



STEM Smart: Lessons Learned From Successful Schools

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Speaker Biographies

Elaine Allensworth

Consortium on Chicago School Research

Elaine Allensworth is senior director and chief research officer at the Consortium on Chicago School Research at the University of Chicago. She conducts research on the factors that affect high school students' educational attainment, including high school graduation and college readiness, as well as the structural factors that affect school improvement. She is best known for her work on early indicators of high school graduation, including the study *What Matters for Staying On-Track and Graduating*, which has been used to develop tracking systems in Chicago and in districts across the country. Allensworth is one of the authors of the book *Organizing Schools for Improvement: Lessons from Chicago*, which yields a comprehensive set of school practices and school and community conditions that promote improvement. Currently, she is working on studies of high school curricula and middle grade predictors of college readiness. Allensworth has served on several committees for the National Academies, is a standing member of the Scientific Review Panel of the U.S. Department of Education, and was on the board of the Illinois Education Research Council. She holds a Ph.D. in sociology from Michigan State University, and was formerly a high school teacher.

Jere Confrey

North Carolina State University

Jere Confrey is the Joseph D. Moore Distinguished Professor of Mathematics Education at North Carolina State University. She is designing diagnostic assessments using wireless devices for rational numbers and learning trajectories. She served on the National Validation Committee on the Common Core Standards. She was vice chairman of the Mathematics Sciences Education Board, National Academy of Sciences (1998—2004). She chaired the NRC Committee, which produced *On Evaluating Curricular Effectiveness*, and was a coauthor of NRC's *Scientific Research in Education*. She was a co-founder of the UTEACH program for Secondary Math and Science teacher preparation program at the University of Texas in Austin, and was the founder of the SummerMath program for young women at Mount Holyoke College and co-founder of SummerMath for Teachers. Confrey received a Ph.D. in mathematics education from Cornell University.

Carlos Contreras

Intel Corporation

Carlos Contreras is the U.S education manager at Intel Corporation. Trained as an engineer, Contreras began his career as process engineer for Procter & Gamble paper products, where he made Bounty paper towels and Charmin toilet paper for the West Coast. Following his work at Procter & Gamble, he went to graduate school at the Thunderbird American Graduate School of International Management. This led to work in finance. After working for 10 years in finance at Intel Corporation, he moved to Intel's

Corporate Affairs as a regional education manager. In this capacity, Contreras worked hands-on with others to create and implement programs that improved access to math, science, and technology education. As U.S. education manager for Intel, Contreras develops the Intel U.S. education strategy, working with others to drive education policy change at the national level. He oversees Intel's education programs in the United States, which include grants to encourage excellence in math, science, and engineering in K–12 as well as higher education and use of technology in the classroom. He has a bachelor's degree in industrial engineering from the University of Arizona and a master's in business from Thunderbird, the American Graduate School of International Management.

Chaka Fattah

Congressman, 2nd District of Pennsylvania

Chaka Fattah, now serving in his ninth term in the U.S. House of Representatives, represents the Second Congressional District of Pennsylvania. A member of the Appropriations Committee, which oversees over \$800 billion in discretionary spending, Congressman Fattah is co-chair of the Congressional Urban Caucus. Fattah—a longtime leader on urban and educational policy—created GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs), which has contributed nearly \$2 billion toward the educational advancement of low-income students. Now the largest pre-college awareness program in our nation's history, GEAR UP has prepared millions of students from America's inner cities not only to enter college, but to succeed once there. Congressman Fattah founded the Graduate Opportunity Initiative to significantly increase the enrollment of underrepresented graduate students studying science, technology, engineering, and math (STEM). Fattah also created the Fattah Conference on Higher Education, which over two decades has made over \$33 million in scholarships available to put minority students into graduate school. He created CORE Philly, the nation's first scholarship program designed to provide college scholarships to every high school graduate from a given city. Once named by *Time Magazine* as one of America's 50 most promising leaders, Fattah has lived up to that promise, leading the fight to provide quality housing to low-income families, leading the fight to educate low-income students across America, joining the fight to deliver discounted oil to impoverished families, and leading the fight to put the best American leaders in place.

Joan Ferrini-Mundy

National Science Foundation

Joan Ferrini-Mundy is Assistant Director of the National Science Foundation's (NSF) Directorate for Education and Human Resources, a position she has held since February, 2011. Ferrini-Mundy is responsible for setting the vision and establishing the mission of its Directorate for Education and Human Resources (EHR), whose budget in FY2010 was more than \$800 million with a staff of more than 150 people. She serves as a member of the NSF senior management team and is involved in strategic planning and direction for the scientific and education mission of the NSF. Ferrini-Mundy's current activities include: a government-wide performance management effort; a leadership role in defining NSF's budget priorities for Fiscal Year 2013; and an on-going collaboration with the White House Office of Science and Technology Policy in developing a government-wide strategic plan for science, technology, engineering, and mathematics (STEM) education and workforce development. From 2007 through January 2011, she was an NSF member of the National Science and Technology Council's (NSTC) Subcommittee on Education of the Committee on Science, and currently serves on two task forces of the new NSTC Committee on STEM Education.

Ferrini-Mundy is currently a member of the Mathematics Expert Group of the Programme for International Student Assessment (PISA). In 2007-2008, representing NSF, she served as an ex-officio member of the President's National Mathematics Advisory Panel. She has served on the Board of Directors of the National Council of Teachers of Mathematics (NCTM), and served on the Board of Governors of the Mathematical Association of America. Ferrini-Mundy holds a PhD in mathematics education from the University of New Hampshire. Ferrini-Mundy holds an appointment at Michigan State University (MSU) as a University Distinguished Professor of Mathematics Education in the Departments of Mathematics and Teacher Education.

John Fry

Drexel University

John Fry is Drexel University's 14th president. Since his appointment in 2010, he has focused Drexel's energies on becoming the most civically engaged university in the nation, bringing its interdisciplinary strengths to bear on society's biggest challenges and increasing the university's global presence. He also launched a comprehensive strategic planning process including a campus master plan, academic plan, and enrollment plan. Fry has served higher education for his entire professional life. He came to Drexel from Franklin & Marshall College, where he served as president from 2002 and was instrumental in the college's academic growth, campus and neighborhood development, and improved finances. Prior to that, Fry served as executive vice president of the University of Pennsylvania. At Penn, Fry was a major force in developing and implementing Penn's Agenda for Excellence, a comprehensive plan that guided strategic initiatives from 1996 to 2001. He also built a coalition of not-for-profit, business, neighborhood, and governmental organizations in support of a multi-pronged strategy to address the key challenges facing the University City neighborhood in West Philadelphia. Before joining Penn, Fry was a higher education consultant, first with KPMG Peat Marwick and then with Coopers & Lybrand's National Higher Education Consulting Practice, where he was partner-in-charge of the national practice. Fry served as chair of the NCAA Division III Presidents Council as part of six years of service to the Council. He also served for three years on the Executive Committee of the NCAA. He was appointed by President George W. Bush to serve on the Benjamin Franklin Tercentenary Commission that planned the celebration of Franklin's 300th birthday. Fry also served as a co-chair of the transition team of Governor-Elect Edward Rendell of Pennsylvania. Currently, Fry serves on the boards of the Haverford School, Lafayette College, Damon Runyon Cancer Research Foundation, Pennsylvania Academy of the Fine Arts, the Greater Philadelphia Chamber of Commerce, Select Greater Philadelphia, the Schuylkill River Development Corporation and US Squash. He was the founding chairman of the University City District and served in that capacity for five years. He is also a director of Community Health Systems, Delaware Investments, and NASDAQ-OMX. He studied American civilization at Lafayette College and received the George Wharton Pepper Prize, the highest honor awarded to a graduating senior. He received his MBA from the New York University Stern School of Business in 1986.

Adam Gamoran

University of Wisconsin-Madison

Adam Gamoran is the John D. MacArthur Professor of Sociology and Educational Policy Studies and director of the Wisconsin Center for Education Research at the University of Wisconsin-Madison. His research focuses on inequality in education and school reform. As chair of the National Research Council's Committee on Highly Successful Schools or Programs in K-12 Education, Gamoran led the development of the committee's report, *Successful K-12 STEM Education: Identifying Effective Approaches in Science, Technology, Engineering, and Mathematics* (National Academy Press, 2011). He is also the lead author of *Transforming Teaching in Math and Science: How Schools and Districts Can*

Support Change (Teachers College Press, 2003), editor of *Standards-Based Reform and the Poverty Gap: Lessons for No Child Left Behind* (Brookings Institution Press, 2007), and co-editor of *Stratification in Higher Education: A Comparative Study* (Stanford University Press, 2007). Gamoran has also published widely in academic journals in sociology and education, and in outlets for educational practitioners. His research and training activities are supported by the National Science Foundation (NSF), the Institute of Education Sciences, and the National Institute of Child Health and Human Development. He has served on a variety of national panels, and is currently a member of the National Research Council's Board on Science Education. He also chairs the Independent Advisory Panel of the National Assessment of Career and Technical Education for the U.S. Department of Education, and was appointed by President Barack Obama to serve as a member of the National Board for Education Sciences. He received his Ph.D. in education at the University of Chicago in 1984.

Evan Glazer

Thomas Jefferson High School

Evan Glazer has been the principal of Thomas Jefferson High School for Science and Technology for the past five years. During his tenure, the school has been recognized by *US News and World Report* as the #1 public high school in America, by the U.S. Department of Education as a Blue Ribbon School, and by Intel Corporation as the national Star Innovator in Science. Thomas Jefferson High School for Science and Technology offers a wide spectrum of STEM offerings, including courses in neuroscience, organic chemistry, computational physics, bionanotechnology, artificial intelligence, and alternative energy systems. All students are required to complete STEM research projects as part of their diploma, either in one of its 13 research laboratories or at a regional government, university, or corporate research facility. The TJ Partnership Fund, the 501c3 organization aimed to close resource gaps, works closely with the school to develop connections between industry and the school's curriculum so students have access to resources that promote unique learning opportunities. The school provides extension programs for students attending other schools, as well as extensive outreach to younger populations, in order to promote its mission.

Glazer was born and raised in the Chicago suburbs. He earned a B.S. in mathematics and an M.S. in mathematics education at the University of Illinois, and a Ph. D. in instructional technology at the University of Georgia. As a mathematics teacher in Glenview, Ill., he emphasized inquiry-based learning, technology-enhanced explorations, and real-world applications. Some of his work can be seen in his books *Using Internet Primary Sources to Teach Critical Thinking* and *Everyday Use of Mathematical Concepts: A Reference Guide*. At the university level, Glazer taught courses on instructional design, research methods, and using computers in the classroom. His research examined social and environmental factors that influence professional learning as teachers integrate technology into their classrooms.

Sandra Dungee Glenn

American Cities Foundation

Sandra Dungee Glenn's career spans over 30 years in public policy, electoral politics, and community organizing. She has been actively involved in public education for a decade. In 1998, she co-founded the Pennsylvania Campaign for Public Education. In 2001, Dungee Glenn was appointed to the Board of Education for the School District of Philadelphia. She served from 2002 to 2007 as a commissioner on the School Reform Commission (SRC), the governing body of the School District of Philadelphia. In September 2007, Pennsylvania Governor Edward Rendell appointed Dungee Glenn to the position of Chairwoman of the SRC. In 2009, Governor Rendell appointed her to the Pennsylvania State Board of Education.

Dungee Glenn graduated from Pennsylvania State University in 1978 with a Bachelor of Science degree. She served as associate director with the Philadelphia Area Project on Occupational Safety and Health and Regional Director of Pennsylvania Citizen Action, receiving an outstanding service award from both organizations. From 1991 to 1994, she served as chief of staff to State Senator Chaka Fattah.

Dungee Glenn has extensive experience in partisan and non-partisan political organizing. She has served in leadership roles in various local, state, and national elections from 1983 to 2001. She also served as Pennsylvania state director with the NAACP National Voter Fund, leading a statewide non-partisan voter mobilization campaign.

Dungee Glenn is the recipient of various awards including the 2003 Leon J. Obermayer Distinguished Graduate Award; the Arts & Entertainment Network 2002 Biography Community Heroes Award; the Women Making a Difference Award, 2001; and the National Coalition of 100 Black Women, Inc., Pennsylvania Chapter Women of the Year Award. In 2002, Dungee Glenn was selected as a Robert Wood Johnson Urban Health Initiative Fellow and by the Philadelphia Tribune as Most Influential African-American 2007, 2008, and 2009.

Michael Lach

U.S. Department of Education

Michael Lach is currently special assistant, STEM Education, U.S. Department of Education. Lach previously served as officer of teaching and learning, overseeing curriculum and instruction in the 600+ schools comprising the Chicago Public Schools, the nation's third largest school district. He began teaching high school biology and general science in 1990 at Alce Fortier Senior High School in New Orleans as a charter member of Teach for America, the national teacher corps. After three years in Louisiana, he joined the national office of Teach for America as director of program design, developing a portfolio-based alternative-certification system that was adopted by several states. Returning to the science classroom in 1994 in New York City Public Schools, and in 1995 at Lake View High School in Chicago, he was named one of Radio Shack's Top 100 Technology Teachers, earned National Board certification, and was named Illinois Physics Teacher of the Year. Lach has served as an Albert Einstein Distinguished Educator Fellow, advising Congressman Vernon Ehlers (Mich.) on science, technology, and education issues. He was lead curriculum developer for the *Investigations in Environmental Science* curriculum developed at the Center for Learning Technologies in Urban Schools at Northwestern University, published by It's About Time, Inc. As an administrator, he led the Chicago Public Schools' efforts in science and mathematics instruction in a variety of roles between 2003 and 2007. He has written extensively about science teaching and learning for publications such as *The Science Teacher*, *The American Biology Teacher*, and *Scientific American*. Lach earned a bachelor's degree in physics from Carleton College, and master's degrees from Columbia University and Northeastern Illinois University.

Chris Lehmann

Science Leadership Academy

Chris Lehmann is the founding principal of the Science Leadership Academy, a progressive science and technology high school in Philadelphia, Pa. The Science Leadership Academy is an inquiry-driven, project-based, 1:1 laptop school that is considered to be one of the pioneers of the School 2.0 movement nationally and internationally. The school was recognized by Ladies Home Journal as one of the Ten Most Amazing Schools in the U.S., has been recognized as an Apple Distinguished School in 2009 and 2010, and has been written about in many publications including *Edutopia Magazine*, *EdWeek*, and the *Philadelphia Inquirer*. Lehmann returned to his native Philadelphia after nine years as an English

teacher, technology coordinator, girls basketball coach, and ultimate Frisbee coach at the Beacon School in New York City, one of the leading urban public schools for technology integration.

In June 2010, Lehmann was named as one of the “30 Most Influential People in EdTech” by *Technology & Learning Magazine*. In 2009, he was an honoree for the Association of Supervision and Curriculum Development’s Outstanding Young Educator Award. He was named as one of “40 Under 40” by *Philadelphia Business Journal* in 2009. In 2006, the National School Board Association named Lehmann one of “20 to Watch” among American administrators. In 2001, he was honored by MOUSE as a Champion of Technology and Education for his work on building the portal at the Beacon School. He has written for such education publications as *Principal Leadership Magazine*, *Learning and Leading with Technology Magazine*, and the *School Library Journal*. Lehmann has spoken at conferences all over the world, including TEDxPhilly, TEDxNYED, the National Association of Secondary Schools Conference, the Building Learning Communities conference, the National Educational Computing Conference, the Philadelphia Area Educational Technology Conference, The Yahoo Cybercitizen Conference, the Innovative Learning Conference, The Council of Educational Facilities Planners Regional Conference, the K12-Online Conference, the International Conference on Technology and Education, and at LinuxWorld, and he has worked with many schools and districts in the United States and England as a consultant.

Lehmann received his B.A. in English literature from the University of Pennsylvania and his M.A. in English education from Teachers College, Columbia University. He is co-editor of *What School Leaders Need to Know about Digital Technologies and Social Media*, the author of the education blog *Practical Theory*: <http://www.practicaltheory.org>.

Cora Marrett

National Science Foundation

Cora Marrett was confirmed by the U.S. Senate on May 26, 2011 to serve as deputy director of the National Science Foundation (NSF). Previously, Marrett served as the assistant director for NSF’s Education and Human Resources (EHR) directorate from 2007 to 2009. While there, she led the directorate to support the NSF’s mission to achieve excellence in U.S. science, technology, engineering, and mathematics (STEM) education at all levels and in both formal and informal settings.

From 1992–1996, Marrett served as the NSF’s assistant director for social, behavioral and economic sciences (SBE). For her leadership in developing new research programs and articulating the scientific projects of this new directorate, Marrett received the NSF’s Distinguished Service Award.

Prior to returning to the NSF in 2007, Marrett served as the University of Wisconsin’s senior vice president for academic affairs for six years. Before that, she served as senior vice chancellor for academic affairs and provost at the University of Massachusetts-Amherst for four years.

Marrett holds a Bachelor of Arts degree from Virginia Union University, and Master of Arts and doctorate from the University of Wisconsin-Madison, all in sociology. She received an honorary doctorate from Wake Forest University in 1996, and was elected a fellow of the American Academy of Arts and Sciences in 1998 and the American Association for the Advancement of Science in 1996. She received an honorary doctorate from Virginia Union, her alma mater, in May 2011.

Dale McCreedy

The Franklin Institute

Since the late 1980s, Dale McCreedy has led the development of national programs that demonstrate how science museums can help girls and adults become confident, capable science learners and

facilitators. As project director for two NSF grants, the National Science Partnership for Girl Scouts and Science Museums (NSP/1992–1996) and Girls At the Center (GAC/1996–2001), McCreedy established a sustained collaboration with the Girl Scouts of the USA. This collaboration, in turn, created a national network of science museum/Girl Scout council partnerships in 48 states to promote gender-based science learning and family support for girls' science learning. Participants are part of a research initiative begun in 2005 that is looking at the impact of these programs on girls' futures. Girls At the Center encouraged family involvement in girls' science learning, was implemented nationally through the publication *Girls and Adults Learning SCIENCE Together* in 2002, and led to a new initiative that expanded expertise in intergenerational science learning strategies to a broader, school-based, co-ed audience called Parent Partners in School Science (PPSS/2001–2005). This multi-year collaboration with three Philadelphia elementary schools developed a promising model to cultivate collaboration between parents and teachers as they help students learn science in school and at home. Currently, McCreedy is project director for an additional NSF-funded program called LEAP into Science: A National Museum/Library Collaboration (2007–2012). This model partnership promotes family and after-school student engagement and achievement in science and literacy. McCreedy was the 2002 winner of the Maria Mitchell Award for Women in Science and is the current president of the Visitor Studies Association.

F. Joseph Merlino

The 21st Century Partnership for STEM Education

F. Joseph Merlino is president of the 21st Century Partnership for STEM Education and PI of the National Center for Cognition and Science Instruction. For the past 19 years, he has served as PI to a number of NSF awards housed at La Salle University impacting nearly 5,000 secondary math and science teachers. These projects include the Math Science Partnership of Greater Philadelphia (2003–2012); the Greater Philadelphia Secondary Mathematics Project, 1998–2003; and the Philadelphia Interactive Mathematics Program (IMP) Regional Dissemination Site, 1992–1998. In addition, he has taught graduate courses in curriculum design.

Willie Pearson, Jr.

Georgia Institute of Technology

Willie Pearson, Jr., is professor of sociology, School of History, Technology, and Society, Georgia Institute of Technology. In 1993, he received Southern Illinois University's College of Liberal Arts Alumni Achievement Award. Pearson specializes in the sociology of science and technology and sociology of the family. He is the author or co-editor of seven books and monographs and numerous articles and chapters. He has held research grants from the National Science Foundation (NSF), National Endowment for the Humanities, Sloan Foundation, and Department of Justice. He has held postdoctoral fellowships at the Educational Testing Service and the Office of Technology Assessment, U.S. Congress. He is a Fellow of the American Association for the Advancement of Science (AAAS). He has served as a lecturer in Sigma Xi's Distinguished Lectureship Program; chair of the Committee on Equal Opportunities in Science and Engineering (CEOSE), Executive Office, NSF; and chair of the Committee for Science, Engineering and Public Policy, American Association for the Advancement of Science. In 2001, he was designated a National Associate of the National Academies. Currently, he serves on advisory committees in the NSF's Education and Human Resources Directorate and the Burroughs Wellcome Fund.

Stephen Pruitt

Achieve

Stephen Pruitt was named Vice president for content, research, and development in November 2010. He joined Achieve as the director of science in July 2010. In addition to his new role, he will continue to lead the development of the Next Generation Science Standards. Pruitt began his career as a high school chemistry teacher in Georgia, where he taught for 12 years. In 2003, he joined the Georgia Department of Education (GaDOE) as the program manager for science. He served in that role for four years before becoming director of academic standards, where he oversaw the continued implementation of the Georgia Performance Standards in all content areas. In 2008, he became the associate superintendent of assessment and accountability, responsible for directing all state assessments and overseeing the No Child Left Behind accountability process. In April 2009, Pruitt became chief of staff to State School Superintendent Kathy Cox, coordinating the work of the agency and a variety of projects such as Georgia's third-ranked Race to the Top application. In addition to his state-level work, he also served as president of the Council of State Science Supervisors and a member of the writing team for the College Board's Standards for College Success Science Standards. Most recently, he served on the National Academies of Science's Committee on Conceptual Framework for New Science Education Standards, which is developing the framework for the Next Generation Science Education Standards. A native Georgian, Pruitt earned a bachelor's degree in chemistry from North Georgia College and State University, a master's in science education from the University of West Georgia, and a doctorate of philosophy in chemistry education from Auburn University.

Brian Reiser

Northwestern University

Brian Reiser is professor of learning sciences in the School of Education and Social Policy at Northwestern University. Reiser's research examines how to make scientific practices such as argumentation, explanation, and modeling meaningful and effective for classroom teachers and students. This design research investigates the cognitive and social interaction elements of learning environments supporting scientific practices and design principles for technology-infused curricula that embed science learning in investigations of contextualized data-rich problems. He leads the MoDeLS project (Modeling Designs for Learning Science) to develop an empirically based learning progression for the practice of scientific modeling, and BGulle (Biology Guided Inquiry Learning Environments), developing software tools for supporting students in analyzing biological data and constructing explanations. Reiser is also on the leadership team for IQWST (Investigating and Questioning our World through Science and Technology), a collaboration with the University of Michigan developing a middle school project-based science curriculum.

Reiser was a founding member of the first graduate program in Learning Sciences, created at Northwestern, and chaired the program from 1993, shortly after its inception, until 2001. He was co-principal investigator in the NSF Center for Curriculum Materials in Science, exploring the design and enactment of science curriculum materials, and served on the National Research Council's panel authoring the report *Taking Science to School* and the editorial boards of *Science Education* and *The Journal of the Learning Sciences*.

Lori Shorr

Office of Mayor Michael Nutter

Lori Shorr serves as Mayor Michael Nutter's chief education officer and erector of the Office of the Public School Family and Child Advocate. Since 2006, Shorr has served as vice president of policy and

planning at Philadelphia Youth Network, a nationally recognized not-for-profit that manages \$24 million of investments from government, industry, and the foundations community to serve over 10,000 young people in Philadelphia. In this role, she designed programs and secured funding from both public and private sources for large-scale initiatives focused on systemic cross-agency efforts to improve academic outcomes for disengaged urban youth, as well as career and technical education reform. Prior to this, Shorr was special assistant to the Secretary of Education at the Pennsylvania Department of Education. Here, she reviewed and analyzed the Department's K-16 initiatives and priorities to ensure they met the educational needs of students, communities, and the Commonwealth, providing recommendations to the Secretary where necessary. She also created Governor Rendell's Commission on College and Career Success and served on the Governor's Job Ready Budget Task Force. Shorr received a B.A. from Pennsylvania State University and an M.A. and Ph.D. from the University of Pittsburgh.

Erica Stevens

Boys & Girls Clubs of America

Erica Stevens is the senior director of education and the arts at Boys & Girls Clubs of America (BGCA). She is responsible for the supervision and management of a comprehensive academic success initiative, including the high school graduation strategy. Stevens began her work in the Boys & Girls Clubs Movement in April 2001 as director of education programs. In this role, she was responsible for giving support through program management and development, training, and consultation to educational initiatives including Project Learn, Power Hour, Goals for Graduation, science and math initiatives, academic recognition, and the Clubs' renovation of their learning centers. Prior to her work at BGCA, Stevens worked with both local and state organizations, including Big Brothers/Big Sisters and the Tennessee Agricultural Extension Service Family and Consumer Sciences and 4-H, respectively. She has also taught courses and conducted research in both human and child development. Stevens received her doctoral and Master of Science degrees in family and child studies, with a concentration in child development from Florida State University in Tallahassee, FL, and her Bachelor of Arts degree in psychology from Spellman College in Atlanta, GA.

Martin Storksdieck

National Academy of Sciences/National Research Council

Martin Storksdieck is the director of the Board on Science Education at the National Research Council of the National Academy of Sciences, where he oversees studies that address a wide range of issues related to science education (e.g., climate change education, science learning from games and simulations, developing a conceptual framework for new science education standards, discipline-based education research). Storksdieck previously served as director of project development and as senior researcher at the not-for-profit Institute for Learning Innovation, where he is involved in research on science learning in immersive environments; models of involving researchers and scientists in science museums and science centers; and understanding the impact of science hobbyists, such as amateur astronomers, on the public understanding of science. His areas of interest include factors that influence what and how we learn when we do so voluntarily, and how this "learning" is connected to our behaviors, identities, and beliefs. This includes the role of personal and perceptual filters in science learning, particularly related to controversial topics such as climate change or evolution, and how connections between schools and out-of-school learning can create and sustain lifelong interest in (science) learning.

Before his involvement in science education and learning research, Storksdieck developed shows and programs on global environmental change for a planetarium in Germany; served as editor, host, and producer for a weekly environmental news broadcast; and worked on local environmental management

systems and sustainability for the International Council for Local Environmental Initiatives' European office. Storksdieck holds a master's in biology from the Albert-Ludwigs University (Freiburg, Germany), a master's in public administration from Harvard University, and a Ph.D. in education from Leuphana University (Lüneburg, Germany).

Subra Suresh

National Science Foundation

Subra Suresh, distinguished engineer and professor, was sworn in as the 13th director of the National Science Foundation (NSF) on October 18, 2010. He oversees the NSF's \$7 billion budget, directing programs and initiatives that keep the United States at the forefront of science and engineering, empower future generations of scientists and engineers, foster economic growth and innovation, and improve the quality of life for all Americans.

Prior to his confirmation as the NSF director, Suresh served as dean of the Engineering School and Vannevar Bush Professor of Engineering at the Massachusetts Institute of Technology (MIT). During his more than 30 years as a practicing engineer, he held joint faculty positions in four departments at MIT as well as appointments at the University of California at Berkeley, Lawrence Berkeley National Laboratory, and Brown University.

Holding true to his personal ideals, Suresh successfully leveraged his renowned research and leadership positions in academia to increase the number of women and minority engineers. As department head and dean of engineering, he led a successful campaign to increase the number of women among MIT's engineering faculty ranks.

Suresh has been elected to the U.S. National Academy of Engineering, American Academy of Arts and Sciences, Spanish Royal Academy of Sciences, German National Academy of Sciences, Academy of Sciences of the Developing World, Indian National Academy of Engineering, and Indian Academy of Sciences.

He earned his bachelor's degree from the Indian Institute of Technology in Madras in 1977; his master's from Iowa State University in 1979; and his doctorate from MIT in 1981.

Carl Wieman

Office of Science and Technology Policy

Carl Wieman has served as associate director for science at the White House Office of Science and Technology Policy since September 2010. Before accepting his position at OSTP, Wieman served concurrently as professor of physics at the University of Colorado and director of collaborative science education initiatives aimed at achieving widespread improvement in undergraduate science education for the University of British Columbia.

Wieman has also worked extensively on research and innovations for improving science education; he was the founding chair of the National Academy of Sciences Board on Science Education. He has received numerous awards, including the National Science Foundation's Distinguished Teaching Scholar Award (2001), the Carnegie Foundation's U.S. University Professor of the Year Award (2004), and the American Association of Physics Teachers' Oersted Medal (2007) for his work on science education.

Wieman received his B.S. in physics from the Massachusetts Institute of Technology in 1973 and his Ph.D. from Stanford University in 1977, and has conducted extensive research in atomic and laser physics. His research has been recognized with numerous awards including sharing the Nobel Prize in Physics in 2001 for the creation of a new form of matter known as "Bose-Einstein condensation."

Susan Yoon

University of Pennsylvania

Susan Yoon is pursuing several lines of research including investigating curricular applications and learning outcomes of using social network graphs in decision making about socio-scientific issues; understanding the dynamics of copying mechanisms (memetic processes) in learning environments; applying complex systems processes in teacher professional development programs; and understanding affordances and constraints to access and retention of K–12 and students in STEM (science, technology, engineering, and mathematics) fields of study.

Yoon is the principal investigator of two large-scale National Science Foundation (NSF) projects aimed at increasing participation in the STEM education and career pipeline for underserved youth in the Philadelphia region. The first is an out-of-school time project for youth in grades 4–8: SPARK—Igniting Interest and Achievement in STEM Through Engineering Design, with partners at the Philadelphia Zoo and Penn’s School of Engineering and Applied Science (2006–2010). The second is an in-school project for grade 9 and 10 students and teachers, Nanotechnology and Bioengineering in Philadelphia Public Schools, under the NSF’s ITEST Program. This project is a partnership between Penn’s Nano/Bio Interface Center and the School District of Philadelphia (2008–2011). She is also co-PI on two other NSF-funded projects. The first is with the Franklin Institute Science Museum on an informal science education project called ARIEL—Augmented Reality for Interpretive and Experiential Learning (2008–2012). The second is with MIT on a DR K–12 project called BioGraph: Graphical Programming for Constructing Complex Systems Understanding in Biology (2010–2014).

Yoon received the 2009 Jan Hawkins Award for Early Career Contributions to Humanistic Research and Scholarship in Learning Technologies from Division C of the American Educational Research Association. She currently sits on the Editorial Board of the *Journal of the Learning Sciences* as co-strand editor of the complex systems strand.