PRESENTER BIOGRAPHICAL INFORMATION

Dale Allen
Vice President for Community Engagement, Quinsigamond Community College
Dale Allen has served at Quinsigamond Community College (QCC) as vice president for community engagement since 2008. He oversees the QCC Foundation, resource development, alumni programs, site exploration, and strategic partnerships at the college. He also leads the college's focus on strategic partnerships that enhance the mission of Quinsigamond and address higher education and workforce development needs throughout Worcester County through partnerships that maximize leveraged resources of public and private entities. Allen facilitated the development of the Massachusetts Community Colleges Workforce Development Transformation Agenda (MCCWDTA) and serves as its project director. MCCWDTA is designed to fundamentally change the way that community colleges in Massachusetts interact with each other and with the workforce development system, public agencies, leading industry groups, leaders of government, and private businesses to transform the delivery of education and training programs for unemployed and underemployed individuals. In addition, Allen serves as a special assistant to the Massachusetts Commissioner of Higher Education. His efforts are focused on leading the strategy and development for policy work related to workforce development and pathways at two- and four-year institutions. Having worked in higher education for over 20 years, Allen specializes in advancing connections between colleges and the various communities with which they interact—schools, other colleges, nonprofits, businesses, elected officials, and neighborhoods. Allen earned his PhD in Public Policy at the University of Massachusetts, Boston. He received a certificate of advanced study in Student Personnel Administration in Higher Education, an MEd in Athletic Administration, and a BS in Sports Biology from Springfield College.

Deborah Boisvert
Executive Director, Broadening Advanced Technological Education Connections, University of Massachusetts, Boston
Deborah Boisvert is the principal investigator and executive director of Broadening Advanced Technological Education Connections (BATEC), a National Science Foundation (NSF) Advanced Technical Education National Center of Excellence that is building computing pathways in the urban centers of Boston, Chicago, Las Vegas, and San Francisco. She also leads a grant dedicated to computational thinking as well as the Synergy Collaboratory for Research, Practice, and Transformation project, which has focused on achieving scale, also headquartered at the University of Massachusetts, Boston. With experience in both the corporate and educational arenas, Boisvert has focused her efforts in the development and implementation of initiatives to advance the educational and professional objectives of area high school, community college, and university students and faculty. She was a founding partner in Camp Telecom, a summer camp for high school students and teachers sponsored by Massachusetts Network Communications Council. In 2006, she was honored as their Workforce Development Leader of the Year. Boisvert wrote the curriculum for the Technology Goes Home@School initiative, which bridges

the digital divide by equipping fourth graders' families in the Boston Public Schools with beginning technology skills and a new computer for their homes. She founded the Bridge to Community College Program, a partnership with local community-based organizations, which provides adult learners with credit-bearing technology courses combined with English and mathematics tutoring to prepare them for matriculation into a technology degree program. Boisvert serves on the Massachusetts K–12 Technology Standards Revision Team; the Massachusetts Board of Higher Education's Transfer Task Force; the Massachusetts Workforce Investment Board's Career Pathways Working Group; the Massachusetts Computing Advocacy Network; the National Advisory Board of Institute for Women in Trades, Technology & Science (IWITTS); and the Association for Computing Machinery's Special Interest Group for Information Technology Education (ACM SIGITE) Education Board.

Paul Buck

Director of New School Development, New Tech Network

As director of new school development at New Tech Network (NTN), Paul Buck's primary focus is to cultivate and support new schools in the planning and implementation of the New Tech model. He helps schools develop and maintain a professional culture that promotes trust, respect, and responsibility; engage student learners through standards-based project- and problem-based learning; and utilize 1:1 computing technology as a tool for learning. Buck has helped over 25 communities implement a New Tech school, many with a STEM, STEAM (STEM + art), or STEMM (STEM + medicine) theme—examples of such schools are Tech Valley High School in Rensselaer, New York; Drew Charter School in Atlanta, Georgia; and Muskingum Valley New Tech Academy in Zanesville, Ohio (respectively). Several network schools utilize Project Lead the Way—for example, IDEAS in Indianapolis, Indiana—and offer, or are developing, advanced manufacturing pathways—for example, Columbus Signature Academy in Columbus, Indiana. Buck is currently working with Holyoke Public Schools and Project GRAD USA to co-design the first New Tech school in Massachusetts at Dean Technical High School. Prior to joining NTN, he worked for 19 years in public education at the secondary level, serving as a teacher, department chairman, and administrator in central Indiana. As an administrator, he has coordinated the district's redesign efforts to personalize a traditional, comprehensive high school through the creation of small learning communities. Buck received both his BS in Social Studies Education and his MA in Curriculum and Instruction from the University of Indianapolis. He also received his administrator's license from Indiana University.

Heather Carias

Academy and Application Programs Coordinator, Wheaton High School, Maryland

Heather Carias' role as academy and application programs coordinator at Wheaton High School (WHS) includes recruiting students, providing leadership support to academy leaders, creating partnerships with institutions to extend learning beyond the classroom, and bridging high school to college through a concurrent enrollment program. WHS is a diverse suburban school where the majority of students qualify for free and reduced meals. Carias is the recipient of the 2009 CTE Teacher of the Year Award for Montgomery County Public Schools (MCPS) and the National Board Certification in Science. She has presented at several national conferences including the National Science Teachers Association (NSTA), National Association of Secondary School Principals, and Project Lead The Way Symposia. Through collaboration with the MCPS Central Office and the Maryland State Department of Education, Carias provided school-based leadership for piloting each of the four Project Lead The Way Biomedical courses. In the first year of the pilot (2007), the Bioscience Academy served 48 students. Today, this program serves almost 300 students each year and has graduated more than 120. Carias received her BS from the University of Western Ontario, her MEd from the George Washington University, and her master's degree in Educational Leadership from Hood College.

Caroline Christ

Digital Learning Experience Designer, Clemson University Center for Workforce Development

Caroline Christ is a digital learning experience designer for the Clemson University Center for Workforce Development (CUCWD). CUCWD strives to advance STEM education in the state of South Carolina to enhance employment opportunities for the state's workforce by partnering with K–20 educators and industry from across the state. As part of this initiative, the Center for Aviation and Automotive Technology Education using Virtual E-Schools (CA^2VES)—funded by the NSF's Advanced Technological Education program—develops educational materials for individuals who are interested in technical careers in manufacturing. Christ has utilized her engineering background to create this curriculum, which focuses on technical and manufacturing skills such as metrology, industrial safety, manufacturing quality, and basic electricity. These materials are created for the digital learning platform and incorporate instructional videos, virtual reality simulations, electronic textbooks, and online labs. Christ develops, designs, and reviews the educational material for its technical content and instructional design in the hope that this digital learning initiative will help to foster and improve STEM education. Christ received her MS in Human Factors Engineering and BS in Industrial Engineering from Clemson University.

Mel Cossette

Executive Director, National Resource Center for Materials Technology Education, Edmonds Community College

Mel Cossette is the executive director and principal investigator (PI) of the NSF-funded National Resource Center for Materials Technology Education (MatEd), housed at Edmonds Community College in Lynnwood, Washington. MatEd is developing a clearinghouse of teaching materials—labs, hands-on demonstrations, modules, and papers—which can easily be integrated into a variety of courses, including materials science, advanced manufacturing, and engineering technology programs. Cossette is also a PI for the NSF-funded National Educators Workshop, a professional development forum that brings two- and four-year instructors, K–12 teachers, and industry together around material science and STEM education. She serves as a co-PI on two other NSF grants: the National Resource Center for Aerospace Technical Education (SpaceTEC), an NSF center based in Florida; and the Revolutionizing Metallic Biomaterials-Engineering Research Center at North Carolina Agricultural and Technology State University. She was also the PI on an NSF-funded project, Proven Practices and Strategies for Recruitment of Women and Underrepresented Populations into STEM Careers, which documented proven practices in the recruitment of women and underrepresented populations into STEM programs. Previously, she has been a program manager with Boeing Joint Programs and supervisor of work-based learning programs at Lake Washington Institute of Technology. She serves on numerous boards such as the National Coalition for Advanced Technology Centers, Latino Educational Training Institute, High Technology Education Exchange Conference, and the Washington Technology Student Association, as well as numerous advisory committees. Cossette has an ME from City University of Seattle and a vocational education certificate from Shoreline Community College.

Svetlana Darche

Senior Research Associate and Director of Career Education, WestEd

Svetlana Darche is partnering with WestEd STEM staff and the College and Career Academy Support Network (CCASN) at the University of California, Berkeley, to implement an NSF-funded program, embedding Global Learning and Observation to Benefit the Environment (GLOBE) into "green academies" in California. She also focuses on college and career readiness through policy work, assessment projects, and direct support to schools. Her primary research interest is in work-based learning—hands-on learning that has purpose beyond the classroom. Darche began her career at the

U.S. General Accounting Office. She has extensive experience in evaluation, strategic planning, program design, and the building of cross-sectorial collaborations for system change and program improvement. She worked closely with the California Department of Education and the California Community Colleges Chancellor's Office in developing California's State Plan for Career Technical Education. She also co-directed a state feasibility study on expanding "Linked Learning" and completed a statewide study on opportunities and models for expanding work-based learning in California. She collaborates with CCASN, the National Academy Foundation, and ConnectEd in defining and measuring college and career readiness, and shaping strategies to promote student engagement and success. Darche has provided career development services in private practice, and has worked extensively with immigrant populations. Darche received a BA in Anthropology from the University of California, Los Angeles (UCLA). She also holds an MBA from UCLA's Anderson School of Management, where she concentrated on the public/nonprofit sector.

James DeLaura

Chair of Technology and Engineering Education, School of Engineering and Technology, Central Connecticut State University

James DeLaura has been instrumental in bringing engineering education and STEM-related programs to Central Connecticut State University. He has worked with the New England Board of Higher Education for the past six years on problem-based learning (PBL) projects funded by the NSF. He has co-presented at conferences throughout the United States, bringing PBL issues to numerous groups. In addition, DeLaura has made numerous presentations to school districts throughout Connecticut. He is responsible for developing pre-service PBL coursework for undergraduate students in the STEM fields. His work with business and industry has contributed to the building of "real-world" PBL experiences. The program is currently reaching out to college and university professors interested in bringing PBL practices to their classes. Delaura has a BS and MS in Technology Education from Central Connecticut State University and an EdD in Higher Education Administration from the University of Northern Colorado. He is a Certified Manufacturing Engineer (CMfgE) through the Society of Manufacturing Engineers.

Patricia Dombrowski

Executive Director, Health eWorkforce Consortium, Bellevue College

Patricia Dombrowski's work focuses on workforce development in health information technology. As the executive director of the nine-college Health eWorkforce Consortium, Dombrowski administers a Department of Labor award, with a special emphasis on welcoming veterans into health IT employment. Dombrowski also directs the Life Science Informatics Center at Bellevue College. As principal investigator for a recent NSF project, she led the development of a national entry-level certification in health IT. With support from the Department of Health and Human Services' Office of the National Coordinator for Health IT, Dombrowski directed a 23-college/10-state consortium in the implementation of health IT programs. Previously, Dombrowski was director at the Bioinformatics Center of Expertise at the National Center for the Biotechnology Workforce, which was created through a U.S. Department of Labor High Growth Job Training Initiative. She was also the director of Increasing Health Professions Capacity, which was funded by the Department of Labor through a Community Based Job Training Grant. Dombrowski is founder and member of the Washington Health IT Industry-Education Council and Washington Community and Technical College Health IT Collaborative. She is also the national coordinator for Health IT's Policy Committee Workforce Development subgroup. Dombrowski serves on the Healthcare Information and Management Systems Society's Veterans Career Services Advisory Council and chaired its Career Services Task Force from 2011–12.

Janice Earle

Program Director, Directorate for Education and Human Resources, National Science Foundation

Janice Earle currently serves as a senior program director for K–12 STEM education in the Directorate for Education and Human Resources (EHR) at the NSF. As such, she is responsible for NSF-wide activity on K–12 STEM education. She has been at the NSF since 1991 and has worked with several of the NSF's education programs. Previously, Earle served as the cluster lead for the Research and Evaluation on Education in Science and Engineering (REESE) and CAREER programs housed in the Division of Research on Learning in Formal and Informal Settings and as coordinator for EHR evaluation activities. Earle works with several of the agency's policy-oriented efforts such as those with the National Academy of Sciences, the National Research Council, and the U.S. Department of Education. Earle received a BA in History from the University of Michigan, an MA from Teachers College, Columbia University, and a PhD in Education Policy and Planning from the University of Maryland.

Erin Fender

Coordinator of Public Programs and Linked Learning Coach, College and Career Academy Support Network, University of California, Berkeley

Erin Fender co-coordinates the implementation of an NSF Innovative Technology Experiences for Teachers and Students (ITEST) grant's activities at urban schools in the Bay Area of California that have been traditionally underserved, with high populations of English language learners and low-income families, through the College and Career Academy Support Network (CCASN). Her duties include assessment of curriculum and teaching methods in green/environmental career academies, planning and piloting professional development and peer-to-peer exchanges, technical assistance, and academy development to support replication and expansion of the International Global Learning Observations to Benefit the Environment (GLOBE) program within the context of college and career academies. She manages several other projects, including the development of an extensive online database of curricula that integrates academic and career-technical subjects; provides Linked Learning coaching for a number of districts; and regularly presents at state and national conferences. Fender joined CCASN in 2009. She was previously an assistant principal and project director of a federal Smaller Learning Community grant. She was recognized as the administrator of the year by the Sonoma County Association of School Administrators (SCASA) in 2009. She was also a Jack London Award for Excellence in Education Innovation finalist, and received honorable mention by the Environmental Center of Sonoma County and the Sierra Club for the Outstanding Environmental Educator of the Year in 2006. In the past, Fender taught high school science and was the lead teacher of an Environmental Science Academy. She has a BA in Environmental, Population, and Organismic Biology from the University of Colorado at Boulder; an MA in Educational Leadership from Sonoma State University; as well as administrative and teaching credentials.

Joan Ferrini-Mundy

Assistant Director, Directorate for Education and Human Resources, National Science Foundation

Joan Ferrini-Mundy is the National Science Foundation's assistant director who leads NSF's Directorate for Education and Human Resources (EHR), a position she has held since February 2011. Ferrini-Mundy is responsible for setting the vision and establishing the mission of EHR, whose budget in FY 2012 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 the NSF's budget priorities for FY 2013 and 2014; and an ongoing 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 the 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 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.

Andre Freeman

Chair, Professor of Mathematics, Capital Community College

Andre Freeman collaborates with researchers and practitioners in Networked Improvement Communities—led by the Carnegie Foundation for the Advancement of Teaching—to implement and advance new mathematics pathways for community college students. Utilizing research on mathematics pedagogy and mathematical learning, Freeman contributes to the development, design, and implementation of the Carnegie Community College Pathways Program's instructional systems. He teaches mathematics and statistics and contributes to statewide mathematics redesign initiatives that focus on the development of new models for teaching developmental mathematics in Connecticut community colleges. From 2011 to 2014, Freeman co-developed the *Connecticut Common Core Algebra 1* curriculum and mentored teachers on curriculum implementation strategies that foster mathematical engagement and productive mathematical dispositions. Freeman is currently a doctoral candidate in Mathematics Education at Teachers College, Columbia University. His research interests include mathematical modeling, mathematical reasoning, and mathematical perspectives. Freeman earned an MS in Applied Mathematics and a BS in Mathematical Sciences from Worcester Polytechnic Institute.

Kimberly Green

Executive Director, National Association of State Directors of Career Technical Education Consortium

For the past 21 years, Kimberly Green has worked extensively on federal policy impacting Career Technical Education (CTE). Working closely with Congress, the Administration, and a broad range of stakeholders, she represents the interests of and seeks support for CTE. In addition to this policy work, Green helped establish, implement, and grow the national Career Cluster® Initiative, the Common Career Technical Core, the CTE: Learning that Works for America Campaign, and the Career Readiness Partner Council—all of which are designed to build visibility and support for CTE, while also raising the bar for CTE by ensuring consistency in the delivery of high-quality programs to students across the country. Green represents the state directors on a variety of boards and committees including the Manufacturing Skills Standards Leadership Council, the National Technical Honor Society, and the Executive Committee of the National Career Academy Coalition. She is also collaborating with the new National College and Career Readiness Center and the Great Teachers and Leaders Center, and is partnering with multiple federally funded projects to expand the implementation of career pathways. She is an accomplished speaker, having presented in all 50 states, and is considered a nationally recognized expert in CTE. Green is a graduate of Cornell University's School of Industrial and Labor Relations.

Ginny Hall
Director of Digital Learning, Clemson University Center for Workforce Development
Ginny Hall joined the Clemson University Center for Workforce Development (CUCWD) as the program manager for the Department of Labor (DOL) Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant program. She continues to work with all 16 technical colleges in South Carolina to develop online technology, mathematics, and science curricula through the DOL TAACCCT program. Hall also directs digital learning projects within the CUCWD and works to develop curricula that serve as an accessible and effective pathway to employment for today's workforce. Prior to joining the CUCWD, Hall spent three years as a K–12 educator and six years as a technical college instructor. Hall holds a bachelor's degree in Music Education, a master's degree in Education, and a doctorate in Education with an emphasis in Curriculum and Instruction.

Fenna Hanes
Senior Director of Professional and Resource Development, New England Board of Higher Education
Fenna Hanes has more than 30 years of experience in developing education/industry partnerships. Her focus has been on bringing industry and education together to develop curricula based on industry's needs. Since 1995, Hanes has directed seven—and been the PI for six—curriculum and professional development projects funded by the NSF's Advanced Technological Education (ATE) program. The last three projects have been focused on problem-based learning (PBL) in STEM disciplines, including optics and photonics, sustainable technologies, and advanced manufacturing. She is a board member of the National Association for Workforce Development and has been the education chair for the New England Fiberoptics Council for more than 10 years. Hanes is the 2009 recipient of the Society of Photo-Optical Instrumentation Engineers' prestigious SPIE Educator Award in recognition of her leadership in the NSF ATE projects, and her unfailing enthusiasm for optics/photonics technology. Hanes holds a BS in Liberal Arts/Business Administration from Northeastern University and an MS in Public Affairs from the University of Massachusetts, Boston.

Kostian Iftica
Founder, Brilliant Geeks
Kostian Iftica founded the startup IT service company Brilliant Geeks, LLC, in 2007 while working towards his degree in Management Information Systems from the University of Massachusetts, Boston, which he completed in 2011. Brilliant Geeks' mission is to help create a brighter future through technology by alleviating the technological frustrations and providing professional and personable support to its users. Brilliant Geeks serves many Boston residents and businesses, and recently has grown its base to serve clients both nationwide and internationally. Iftica began his career with TechBoston, a department of Boston Public Schools, where he pursued and was accepted for an internship as a Tech Apprentice through the Boston Private Industry Council. Through the apprenticeship, he worked at New England Baptist Hospital, assisting in building the infrastructure to store digital medical records, developing communications software, and providing technical support to the doctors and other hospital staff.

Joseph Kennedy III
Congressman, Fourth District of Massachusetts, U.S. House of Representatives
Joseph P. Kennedy III is proud to serve the Fourth District of Massachusetts in Congress. Having dedicated his career to public service, Kennedy brings a firm commitment to social justice and economic opportunity to the U.S. House of Representatives. Elected in November of 2012, he represents a diverse district that spans from the suburbs of Boston to the more industrial towns of Massachusetts' South Coast. Prior to seeking office, Kennedy served the Commonwealth of Massachusetts as an assistant district attorney in both the Middlesex County and Cape and Island's District Attorneys' Offices. A

graduate of Harvard Law, he was an active member of the school's Legal Aid Bureau—a pro-bono law firm that provided legal services to low-income families around Boston. During that time he also co-founded an afterschool program for at-risk youth in the Boston area with his wife, Lauren.
Earlier in his career Kennedy served as a member of the Peace Corps in the Dominican Republic where he designed and implemented an economic development project that helped create jobs and increase the standard of living in an isolated community near Puerto Plata. He has also worked as an international development analyst for the United Nations' Millennium Project and as an anti-poverty consultant abroad. He is fluent in Spanish and currently sits on the House Committee on Foreign Affairs, as well as the House Committee on Science and Technology. Kennedy holds a bachelor's degree in Management Science and Engineering from Stanford University.

Donna Lange
Director, DeafTEC; Associate Professor, National Technical Institute for the Deaf, Rochester Institute of Technology
Donna Lange has been teaching deaf and hard-of-hearing students in associate-level programs for over 25 years at the National Technical Institute for the Deaf (NTID), one of the nine colleges of the Rochester Institute of Technology (RIT) in Rochester, New York. She is an associate professor and former chair of the applied computer technology department and has taught a variety of computer-related courses in the areas of both hardware and Web development. Lange is currently the principal investigator (PI) and center director of DeafTEC (www.deaftec.org), a technological education center for deaf and hard-of-hearing students that was established at RIT/NTID in 2011 through funding from the NSF's Advanced Technological Education (ATE) National Center of Excellence. The goal of the center is to successfully integrate more deaf individuals into the workplace in highly skilled technician jobs where these individuals are currently underrepresented and underutilized. Lange was formerly the PI of the NSF ATE projects Deaf Initiative in Information Technology I and II, offering professional development for deaf IT professionals. She was also co-PI of the NSF ATE national dual credit program Project Fast Forward. She holds a BS in Computer Science from SUNY Brockport and an MS in Software Development and Management from RIT.

Samantha Langley-Turnbaugh
Associate Provost for Graduate Studies and Research, Scholarship, and Creative Activity, University of Southern Maine
Samantha Langley-Turnbaugh is the principal investigator (PI) for EAST Alliance for Students with Disabilities in STEM-Phase 2 (EAST-2), funded by the NSF. EAST-2 uses evidence-based practices to increase the quality and quantity of students with disabilities (SWDs) who enroll and persist in post-secondary STEM programs and complete STEM degrees at the University of Southern Maine (USM) and at partnering community colleges and high schools. Langley-Turnbaugh is passionate about improving science education for all, including persons with disabilities. She has written many publications that detail the best practices and research findings from 10 years of work with SWD. Langley-Turnbaugh is also leading the ADVANCE IT Catalyst project and is undertaking a comprehensive quantitative and qualitative assessment of systemic institutional factors affecting recruitment, retention, and advancement of women in STEM. Her work as co-PI with USM's STEM scholar program emphasizes developing and implementing strategies for economically disadvantaged undergraduate STEM students for academic success and transition into STEM career pathways. She has a BS in Forest Engineering from the University of Maine, an MS in Soil Science from the University of New Hampshire, and a PhD in Forest Soils from University of Wisconsin-Madison.

Dan Liebert

Principal, Tech Valley High School, New York

Dan Liebert is the founding and current principal and chief academic officer at Tech Valley High School (TVHS), a regional public high school serving the Capital Region of New York State. TVHS is a STEM-focused high school that is a member of the New Tech Network (NTN) of schools. Tech Valley High School's approach to STEM education is to connect the core content instruction in all classes to business and higher education resources, in order to give students access to meaningful interactions with adults in STEM fields and to real-world problems. Liebert has led the school in embracing the NTN model of project-based learning (PBL) instruction. He has served on local and statewide panels for STEM education, workforce development, and educational reform. He has also worked closely with the Tech Valley Business Alliance to build connections between schools and local business assets to increase student exposure to workforce opportunities in the emerging technologies in the Capital Region—such as nanotechnology, advanced manufacturing, bioscience, material science, and alternative energy. Prior to leading the creation and implementation of TVHS, Liebert taught high school social studies in private and public schools for 20 years and helped implement school reform models in Albany, New York. He was also a research associate at both the Council of Chief State School Officers (CCSSO) and the National Association of State Boards of Education (NASBE). Liebert has an MA from Georgetown University, an MEd from the University of Maryland, and a Certificate of Advanced Study (CAS) from the College of St. Rose.

Lynn Lovewell

Director and Project Manager, EAST-2; Director of Operations, Maine Cyber Security Cluster, University of Southern Maine

Lynn Lovewell is the director and project manager of the EAST-2 Alliance for Students with Disabilities in STEM at the University of Southern Maine (USM). Lovewell has been instrumental in leading the collaboration and the facilitation of the EAST-2 model by creating a pipeline of supports and services for high school and college students with disabilities as they successfully negotiate critical transitions. The EAST-2 pipeline focuses on undergraduate STEM research experiences and the development of capacity within high schools, community colleges, and universities to fully support students with disabilities. In addition to her work with EAST-2, Lovewell is the director of operations for the Maine Cyber Security Cluster (MCSC) and facilitates the STEM scholars program, which is designed to improve STEM educational opportunities at USM, from entry to degree completion, for academically talented and financially needy incoming freshmen and community college transfer students who are interested in careers in computer science, engineering, environmental science, and technology. Lovewell has more than 25 years of experience teaching K–16 science and is dedicated to improving STEM education for all. She is an adjunct instructor and is a guest lecturer on assistive technology and universal design for learning (UDL). She has a BS in Horticulture from Michigan State University and an MS in Education from Northern Michigan University.

Nicholas Massa

Professor, Springfield Technical Community College

Nicholas Massa is a full professor in the Laser Electro-Optics Technology Department at Springfield Technical Community College (STCC) and has over 27 years of experience as an engineering technology educator, educational researcher, and engineering and training consultant. He has been the principal investigator (PI) and co-PI on over a dozen NSF grants involving curriculum and skills standards development, teacher professional development, and problem-based learning (PBL). Massa was founding co-director of the NSF Advanced Technical Education (ATE) National Center for Telecommunications Technology (NCTT) at STCC. He currently serves as a program evaluator for the

NSF, the Accreditation Board for Engineering and Technology (ABET), and the State of Connecticut Department of Education. He is also a board member for the National Association for Workforce Improvement (NAWI) and serves on the Education and Long Range Steering Committees of the Optical Society of America (OSA) and the International Society of Photo-Optical Instrumentation Engineers (SPIE). He is co-author of the physics textbook *LIGHT: An Introduction to Light and Lasers* and has published over a dozen papers in the field of technology and optics education. In 2010, Massa was awarded the prestigious SPIE Educator Award. Massa holds a BS and MS in Electrical Engineering from Western New England University and a PhD in Educational Leadership/Adult Learning from the University of Connecticut.

Donna Milgram

Executive Director, Institute for Women in Trades, Technology & Science

Donna Milgram is currently principal investigator (PI) of the CalWomenTech Scale Up Project, a five-year NSF-funded project working to assist STEM educators in two-year colleges in broadening participation of women. Milgram was also the PI of the NSF-funded CalWomenTech Project highlighted by NSF in 2009 for demonstrating significant achievement and program effectiveness. Seven California community colleges received training and technical assistance to help recruit and retain women into STEM programs through that project. The CalWomenTech Project was chosen as one of only three model projects in a 2013 American Association of University Women research report—*Women in Community Colleges: Access to Success.* Milgram received an award in 2013 for her cover article "How to Recruit Women & Girls to the STEM Classroom*,"* published by International Technology and Engineering Educators Association (ITEEA) in their *Technology and Engineering Teacher* magazine. In December 2013, Milgram participated as a speaker in a U.S. Department of Labor webinar titled *Women in STEM: Why it matters and how YOU can help them get there.* She founded the Institute for Women in Trades, Technology & Science (IWITTS) in 1994 and has conducted hundreds of trainings on recruiting and retaining female students in STEM education for national, state, and regional educational institutions, organizations, and employers in 46 states and Canada. Milgram graduated from the University of Pennsylvania with a bachelor's degree in Political Science and received a master's degree in Social Work from the University of Maryland.

Richard Miller

President and Professor of Mechanical Engineering, Olin College of Engineering

Richard K. Miller was appointed president and first employee of Olin College of Engineering in 1999. He served as dean of the College of Engineering at the University of Iowa from 1992-99. The previous 17 years were spent on the Engineering faculty at the University of Southern California in Los Angeles and the University of California, Santa Barbara. With a background in applied mechanics and current interests in innovation in higher education, Miller is the author of more than 100 reviewed journal articles and other technical publications. Together with two Olin colleagues, he received the 2013 Bernard M. Gordon Prize from the U.S. National Academy of Engineering (NAE) for Innovation in Engineering and Technology Education. A member of the NAE, he received the Marlowe Award for creative and distinguished administrative leadership from the American Society for Engineering Education in 2011. Miller served as chair of the Engineering Advisory Committee of the National Science Foundation and has served on advisory boards and committees for Harvard University, Stanford University, the NAE, and the U.S. Military Academy at West Point, in addition to others. Furthermore, he has served as a consultant to the World Bank in the establishment of new universities. A frequent speaker on engineering education, he received the 2002 Distinguished Engineering Alumnus Award from the University of California at Davis, where he earned his BS. He earned his MS from MIT, and PhD from the California Institute of Technology, where he received the 2014 Distinguished Alumni Award.

Henk Portier

Intern, Engineering Operations, Raytheon Company

Henk Portier has been a serial entrepreneur since attending the University of Massachusetts, Amherst, where he studied Biology, Biochemistry, Economics, and Electrical and Chemical Engineering. Portier has always loved working with people, and that has been the central theme throughout his various careers. He has a Western (allopathic) and Eastern medicine background. As a graduate of the Navy's Physician's Assistant program in San Diego, Portier learned early to holistically and objectively listen to clients, yet also check the facts and present prognoses. The skill sets of being able to see the big picture, comfortable with details, yet empathetic with people, have been used throughout his life and careers in medicine, high technology, human resources, business and personal coaching, business consulting, marketing, and sales. In June 2013, the opportunity arose to return to school through the Veterans Administration. As a Bunker Hill Community College intern, Portier works with Jeff Stolz at the Raytheon Company.

Stephen Portz

Albert Einstein Distinguished Educator Fellow, Triangle Coalition for STEM Education

In his fellowship assignment, Stephen Portz is working to stimulate innovative research in cybersecurity education and to promote computer science and cybersecurity K–12 education initiatives. Portz is also working with the University of Virginia's Curry School of Education, where he is helping to develop engineering programs that use low-cost equipment alternatives and to support adoption implementation strategies at the middle school level. Prior to the fellowship, Portz taught career and technical courses for the past 25 years in Brevard County, Florida. He has been a pioneer in secondary school engineering education by developing state curriculum standards, serving on state certification committees for software and testing, and working on a team to establish a national engineering credential for students. As a very early adopter of 3D printing in the classroom, he is passionate about working with local manufacturers, training students in engineering and industrial design, and helping students learn how to be product developers. Portz was awarded the Florida Advanced Technological Education (FLATE) Center Manufacturing Secondary Educator-of-the-Year Award in 2012. That same year, he was the recipient of the Motorola STEM Solutions grant. Portz received his BS in Technology and Engineering Education from Brigham Young University and his MEd in Administration of Career and Technical Programs from the University of Central Florida.

Andrea Robertson-Nottingham

Team Leader for the Academies of Engineering and Information Technology, Wheaton High School, Maryland

Andrea Robertson-Nottingham is the team leader for the Academies of Engineering and Information Technology at Wheaton High School (WHS) in Montgomery County, Maryland. WHS is part of a consortium of five schools where students choose a high school based on their interest in a career pathway. In her 22nd year of teaching, she teaches digital electronics and aerospace engineering using the *Project Lead the Way* curriculum. In addition to teaching classes, Robertson-Nottingham is responsible for recruiting, retaining, and matriculating students who are interested in careers in engineering or IT. She is also the sponsor of WHS' National Society of Black Engineers Jr. chapter. She is a National Board Certified teacher in career and technical education and has State of Maryland certifications in both secondary mathematics and technology education. Robertson-Nottingham received her bachelor's in Math, Computer Science, and Math Education, and her master's in Technology Systems Management from Stony Brook University.

Jonathan Rothwell
Senior Research Associate and Associate Fellow, Metropolitan Policy Program, Brookings Institution
For the past five years, Jonathan Rothwell has developed innovative approaches to the measurement and analysis of economic growth, social mobility, and human capital, especially at the regional scale. He has authored both academic articles in peer-reviewed social science journals and popular reports from Brookings. His Brookings publications include work on green jobs, exports, school quality, patents, and skill mismatch. Rothwell's work garners both media attention and interest from a diverse group of policy makers and civic leaders. On STEM specifically, his research has expanded how people think about skilled blue collar workers and the role of community colleges in supporting regional and national economic growth. Rothwell holds a BS from Pennsylvania State University, a master's degree in Economics from The New School, and a PhD in Public Affairs from Princeton University's Woodrow Wilson School.

Susan Singer
Director, Division of Undergraduate Education, National Science Foundation
Susan Singer is director of the Division of Undergraduate Education at the National Science Foundation (NSF), and Laurence McKinley Gould Professor in the Biology and Cognitive Science Departments at Carleton College. She is a national leader in undergraduate education policy and pursues a career that integrates science and education. In addition to a PhD in Biology from Rensselaer Polytechnic Institute, she completed a teacher certification program in New York State. A developmental biologist who studies flowering in legumes and also does research on learning in genomics, Singer is an American Association for the Advancement of Science (AAAS) fellow and received both the American Society of Plant Biology teaching award and Botanical Society of America Charles Bessey teaching award. She directed Carleton's Perlman Center for Learning and Teaching, was an NSF program officer in Biology, and is a co-author of the *Vision and Change in Undergraduate Biology* report and an introductory biology text. She has served on numerous boards, including the NSF Directorate for Education and Human Resources Advisory Committee, Biological Sciences Curriculum Study Board, the American Society of Plant Biology Education Foundation, and the Botanical Society Board of Directors. She is a member-at-large for the AAAS Education Section, participates in the Minnesota Next Generation Science Standards team, and was a member of the National Academies' Board on Science Education. She has participated in six National Academies studies, including chairing the committees that authored *America's Lab Report, Promising Practices in STEM Undergraduate Education* and *Discipline-based Education Research: Understanding and Improving Learning in Undergraduate Science and Engineering*.

Nigel Standish
Graduate Fellow, University of Virginia
Nigel Standish is currently a graduate fellow at the Curry School of Education at the University of Virginia and is director of the Curry-Albemarle Technology Infusion Project (TIP). He is also a graduate fellow in the Commonwealth Engineering Design (CED) Academy for Advanced Manufacturing in K–12 education. The CED Academy is a collaboration among the University of Virginia and the Charlottesville and Albemarle Schools that was established to advance integration of engineering design into middle school science teaching. Standish previously served as co-director and science education advisor for the K–12 Digital Fabrication Laboratory at the University of Virginia. Before attending graduate school, Standish was a secondary mathematics and science teacher in Tennessee and California.

Jeff Stolz

Operational Excellence Lead, Integrated Defense System, Raytheon Company

Jeff Stolz has worked for Raytheon for 26 years, and is currently the operational excellence lead for the Circuit Card Assembly department. As part of the operations team, he participates in complex and exciting manufacturing projects focusing on lean manufacturing techniques, along with Mission Assurance, Safety, Ergonomics, Energy Conservation and Security. These projects are components of systems supporting homeland and missile defense strategies, and may involve products currently in production, those in design, and those transitioning into production. Raytheon is heavily aligned with the Six Sigma principles and Stolz plays a key role in teaching the Six Sigma mindset. Stolz has also been instrumental in developing a dynamic co-op program working with students from a variety of colleges. The goal of the program is to provide understanding of manufacturing principles from the ground up and stimulate creative solutions to an array of real life manufacturing challenges. As a result of this program, the students have the opportunity to shape the next steps in their educational and career aspirations. Stolz has served on the core teams at Raytheon's Integrated Air Defense Center that have received the Shingo Silver Medallion Award in 2008, the Association for Manufacturing Excellence's (AME) Enterprise Excellence Award in 2009, Industry Week Best Plant Award in 2011, and the Association of Energy Engineers New England Chapter's Best Employee Driven Program Award in 2011. Stolz is a member and frequent presenter at the Ground-based Midcourse Defense Foreign Object Elimination Council and a member of and presenter at the Voluntary Protection Program Participants' Association. Stolz received his bachelor's degree in Economics from Haverford College in Pennsylvania.

Janella Watson

Director of Early Childhood Education and Family Learning, New York Hall of Science

Janella Watson joined the New York Hall of Science (NYSCI) as director of early childhood education and family learning in November 2011. She works to nurture curiosity, creativity, and experimentation in young children by developing new STEM-rich programs and exhibit experiences that reflect NYSCI's Design-Make-Play philosophy. Watson and her team piloted a new program, Little Makers, that invites families with young children (ages 18 months to six years) to tinker, design, and make together. She is currently conducting research in family engagement in making, in collaboration with the Children's Museum of Pittsburgh. Watson joined NYSCI on the heels of running a company called Make-A-Messterpiece, sponsored by Proctor and Gamble's Bounty brand. Make-A-Messterpiece, located in Chicago, Illinois, aims to unlock and unleash children's creativity by inviting them to make big messes. Before that, she worked for more than eight years at the Kohl Children's Museum of Greater Chicago as grants coordinator, museum educator, and as director of marketing and community relations. She is also a core member of the Association of Science and Technology Centers (ASTC) Early Learning Community of Practice. Watson received her BA in Sociology, with an emphasis in Education Policy, from Northwestern University.

Jeffrey Weld

Executive Director, Iowa Governor's STEM Advisory Council; Associate Professor, Department of Biology, University of Northern Iowa

Jeffrey Weld has directed the Iowa Governor's STEM Advisory Council since the fall of 2011. He also maintains a faculty appointment in the University of Northern Iowa (UNI) Biology Department where he has prepared naturalists and teachers since 2000. Weld's research and writing focus on identifying and overcoming barriers to innovative science teaching at the secondary and collegiate levels. He has authored scores of research articles, essays, book chapters, and the popular science teacher preparatory textbook, *The Game of Science Education*. He is a past president of the Iowa Science Teachers organization and UNI's chapter of Sigma Xi—the scientific research society. Prior to joining UNI, Weld

served on the faculty at Oklahoma State University. He was also a former high school biology and chemistry teacher. Weld was named the Ciba-Geigy Life Science Teacher of the Year in Iowa in 1993, was a recipient of the Pella Corporation Focus on Teaching Excellence award in 1994, and was one of fifty national Access Excellence Fellows of Genentech, Inc. in 1995. In 2007, Weld was named the Four-Year College Biology Teacher by the National Association of Biology Teachers. In 2013, the Iowa Science Teachers association honored him with their Outstanding Service Award and the University of Iowa's College of Education bestowed upon him their highest alumni award—the Yager Educational Accomplishment Honor. Weld serves on several state and national boards, including on the Board of Directors of the National Alliance for Partnerships in Equity Education Foundation and the Triangle Coalition for Science and Technology. He received his BS, MS in Science Education, and PhD in Science Education with emphases in Ecology and Endocrinology, all from the University of Iowa.

David Wells

Manager of Creative Making and Learning, New York Hall of Science

David Wells is responsible for all programming and activities in the New York Hall of Science's (NYSCI) Maker Space. The NYSCI Maker Space has been working on a variety of different projects, including weekend workshops, afterschool programs, and out-of-school time camps. Wells has worked on the development and implementation of STEM-based workshops, including a simple machines workshop for early learners, as well as wood working and open-ended building projects. These workshops involve an entry-point discussion about the activity and hands-on deconstruction and discovery. He oversees the design and implementation of maker-related programs, as well as maker education initiatives that use local artists and makers as guest facilitators. A self-proclaimed "maker of things," Wells also designs site-specific interactive art installations using discarded technology, audio experimentation, and digital media to create an interesting yet whimsical experience for his viewers. During his time at NYSCI, he has worked on a wide variety of projects including designing exhibits for the early childhood space, developing emergent curricula for educational programming, and creating educational videos for teachers and students. Wells was nominated for the Champion of Change program, initiated by President Obama, which is meant to honor people that are doing innovative work within their communities. He received a BFA from the Fashion Institute of Technology and an MS in Museum Education from Bank Street School of Education.

Jim Whalen

Senior Vice President and Chief Information Officer, Boston Properties, Inc.

As senior vice president and chief information officer for Boston Properties, Inc., Jim Whalen oversees the direction and implementation of technology and applications, including the support of JD Edwards EnterpriseOne. Boston Properties, Inc. is a fully integrated, self-administered, and self-managed real estate investment trust that develops, redevelops, acquires, manages, operates, and owns a diverse portfolio of Class A office, industrial, and hotel properties. The company is one of the largest owners and developers of Class A office properties in the United States, concentrated in four core markets—Boston, Midtown Manhattan, Washington, D.C., and San Francisco. He has been an active member of the Oracle Real Estate Users Group and its predecessors since 1995 and served on the Quest Board of Directors from 2001 to 2004, where he led the direction of support activities for user groups. He joined PeopleSoft's International Customer Advisory Board in 2002 and became its chairperson during the acquisition by Oracle Corporation. Whalen continues to champion activities in support of user group collaboration and influence. Prior to joining Boston Properties, Inc., he served as vice president of Information Systems for Beacon Properties. He is a graduate of the University of Notre Dame and a recipient of the New York City Urban Fellowship.

Karen Wosczyna-Birch

Executive Director, Regional Center for Next Generation Manufacturing; Director, Connecticut College of Technology

As the state director of the College of Technology and executive director of the NSF Regional Center for Next Generation Manufacturing (RCNGM), Wosczyna-Birch works to reduce barriers in STEM education (grades 9–16) by providing seamless articulation between the educational institutions. RCNGM collaborates with industry to create curricula, as well as to provide opportunities for students and educators regarding careers in STEM-related disciplines. Through a partnership with the Connecticut Business and Industry Association, marketing materials have been created and disseminated across the country to address the advanced skills and careers in STEM with an emphasis on manufacturing. As a professor of chemical technology, Wosczyna-Birch has been dedicated to the recruitment and persistence of underrepresented populations in STEM. This has included conducting workshops on gender equity and creating specific strategies to address the engagement of minorities and women in STEM. She has received many awards, including the New England Board of Higher Education State Merit Award in 2012; the Advocates of Connecticut, Asnuntuck, and Manufacturing (ACAM) Award from Asnuntuck Community College for leadership in advancing manufacturing in 2010; the regional and national Catalyst Award from the National Science Teachers Association (NSTA) for Excellence in Chemical Education in 1996 and 2002; the Congressional Black Caucus Education Brain Trust Next Generation of Youth Service Award in 2002; and the American Association of University Women (AAUW) gender equity award. Wosczyna-Birch is also a board member on the National Coalition of Advanced Technology Centers; National Girls Collaborative, Girls Scouts of America; and the Hartford High School Academy of Engineering and Green Technology. Wosczyna-Birch received her BS in Chemistry, with a minor in Physics, Biology, and Mathematics from St. Joseph College. She received her MS in Neurophysiology and her doctorate in Education Leadership from the University of Connecticut.

Mary Wright

Program Director, Jobs for the Future

Mary Wright directs Jobs for the Future (JFF) initiatives that help low-skilled adults move into and through post-secondary education and on to careers that pay family-sustaining wages. One such initiative is Credentials That Work, which seeks to utilize innovations in the collection and use of real-time labor market information to better align investments in education and training with the needs of the economy. Wright has more than 20 years of experience in municipal finance, government affairs, and workforce development. Before joining JFF, she served as director at The Conference Board (TCB) in New York City, driving its work in workforce readiness, business, and education partnerships, as well as improving the employment outcomes for people with disabilities through research and convenings. During her tenure at TCB, she also served on the boards of three Boston-area nonprofits that support educational opportunities for underrepresented youth, housing options for low-income families, and the arts. Wright has an MBA in Public/Nonprofit Management from Columbia University and a bachelor's degree in Urban Affairs from Connecticut College.