

Committee to Assess NASA Science Activation 2.0

Committee

Margaret A. Honey

Chair

Margaret Honey is the CEO and president of the New York Hall of Science. Among her current interests at NYSCI is the role of design-based learning in promoting student interest and achievement in STEM subjects. She is widely recognized for her work using digital technologies to support children's learning across the disciplines of science, mathematics, engineering and technology. Prior to joining NYSCI, she spent 15 years as vice president of the Education Development Center (EDC) and director of EDC's Center for Children and Technology. While at EDC, Dr. Honey was the architect and overseer of numerous large-scale projects funded by organizations including the National Science Foundation, the Institute for Education Sciences, The Carnegie Corporation, The Library of Congress, the U.S. Department of Education, and the U.S. Department of Energy. She also co-directed the Northeast and Islands Regional Education Laboratory, which enabled educators, policymakers, and communities to improve schools by helping them leverage the most current research about learning and K-12 education. Dr. Honey has shared what she's learned before Congress, state legislatures, and federal panels, and through numerous articles, chapters and books. She formerly served as a board member of the National Academies' Board on Science Education and currently serves as a member of the Division Committee for the Behavioral and Social Sciences and Education. On behalf of the National Research Council, she has chaired the workshop report on IT Fluency and High School Graduation Outcomes, and co-authored a report on Learning Science: Computer Games, Simulations, and Education. Her recent book, *Design, Make, Play – Growing the Next Generation of STEM Innovators*, explores the potential of these strategies for supporting student engagement and deeper learning. Dr. Honey received her Ph.D. in developmental psychology from Columbia University.

Flavio S. Azevedo

Member

Flavio Azevedo is an Associate Professor in STEM Education, Department of Curriculum and Instruction in the College of Education at the University of Texas at Austin, and Co-Director of the UTeach Natural Sciences teacher education program at the same institution. Dr. Azevedo's research focuses on the nature of interest-driven participation in STEM practices, STEM learning in- and out-of-schools, and liberatory pedagogies. Broadly, to speak of people's interests is to consider the multitudinous ways in which diverse individuals engage and appropriate any given practice, so that pedagogies for interest development can be powerful pedagogies for democratic participation. Dr. Azevedo investigates interest-driven participation and learning across timescales and settings of STEM practice (hobbies, after-school programs, classrooms, museums, and the home), as well as the socio-cultural and political contexts of such practices, so as to broaden and deepen participation in STEM and to intervene on mechanisms that (re)produce inequities across educational spaces. Dr. Azevedo is a Spencer Foundation fellow and a member of the International Society of the Learning Sciences and the American Educational Research Association, among others. He holds a B.S. in electrical engineering, M.S. in computer science, and a Ph.D. in science and mathematics education.

Paula Bontempi

Member

Paula Bontempi has been Dean of the Graduate School of Oceanography at the University of Rhode Island since September 2020. Prior to her current position, Dr. Bontempi served as acting deputy director at NASA's Earth Science Division in the Science Mission Directorate of NASA Headquarters in Washington, D.C., and spent more than 16 years as the physical scientist and program manager for ocean biology and biogeochemistry at NASA Headquarters. She provided leadership, strategic direction, and overall management for the agency's Earth science portfolio, from technology development, applied science, and research to mission implementation and operations. Her scientific interests include Earth and ocean remote sensing, phytoplankton ecology, marine bio-optics, studying the Earth as a system, oceans across the solar system, the connection of ocean exploration to global economics, and the development of ocean sensors. She has a strong interest in mentorship and justice, equity, diversity, and inclusion (JEDI) initiatives in science, technology, engineering and mathematics (STEM). She currently serves as a member of the NASA Unidentified Aerial Phenomenon Independent Study Team. She is a Fellow of The Oceanography Society. Her Ph.D. in Oceanography is from URI-GSO, and she holds a Master of Science Degree from Texas A&M University, and a Bachelor of Science from Boston College.

Orlando Figueroa

Member

Orlando Figueroa is the Founder of Orlando Leadership Enterprise, LLC. Prior to this position, Mr. Figueroa was a NASA Senior Executive with 45 years of experience in the management, planning and development of scientific space programs, missions, and related technologies. His experience at the NASA Goddard Space Flight Center and Headquarters include Deputy Center Director for Science and Technology, Director for Applied Engineering and Technology, Deputy Associate Administrator for Science Programs; Director the Solar System Exploration; Director for Mars Exploration; and Deputy Chief Engineer for Systems Engineering. Mr. Figueroa's awards include National Space Society Pioneer Award, Smithsonian Latino Center Legacy Award, Service to America Federal Employee of the Year Medal, NASA Presidential Rank Awards; Most influential Hispanics in the Nation, Pioneer Award from the Hispanic Engineer National Achievement Awards Corporation; NASA Outstanding Leadership Medals, and the Community Stars Award from the Maryland Science Commission. Mr. Figueroa received an honorary doctorate degree in science from Dominican College in New York in 2004. Author of publications in the field of cryogenics, the SMEX missions, and the Mars Exploration Program. He obtained a BSME from the University of Puerto Rico in 1978 and advanced studies in Mechanical Engineering at the University of Maryland. Mr. Figueroa is fully bilingual in English and Spanish.

Wendy K. Gram

Member

Wendy Gram has worked at the interface of science and education for over 30 years. Dr. Gram is the COMET Deputy Director, a UCAR (University Corporation for Atmospheric Research) program. COMET develops education and training products for weather, water, and climate sciences, and provides them freely on the MetEd learning portal. Prior to joining COMET in 2019, Dr. Gram was the lead for Science Engagement and Education for the NSF-funded National Ecological Observatory Network (NEON) for ten years. At NEON, she led development, implementation, and evaluation of education and engagement programs and tools to enable the scientific community to effectively discover, access and use NEON data. From 1999 – 2008, Dr. Gram was Head of Education at the Sam Noble Oklahoma Museum of Natural History at the University of Oklahoma. There, she was a member the Senior Leadership Team for the museum and led programs that integrated science with educational programming, such as innovative teacher professional development workshops, field courses, K-12 classes, and exhibit development. Dr. Gram holds a Ph.D. in Ecology and Evolution from the University of Missouri and a B.A. in Biology from the University of Pennsylvania. She was a member of the 2019 NASEM Committee to Assess Science Activation.

Rogers P. Hall

Member

Rogers Hall is Wachtmeister Family Professor of Education, Emeritus at Vanderbilt University. With colleagues in the Space, Learning and Mobility (SLaM) Lab, he designs and studies learning environments that invite new ways to engage with STEM conceptual practices. These include studies of learning in ensemble and embodied activity (e.g., “walking scale geometry”, mathematical aspects of dance choreography), where mobility is both the means and content of what is learned (e.g., youth counter mapping to expand personal mobility), and by making and sharing “story lines” that bridge archival collections, classrooms, and city neighborhoods as a form of public history. He was a member of the 2019 NASEM Committee to Assess Science Activation.

Victor R. Lee

Member

Victor Lee is an Associate Professor in the Stanford Graduate School of Education. His research involves the study and design of STEM learning experiences with an emphasis on supporting teaching and learning with data, AI literacy, elementary computer science education, and science teaching and learning. His work has traversed formal and informal learning spaces including schools, libraries, homes, and afterschool programs. Lee is past recipient of an NSF CAREER Award, AERA's Jan Hawkins Award, and a National Academy of Education/Spencer Foundation Postdoctoral Fellowship. He sits on the editorial boards of several leading education research journals and is past president and an elected Fellow of the International Society of the Learning Sciences. Lee completed his doctorate in Learning Sciences at Northwestern University and holds Bachelor's degrees in Cognitive Science and Mathematics from the University of California, San Diego. He was previously a member of the committee that produced the National Academy of Science, Engineering, and Medicine's consensus report “Cultivating Interest and Competencies in Computing: Authentic Experiences and Design Factors”.

Alina Martinez

Member

Alina Martinez is a former principal researcher at Mathematica and former director for Mathematica's STEM research area. She has over 25 years of experience conducting studies of federal programs funded by the National Aeronautics and Space Administration, National Science Foundation, U.S. Department of Education, and National Institutes of Health. Dr. Martinez has directed and played a senior role in over two dozen studies, including evaluations of STEM education and training programs that extend from middle school through early career, and evaluations of research programs that involve large-scale research center collaborations, interdisciplinary research, and international research experiences. Her work has also investigated programs to promote educational access and success of students. Prior to joining Mathematica, Dr. Martinez was a principal associate at Abt Associates. She began her career as a middle school science teacher in the Los Angeles Unified School District. Dr. Martinez received her B.S. in biology from Cornell University, M.A. in educational foundations from California State University, Los Angeles, and M.Ed and Ed.D. in education policy from Harvard University.

Rajul Pandya

Member

Rajul Pandya is Vice President of Community Science at the American Geophysical Union. He focuses on how the sciences can be more participatory, how inclusivity contributes to innovation and relevance, and how the sciences can be allies in advancing justice. Raj chaired the National Academies committee on "Designing Citizen Science to Support Science Learning," and has served or is serving on advisory boards for the Cornell Lab of Ornithology, Public Lab, the College and Community Partners Program, the Citizen Science Association, the Anthropocene Alliance, the Denver Institute for Science and Policy, ISET International, and the science and research subcommittee for the City of Denver's Sustainability Advisory Council. Raj has a Ph.D. from University of Washington that he obtained 1996, investigated how large thunderstorms grow and persist.

Darryl N. Williams

Member

Darryl Williams is the Franklin Institute's Senior Vice President of Science and Education, oversees core aspects of the mission at the heart of the Institute's efforts to inspire a passion for learning about science and technology. Dr. Williams joined the Institute from Tufts University's School of Engineering where he was Dean of Undergraduate Education and Director of Tufts Center for STEM Diversity. Prior to Tufts, Dr. Williams spent four years with the National Science Foundation as a rotating program director and managed a range of federal programs and research focused on engineering education, STEM teaching and learning, designing formal and informal learning environments, and workforce development. He is a current member of the Board on Science Education (BOSE) and a member of the NASA STEM Engagement Committee. He earned his B.S. in chemical engineering from Hampton University and his M.S. and Ph.D. in chemical engineering from the University of Maryland, College Park.

Kenne Dibner

Staff Officer