Consensus Study on Enhancing the Reach and Contributions of Informal STEM Learning

Committee Meeting #2

Speaker Biographies

STEPHEN D. ALKINS JR. is the Diversity, Equity, and Inclusion (and Belonging) Officer (DEIBO) and Co-chair of the DEIB Council at TERC. With his leadership, Stephen helps craft and implement the vision for DEIB at TERC through his collaboration on NSF STEM education grant development in multiple learning environments (informal, K-12 spaces, higher ed., etc.). His role and responsibilities include recruitment and retention of a diverse research and infrastructure staff, internal policy review, development and analysis of inclusive educational opportunities and social programming, and establishment of community partnerships to promote equity for all STEM learners. Further, Stephen serves as Principal Investigator for the *NSF Advancing Informal STEM Learning (AISL) Resource Center* (REVISE Center) and has served as the director of the TERC Scholars Program, an undergraduate research experience (NSF REU) to mentor the next generation of innovative STEM education researchers and broaden participation in STEM fields. Beyond TERC Stephen is a trained cellular neuroscientist, mentor, and education policy advocate. Most recently, Stephen was reappointed to the Boston School Committee for a second term in 2025 and co-chairs the Opportunity and Achievement Gaps Task Force. Finally, he is an accomplished, national-performing Spoken Word/SLAM poet who leverages the intersection of art and STEM to teach and encourage participation and appreciation of STEM topics.

SUE ALLEN is Principal of Allen & Associates, an independent research and evaluation consulting firm. Dr. Allen founded the Department of Visitor Research & Evaluation at the Exploratorium, led the Informal Science Education program at NSF, served as Acting Division Director of the Division of Research on Learning, and was a Senior Research Scientist at the Maine Mathematics and Science Alliance. Dr. Allen has led numerous large federally funded research projects in informal STEM education, mostly in museums or community-based programs. She has also been an external evaluator on multiple federally funded projects and has served on several national expert committees to characterize STEM learning in out-of-school settings. She served on the consensus committee that wrote the 2009 report “Learning Science in Informal Environments: People, places, and pursuits,” as well as the practitioner volume, “Surrounded by Science.” She was also a contributing writer of the “Framework for Evaluating Impacts of Informal Science Education Projects.”

NICOLE M. ARDOIN Emmett Family Faculty Scholar, is an Associate Professor of Environmental Behavioral Sciences in the Environmental Social Sciences Department of the Stanford Doerr School of Sustainability (SDSS). She is also a Senior Fellow in the Woods Institute for the Environment. Professor Ardoin and her Social Ecology Lab research motivations for and barriers to environmental behavior at the individual and collective scales. They use mixed-methods approaches--including participant observation, a variety of interview types, surveys, mapping, network analysis, and ethnography, among others--to consider the influence of place-based connections, environmental learning, and social-ecological interactions on participation in a range of environmental and sustainability-related decision-making processes. Professor Ardoin and her interdisciplinary group pursue their scholarship with a theoretical grounding and orientation focused on applications for practice; much of her lab's work is co-designed and implemented with community collaborators through a field-based, participatory frame. Professor Ardoin is an associate editor of the journals "People and Nature" and "Environmental Education Research," a trustee of the California Academy of Sciences, and chair of NatureBridge's Education Advisory Council, among other areas of service within the environment and conservation field.

BREANNE LITTS is a student of education, nature, technology, and culture. Her curiosities are focused on how we can partner with communities to create technologies and experiences that support learning, sharing, and preserving culture. Dr. Litts currently works as an associate professor in Instructional Technology & Learning Sciences and director of the Learn Explore Design lab at Utah State University. She conducts her work in relation with Indigenous communities, formal and out-of-school educators, and other community organizations. Together they examine how young people construct their identities through place and story, how to use technology to bring people together in cross-cultural contexts, and how people collaborate across disciplines, communities, and cultures. This work has received funding from the Spencer Foundation and the National Science Foundation, including an NSF Faculty Early Development (CAREER) award. Dr. Litts' work appears in journals such as *Teachers College Record*, *Journal of Computing in Higher Education,*and *British Journal of Educational Technology*.

VERA MICHALCHIK leads Effective Philanthropy Learning Initiative's research on philanthropy and the design of programs, consultations, and materials for donors, advisors, and others wanting to advance insight and practice in giving for social good. Vera has spent her career in the non-profit and public sectors, applying a research-plus-practice lens to processes, relationships, and outcomes. Her efforts have succeeded in helping manage expectations between local organizations and global funders, adapt effective programs to new cultural contexts, document successes and lessons learned in evaluation studies, and build new

approaches through applied research. She brings to her role extensive experience in social science research, putting relevant findings to use in her previous positions at SRI International, the Gordon and Betty Moore Foundation, UC Irvine's Department of Informatics, and Stanford's Center for Teaching and Learning. She also built a library system on a small island in Micronesia while collecting data there for her dissertation on knowledge management across social settings. She holds a PhD from Stanford, EdM from Harvard, and BA from UC Berkeley—her studies all focused on learning, media, and the shaping of cultural norms.

RAJUL PANDYA is the Fulton Presidential Professor of Practice at Arizona State University's Mary Lou Fulton Teachers College and Executive Director of the Global Futures Education Alliance at the Julie Ann Wrigley Global Futures Laboratory. Formerly, he served as Vice-President of Community Science and founding Director of the Thriving Earth Exchange at the American Geophysical Union. Dr. Pandya's work focuses on participatory science and science education, emphasizing community involvement in scientific discovery and how universities can support community priorities for sustainability. He is a member of advisory boards for the Anthropocene Alliance, Community and College Partners Program, Cornell Lab of Ornithology, ISET International, and the Aspen Institute for Global Change. He also serves on the Scientific Advisory Council of the American Red Cross and the NSF Advisory Committee on Environmental Research and Education. Dr. Pandya contributes to the National Academies on several committees, including the Standing Committee on Science Communication and the Resilient America Roundtable. He earned his Ph.D. in Atmospheric Science from the University of Washington and a B.S. in Physics from the University of Illinois.

ALICIA SANTIAGO is a program director in the Directorate for STEM Education at the National Science Foundation. Her work bridges scientific research, science communication, media, and community-centered STEM learning. A developmental neurobiologist by training, she has collaborated on national-level science communication and STEM engagement initiatives using mass media, digital media, and community outreach to connect youth and families with STEM. Her work has focused on family science learning, bilingual science communication, and media-based approaches to STEM engagement.

AMY WILSON is a program director in the Directorate for STEM Education at the National Science Foundation. Her research and development work has addressed the linguistic practices of youth as they engage in community-based engineering. A former middle school teacher, her research has been funded by federal, state, and non-profit organizations, resulting in national awards and dozens of peer-reviewed publications.

JILL ZARESTKY is an Associate Professor and Associate Director of the School of Education at Colorado State University. She also serves as affiliate faculty in the School of Global Environmental Sustainability. Her research focuses on informal adult STEM education and emphasizes climate adaptation and sustainability in contexts such as agricultural education and community science. She serves as an editor for the journal New Horizons in Adult Education and Human Resource Development and is an editorial board member for the journals Adult Education Quarterly and Adult Learning. Zarestky is a previous recipient of the American Association for Adult and Continuing Education Early Career Award and the University Council for Workforce and Human Resource Education Assistant Professor Award. She earned a Ph.D. from Texas A&M University in educational human resource development, with a specialization in adult education, and a M.S. in computational and applied mathematics from the University of Texas, Austin.