PRESENTER BIOGRAPHICAL INFORMATION

Chandra Austin
Post-Doctoral Teaching Fellow, Auburn University
Chandra Austin is a co-principal investigator for the National Science Foundation funded project, The Influence of MESA Activities on Underrepresented Students. The Math, Engineering, Science Achievement (MESA) outreach program was selected as the subject of this study because of its 40+ years of experience in introducing engineering to students traditionally underrepresented in the discipline. Austin was previously a National Center for Engineering and Technology Education Fellow. She holds a MEd in Business and Industry Education and a PhD in Work and Human Resource Education from the University of Minnesota.

Megan Bang
Assistant Professor, University of Washington
Megan Bang has been appointed assistant professor in the area of educational psychology. A Spencer Graduate Fellow at Northwestern, Bang specialized in cognitive science, a discipline within the learning sciences. She did her Post-Doc work at TERC, Inc., working with the ChecheKonnen Center. Previously, Bang has served as a co-principal investigator on several National Science Foundation grants. Bang worked to design and implement culturally- and community-based science instruction in afterschool settings at the American Indian Center in Chicago and the tribal school on the Menominee reservation for the Cultural Context of Learning in Native American Science Education project. Bang also worked on an NSF-funded project about cross-cultural understandings of the biological world. This project used cognitive research to explore cross-cultural differences in children's understanding of the biological world. In addition to these recent research projects, Bang serves on the editorial board of the *Journal of American Indian Education* and as an inquiry group member for the Center for the Advancement of Informal Science Education. She serves on several boards of projects in Indigenous communities throughout North America. Bang received her PhD in 2008 from the Northwestern University School of Education and Social Policy.

Thomas Carroll
President, National Commission on Teaching and America's Future
Thomas (Tom) Carroll leads the National Commission on Teaching and America's Future (NCTAF). Its mission is to empower educators who are transforming their schools from teaching organizations into learning organizations. Carroll founded the Preparing Tomorrow's Teachers to Use Technology ("PT3") program, and created the Technology Innovation Challenge Grants Program at U.S. Ed. He was the first director of technology planning and evaluation for the E-Rate program. He served as the U.S. Secretary of Education's liaison to the Corporation for National Service during the launch of AmeriCorps. He was deputy director of the Fund for the Improvement of Postsecondary Education, prior to which he was director of National Research Centers and Regional Laboratories at the National Institute of Education (NIE). He served as a Peace Corps volunteer in Lesotho from 1967–1969. Carroll taught and did research

in the School of Education at Clark University, and holds a PhD in Cultural Anthropology from SUNY Buffalo.

Chad Dorsey
President and CEO, The Concord Consortium
Chad Dorsey is president and CEO of The Concord Consortium. Chad's professional experience ranges across the fields of science, education, and technology. Prior to joining The Concord Consortium, Chad led teacher professional development workshops as a member of the Maine Mathematics and Science Alliance. There he developed technology-embedded assessments, analyzed Web-based phenomena and representations for an online library, and co-authored an NSTA Press book of science formative assessment probes. Dorsey has also taught science in classrooms from middle schools through college, and has guided educational reform efforts at the district-wide and whole-school levels. Dorsey holds a BA in Physics from St. Olaf College and an MA in Physics from the University of Oregon.

Sue Doubler
Co-Director, Center for Science Teaching and Learning, TERC, Inc.
Sue Doubler is co-director of the Center for Science Teaching and Learning at TERC (a nonprofit educational research and development center for K–12 mathematics and science learning) and former associate professor of science education at Lesley University in Cambridge, MA. She is currently principal investigator of the Talk Science! project, which is developing Web-based, video-rich professional development aligned with curriculum to support productive science talk. Doubler was principal investigator of the Inquiry Project, a longitudinal study of children's understanding of matter. The project resulted in a program of coherent curriculum, assessment, and professional development based on research. The work is founded on a learning progression for matter. Doubler was also co-principal investigator of the Fulcrum Teacher Leadership Institute, a Math and Science Partnership with Tufts University. She led the development and implementation of a fully online master's program in science education for K–8 teachers through collaboration between TERC and Lesley University. Her work focuses on the interface between science education and technology. She is particularly interested in using technology to support inquiry-based learning. Before coming to TERC, she was an instructional specialist and teacher in the Winchester Massachusetts Schools.

Kate Dresher
Director of Internships and Athletics, Denver School of Science and Technology (DSST)'s Stapleton High School
Kate Dresher designed and has implemented the Internship Program for the past six years at Denver School of Science and Technology (DSST). She places 90–100 juniors (required credit for graduation) each year in 10-week, STEM-based, internship programs with local hospitals, engineering and architecture firms, museums, zoos, and area businesses and organizations. Dresher has presented on internship programs at NSTA and NSRC International Coalition meetings. Dresher earned a BS in Education at Slippery Rock University and an MEd from the University of Pittsburgh.

Verlyn Fick
Vice President for Instruction and Provost, Cochise College
In addition to his administrative duties as vice president for instruction and provost at Cochise College, Verlyn Fick is a principal investigator for a National Science Foundation project entitled Engineering Pathways Partnership Project (EP3): A Rural Model for a Modern World. This project is building ties with industry by providing student internships in STEM positions and by working with district engineering and mathematics educators to improve the success of students interested in STEM fields. He also oversees

another grant from Science Foundation Arizona entitled STEM Outreach Programs Leading to STEM Pathways. Prior to working for Cochise College, Fick was the vice president for teaching and learning at Southeastern Community College (SCC). While at SCC, Fick oversaw all instructional activities, including adult basic education and general education development, high school enrollment programs and credit programs, as well as many other aspects of the college. Fick came to SCC from Western Iowa Tech Community College in Sioux City, where he worked as vice president of instruction and student services. He also worked at the North Dakota State College of Science and Eastern New Mexico University including several years teaching agriculture courses. Fick obtained his PhD in Crop Production and Physiology from Iowa State University and BS degrees in Agronomy and in Soil Science from the University of Minnesota.

Nancy Foote

National Board Certified Middle School Science Teacher, Higley Unified School District

Foote is an eighth-grade physics teacher at San Tan Elementary in the Higley Unified School District, as well as an adjunct chemistry teacher at Chandler Gilbert Community College. She has served on numerous committees including the National Selection Committee for the Presidential Award for Excellence in Mathematics and Science Teaching, McGraw Hill's National Science Advisory panel, the Lego Educator Advisory Panel, NASA Heliophysics Ambassador, and the Casio Teacher Advisory Committee. Foote has gone on a Zero G flight as part of Northrup Grumman's Weightless Flights of Discovery. She was a participant in the National Science Foundation's Prime the Pipeline program where she learned to instrument fly an airplane, design Web pages, write, film and edit documentary films, make wind turbines to transform energy, use digital high-speed cameras, and design cell phones. Foote is the lead science teacher for STEM in the Middle, a program funded by the HELIOS Foundation and designed to improve STEM teaching in the middle school classroom. Foote has received over $30,000 in grants for classroom supplies. Foote's YouTube channel—with educational videos—has received more than 150,000 hits. Her podcasts have had similar success. Foote was awarded the 2003 Presidential Award for Excellence in Mathematics and Science Teaching and 2009 Teacher of the Year from izzit.org. In 2008, she received her National Board Certification. Foote holds a BS in Chemistry with a minor in Physics from Loyola University and an MEd from Arizona State University.

Carole Greenes

Associate Vice Provost for STEM Education, Arizona State University

Carole Greenes is associate vice provost for STEM education, professor of mathematics education, and director of the Practice, Research, and Innovation in Mathematics Education (PRIME) Center at Arizona State University. She is principal investigator for the National Science Foundation funded PRIME the Pipeline Project: Putting Knowledge to Work and the Helios Foundation-funded STEM in the Middle. Prior to joining ASU in October 2007, Greenes was a professor of mathematics education at Boston University. In BU's School of Education, she served as assistant dean for the Boston University-Chelsea Partnership Project, dean of Overseas Programs, and associate dean for Research, Development and Advanced Academic Programs. At ASU, she served as dean of the School of Educational Innovation before assuming her current position in February 2009. Greenes has authored more than 300 books and articles, and was editor of the National Council of Teachers (NCTM) 2008 *Yearbook on Algebra and Algebraic Thinking in School Mathematics*, member of the NCTM steering committee for the *Navigations Series*, and editor of the National Council of Supervisors of Mathematics' (NCSM) *Monograph Series for Leaders in Mathematics Education*. She is also author of four mathematical musical mysteries, and editor of the monthly *MATHgazines*. Greenes was president of the NCSM, was inducted into the Massachusetts Mathematics Hall of Fame, and received the NCSM: Ross Taylor/Glenn Gilbert National

Leadership Award. She holds a BA from the University of Michigan, Ann Arbor, and an EdM and EdD in Mathematics Education from Boston University.

Mark Heffron

High School Director/Principal, Denver School of Science and Technology (DSST)'s Stapleton High School

Mark Heffron is currently high school director/principal of DSST's Stapleton High School and teaches a section of BC – Calculus. Heffron was a professional engineer designing bridges and water containment structures for seven years prior to entering education. He taught all levels of mathematics for six years. Heffron was math department chair at DSST's founding Stapleton campus between 2006 and 2008. He left the classroom and was dean and then director at DSST in 2009. Heffron spearheaded DSST's data analysis and tracking platform and has led DSST's Stapleton to some of the highest CSAP/TCAP (Colorado State Assessment program) and ACT test results in the State of Colorado. DSST has had 100 percent of their first five graduating classes gained acceptance to four-year colleges or universities (2008 to 2012). Heffron was the recipient of the first Sie Faculty Excellence Award. He earned a BS in Civil Engineering from Michigan Technological Engineering and an MS in Civil Engineering from Purdue University.

Lynn Kepp

Senior Vice President, Professional Services, New Teacher Center

Lynn Kepp is the senior vice president of professional services at the New Teacher Center (NTC) where she oversees a portfolio of induction services, including STEM-focused, mentor programs delivered face-to-face and online. NTC has been mentoring new STEM teachers online in e-Mentoring for Student Success (eMSS) for more than nine years via a National Science Foundation grant and partnerships with the National Science Teachers Association and Montana State University, Bozman. Kepp was one of the founding members of the eMSS project and led the transition to a self-sustaining program. NTC is also a founding partner in the 100 K in 10, which is a movement to create the next generation of innovators by providing American's classrooms with 100,000 excellent STEM teachers over 10 years. The NTC is committed to provide online and offline support and mentorship to 15,000 new STEM teachers over the next two years with the goal of accelerating teacher development and student learning and interest in STEM fields. Kepp works closely with CEO Ellen Moir and Senior Director of Online Professional Development Alyson Mike to engage with the 100 K in 10 community. Before starting at NTC as the director of online professional development, Kepp was the coordinator of teacher education at UC Santa Cruz, where she started the secondary science credential program. Kepp holds an MA in Secondary Education and Teaching from Cal State Fullerton and a PhD in Education and Teacher Development from the University of California, Riverside.

Cathy Kinzer

Mathematics Educator, New Mexico State University

Cathy Kinzer is a mathematics educator in the Curriculum and Instruction Department at New Mexico State University (NMSU). She serves on the postsecondary team for the Partnership for Assessment of Readiness for College and Careers, the emerging issues committee for National Council of Teachers of Mathematics, and the Common Core State Standards' Educator Leadership Cadre. She is the principal investigator for the National Science Foundation-sponsored research project, Scaling up Mathematics Achievement (SUMA). This research grant was designed to test a building-capacity model for improving K–8 mathematics teaching and learning. The project focused on the ways in which the systemic SUMA model should be modified to ensure its effectiveness in a large urban district with relatively high numbers of English language learners. Kinzer also serves as the lead mathematics educator for LIFT, the Leadership Institute for Teachers. She collaborates with math educators, research mathematicians, public school administrators, and teachers in the LIFT research project. LIFT provides participating

teachers with a two-year program involving intensive coursework, and includes applying their learning in their school or district settings. Kinzer coordinates learning opportunities for district mathematics leadership teams throughout New Mexico with Mathematically Connected Communities. The MC2 team of NMSU mathematicians and math educators are engaging in systemic ongoing professional learning with educators in over 50 districts across the state. Kinzer was a coordinator for the Gadsden Mathematics Initiative (GMI) that has resulted in increased student achievement for a school district with a majority of English language learners.

Marcia Linn

Professor, University of California, Berkeley

Marcia Linn is a professor of development and cognition, specializing in education in mathematics, science, and technology in the Graduate School of Education at the University of California, Berkeley. She is a member of the National Academy of Education and a fellow of the American Association for the Advancement of Science, the American Psychological Association, and the Association for Psychological Science. She has served as chair of the AAAS Education Section and as president of the International Society of the Learning Sciences. She directs the National Science Foundation funded Technology-Enhanced Learning in Science (TELS) center and the Web-based Inquiry Science Environment (WISE). Board service includes the American Association for the Advancement of Science, Graduate Record Examination Board of the Educational Testing Service, McDonnell Foundation Cognitive Studies in Education Practice, and Education and Human Resources Directorate at the National Science Foundation. Awards include the National Association for Research in Science Teaching Award for Lifelong Distinguished Contributions to Science Education, American Educational Research Association: Willystine Goodsell Award, and Council of Scientific Society Presidents' first award for Excellence in Educational Research. In 1983, she was a Fulbright professor at the Weizmann Institute of Science in Rehovot, Israel. Linn is also a three-time fellow at the Center for Advanced Study in Behavioral Sciences and a fellow at the Institute Rousseau in Geneva and the University College in London. Linn holds a PhD from Stanford University.

Alan Maloney

Senior Research Fellow, Friday Institute for Educational Innovation, North Carolina State University

Maloney is extension associate professor of mathematics education, and senior research fellow at the Friday Institute for Educational Innovation. His research endeavors include research synthesis and development of rational-number-reasoning learning trajectories and innovative technology for diagnostic assessments. He currently heads the Turnonccmath project, which is developing resources based on learning trajectories that link research in student learning to instructional practice and which can be used in professional development programs to support practitioner interpretation and implementation of the *Common Core State Standards for Mathematics.* Maloney is co-designer of several software applications for mathematics learning (FunctionProbe, Graphs n Glyphs, and Interactive Diagrams for Precalculus), and of LPPSync, a prototype diagnostic assessment system for wireless networked devices for use in grades K–8. He is editor of a forthcoming volume on mathematics learning trajectories, and he participated in writing the North Carolina state math standards based on a learning trajectory framework. Maloney received his doctorate in Biological Sciences from Stanford University.

Gary Mayers

2011 Presidential Awardee;Teacher, Spring Valley High School, Clark County School District

Gary Mayers is about to begin his 47th year of teaching high school mathematics. For the past seven years, he has taught at Spring Valley High School in the Clark County School District. His current assignment includes teaching Geometry Honors and Precalculus Honors. Prior to this, he taught in New

York City for 36 years and in Culver City, CA, for three years. During the previous school year, he became a 2011 Presidential Awardee for Excellence in Mathematics and Science Teaching. Challenging his students with complex problems while injecting humor into each lesson is Mayer's favorite method of instruction. Outside the classroom, he is the advisor to Mu Alpha Theta, the mathematics honor society. He coordinates monthly mathematics competitions and organizes fundraising activities for Pi day. Mayers continues to take a leadership role in curriculum innovation. He has worked on rewriting the precalculus curriculum at the district level, and he is currently pioneering at his school on lesson planning in Honors Geometry to align the course with the *Common Core State Standards*. Notable pedagogic achievements during his New York tenure include teaching Advanced Placement Calculus for 30 years and teaching both algebra and geometry in a Spanish/English bilingual program for 15 years. Mayers has a BA, cum laude, in Mathematics and an MS in Mathematics Education from Queens College. He has credentials in Nevada, California, and New York.

Alyson Mike

Senior Director of Online Professional Development, New Teacher Center

Alyson Mike serves as the senior director of online professional development at the New Teacher Center (NTC). She joined the NTC in 2007 with a focus on supporting beginning teachers in rural areas. Mike worked as an online mentor, facilitator, and facilitator coordinator in the e-Mentoring for Student Success (eMSS) program since 2002, prior to working for the NTC full time. She was a National Board Certified middle school science teacher and taught both high school and middle school for over 20 years. Most of her teaching was in East Helena, Montana, a small industrial town where she worked with high needs students who form the majority in the district. Mike was selected as Montana's Teacher of the Year in 2004. She is a Milken Educator awardee and a recipient of the Presidential Award for Excellence in Science Teaching. Mike is also actively involved in statewide service in science education. Her area of interest and research is professional learning, particularly online communities of practice. Mike holds an EdD in Curriculum and Instruction from Montana State University.

Judit Moschkovich

Professor, Mathematics Education, University of California, Santa Cruz

Judit Moschkovich's research examines mathematical thinking and learning in three areas: algebraic thinking and student understanding of functions, mathematical discourse practices, and mathematics learners who are bilingual, learning English, and/or Latino/a. She is a founding partner of Understanding Language (http://ell.stanford.edu), an initiative focusing on language in subject-area learning and supporting English learners to meet the *Common Core State Standards*. She is a former mathematics instructor (SFSU, Upward Bound, UCSCYoPuedo). She was a lecturer at UC Berkeley and a researcher at the Institute for Research on Learning, collaborating with the MMAP (Middle School Mathematics through Applications) project. She worked at TERC collaborating with the ChecheKonnen project and serving as principal investigator on the National Science Foundation funded research project, Mathematical Discourse in Bilingual Settings: Teaching and Learning Mathematics in Two Languages. She was a co-principal investigator for the Center for Mathematics Education of Latinos/as (CEMELA), an NSF CLT (2004–2011). Moschkovich's dissertation received the UC Presidential Grants for School Improvement Research Recognition Award. She was the recipient of a NAED/Spencer Post-Doctoral Fellowship (1995–1997). In 2007, CEMELA at UCSC was awarded the UCSC Chancellor's Diversity Award. She served on the editorial panel for the *Journal for Research in Mathematics Education* and as chair for the AERA SIG-Research in Mathematics Education. She currently serves on the review board for the *Journal of the Learning Sciences* and on the International Program Committee of the International Council for Mathematics Instruction (ICMI) Study #21, *Mathematics Education and Language Diversity*.

She received a BS in Physics from the University of Minnesota and her PhD from University of California, Berkeley, Department of Education in Mathematics Science and Technology (EMST).

Brett Moulding

Director, Utah Partnership for Effective Science Teaching and Learning

Brett Moulding is currently the director of the Utah Partnership for Effective Science Teaching and Learning. He is a former member of the National Academy of Sciences Board on Science Education and a member of the National Research Council (NRC) Committee that developed *A Framework for K–12 Science Education*. He is a member of the *Next Generation Science Standards* (NGSS) writing committee. He also serves on the NAEP Science Standing Committee. Moulding was the Utah State science education specialist and coordinator of curriculum from 1993 to 2004 and then director of curriculum and instruction before leaving the Utah State Office of Education in 2008. Moulding taught chemistry for 20 years at Roy High School in the Weber School District and served as the district teacher leader for eight years. He also served on the Board at the Triangle Coalitional and the NAEP 2009 Framework Committee, and was the president of the Council of State Science Supervisors from 2003 to 2006. Moulding has received the Governor's Teacher Recognition Award, the Presidential Award for Excellence in Mathematics and Science Teaching, and the Award of Excellence from the Governor's Science and Technology Commission. He is a past president of the Council of State Science Supervisors (CSSS) and received the Lifetime Service Award for the advancement of science education through state and national initiatives and polices. Moulding graduated from the University of Utah with a BS in Chemistry with minors in Biology, Math, and Physics. He has a MEd from Weber State University and an Administrative Supervisory Certificate from Utah State University.

Felicia Nemcek

Principal, Southwest Career and Technical Academy (SWCTA)

Felicia Nemcek is the principal of the Southwest Career and Technical Academy. SWCTA is a public magnet high school in the Clark County School District (CCSD). This is her fourth year as the founding principal. She opened the SWCTA in August 2009, which focuses on 21st century skills within two smaller learning communities, featuring 11 unique career and technical education programs. She has a progressive philosophy towards technology and education. Incorporating project-based learning into traditional curriculum instruction is a key component to her forward-thinking approach and her support of STEM education. This also includes a 1:1 program assigning iPads and iPods for students in grades 10–12 with the goal of utilizing this tool as an educational resource inside and outside the classroom. Nemcek is the recipient of the 2011 Nevada ACTE Outstanding Educator of the Year award, and the SWCTA received the 2012 Apple Distinguished School award. She is a Governor's Workforce Investment Board Information Technology Sector Council member (Nevada) and serves on the CCSD Curriculum Commission and CCSD Technology Committee. A native of Las Vegas, Nemcek is a graduate of the Clark County School District and the University of Nevada, Las Vegas.

Pamela O'Neil

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

Pamela O'Neil is the deputy assistant director of the Directorate for Education and Human Resources. O'Neil's career has included being a faculty member, academic administrator, and a National Science Foundation program director. She began her career as assistant professor of biology at the University of New Orleans in 1991, where she earned tenure and was later promoted to the position of associate vice chancellor for research. In 2005, O'Neil moved to Brown University to become the assistant vice president for research initiatives. In 2006, she was promoted to the position of associate provost for policy and planning of Brown University. During her career, she has received several research grants

from the NSF to study the evolution of flowering phenology and has published numerous papers in journals such as *Evolution, American Journal of Botany*, and *Ecology*. O'Neil was also the principal investigator of an NSF award to develop an undergraduate mentoring program in the Department of Biological Sciences at UNO through the UMEB program and the principal investigator of a $3.3 million grant to Brown University from NSF's ADVANCE program. O'Neil served as a program director in the Population Biology Program at the NSF from 2001 to 2003. She has served on numerous panels and site review teams for various programs across the foundation. She chaired the COV of the Advance Program in 2005, served as a member of the Advisory Committee for Performance Assessment in 2008–2009, and chaired the Discovery Subcommittee of the AC/GPA in 2009. In October of 2009, she returned to the NSF's Office of Integrative Activities, where her responsibilities included providing policy support to the office of the director and representing OIA on a number of interdisciplinary programs. In June of 2012, she moved to the Directorate for Education and Human Resources as deputy assistant director.

Angelo Pappano
Program Leader, Entertainment Engineering Design, Southwest Career and Technical Academy
Angelo Pappano is currently teaching a four-year Project Lead the Way curriculum, which includes a STEM guitar building project and many programming and automation projects using Arduino microcontrollers focused around the entertainment industry. Pappano opened the first high school entertainment engineering program in August 2009, which was developed in coordination with the University of Nevada and local industry partners. He serves on the Nevada Standards Writing Committee for Engineering Design, Nevada Standards Writing Committee for Mechanical Technology, and Joint Technical Skills Committee for Engineering and Technology. Pappano attended Western Carolina University for Electronic and Computer Engineering Technology before transferring to the University of Akron to study Electrical Engineering.

Bill Penuel
Professor, University of Colorado, Boulder
Bill Penuel is professor in educational psychology and the learning sciences at the University of Colorado, Boulder. His research focuses on teacher learning and organizational processes that shape the implementation of educational policies, school curricula, and afterschool programs. In his research, he examines learning and development from sociocultural, social capital, and complex social systems perspectives. One strand of his research focuses on designs for teacher professional development in Earth science education. A second strand examines the role of research-practice partnerships in designing supports for teacher learning in school districts. A third strand examines how children's interest in science develops over time and across different kinds of settings. This third strand includes a focus on young children's learning through digital media, including public television programs. His research has appeared in the *American Educational Research Journal, Teachers College Record,* the *American Journal of Evaluation, Science Education,* and the *Journal of the Learning Sciences.* He is currently associate editor of the Social and Institutional Analysis section at the *American Educational Research Journal,* and he is on the editorial board for *Teachers College Record, American Journal of Evaluation,* and *Cognition and Instruction.* Penuel holds a BA in Psychology from Clark University, an EdM in Human Development and Psychology from the Harvard Graduate School of Education, and a PhD in Developmental Psychology from Clark University.

Edys Quellmalz
Director of Technology Enhanced Assessments and Learning Systems in the STEM Program, WestEd
Edys Quellmalz, director of technology enhanced assessment and learning systems in WestEd's Math, Science and Technology program, leads SimScientists. SimScientists *are* projects funded by the National

Science Foundation and the U.S. Department of Education related to simulation-based science curricula and assessments for formative and summative assessments that can serve as components of balanced state science assessment systems. Projects include NSF-funded Calipers II: Using Simulations to Assess Complex Science Learning, Foundations of 21st Century Science Assessment; Carnegie Corporation-funded Transformative Assessments for Science; IES-funded, SimScientists Assessment System; SimScientists: Interactive Simulation-Based Learning Environments; Multilevel Assessments of Science Standards, and Integrating Science Simulations into Balanced State Science Assessment Systems. Quellmalz is recognized nationally and internationally as an expert in technology-supported assessment and has been widely published. She co-directed the development of the Framework and Specifications for the 2014 Technological Literacy National Assessment of Educational Progress. Quellmalz served on the Steering Committee for the 2011 NAEP Writing Framework. She has consulted for numerous state, national, and international assessment programs. She was associate director of the Center for Technology and Learning at SRI International and the director of assessment research and design. She served on the faculty at the Stanford School of Education and as research faculty in the UCLA Graduate School of Education. She was co-director of the Development of the Framework and Specifications for the 2014 National Assessment of Educational Progress for Technology and Engineering Literacy, served on the Steering Committee for the 2011 National Assessment of Educational Progress Writing Framework and on various national advisory committees and editorial boards. She graduated from UCLA, where she received a BA in Psychology, and an MA and PhD in Educational Psychology.

Carl Reiber

Vice Provost for Academic Affairs, Professor, University of Nevada, Las Vegas

Carl Reiber is the vice provost for academic affairs and professor of biology at the University of Nevada, Las Vegas as well as the program coordinator for the NIH Nevada INBRE. He graduated from the University of Massachusetts, Amherst and was a post-doctoral fellow at the University of Florida, Gainesville before moving to Nevada. His research focus is developmental cardiovascular physiology and environmental interactions. He has served as the chair of biology, director of the School of Life Sciences, associate dean for the College of Sciences, and most recently, the director of general education working for the Office of the Executive Vice President and Provost.

Maricela Rincon

Teacher, Las Cruces Public Schools

Maricela Rincon is a national presenter for the National Education Association (NEA), specializing in culture and equity issues and education of English language learners (ELLs). She has been a teacher in bilingual, inclusion, and regular education classrooms for the past nine years and is also a provider of statewide professional development in New Mexico and for New Mexico State University in Las Cruces. She holds a BS in Business Management, and master's degrees in Curriculum and Instruction, Reading, and Teaching Mathematics. Rincon is also currently pursuing a master's degree in Teaching Science.

Ricardo Rincon

Teacher, Las Cruces Public Schools

Ricardo Rincon is currently a high school teacher in Las Cruces Public Schools. He has taught in the dual language program in Las Cruces, New Mexico, for 12 years. Rincon has also facilitated graduate courses on ELL best practices, diversity, and closing the achievement gap for ELLs. As a member of the National Education Association (NEA), he serves in the ELL CADRE, is on the ELL advisory online committee, and a member of the Content Quality Review Board (CQRB) for the NEA academy. Other works and affiliations include ELA *Common Core State Standards* Review Committee, the Council of Chief State School Officers (CCSSO), and National Governors' Association (NGA) review committees, and Project Learning Tree

Steering committee. Rincon has collaborated with other respected leaders and members of NEA to present workshops and trainings locally and nationally. His presentation topics have included best ELL practices, math instruction, science instruction, and integration of technology. In his work, Rincon focuses on research-based instructional methods, theory, and applications that address the specific learning needs of ELLs. Rincon holds master's degrees in Curriculum and Instruction, and Education with an emphasis in Mathematics.

Kathleen Roth

Senior Science Educator, Biological Sciences Curriculum Study (BSCS)

Kathleen Roth is senior science educator at the Biological Sciences Curriculum Study (BSCS) in Colorado Springs, Colorado. Her current work focuses on videocase-based lesson analysis to support preservice and inservice teacher learning. This work examines the impact of teacher learning programs on student learning (as well as teacher learning) and, thus, makes an important contribution to the field's understanding of how professional development can make a difference in terms of student learning. Roth began her career in education as a middle school science teacher, followed by 15 years as a teacher educator and researcher at Michigan State University (MSU). Roth also spent 10 years as a researcher with, and then director of, LessonLab Research Institute. She has been at BSCS since 2009. At MSU, Roth took on a researcher-teacher role, teaching elementary school science and studying her students' learning. At LessonLab Research Institute, she directed the international TIMSS Video Study of Eighth-Grade Science Teaching. Three National Science Foundation funded studies then built on this work: the Science Teachers Learning from Lesson Analysis project (STeLLA), the Videocases for Science Teaching Analysis project (ViSTA), and the Tying Words to Images of Science Teaching project (TWIST). The use of videocases is central in each of these projects, sometimes as a strategy to support preservice or inservice teacher learning and sometimes as a research tool. Roth received her PhD in Science Education from Michigan State University, a master's degree in Secondary Science Teaching from Johns Hopkins University, and an undergraduate degree in Biology from Duke University.

Craig Statucki

IT Teacher and Community Partnership Coordinator, Southwest Career and Technical Academy

Craig Statucki is the community partnership coordinator and digital game development program leader at Southwest Career and Technical Academy. In the game development classes, Statucki teaches game structure and theory in addition to several programming languages including JavaScript, Java, and app development languages. As the community partnership coordinator, he coordinates activities between the 11 program areas at Southwest CTA and their respective industry partners. Statucki also provides campus tours for members of industry, educational leaders, and other dignitaries. Before opening Southwest CTA, he taught 3D Animations and Graphics and business classes at Palo Verde High School in Las Vegas for eight years. Statucki serves or has served on several district and/or state curriculum committees including Graphic Design, Animation, Web Design, and Game Development. He is a member of the CCSD Joint Technical Skills Committee for Media Technology and is currently serving as the vice president of Information and Media Technology Division of the Nevada ACTE. In 2008, Statucki was selected as the Summerlin Youth Forum Teacher of the Year for Palo Verde High School. He has a bachelor's and a master's degree in Business Administration from the University of Nevada, Las Vegas. Statucki earned his teaching endorsement in secondary education from the University of Phoenix.

Kristin Umland

Associate Professor, University of New Mexico

Kristin Umland is an associate professor of mathematics education in the Department of Mathematics and Statistics at the University of New Mexico. Her background is in algebraic topology, but for the past

nine years she has been working to improve the mathematical preparation of preservice elementary and secondary teachers and has worked extensively in teacher professional development. She has worked at the local, state, and national levels on a broad range of related projects including teacher preparation program development, reviews of state K–12 mathematics standards and assessment, and participation in and organization of workshops and committees intended to clarify the important mathematics that students and teachers need to know. She has worked on a number of research projects related to assessing the quality of mathematics instruction in both K–12 classrooms and elementary and secondary teacher professional development workshops. Umland is currently working with the American Institute of Mathematics to look at the impact of Math Teacher Circles on middle school teachers' mathematical knowledge and practice and is co-chair of Illustrative Mathematics, a community of teachers, mathematicians, and mathematics educators working to illustrate the *Common Core State Standards in Mathematics*.

Jerry Valadez

Director, Central Valley Science Project, California State University, Fresno, Member of NRC Steering Committee

Jerry Valadez is director of the Central Valley Science Project, a professional development network of science faculty, professional developers, and teachers of science K–16. In addition, he is executive director of SAM Academy, a STEM-focused out-of-school enrichment program; teaches in the health profession's Career and Technical Education (CTE) program; and consults in the development of CTE curricula for the University of California and California high schools. Previous experiences include medical technologist, elementary and secondary science teacher, after school director, and K-12 science coordinator. He also served as director of National Science Foundation (NSF)- and Department of Education (DOE)-supported urban STEM initiatives and was an early pioneer in STEM schools concepts that combined rigorous academics with career technical and industry standards. A strong advocate of formal and informal learning for underserved children, Valadez was also principal investigator on NSF- and DOE-supported informal STEM programs. He has assisted with the revision of the AP Core Standards in Science for grades 7–12, the focus group for the new K–12 Framework for Science Education, and the NGSS review team for California. Valadez was on the 2010–11 Successful STEM Schools Advisory Committee and the 1999–2003 Committee on Science Education for the National Academy. He also was a member of the Congressional Commission on STEM Education for the 21st Century, and the AAAS Project 2061 Phase II Panel. He serves on committees for the National Science Teachers Association (NSTA), California Department of Education, and the NSF. He is an active member of NSTA and served as chair of the 2011 National Conference on Science Education in San Francisco.

Caroline VanIngen-Dunn

Manager of SFAz STEM Initiatives, Science Foundation Arizona

Caroline VanIngen-Dunn's 25-year career is in engineering research and STEM education. As manager of SFAz's STEM Initiatives, VanIngen-Dunn is building and managing programs and initiatives that link education, workforce, and industry to STEM Pathways and similar programs that result in degrees, certifications, and other credentials that prepare students for jobs. VanIngen-Dunn started her career at Simula Inc., where she conducted vehicle safety and crash-worthiness research for 13 years. She continued to provide biomechanical engineering expertise from her consulting business, CVID Consulting Services, LLC, where for 10 years she also developed, implemented, and managed a number of STEM education programs and initiatives. Her role with the Arizona Department of Commerce as a High Tech School to Work Partnership director launched her career in STEM education and industry partnership work. Other clients for CVID Consulting Services included Simula, ArmorWorks, TIAX, Arizona State University, Maricopa Community Colleges, Arizona Science Center, and Avnet. VanIngen-

Dunn serves on the University of Iowa's College of Engineering advisory board, and has served on the International Science and Engineering Fair host committees of 2005 and 2013. She is a lifetime member of the Society of Women Engineers. VanIngen-Dunn obtained her MS in Mechanical Engineering from Stanford University and her BSE in Biomedical Engineering from the University of Iowa.

Traci Wierman

Curriculum Implementation Network Director, Lawrence Hall of Science

Traci Wierman is currently leading the curriculum implementation efforts for the many projects that comprise the GEMS portfolio, including AfterSchoolKidzScience and Seeds of Science/Roots of Reading at the Lawrence Hall of Science. Wierman worked for 16 years as a public school teacher in the Enterprise Elementary School District, serving in a variety of capacities including self-contained elementary, middle school, and charter school math and science; coordination and delivery of the district-wide gifted and talented program; and leadership for the district Title I math programs. In addition, she spent nine years (four of which as the director of education) working to create and deliver inter-disciplinary programs for Turtle Bay Exploration Park, an inter-disciplinary 200-acre park and museum complex located on the banks of the Sacramento River in far northern California. Programs served the pre-Kindergarten through senior citizen audience, and included summer day camps, a teen volunteer program, docent training, and exhibition-based grants and programs. The institution became a GEMS (Great Explorations in Math and Science) Center, which Wierman directed until leaving to accept the position of GEMS Network Director. Wierman was a member of the Workforce Capacity Development Work Group at The STEM in Out-of-School Time (OST) Initiative, now called The Power of Discovery STEM2 project with the California Afterschool Network. She was also a recipient of the Distinguished Service Award from the California Association for the Gifted, honoring 11 years of service supporting gifted education in the 10-county Mt. Shasta Region. Wierman holds a BA from the California State University, Chico. She has a teaching credential in multiple subjects from the California State University, Chico as well as a Specially Designed Academic Instruction In English (SDAIE) Certification, and a Gifted and Talented Education (GATE) Certification from Simpson College, Redding.