

Collaborative for Advancing Science Teaching and Learning in K-12

Committee

Tiffany Neill

Chair

TIFFANY NEILL (Chair; she/her/hers) has been a longtime leader in STEM education and education policy and currently serves in a variety of roles continuing to advance and advocate for quality learning experiences for students. She currently serves as a Curriculum Innovations Manager at OpenSciEd currently focused on integrating computer science and science through free and open curriculum at the middle school level and as the Director of Accelerated Cohorts for Teaching Success (ACTS) at the University of Central Oklahoma offering pathways of support for those seeking to change careers and enter the education profession. Neill began her career in education as a middle and high school teacher serving in both traditional and non-traditional school settings. She later assumed a position as an instructional specialist at the K20 Center for Community and Educational Renewal at the University of Oklahoma where she developed a state-wide program known as K20alt designed to support alternative education teachers around the state with innovative and effective approaches to instruction for at-risk students. In 2002 she joined the Oklahoma State Department of Education as the Director of Science and Engineering Education and served in the role for 5 years before becoming the Executive Director of Curriculum and Instruction and later the Deputy Superintendent of Curriculum and Instruction, serving on Cabinet for the State Superintendent of Public Instruction. For over a decade, Neill led agency strategies on academic matters including state and federal policies and state and federal funds to drive student achievement for Oklahoma's 700,000 public school students. She served as the President of the Council of State Science Supervisors from 2017-2019, on the President's STEM Advisory Board for NSF from 2020-22, and on the National Assessment Governing Board's Development Panel to update the 2028 NAEP Science Assessment Framework. Neill also served as a Co-PI on the NSF-funded grant, Advancing Coherent and Equitable Systems of Science Education, supporting states with advancing science education in their local context. Neill earned a bachelor's degree in biology from Northeastern State University in Oklahoma and a master's in instructional leadership and academic curriculum from the University of Oklahoma, and a doctorate of philosophy in education from the University of Oklahoma where her research emphasis was on STEM integration.

Juan-Carlos Aguilar

Member

JUAN CARLOS AGUILAR is the Director of Innovative Programs and Research at the Georgia Department of Education. He has served on the Board of Directors for the Georgia Youth Science and Technology Centers and the Valdosta STEAM Board of Advisors. Dr. Aguilar previously served as the Georgia Department of Education Science Program Manager. As part of his responsibilities, he oversaw state policy in science education and led the effort to incorporate selected Career Technical Agricultural Education courses as available options for students to complete their fourth science requirement for graduation. He was the President of the Council of State Science Supervisors from 2013-2015. Dr. Aguilar earned his Ph.D. in physics from the University of Kentucky. He served on the committee that organized the National Academies of Sciences, Engineering, and Medicine workshop on Exploring the overlap between "Literacy in Science" and the Practice of Obtaining, Evaluating, and Communicating Information and on the committee that updated the American's Lab Report.

Jenn Brown-Whale

Member

JENN BROWN-WHALE (they/she) currently serves as an Educational Specialist for the Baltimore City Public School System. In this role Jenn supports the EarthX Research Practice Partnership (RPP) focused on high school Earth science integration through professional learning, curriculum and assessment development. Jenn previously served as Coordinator of Elementary Science for the Maryland State Department of Education (MSDE), during which time their work focused on providing evidence-based program and initiative development across local education agencies (LEAs) and early learning environments. Prior to their time at MSDE, Jenn served for ten years as the Elementary Science Resource Teacher for the Howard County Public School System in Central Maryland. Jenn leverages their experience as a fourth-grade classroom teacher, as well as a sixth-grade outdoor educator to honor the needs of educators and students. Jenn was a member of the Achieve/WestEd Peer Review Panel for two years and they continue to participate in and lead a variety of curriculum evaluation projects. Jenn has designed and facilitated a variety of district, state, and national level professional learning sessions. Jenn supported the NASEM Rise and Thrive With Science: Teaching PreK-5 Science and Engineering practitioner's guide efforts as a review consultant. Jenn holds a B.S. in Counseling and Human Services from Stevenson University and a Master of Arts in Teaching from Towson University.

Terrance Burgess

Member

TERRANCE BURGESS (he/him/his) is an Assistant Professor of science education in the Department of Teacher Education at Michigan State University. Before joining the Michigan State University faculty, Burgess was a secondary science teacher in Durham, NC. His research focuses on how engaging elementary youth of Color in participatory science learning influences their multiple identities within urban schools and promotes their activism within communities. His work utilizes qualitative methodologies to center youth's voices as they engage in science learning to make sense of how they come to view themselves as scientists while also contending with their other identities as racialized students within their classroom spaces. Additional areas of his research explore how teachers' positionalities and their implementation of standards-driven curricula tend to youth's multiple identities and how teacher education programs pursue racial equity through a networked improvement community. He holds a BA in Geological Sciences and an MA in Education from the University of North Carolina at Chapel Hill. He also holds a Ph.D. in Teaching and Curriculum with a specialization in Science Education from Syracuse University.

Heidi B. Carlone

Member

HEIDI CARLONE (she/her/hers) is the Katherine Johnson Chair in Science Education at Peabody College at Vanderbilt University. She is a former high school science teacher and current teacher educator and educational researcher who works alongside teachers to make science and engineering more humanizing and equitable. Dr. Carlone co-founded the STEM Teacher Leader Collaborative, a grassroots network of 200+ elementary teachers designed to cultivate their collective empowerment as STEM leaders and advocates. Her current work in Nashville focuses on establishing research-practice partnerships with elementary teachers and district leaders focused on science teacher leadership and with middle school teachers, nonprofit organizations, and community leaders focused on critical place-based learning. She earned her Ph.D. in Instruction and Curriculum at the University of Colorado Boulder. She served on the consensus committee for the NASEM Brilliance and Strengths report and contributed to the practitioner volume based on that report, Rise and Thrive with Science.

Elizabeth A. Davis

Member

ELIZABETH (BETSY) A. DAVIS (she/her/hers) is a science educator, teacher educator, and learning scientist at the University of Michigan. She is interested in beginning and experienced elementary teachers learning to engage in consequential, equitable, and just science teaching, and the roles of curriculum materials and teacher education in promoting teacher learning. She was named as an AERA Fellow in 2024. Davis heads the NSF-funded ASSETS project—Advancing, Supporting, and Sustaining Equity among Elementary Teachers of Science—focused on how teachers learn to promote justice. Davis received her doctorate from the University of California at Berkeley in 1998 and received the Presidential Early Career Award for Scientists and Engineers at the White House in 2002. She was a member of the National Research Council consensus committee that developed the report *Science Teachers' Learning* and the workshop planning committee focused on instructional materials and the NGSS. More recently, she chaired the National Academies consensus committee that developed the report *Science and Engineering in Preschool through Elementary Grades: The Brilliance of Children and the Strengths of Educators*.

Kenneth L. Huff

Member

KENNETH L. HUFF (he/him/his) has been a public-school science teacher for over 30 years and is currently teaching in the Williamsville Central School District in New York. He is also a Teacher in Residence with Harvard's LabXchange. Kenneth served two terms on the National Science Teaching Association (NSTA) Board of Directors and as president of the Science Teachers Association of New York State and of the Association of Presidential Awardees in Science Teaching. He was a member of the writing team for the NGSS. He was awarded the NSTA Distinguished Teaching Award, the National Science Education Leadership Association Outstanding Leadership in Science Education Award, the State University of New York Buffalo State Distinguished Alumnus Award, and the Presidential Award for Excellence in Mathematics and Science Teaching. Kenneth is also a Fellow of the American Association for the Advancement of Science. Kenneth served as co-chair of the National Academies of Sciences, Engineering, and Medicine Teacher Advisory Council and on the Committee on Science Investigations and Engineering Design Experiences in Grades 6-12. Kenneth earned his BS and MS degrees in education at the State University of New York-Buffalo State. He is a National Board-Certified Teacher in Science/Early Adolescence.

Nathan D. Jones

Member

NATHAN JONES (he/him/his) currently serves as Commissioner of the National Center for Special Education Research within the Institute of Education Sciences at the US Department of Education. He is currently on leave as an associate professor of Special Education and Education Policy at Boston University. He is affiliated faculty with the Wheelock Educational Policy Center (WEPC) and is a founding member of the BU Faculty of Computing & Data Sciences. In his research, Dr. Jones focuses on the intersection of education policy and classroom teaching, particularly in special education. Much of this work has examined on the measurement of teachers' work, including how to conceptualize and measure teaching effectiveness. In 2022, he served as a Committee Member for The National Academies of Sciences, Engineering, and Mathematics Consensus Study Report, The Future of Education Research at IES: Advancing an Equity-Oriented Science. Jones holds a Ph.D. in special education and education policy from Michigan State University.

Kris Kilibarda

Member

KRIS KILIBARDA (she/her/hers) is the Director of the Program for Women in Science and Engineering (WiSE) at Iowa State University. In this role, she leads a team focused on broadening participation and advancing gender equity in science, technology, engineering, and mathematics. Prior to joining WiSE, Kris was the science education supervisor at the Iowa Department of Education, where she led the implementation of Iowa's science standards, facilitated the development and delivery of statewide science professional development, and engaged in an initiative to ensure all Iowa students had access to high-quality science curricular materials. In her over 30 years as an educator, Kris taught science at the high school, community college, and university levels, was a professor and education department chair at Central College, directed a science professional development program for K-8 teachers, served as an Iowa STEM Regional Manager, and was the Director of the Jacobson Institute for Innovation in STEM Education at Grand View University. Kris earned a B.A. in biology and chemistry, an M.A. in biology, and an Ed.D. in educational leadership with a focus on science education, all from Drake University.

Michael C. Lach

Member

MICHAEL LACH (he/him/his) will start as the Superintendent of Hinsdale Township High School District 86 in the summer of 2024. Since July 2019, Michael Lach has been the Assistant Superintendent for Curriculum, Instruction, and Assessment at Township High School District 113, a small high school district outside of Chicago. Dr. Lach has taught high school science in New Orleans, New York City, and Chicago. He then turned to administration, leading teaching and learning in a variety of roles for the Chicago Public Schools for nearly a decade. During the first year of the Obama administration, he coordinated STEM education work at the U. S. Department of Education, and then spent eight years teaching, conducting research, and providing technical assistance focusing on large scale K-12 mathematics and science improvement efforts at the University of Chicago. He earned an Ed.D. in educational leadership from the University of Chicago, a master's in science education from Columbia University, and a M.A. in educational leadership from Northeastern Illinois University.

Michael S. Lim

Member

MICHAEL LIM (he/him/his) is a high school science teacher and district science leader within the Los Angeles Unified School District, one of the largest districts in the United States. He has over 15 years of experience in teaching high school chemistry in urban environments. He has been trained by Joseph Krajcik from CREATE for STEM and Mark Windschitl from Ambitious Science Teachers to teach and write NGSS-aligned curriculum. He has written his own NGSS-aligned curriculum for the district, facilitated in-person and digital implementation of it, and curated other three-dimensional resources to hundreds of other educators. Some of his ongoing projects include uploading new content to his website, YouTube channel, and podcast to asynchronously support these educators. As a voice in education, he has presented at three national NSTA conferences and served on several committees to curate NGSS-aligned resources for organizations such as Harvard University, the National Science Teacher Association, Achieve, and Concord Consortium. He graduated from California State University, Northridge with a bachelor's in English Education and was certified to teach chemistry by the California Teaching Commission.

Karen Lionberger

Member

KAREN LIONBERGER is the associate director of the Center for Teaching and Learning at WestEd. Previously, she served as Executive Director at the College Board in the Advanced Placement division. Earlier in her career, she spent a decade as a high school science teacher and department head in Atlanta, Georgia. Karen's professional expertise lies in research and development of national STEM, formative assessment design, and research-driven professional learning, currently focused on culturally relevant data science initiatives. Her work sits at the intersection of science education research, educator practice, and collaboration with scientists, engineers, and policymakers to translate complex science into instructionally usable resources at scale. She is an active member of several professional organizations, and serves on various committees for these organizations, including the National Association for Research in Science Teaching (NARST), National Science Teachers Association (NSTA), and the National Science Education Leaders Association (NSELA). She holds a PhD in Science Education from the University of Georgia, along with a MEd degree in Educational Leadership and Policy and a BS in Marine Biology from the University of North Carolina Wilmington.

Rebecca Lowenhaupt

Member

REBECCA LOWENHAUPT (she/her/hers) is a Professor of Educational Leadership and Policy at Boston College where she works with current and aspiring leaders on organizational, instructional and sociocultural aspects of educational leadership. Her research has focused on school and district leadership practices to support educational reform and policy implementation. With funding from the National Science Foundation, she served as co-Principal Investigator with Dr. Kate McNeill on the study, "Instructional Leadership for Science Practices" which developed tools for science supervision in K-8 schools. She also led a national study of district leadership for immigrant-origin students with funding from the W.T. Grant and Spencer Foundations focused on practices to support safety and belonging for immigrant youth and families. She currently leads a research-practice partnership with the Chelsea Public Schools focused on cross-sector collaboration to support immigrant youth wellbeing. Prior to her position at Boston College, she served as a postdoctoral fellow at Northwestern University with the Distributed Leadership Study led by Dr. Jim Spillane. She is an Associate Editor for two peer-reviewed journals, Educational Policy and the Journal of Professional Capital and Community. A former middle-school teacher, she remains committed to partnering with schools and systems to design meaningful, equitable educational opportunities for all students. Dr. Lowenhaupt holds a bachelor's degree in English and a master's degree in school leadership from Harvard University, and a Ph.D. in educational leadership and policy analysis from the University of Wisconsin-Madison.

Tia Madkins

Member

TIA C. MADKINS (she/her/hers) is an Assistant Professor of STEM Education in the Department of Curriculum of Instruction and a faculty research affiliate at the Population Research Center, Texas Center for Equity Promotion, and the Center for the Study of Race and Democracy at The University of Texas at Austin. She was a postdoctoral scholar at the University of Notre Dame Center for STEM Education. Her research focuses on supporting educators to understand and implement equity-focused teaching practices to transform PK-20 STEM learning environments for minoritized learners. Dr. Madkins holds multiple leadership roles in the American Educational Research Association (AERA) and has received awards for her research and graduate student mentoring. She is on the Executive Board of the National Academy of Education's Equity in Math Education Research Grant (EMERG) Program and an advisory board member for several NSF-funded projects, offering conceptual and methodological expertise. She earned a Ph.D. in Education from the University of California, Berkeley, an M.S. Ed in Science Education from the University of Southern California, and a B.S. in Biology from Boston University.

Barbara M. Means

Member

BARBARA MEANS is Senior Principal Learning Sciences Researcher at the nonprofit organization Digital Promise. Prior to joining Digital Promise in 2017, she was at SRI International, where she founded SRI's Center for Technology in Learning in 1994. Dr. Means studies the implementation and effectiveness of innovative education approaches supported by digital technology. Currently, she leads large-scale implementation and efficacy studies of digital courseware and teaching practices in the domains of college statistics and chemistry. Another thread of her research has examined opportunity structures for preparing students to enter and succeed in postsecondary STEM programs. Drawing on her expertise in both education and learning technologies, Dr. Means has advised the U.S. Department of Education on national educational technology plans for both K-12 and postsecondary education. She has authored or edited a half dozen books related to learning and technology research. A fellow of the American Educational Research Association, she earned her undergraduate degree in psychology from Stanford University and her Ph.D. in educational psychology from the University of California, Berkeley. Dr. Means has served on many NASEM study panels related to science education, including the panels that produced How People Learn I and How People Learn II.

Darris R. Means

Member

DARRIS R. MEANS is a Professor of Educational Leadership and Dean's Fellow for Rural Education at Clemson University. Prior to Clemson University, he was on faculty at University of Pittsburgh and University of Georgia. Before becoming a faculty member, he was a staff member for a college access and success program, Elon Academy, at Elon University. Darris' research focuses on educational access and opportunity for rural students, students of color, first-generation college students, and students from low-income backgrounds. Specifically, his current research focuses on educational and career pathways into STEM and medicine for underrepresented student populations and postsecondary education access and opportunity for underrepresented student populations. Darris was a National Academy of Education/Spencer Foundation Postdoctoral Fellow (2017-2018), a committee member for the Consensus Study Ad Hoc Committee on K-12 STEM Education and Workforce Development in Rural Areas (2023-2025), and a committee member for the National Academy of Education/Spencer Foundation Dissertation and Postdoctoral Fellowship Retreat Planning Committee (2021-2024). Darris earned his Ph.D. in Educational Research and Policy Analysis (Higher Education Concentration) from North Carolina State University, M.Ed. in Counselor Education (Student Affairs Concentration) from Clemson University, and B.A. in Political Science and Sociology from Elon University.

William R. Penuel

Member

WILLIAM PENUEL (he/him/his) is Distinguished Professor of Learning Sciences and Human Development at the Institute of Cognitive Science and School of Education at the University of Colorado Boulder. Prior to joining the faculty at CU Boulder, he was Director of Evaluation Research at the Center for Technology in Learning at SRI International. Penuel has also been a program evaluator in the San Francisco Unified School District and Metropolitan Nashville Public Schools. Penuel designs and studies curriculum materials, assessments, and professional learning experiences for teachers in STEM education, primarily in science. He also studies how contemplative practices and critical inquiry can support educators in cultivating more compassionate learning environments and schools. A third line of his research focuses on how long-term research-practice partnerships can be organized to address systemic inequities in education systems linked to race, gender and sexual diversity, and language. Penuel is an elected member of the National Academy of Education. He is also a Fellow of the International Society of the Learning Sciences, the International Society for Design and Development in Education, and the American Educational Research Association. He received his B.A. from Clark University in psychology in 1991, his Ed.M. in Counseling Processes from Harvard University in 1992, and his Ph.D. in developmental psychology from Clark University in 1996. Penuel is a member of the Board on Science Education at the National Academies of Sciences, Engineering, and Medicine. He has served on two consensus committees for BOSE, related to assessment and equity.

Breigh Rhodes

Member

BREIGH RHODES (she/her/hers) has served as the director of Learning in Places in the School of Education and Social Policy at Northwestern University since June 2023. Prior to this appointment, Breigh served as a science educator and leader for 16 years, most recently as Director of Math, Science, & STEM at the Louisiana Department of Education from 2018-2023. Her primary expertise includes directing a nationally modeled statewide academic strategy of aligned policies, incentives and supports for high-quality science standards implementation along with comprehensive strategic communications and stakeholder collaboration structures. Professional experience and interests focus on building coherence across structures and systems to advance equitable science learning at scale. She has served in various leadership roles focused on scaling science standards implementation, including OpenSciEd: Design Specifications Team, Steering Committee and State Lead; Council for State Science Supervisors 1st Year Board Director; Advancing Coherent and Equitable Systems of Science Education (ACESSE) State Lead; Council of Chief State School Officers HQIMPD Network and State Collaborative on Assessment and Student Standards. She earned an M.Ed. in education, completed additional natural sciences coursework at Louisiana State University, and holds a B.S. in elementary education from Southeastern Louisiana University.

Autumn Rivera

Member

AUTUMN RIVERA (she/her/hers) is a current 6th-grade science teacher at Glenwood Springs Middle School. She is also an adjunct professor at Colorado Mountain College in their education program. Rivera is the President-Elect of the Colorado Association of Science Teachers and is also on the Colorado Science Advisory Board. River is the 2022 Colorado Teacher of the Year and National Finalist. She was also awarded the Association of Middle Level Education Educator of the Year in 2023 and the National Education Association Foundation Teaching and Excellence Award. Rivera is a member of the Colorado Association of Science Teachers, the National Association of Science Teaching, the Colorado Science Educators Network, and the National Science Educations Leadership Association. She holds a B.A. in biology from Colorado College, an M.A. in secondary science education from Colorado College, and a M.A. in educational leadership from the University of Colorado, Colorado Springs. She is working on her Ed.D. through Walden University.

Jeffrey J. Rozelle

Member

JEFFREY J. ROZELLE (he/him/his) has served as President and CEO of the Knowles Teacher Initiative since 2022. Jeff joined Knowles in 2013 and served in a variety of roles including as the Vice-President of Programs, the Director of the Teaching Fellows Program, and as a Senior Program Officer. Prior to joining Knowles, Jeff was an assistant professor of science education at Syracuse University where he coordinated the secondary science education program. Jeff has overseen Knowles' programmatic efforts including supporting a national network of over 600 high school mathematics and science teachers and teacher leaders. In addition, Jeff has led the organization's efforts to expand its impact through the launch of free online and in-person professional development offerings for teachers and customized professional development offerings for schools and districts. Jeff's research has focused on teacher learning, especially what and how they learn from practice. His doctoral dissertation at Michigan State University focused on the ways student teachers develop a practice as they navigate teacher education and their field placements; it was awarded the National Association for Research in Science Teaching's Outstanding Doctoral Research Award in 2011.

Charlene Russell-Tucker

Member

CHARLENE RUSSELL-TUCKER (she/her/hers) was appointed by Governor Ned Lamont as Commissioner for the Connecticut State Department of Education in August 2021 after having served as Acting Commissioner. Prior to becoming Acting Commissioner, she served as the Department's Deputy Commissioner, managing educational supports and wellness priorities, and as Chief Operating Officer overseeing the Office of Student Supports and Organizational Effectiveness. She also served as Associate Commissioner of Education and Bureau Chief within the Department, previously overseeing a portfolio of programs and services that included student health, nutrition and safety, family engagement, magnet and charter schools, afterschool programs and services, school climate, adult education, and special education. She is a performance-driven and visionary education leader with over 20 years' experience in successfully leveraging the inter-connectedness of the social, emotional, physical, and mental health of students and their families as foundations for positive school and life outcomes. She passionately supports family and community engagement in education and has successfully led school attendance and school discipline initiatives with intensive focus on equity and diversity. She earned a M.S. in organizational leadership and management from Albertus Magnus College.

Guan Kung Saw

Member

GUAN K. SAW is an Associate Professor and holds the Joseph B. Platt Chair in the Management of Technology in the School of Educational Studies at Claremont Graduate University. A former rural high school mathematics and science teacher, Saw studies educational inequality and STEM education and workforce development, with a focus on rural and minoritized students. His research also examines college access and success, social capital and mentorship, teacher victimization, health disparities, and quantitative research methods. His work has been funded by the National Science Foundation, Institute of Education Sciences, and National Institute of Justice. Saw received the National Rural Education Association (NREA) Best Research Award in 2024. He serves on the NREA Rural Research Advisory Committee (2025-) and is an associate editor for American Educational Research Journal (2025-2027). He served on BOSE's consensus committee on K-12 STEM Education and Workforce Development in Rural Areas (2023-2025). Saw holds a B.Eng. in civil engineering from University of Technology Malaysia, an M.Ed. in sociology of education from National Taiwan Normal University, and a Ph.D. in measurement and quantitative methods from Michigan State University.

Erika C. Shugart

Member

ERIKA SHUGART (she/her) is Principal of Erika Shugart Consulting a firm that supports non-profit leadership through strategic planning, governance improvement, team building and association management. Prior to her consulting work she was the CEO of two professional associations, the National Science Teaching Association from 2021 - 2025 and the American Society for Cell Biology from 2016 - 2021. At both organizations she led strategic planning initiatives that drove organizational success, collaborated with volunteer leadership to revise governance, and built high-performing teams. She was the Director of Communications and Marketing Strategy at the American Society for Microbiology from 2013 - 2016, where she oversaw media relations, digital communications, marketing, the membership magazine and public outreach for the society. Between 2003 and 2013, she oversaw the development of new digital media exhibitions, online experiences and programs as Deputy Director of the Marian Koshland Science Museum of the National Academy of Sciences. In addition to her deep expertise in non-profit leadership, she has been recognized for her expertise in science communication. She received her Ph.D. in biology from the University of Virginia.

Patrick S. Smith

Member

PATRICK SEAN SMITH (he/him/his) is Senior Executive Director of Horizon Research, Inc. (HRI). Before joining HRI in 1991, Dr. Smith taught high school chemistry and physics. In addition, he was a member of the Education Studies Department at Berea College, where he taught courses in elementary science methods and the philosophical foundations of education. Dr. Smith worked extensively on materials development for Project Earth Science, a middle-grades Earth science project, authoring or co-authoring three widely used collections of earth science activities published by the National Science Teachers Association. He is currently Principal Investigator for the NSF-funded Supporting Elementary Teacher Learning for Effective School-Based Citizen Science (TL4CS) and leads the data team for the field trial of OpenSciEd Elementary. Dr. Smith also leads the evaluations of several projects funded by NSF and the US Department of Education. He received a bachelor's degree in chemistry, a master's degree in science teaching, and a Ph.D. in Curriculum and Instruction from the University of North Carolina at Chapel Hill.

Julie Yu

Member

JULIE YU (she/her) is Principal Scientist at the Exploratorium, San Francisco's museum of science, art, and human perception. She provides science content and pedagogical leadership throughout the museum and works with teachers to bring inquiry-based science learning to their classrooms as part of the Exploratorium's Teacher Institute, a nationally recognized teacher professional learning center. With a broad interest in all sciences, her work and research have spanned from viruses and stem cells to teacher learning and inquiry to concrete and cement. This has led to a myriad of opportunities, including teaching science to Tibetan monks and nuns, launching an explosion of 2000 ping pong balls, and acquiring a US patent. Julie holds a BS in chemical engineering from Brown University and a Ph.D. in chemical engineering with a minor in molecular and cell biology from the University of California, Berkeley.