



White Paper



**Increasing Students' Access to Opportunities in STEM
by Effectively Engaging Families**

July 2016

INTRODUCTION

STEM Plus Families

THE FACTS ARE CLEAR: SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) SKILLS ARE CRITICAL TO THE UNITED STATES' PRESENT AND FUTURE PROSPERITY.

The U.S. Department of Commerce estimates that jobs in STEM will grow 17% by 2018—that's 55% faster than non-STEM jobs over the next decade. Several reports have linked STEM education to the continued scientific leadership and economic growth of the United States. The possibilities sound exciting, however economic projections also predict that there could be as many as **2.4 million unfilled STEM jobs** by 2018.

Most people think of civil engineers, doctors, accountants or scientists when they think of STEM careers—all professions that require at least a four-year degree. But the truth is, **approximately half of all STEM jobs only require a two-year degree**. Well-paying positions in fields like computer programming, environmental engineering and nursing—just to name a few—are available through post-secondary certificates and associates degrees. Unfortunately, **underrepresented youth** including girls, minorities and students from low-income families **aren't finding their way into these fast-growing STEM fields**.

WE WANT THAT TO CHANGE. WE THINK FAMILIES ARE THE ANSWER.

Every child, regardless of their zip code, ethnicity, race or gender should have access to high-quality STEM programs, education and career exploration. To meet the rapidly-growing demand for qualified STEM professionals and develop the next generation of leaders, we must help students and families build the necessary competencies and skills to pursue STEM degrees and career opportunities.

This White Paper will explain why National PTA is working with its founding sponsors, Bayer and Mathnasium, to launch a new initiative—**STEM Plus Families**.

The goal of STEM Plus Families is to increase access to STEM education — especially by youth — and the vast array of career opportunities by designing, evaluating and sharing effective ways to **engage families in STEM experiences** at school or at home, in the community and with digital learning environments.

Through this initiative, National PTA and its collaborators will empower families — parents, grandparents, foster parents, or any other caring adult in a child's life — and **amplify their voices as advocates** for improving the availability and quality of STEM education in their schools and communities.

STEM Plus Families will work toward ensuring that **every student has access to high-quality STEM education opportunities** and **every family is equipped to guide STEM education choices and career pathways**, regardless of the students' zip code, ethnicity, race or gender.

BACKGROUND

Rationale and Methodology

National PTA's mission is to make every child's potential a reality. We achieve that mission by mobilizing our powerful nationwide network of PTA advocates and leaders—comprised of parents, students, grandparents, foster parents, other family members, educators, school administrators and community leaders—to ensure that every child has access to high-quality education opportunities that lead to their long-term success.

During recent years, National PTA has followed the significant coverage about the shortage of both interested and adequately prepared K-12 students in STEM education and career pathways, especially among minority youth and young women (My College Options & STEMconnector, 2013).

In late 2014, National PTA began to explore how PTA's vast network could help to address the inequity in access to high-quality STEM education and STEM enrichment opportunities, especially among unrepresented youth. Areas of exploration included: What is PTA's unique role? How can PTA help to address this social justice issue?

STEP 1: CONDUCT A SCAN OF THE STEM LANDSCAPE

National PTA conducted an environmental scan of STEM education research and STEM initiatives to determine PTA's unique niche on this important issue. The scan included:

- **Secondary literature review** of STEM education research and STEM program evaluation
- **External analysis** of STEM programs to understand the landscape of existing resources in school, home, community and digital settings
- **Internal analysis** of existing local and state PTA programmatic and advocacy efforts in STEM
- **Informational interviews** with STEM education experts and STEM program leaders

The results of the scan made it clear that there is **very little research surrounding methods of effective family engagement in STEM** in school, home, community and digital settings. **Parents are not empowered** with information to guide education decisions that support their children's pursuit of STEM careers.

Families play an essential role in helping their students navigate educational choices on the path toward fulfilling careers. Families are the links to enrichment opportunities, as well as influences of students' perceptions of what is possible for their future. Decades of research proves that effective family engagement supports student success. **Students recognize that their families play a critical role in their educational and career pathways.** In a study of Latina middle school girls in a computing-intensive after-school program, students reported that their family was the main influence on their career goals and interests. Most of the students named their parents, but one-quarter mentioned a female relative as a specific influencer (Denner, J., Bean, S. & Martinez, J., 2009). Thus, it can be parents or other family members that play an important role in students' aspirations and career goals.

KEY FACTS ABOUT UNDERREPRESENTED POPULATIONS IN STEM

For both girls and underrepresented minority groups, exposure to "role models" in STEM fields with whom they could identify helped to reform perceptions that they did not belong in STEM careers (Beede et al., 2011).

Learning about discrimination and how others overcame such barriers to become successful helped to increase students' confidence in themselves (George et al., 2014).

For students of lower-income families and communities, a lack of quality STEM course offerings was a major barrier (Gottfried, M.A. & Williams, D., 2013).

According to Girl Scout Research Institute (2012), 74% of teen girls are interested in STEM. Girls who are interested in STEM had greater exposure to STEM fields. Two-thirds of interested girls know someone in a STEM career, and half know a woman in a STEM career.

According to Sammet & Kekelis (2016), STEM workforce issues will only be solved by diverse partners collaborating to create disruptive solutions that promote equity for all girls and underrepresented racial minorities.

STEP 2: HOST THOUGHT LEADERS PANEL DISCUSSION WITH PTA MEMBERSHIP

In summer 2015, National PTA sparked a broader conversation with its membership during a Thought Leaders panel discussion at the 2015 National PTA Convention & Expo in Charlotte, N.C. The session was sponsored by Microsoft and focused on “**Increasing Access to STEM for Underrepresented Ethnic Minority Students.**”

The panel discussion featured STEM education and equity experts including:

- **Dr. Calvin Mackie**, National PTA Board Member (2014-2016), Founder of STEM NOLA, Author, Award-winning Engineer, Motivational STEM Speaker and Entrepreneur
- **Antonio Tijerino**, National PTA Board Member (2013-2015), President and CEO of Hispanic Heritage Foundation
- **Dr. Cindy Moss**, Director of Global STEM Initiatives for Discovery Education
- **Dr. Talmesha Edwards**, Chief Academic and Diversity Officer for STEMConnector®

These thought leaders shared what national leaders believe is causing the underrepresentation of some ethnic minority student populations—especially Latino/Hispanic and African American students—in STEM education and career paths. They **identified a gap in awareness among parents and caregivers—especially in low-income families—about the vast opportunities for professionals with STEM skills**, including professions that require only an associate’s degree or certification. The experts discussed the role of families in helping students to pursue STEM education and careers and what schools and communities are doing to increase STEM access.

STEP 3: CONVENE CROSS-SECTOR INDUSTRY LEADERS IN STEM, FAMILY ENGAGEMENT AND EDUCATION

On March 22, 2016, National PTA and Bayer, the STEM Plus Families Founding Sponsor, convened a cross-sector STEM Thought Leaders Meeting at Discovery Education headquarters in Silver Spring, MD. The approximately 60 attendees included STEM professionals, educators, family and community engagement researchers, association executives, government officials and nonprofit organizations. National PTA recognizes participants at the end of this white paper.

The goal of the meeting was to develop **a shared understanding of effective family engagement in STEM** and discuss the **correlation between the gap in meaningful engagement of families in STEM and the underrepresentation of minority, female and low-income students** in STEM education and career pathways.

At the meeting, candid discussions occurred on how to best work together as a collective body of entities with unique objectives and capabilities to strengthen family engagement in STEM education, especially targeting the families of underrepresented student populations.

Attendees learned about the vision for National PTA’s STEM Plus Families initiative and guided National PTA’s approach moving forward.

KEY FINDINGS

Engaging Families in STEM

FINDING #1: FAMILIES MUST BE MORE ENGAGED IN STEM

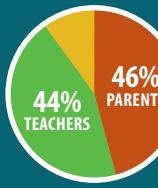
The scan of the STEM landscape and thought leader discussions resulted in consistent findings:

- **Few STEM education programs currently engage families** beyond “sign-up,” “pay for,” “drop-off” or “stay and watch” experiences.
- **Families are unaware** about the vast career opportunities in STEM and **rely on their own experiences with STEM subjects** to guide perceptions about STEM for their children
- **Families are not equipped** to support STEM education decision-making or to guide their children toward STEM career pathways
- **Families have not been empowered to advocate** for high-quality STEM education and programs for all students in school, home, community or digital settings

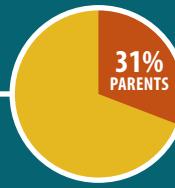
We know meaningful family engagement works. Research shows that no matter what the family income or background may be, students with involved parents or caretakers are more likely to earn higher grades, pass their classes, attend school regularly, have better social skills and graduate and go on to postsecondary education (Henderson & Map, 2002).

A RECENT FACTS OF SCIENCE EDUCATION SURVEY COMMISSIONED BY BAYER (2015) UNDERSCORES THE IMPORTANCE OF FAMILY ENGAGEMENT TO STEM EDUCATION.

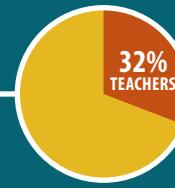
KEY FINDINGS FROM THE SURVEY INCLUDE:



Parents are most likely to say they, themselves, play the biggest role in stimulating their child's interest in science (46%), followed closely by teachers (44%)



Nearly one-third (31%) of parents don't feel confident enough in their scientific knowledge to help their children engage in hands-on science activities



Nearly one-third (32%) of teachers say parent support or involvement at home would be most helpful in increasing hands-on science learning experiences



FINDING #2: USE A PROVEN MODEL: PTA'S NATIONAL STANDARDS FOR FAMILY-SCHOOL PARTNERSHIPS

The PTA National Standards for Family-School Partnerships is a research-based framework to guide effective family and community engagement. These standards help to shift a mindset from engaging families in one-time, add-on events to engaging families in a **systemic, integrated and continuous way across all contexts where children learn.**

Currently, there is little research on family engagement efforts in STEM education and career pathways. As a result, during the STEM Thought Leaders meeting, cross-sector experts discussed establishing **a baseline of what high-quality family engagement in STEM may look like and the outcomes it should generate.**

The discussion led to how the PTA National Standards for Family-School Partnerships can be used for designing a comprehensive approach to family engagement in STEM that answers the following questions:

- How can we improve the way we **welcome families and encourage their involvement** in STEM in school, after-school, community and digital settings?
- How can we provoke **two-way communication between families and educators** about the opportunities available through STEM education and careers?
- How are we **helping families to support their children** from an early age to pursue STEM interests through education, enrichment and career planning?
- How are we **supporting families to ensure that all students**—especially minority students, female students and students with low socioeconomic means—**have what they need to access STEM** education and pursue STEM careers?
- How are we **preparing families to be involved in students' STEM educational choices?**
- How are **families involved in school improvements and empowered to be advocates** related to STEM education and resources in schools, after-school and community settings?
- How can we use **STEM as a connector of families, schools and community entities—deepening collaborations to enrich opportunities** for students to engage in STEM learning?

THE PTA NATIONAL STANDARDS FOR FAMILY-SCHOOL PARTNERSHIPS



FINDING #3: ADDRESS BARRIERS FOR FAMILIES TO ENGAGE IN STEM

There are numerous barriers to STEM education and careers. Experts at the STEM Thought Leaders Meeting identified and discussed these barriers, as well as possible solutions. They concluded that any family engagement effort must proactively address these barriers in a culturally responsive way. These barriers included:

- Limited **access** to high-quality STEM education programs in schools
- Limited **awareness** about STEM subjects among parents/caregivers
- Limited **knowledge** about the array of STEM career opportunities among families
- Limited **financial resources** among families to pursue STEM enrichment opportunities in communities or online
- Existing **perceptions** about STEM as too challenging or too expensive to pursue
- Gaps in **opportunities** to connect with STEM professionals that reflect underrepresented students (females, race/ethnicity, low income)

True family engagement is not a cookie-cutter or blanket solution. It is responsive to the unique needs and perspectives of the families, students and communities involved. Experts at the Thought Leaders meeting shared that meaningful engagement of families must recognize “where they are at” — what families know, what they perceive and what they are challenged by as it relates to supporting students in STEM education and career opportunities.

THE PROBLEM:

Families aren't equipped to guide educational decisions or career pathways in STEM, nor empowered to advocate for high-quality access to STEM education. This may be especially true for underrepresented youth (e.g., female, minority and low-income students) who aren't finding their way into fast-growing STEM fields.

OUR SOLUTION:

Equip and empower families to guide educational decisions and career pathways in STEM, while amplifying their voices as advocates for improving the quality of STEM education available to all students – regardless of zip code, ethnicity, race or gender.

KEY FINDINGS

Engaging Families in STEM

CALL TO ACTION: STEM PLUS FAMILIES

Now is the time to shift the conversation in STEM to include parents and families as important partners in STEM education and career pathways. To help all students access high-quality STEM programs in schools, districts, after-school programs and all organizations with STEM programs, families must be equal partners with all other stakeholders. Engaging families in STEM programs and advocacy will be a demonstrably effective strategy in STEM improvement efforts. The following recommendations will help fully realize the potential of families as an integral partner, especially in closing the gap among underrepresented students in STEM education.

RECOMMENDATION #1

DEMYSTIFY STEM FOR FAMILIES. Educate about the ways parents, caregivers and other family members can support STEM learning, influence educational decision-making and access STEM opportunities outside of the classroom.

It is often said that parents are a child's first teacher. That's why parents and caregivers are key partners for teachers and schools to engage, develop and expand STEM learning and access. The findings in this white paper demonstrate that many families view STEM careers as unobtainable or impossible because of their lack of understanding of the depth of STEM education, careers and opportunities.

STEM can be more relatable to families if they understand that:

- STEM can be fun, interactive experiences in classroom, after-school, community and digital settings, as well as at home and in the great outdoors
- Everyday innovations have been created by a range of STEM professionals
- Employment in STEM includes a vast array of opportunities that span two-year and four-year college requirements, as well as certification programs, and involves teamwork, critical thinking and problem-solving skills
- Supporting students in STEM does not equate to knowing the subject matter, but rather setting clear and high expectations of student performance; creating supportive learning environments at home; and asking questions that help to guide the exploration of courses students need to pursue for STEM career pathways

In response to this recommendation, National PTA will work with its existing partners and expand its collaborations to:

1. **Give families 100,000 STEM experiences** at home, after-school and in community and digital settings by Spring 2018, allowing these families to fully experience the fun of STEM learning
2. **Lead a public awareness campaign** that educates families about the array of opportunities in STEM careers and empowers them to deepen their support of students pursuing STEM
3. **Support local PTAs and schools in direct outreach to families**—especially families of underrepresented students in STEM—to educate them in a culturally-responsive way about how to support students' STEM education and career exploration



RECOMMENDATION #2

DEVELOP A COMPENDIUM OF PROVEN FAMILY ENGAGEMENT METHODS. Invest in the evaluation of family engagement efforts in STEM education and programs. Collect and share what works for engaging families in STEM learning during the early childhood years as well as in-school and out-of-school Pre-K to Grade 12 environments.

Currently, engaging families in STEM often looks like attendance at a school science or math fair, or possibly a program sign-up sheet, drop-off line or fee transaction. These one-time events or processes do not give families the information they need to support their students' educational decisions or career pathways. In some cases, these events or transactions may even be barriers to further engagement in STEM.

In response to this recommendation, National PTA will work with its existing partners and expand its collaborations to:

- Shift an industry mindset from engaging families in one-time, add-on events or transactions to engaging families in **a systemic, integrated and continuous way across all contexts where children learn**
- **Provide guidance to STEM educators and organizations** about the connection between family engagement and student learning outcomes, as well as how they can effectively engage families
- **Develop an assessment tool** to examine families' unique perspectives on STEM education and barriers for student participation, and develop a corresponding implementation guide that addresses specific needs as well as recommends culturally-responsive strategies for effective family engagement in STEM
- **Collect and share proven strategies** for engaging families in STEM learning and career planning in school, home, after-school, community and digital settings

RECOMMENDATION #3

MOBILIZE THE COMMUNITY TO ACHIEVE TRANSFORMATION. Assess both the strengths and needs of the community and develop strategies that empower families with information about the ways they can support their students' success. Amplify their voices as consumers to demand access to the high-quality STEM education and enrichment opportunities that are available — regardless of zip code, race/ethnicity, gender or family income.

In response to this recommendation, National PTA will work with its existing partners and expand its collaborations to:

- **Fuel strengths-based family and community engagement strategies** that acknowledge the unique perspectives of families and leverage community assets to overcome barriers to STEM
- **Develop STEM family and community engagement tools** to help PTAs bring together school, business, parent, community and STEM leaders to develop a long-range plan that improves STEM education
- **Amplify families' voices as consumers of education** advocating for high-quality STEM education, STEM enrichment programs and pathways to STEM careers





The gap in the STEM pipeline is not a new problem.

But intentionally engaging families is a new solution.

Join National PTA and its founding sponsors, Bayer and Mathnasium, as we launch **STEM PLUS Families**. We call on our collaborators—educators, STEM professionals, STEM employers, STEM investors, community organizers and others—to join us as we **add FAMILIES to the STEM equation**.

Start today by reflecting on how you, your organization or your school engages families in STEM:

- Do you share the information families need to ensure their students are successful in STEM?
- Do you engage families in the experience of STEM learning?
- Do you empower families to set high expectations for their students and make good decisions about STEM education and careers?
- Do you ask, listen and respond to families' unique perspectives on what may make it more possible for students to participate in STEM?

Then [visit PTA.org/STEM](#) to pledge your commitment to improving the way families are engaged in STEM.

Together, we can reach families **early** and inspire them **often** to support STEM learning and imagine the possibilities of STEM careers.

LEARN MORE ABOUT STEM PLUS FAMILIES:

PTA.org/STEM



REFERENCES

- Afterschool Alliance, (2014). Full STEM ahead: Afterschool programs step up as key partners in STEM education. Retrieved from <http://www.afterschoolalliance.org/AA3PM/#>.
- Bayer Corporation. (2015). Bayer Facts of Science Education XVII-2015. Retrieved from http://www.msms.bayer.us/msms/MSMS_Education_Resources_Activities/ResourcesSTP/Survey/Assets/Bayer_Facts_16_Exec_Summary2015.pdf.
- Beede, D., Julian, T., Khan, B., Lehrman, R., McKittrick, G., Langdon, D., & Doms, M. (2011). Education supports racial and ethnic equality in STEM. Retrieved from <http://files.eric.ed.gov/fulltext/ED523768.pdf>.
- Boys & Girls Clubs of America (2014). Advancing underrepresented youth in STEM during out-of-school time. Retrieved from <https://issuu.com/bgca/docs/stem-great-think-white-paper-final-/5>.
- Denner, J., Bean, S., & Martinez, J., (2009). The girl game company: Engaging Latina girls in information technology. *Afterschool Matters*, 8, 26-35. Retrieved from <http://files.eric.ed.gov/fulltext/EJ1068615.pdf>.
- George, J., Goss-Graves, F., Frohlich, L., Kaufman, L.S., & Smith-Evans, L. (2014). Unlocking opportunity for African American girls. Retrieved from http://www.nwlc.org/sites/default/files/pdfs/unlocking_opportunity_for_african_american_girls_report.pdf.
- Girl Scout Research Institute. (2012). Generation STEM: What girls say about Science, Technology, Engineering, and Math. New York, NY. Retrieved from <http://www.girlscouts.org/en/about-girl-scouts/research/publications.html>.
- Gottfried, M. A. & Williams, D. (2013). STEM club participation and STEM schooling outcomes. *Education Policy Analysis Archives*, 21 (79) Retrieved from <http://epaa.asu.edu/ojs/article/view/1361>.
- Krishnamurthi, A., Ballard, M., & Noam, G. (2014). Examining the impact of afterschool STEM programs. Retrieved from <http://files.eric.ed.gov/fulltext/ED546628.pdf>.
- Mosatche, H., Matloff-Nieves, S., Kekelis, L., & Lawner, E.K. (2013). Effective STEM programs for adolescent girls. *Afterschool Matters*. Retrieved from <http://files.eric.ed.gov/fulltext/EJ1003839.pdf>.
- My College Options & STEMconnector. (2013, January 14). Where are the STEM students? Retrieved from <http://www.stemconnector.org/sites/default/files/store/STEM-Students-Jobs-Executive-Summary.pdf>.
- National Math and Science Initiative. (n.d.). Increasing the achievement and presence of under-represented minorities in STEM fields. Retrieved from <http://nms.org/AboutNMSI/TheSTEMCrisis.aspx>.
- VanMeter-Adams, A., Frankenfeld, C., Bases, J., Espina, V., & Liotta, L. (2014). Students who demonstrate strong talent and interest in STEM are initially attracted to STEM through extracurricular experiences. *CBE- Life Sciences Education*, Vol. 13, 687-697. <http://www.lifescied.org/content/13/4/687.full.pdf+html>.
- Sammet, K. & Kekelis, L., (2016). Changing the game for girls in STEM: Findings on high impact programs and system-building strategies. Retrieved from <http://online.fliphmt5.com/udnc/tezw/#p=1>.
- Schmidt, W.H. (2011). STEM reform: Which way to go? Retrieved from http://www.7.nationalacademies.org/bose/STEM_Schools_Workshop_Paper_Schmidt.pdf.

Suggested citation: Jackson, R., & King, MP, Increasing Students' Access to Opportunity in STEM by Effectively Engaging Families. Alexandria, VA: National PTA, July 2016.

THANK YOU

National PTA thanks **STEM Plus Families** founding sponsors, Bayer and Mathnasium, as well as all of the participants of the inaugural STEM Thought Leaders Meeting.

FOUNDING & PRESENTING SPONSOR



FOUNDING SPONSOR



NATIONAL PTA LEADERSHIP

Laura Bay, National PTA President

Jim Accomando, National PTA President-Elect

MODERATORS

Renee Jackson, Ed.D., Senior Manager of Education Initiatives, National PTA

Thomas Murray, Director of Innovation for Future Ready Schools, Alliance for Excellent Education

PARTICIPANTS OF STEM THOUGHT LEADERS MEETING

T. Jason Weedon, Senior Vice President, Corporate Relations & Strategic Partnerships, Achieve

Erin Murphy, Research Assistant, Afterschool Alliance

Andrew D. Watson, Arts Instructional Specialist, Alexandria Public Schools

Florence Holland, Ed.D., Lead Manager of Pipeline Initiatives, American Institute of Certified Public Accountants

Kristen Engebretsen, Arts Education Policy Manager, Americans for the Arts

Brian Turmail, Senior Executive Director of Public Affairs, Associated General Contractors of America

Dianne M. Koval, Senior Manager, U.S. Corporate Social Responsibility, Bayer Corporation

Diana Pecina, Director of Partnerships, Bedtime Math Foundation

Sandy LoPiccolo, Director of Communications, Bedtime Math Foundation

Eric Larson, Director, IT Future Labs, Creating IT Future Foundation

Taryn Hochleitner, Senior Associate, Policy and Advocacy, Data Quality Campaign

Stephen Wakefield, Vice President, Public Affairs, Discovery Education

Cindy Moss, Ph.D., Senior Director of Global STEM Education, Discovery Education

Heidi Rosenberg, Ph.D., Research Scientist, Education Development Center

Carla Proulx, Alliance Manager, FIRST

Denese Lombardi, Executive Director, Girls Inc., of the Washington, DC Metropolitan Area

Josephine Lee, Manager, Parent and Family Services, Girls Who Code

Stephanie Herrera, Chief Operating & Development Officer, Hispanic Heritage Foundation

Jasmin Zamorano, Director of Programs, Hispanic Heritage Foundation

Brent A. Wilkes, National Executive Director, League of United Latin American Citizens

Sally Wade, Ed.D., Senior Program Associate, Manhattan Strategy Group

Kirstie DeBiase, Ed.D., Director of Training, Mathnasium

Jennifer Nicholls, Ph.D., Director of Education, Mathnasium

Laura Wallof, Marketing Project Coordinator, Mathnasium

Lauren Ramsey, Partner Channel Manager, Microsoft

Lisa R. Ransom, Senior Policy Advisor, National Alliance for Partnership in Equity

Keami Harris, Director of Capacity Building Programs, National Association for Family, School, and Community Engagement

Juliana Ospina Cano, STEM Manager, National Council of La Raza

Ken Krehbiel, Associate Executive Director for Communications, National Council of Teacher of Mathematics

Amy Lorez, Deputy Executive Director, National PTA

Amy Sheldon, Director, Resource Development, National PTA

Kris Carey Prevatte, Associate Director Corporate Alliances, National PTA

LaWanda Toney, Director, Strategic Communications, National PTA

Lindsay Kubatzky, Government Affairs Coordinator, National PTA

Mary Pat King, Director of Programs and Partnerships, National PTA

Catherine Eberbach, Ph.D., Program Director, National Science Foundation

Barbara Stein, Director of Strategic Partnerships, P21

Aaron Morris, Assistant Director of Content, PBS KIDS Digital

Terry Boehm, President, Pinellas Education Foundation

Calvin Mackie, Ph.D., President, STEM NOLA

Amy Przywara, Chief Marketing Officer, Sylvan Learning

Sasha Shultz, Chief Product Officer, Sylvan Learning

Melissa Mortiz, Deputy Director of STEM, U.S. Department of Education

Carmen Sanchez, Education Program Specialist, U.S. Department of Education

Clarissa Childers, Education Project Manager, U.S. Department of Energy Office of Energy Efficiency

Nick Hutchinson, Executive Director, US2020

A special thank you to Discovery Education for providing the venue and meals for the event.

