interest in science careers, reported feelings of self efficacy, and plans to pursue additional science courses prior to and after science fair.

\$37,007

The After-School Corporation (Afterschool Science Programming in NYC)

New York, NY

Support to expand high-quality afterschool science learning in NYC to reach 280 sites in 2009-10 and 305 sites in 2010-11. TASC's Frontiers in Urban Science Exploration creates a culture shift by increasing stakeholders' interest and confidence in the delivery of inquiry-based science learning activities in the afterschool hours; prepares and motivates an afterschool workforce to deliver informal science education; and increases kids' interest in science learning, making it "cool" to participate in science-based afterschool activities.

\$250,000

The After-School Corporation (Afterschool Science Programming Nationally)

New York, NY

In partnership with the Collaborative for Building After-School Systems, TASC will expand the Frontiers in Urban Science Exploration initiative to build nationwide momentum and capacity for high-quality informal science learning in afterschool hours. Sites during year one include Providence, RI and the San Francisco Bay Area, CA; two additional sites will be added in year two.

\$367,453 toward a total grant of \$1,000,000

University of Colorado at Boulder and University of Virginia (Research on Impact of Out-of-School Science for Youth)

Boulder, CO and Charlottesville, VA

Planning support for the project "Exploring the Outcomes and Methods of Youth Out-of-School-Time Science Programs," which seeks to understand the outcomes of youth out-of-school science programs in the short and long term through a large-scale, long-term, comparative study. This was preparatory work in advance of NSF funding to put key aspects of a research plan in place.

\$224,815

University of Virginia and Stanford University (Alternative Certification Study)

Charlottesville, VA and Stanford, CA

Led by researchers Jim Wyckoff and Susanna Loeb, this study explores the long-term implications of alternative teacher certification in New York City. Research questions include: How do the characteristics and careers of teachers from different pathways differ? What are the effects of teachers entering through different pathways on student achievement and how has this changed over time? To what extent does the leaving behavior of more or less effective teachers differ across pathways? How have teachers from different pathways affected the overall functioning of NYC public schools?

\$274,929

University of Washington (Teacher Certification Study)

Bothell, WA

Researcher Dan Goldhaber is assisting The New Teacher Project and Denver Public Schools to develop a scalable teacher certification program that awards licensure on the basis of the teacher's ability to achieve academic gains.

\$138,280

Other Grants

American Association for the Advancement of Science (Public Engagement Video)

Washington, DC

Produce a short video presenting strong examples of public engagement activities by scientists as part of the AAAS Communicating Science toolkit and the Early Career Award for Public Engagement program.

\$20,000

Association of Science-Technology Centers (Youth Inspired Challenge)

Washington, DC

Launch the Youth Inspired Challenge, which aims to provide 2 million hours of science enrichment activities to at least 25,000 students ages 10-19 through 300 science centers and museums nationally.

\$25,000

Ayala Foundation USA (Philippine Science Centrum)

Redwood City, CA

Support to rebuild the Philippine Science Centrum.

\$1,000

Cush Family Foundation (School-to-Career)

San Diego, CA

Support to further the Cush Family Foundation's school-to-career work in San Diego County.

\$7,750

Educational Equity Center (After-School Math PLUS Evaluation)

AED, New York, NY

Collect and analyze performance data from 5 After-School Math PLUS sites for inclusion in a California i3 proposal.

\$10,000

Mathematical Sciences Research Institute (2010 Critical Issues Conference)

Berkeley, CA

Support for the 2010 Critical Issues Conference: Reasoning and Sense-Making in the Mathematics Curriculum.

\$25,000

Project Exploration (2011 Pre-conference Symposia and Working Sessions)

Chicago, IL

Pre-conference symposia at the 2010 National Conference on Science & Technology in Out-of-School Time explored models for cross-sector systemic efforts to align out-of-school science & technology programming at city, regional, and statewide levels.

\$12,000

Science Education for New Civic Engagements and Responsibilities (Symposium and Poster Session)

National Center for Science and Civic Engagement, Washington, DC

Scholarships for 35 undergraduate students to attend the 2010 SENCER Washington Symposium and Capitol Hill Poster Session.

\$8,750

The After-School Corporation (Conference Presentations)

New York, NY

Represent the TASC/CBASS model at the National Conference on Science in Out-of-School Time and the USA Science & Engineering Festival

\$6,200

The World Café Community Foundation (Science for All)

Greenbrae, CA

Host and videotape three focus groups with middle school students, with the aim of better understanding what it will take to engage all young people with science.

\$14,690

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