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Division of Behavioral and Social Sciences and Education

Foundations of Data Science for Students in Grades K-12: A Workshop
Biographies
September 13–14, 2022

Planning Committee Members	
	**Nicholas Horton** (Planning Committee Co-Chair) is Beitzel Professor of Technology and Society (Statistics and Data Science) at Amherst College. He is passionate about improving quantitative and computational literacy for students with a variety of backgrounds and has worked to deepen engagement and mastery of higher-level concepts and data acumen. As an applied biostatistician, Dr. Horton's work is based squarely within the mathematical and computational sciences, but spans other fields in order to ensure that research is conducted on a sound footing. Bridging the gap between theory and practice in interdisciplinary settings is often a challenge, and has been a particular focus of Dr. Horton's work in missing data methods and longitudinal regression. He served as the chair of the Committee of Presidents of Statistical Societies, as a member of the Roundtable on Data Science Postsecondary Education, on the NASEM (2018) Data Science for Undergraduates consensus study, and is co-chair of the NASEM Committee on Applied and Theoretical Statistics. He has been the recipient of a number of teaching awards and the American Statistical Association Founders Award. Dr. Horton is a fellow of the American Statistical Association and the American Association for the Advancement of Science. He earned his A.B. from Harvard College and his Sc.D. in biostatistics from the Harvard School of Public Health.
	**Michelle Hoda Wilkerson** (Planning Committee Co-Chair) is an Associate Professor in the Graduate School of Education and the Graduate Group in Science and Mathematics Education at the University of California, Berkeley. Dr. Wilkerson's research addresses the question: How is computing changing what is important to teach and learn in grades 5-12 science and mathematics classes? This has led her to study how young people learn with and about scientific computing tools such as simulations, data analysis packages, and interactive visualizations. Most recently, her work has explored how learners' status as consumers, subjects, and creators of data shape what they understand and engage with during analysis. Dr. Wilkerson's work has been supported by the U. S. National Science Foundation, the George Lucas Education Foundation, and Google Education Research. Her work was awarded by a 2014 Early CAREER grant from the NSF and the 2020 American Educational Research Association's Jan Hawkins Award for Humanistic Research and Scholarship in Learning Technologies. Dr. Wilkerson received her Ph.D. in Learning Sciences in 2012 from Northwestern University.

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	**Tamara Clegg** is an Associate Professor in the College of Information Studies at the University of Maryland, where she directs the new B.A. in Information Design and co-directs the Youth eXperience (YX) Lab. She received her Ph.D. from Georgia Tech's College of Computing and her B.S. in Computer Science from North Carolina State University. Tamara's work focuses on designing technology (e.g., social media, mobile apps, e-textiles, community displays) to support life-relevant learning where learners, particularly those from underrepresented groups in science, engage in science in the context of achieving personally relevant goals. She seeks to understand ways such learning environments and technologies support scientific disposition development. Her most recent work begins to explore critical data literacies among young learners and collegiate athletes in the context of everyday technology use and sports respectively. Tamara's work has been funded by the National Science Foundation, the Institute of Museum and Library Studies, and Google.
	**Zarek Drozda** is the Director of Data Science 4 Everyone, a national initiative and coalition based at the University of Chicago. Zarek helped launch DS4E in 2019, co-organizing a coalition of now 1000+ education stakeholders across U.S education. Zarek has worked at the intersection of applied research, data, and policy. He served as a Data Science Fellow for the U.S. Department of Education's Institute of Education Sciences (IES), where he led research on data science, artificial intelligence, blockchain, and other emerging technology education for the agency. While working at the Federal level, Zarek also advised the national COVID response, running data analytics for an inter-agency team between the White House, Department of Education, and Center for Disease Control (CDC). Zarek earned a Bachelor's degree in Economics from the University of Chicago, and loves using data to tackle complex social problems.
	**Timothy Erickson** develops curriculum and provides professional development for mathematics, science, and data education at the school level. He has primarily done this work as a freelancer since 1992, with occasional stints as a faculty member at the high school or college. Since about 2000, most of this work has involved data education of some kind, ranging from modeling activities in physics to designing materials for introducing data science to high-school students (https://concord.org/awashindata). Nearly all of this work recognizes the need for technology in data education, and has included creating software to help students collect and analyze data in various ways. Contracts with nonprofits such as The Concord Consortium have been Tim's main source of funding; however, he has also received independent funding, including 4 SBIR awards from NSF. Although he initially trained in astronomy and astrophysics at Caltech and Berkeley, Tim was always interested in education, and has spent nearly 40 years in that pursuit.

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	**Hollylynne Lee** is a Distinguished Professor of Mathematics and Statistics Education in the STEM Education department at NC State University, and a Senior Faculty Fellow at the Friday Institute for Educational Innovation. She directs the Hub for Innovation and Research in Statistics Education at the Friday Institute. Her research focuses on teaching and learning of probability, statistics, and data science in grades 4-12 and early college. She is an expert on the design and use of technology tools to facilitate students' learning of mathematics and statistics, as well as preparing preservice and inservice teachers to use technology. She is the 2022 recipient of the Robert Foster Cherry Award for Great Teaching, from Baylor University. In 2020 she was named a Fellow of the American Statistical Association and awarded the University of NC Board of Governor's award for excellence in teaching. She designs and offers free online professional development for teachers related to teaching statistics and data science and creates and distributes open educational resources for preservice teacher education. Dr. Lee earned her Ph.D. in 2000 from University of Virginia, M.A. Ed. From William & Mary in 1995, and B.S. from Pennsylvania State University in 1991.
	**Camillia Matuk** is Assistant Professor in NYU Steinhardt's Educational Communication and Technology program, and director of RIDDLE. She serves as an Associate Editor for Instructional Science, a member of the editorial board of the International Journal for Computer Supported Collaborative Learning (ijCSCL), and a member of the Education Committee for the International Society for the Learning Sciences. She is also co-chair of the C2 ICCE Computer-Supported Collaborative Learning (CSCL) and Learning Sciences, a sub-conference of the International Conference for Computers in Education, of the Asia-Pacific Society for Computers in Education (APSCE).. Her research examines the design of interdisciplinary STEM learning experiences, with a focus on exploring how arts-based inquiry can promote K-16 learners' research and data literacies. She received her PhD in the Learning Sciences from Northwestern University, and was a postdoc at the Graduate School of Education at the University of California, Berkeley.

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	**Leigh Peake** joined the Gulf of Maine Research Institute (GMRI) in 2014 as Chief Education Officer, leading GMRI's extensive work with K-12 teachers and students across Maine in order to nurture scientific literacy in the next generation of Mainers. Leigh is a seasoned educational publishing executive and entrepreneur who came to GMRI from Education Development Center (EDC) in Waltham MA where she was Director of New Enterprise Initiatives. Prior to EDC, Leigh served as President of Corwin and Sr. VP of SAGE Publications in California. Leigh is Principal Investigator of numerous NSF awards that research the affordances of informal learning experience in building data literacy in the context of investigations of climate change. She is also PI on a NASA Science Activation project that aims to leverage a learning ecosystem framework to enable teachers, librarians, and informal educators to collaborate on climate/data learning experiences for youth. Finally, as a member of the Chair teams for the 2019, 2021, and 2023 Gordon Research Conference on Visualization in Science and Education, Leigh has had the opportunity to learn from a wide interdisciplinary network of experts who constantly push her practice with, and ambitions for, youth and educators.

National Academies Staff	
	**Heidi Schweingruber** is the director of the Board on Science Education at the National Academies of Sciences, Engineering, and Medicine. She oversees a portfolio of work that includes K-12 science education, informal science education, and higher education. Dr. Schweingruber joined the staff of the board in 2004 as a senior program officer. In this role, she directed or co-directed several projects including the study that resulted in the report *A Framework for K-12 Science Education* (2012), the blueprint for the Next Generation Science Standards. Dr. Schweingruber is a nationally recognized leader in leveraging research findings to catalyze improvements in science and STEM education policy and practice. She holds a Ph.D. in psychology (developmental) and anthropology from the University of Michigan.
	**Amy Stephens** (Study Director) is a senior program officer for the Board on Science Education of the National Academies of Sciences, Engineering, and Medicine. She was the study director for several consensus studies including: *English Learners in STEM Subjects: Transforming Classrooms, Schools, and Lives* (2018); *Changing Expectations for the K–12 Workforce: Policies, Preservice Education, Professional Development, and the Workplace* (2020); *Cultivating Interest and Competencies in Computing: Authentic Experiences and Design Factors* (2021); and *Science and Engineering in Preschool through Elementary Grades: The Brilliance of Children and the Strengths of Educators* (2021). She holds a Ph.D. in cognitive neuroscience from Johns Hopkins University.

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	**Janet Gao** is a program officer with the Board on Science Education at the National Academies of Sciences, Engineering, and Medicine. Before she joined NASEM in 2021, she has been an active scholar-practitioner in the field of postsecondary education policy and administration, relying heavily on quantitative methods using large-scale national and state datasets. Since she joined NASEM, Janet has been supporting with developing, managing and coordinating a variety of K-12 and Higher Education projects, including *Symposium on Imagining the Future of Undergraduate STEM Education*, *Roundtable on Systemic Change in Undergraduate STEM Education*, *Call to Action for Science Education*, and *Consensus Study on Equity in PreK-12 STEM Education*. She holds an Ed.D. from The George Washington University with a specialization in higher and international education.
	**Lauren Ryan** is a Senior Program Assistant for the Board on Science Education at the National Academies of Sciences, Engineering, and Medicine. She previously worked as a patent examiner at the U.S. Patent and Trademark Office, reviewing applications related to cell culture and biological analysis instruments. Lauren developed a deep passion for STEM education while pursuing her B.S. in Biomedical Engineering as a member of the University of Maine Class of 2020. While at UMaine, she participated in a wide variety of student organizations, including organizing a hunger awareness and relief campaign known as the Maine Day Meal Packout. Lauren was recognized as the Student Leader of the Year by her alma mater in 2020 and was proud to receive the Honors College Service Award for her dedication to the campus community.

Participants

	**Anna Bargagliotti** is a Professor of Mathematics in the Seaver College of Science and Engineering at Loyola Marymount University. She received her Ph.D at the University of California, Irvine in Mathematics and her MS at the University of California, Los Angeles in Statistics. She has been the past chair of the NCTM/ASA joint committee, a lead author on the jointly published ASA/NCTM GAISE II report, and an author on the ASA SET report. She also co-authored the book Statistics and Data Science for Teachers with Christine Franklin. Dr. Bargagliotti's interests are in nonparametric and circular statistics, statistics education throughout the K-16 grade bands, data visualization, and multivariate models. She has received over 4 million dollars in funding to carry out her research and published over 50 research articles, columns, reports, OpEds, and book chapters. She is also the recipient of the ASA's Waller award, the Mu Sigma Rho's Warde award, the Dex Whittinghill award, and the Elizabeth and Michael Rudinica Prize.

	**Rahul Bhargava** is an educator, researcher, designer, and facilitator who builds collaborative projects to interrogate our datafied society with a focus on rethinking participation and power in data processes. He has created big data research tools to investigate media attention, built hands-on interactive museum exhibits that delight learners of all ages, and run over 100 workshops to build data culture in newsrooms, non-profits, and libraries. With Catherine D'Ignazio, he build Databasic.io, a suite of tools and activities that introduce learners from various domains to working with data. Rahul has collaborated with a wide range of groups, from the state of Minas Gerais in Brazil to the St. Paul library system and the World Food Program. His academic work on data literacy, technology, and civic media has been published in journals such as the International Journal of Communication, the Journal of Community Informatics, and been presented at conferences such as IEEE Vis and ICWSM. His museum installations have appeared at the Boston Museum of Science, Eyebeam in New York City, and the Tech Interactive in San Jose. Rahul is an Assistant Professor in Journalism and Art + Design at Northeastern University, where he directs the Data Culture Group.
	**Rolf Biehler** is professor emeritus for didactics of mathematics at Paderborn University, Germany. He got his Ph.D. and Habilitation in mathematics education from Bielefeld University and worked as a professor for didactics of mathematics at Kassel University before he moved to Paderborn University in 2009. His research interests include probability, statistics, and data science education, university mathematics education, and the professional development of mathematics teachers. He was a co-founder and co-director of the Centre for Research in University Mathematics Education (www.khdm.de/en). He is engaged in the International Association of Statistics Education (IASE). He is a member of the International Collaboration for Research on Statistical Reasoning, thinking and literacy (SRTL) and the International Network for Didactic Research in University Mathematics (INDRUM) scientific committee. He has been co-directing the Project Data Science and Big Data at School level (www.prodabi.de/en) since 2018, a collaborative project between computer science and statistics educators. The project develops material for data science education including machine learning for primary, middle, and high school. Rolf Biehler and his team created the German localization of Fathom, Tinkerplots, and CODAP and developed related classroom materials and empirical classroom studies. He co-edited the 2022 Special Issue on data science education of the Statistics Education Research Journal (SERJ).

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	**Jo Boaler** is the Nomellini & Olivier Professor of Education at Stanford University. Former roles have included being the Marie Curie Professor of Mathematics Education in England, and a mathematics teacher in London comprehensive schools. She is author of 18 books, numerous articles and a White House presenter on women and girls. Her latest book is called: *Limitless Mind: Learn, Lead and Live without Barriers* and is published by Harper Collins. She co-founded www.youcubed.org to give teachers, parents and students the resources they need to excite students about mathematics. She is one of the writing team for the proposed Mathematics Framework for the state of California, co-leading a K-12 Data Science Initiative and was named as one of the 8 educators "changing the face of education" by the BBC.
	**Angela Calabrese Barton** is a professor and chair of Educational Studies at the University of Michigan. Her research focuses on designing and enacting equitable and socially just teaching of science in both school and communities organizations serving youth historically minoritized by dominant society. Her research takes a critical, participatory approach, involving youth, teachers and community partners as co-researchers and co-designers, as they collaboratively seek to disrupt and transform systemic oppressions in science, schooling and society. She is a former chemistry teacher and informal science educator, and continues to teach afterschool STEM in community makerspaces, collaboratively with youth and university students, as a part of her research and practice. She served as a WT Grant Distinguished Fellow, and is a Fellow of the American Education Research Association. She is a former co-Editor of the Journal of Research in Science Teaching, and is currently Senior Editor of the American Educational Research Journal. Her research has been recognized by AERA with the 2018 Award for Exemplary Contributions to Practice-Engaged Research (AERA-wide), 2022 Award for Innovations in Research on Equity and Social Justice in Teacher Education (Division K), 2009 Award for Research Leading to Transformations of Social Contexts (Division G), and 2004 Exemplary Research Award in Teaching and Teacher Education (Division K).
	**Stephanie Casey** is a Professor of Mathematics Education at Eastern Michigan University. Her research focuses on preparation for teaching statistics at the secondary level, motivated by her experience of teaching secondary mathematics for fourteen years. She is currently a co-PI on two National Science Foundation grants, ESTEEM and MODULE(S2), that have created statistics teacher education curriculum materials and accompanying professional development for mathematics teacher educators. Find out more about Stephanie at https://sites.google.com/site/stephaniecaseymath/

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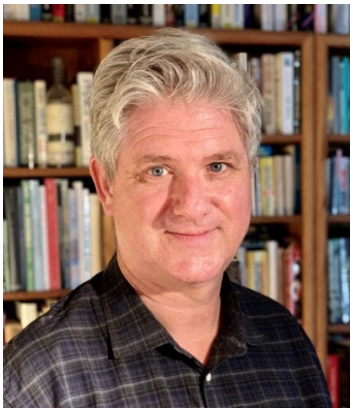
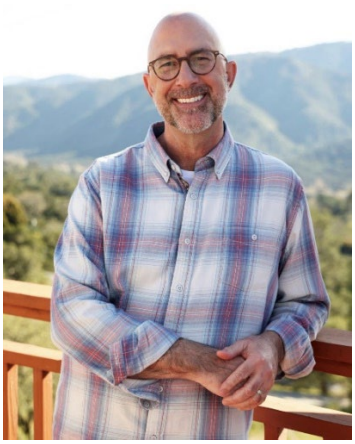
	**Marshini Chetty** is an assistant professor in the Department of Computer Science at the University of Chicago where she directs the Amyoli Internet Research Laboratory (AIR lab). She specializes in human-computer interaction, usable privacy and security, and ubiquitous computing. Her work has won best paper awards at SOUPS, CHI, and CSCW, and she was a co-recipient of the Annual Privacy Papers for Policymakers award. Her research has been featured in the NYTimes, CNN, Washington Journal, BBC, Chicago Tribune, The Guardian, WIRED, and Slashdot. She has received generous funding from the National Science Foundation, through grants and an NSF CAREER award, as well as the National Security Agency, Facebook, and multiple Google Faculty Research Awards.
	**Kayla DesPortes** is an Assistant Professor of Human-Computer Interaction and the Learning Sciences at the NYU Steinhardt School of Culture, Education, and Human Development. She is a collaborative, community-centered researcher, designer, and engineer. Her work explores how artistic computing, engineering, and data literacy education can foster learners to leverage their knowledge and build new skills in order to empower themselves and their communities. She engages in long-term relationships with community partners and applies participatory methods that engage partners in agenda-setting, problem-solving, and integration of their knowledge and values into learning design. Further, she centers equity in her investigations of the learning environment by examining how design with artistic practices can foster learners' and educators' engagement with cultures, identities, and the social and political dimensions of society.
	**Chad Dorsey** is the President and CEO of the Concord Consortium, a non-profit organization dedicated to transforming STEM education through technology. His professional experience spans the fields of science, education, and technology, and he leads multiple projects researching the use of technology to support data science education and K-12 STEM learning. Dorsey currently heads several NSF-funded projects devoted to investigating cutting-edge topics in data science education research. He has been a consistent advocate for expanding research, pedagogy, and awareness of K-12 data science education. Across the past decade, Dorsey has helped catalyze the field of data science education by organizing coalitions, sponsoring convenings, and fostering field-building work. He is the founder of the Messy Data Coalition and a core steering member of the Data Science 4 Everyone coalition, and he currently leads an effort to develop a national portal of open datasets tailored for use in K-12 education and heads a nationwide project seeding a community of practice for data science education research.

	**Rob Gould** is the vice-chair of undergraduate studies at the Dept. of Statistics at UCLA. He received his PhD in Mathematics from the University of California, San Diego in 1994 and his research work has been in the field of statistics education. He is the faculty advisor of the Introduction to Data Science project, a high-school data science course. He is also founder, in 2011, of DataFest, an undergraduate data analysis competition and celebration of all things data that is held annually at over 40 universities and colleges around the world. With Rebecca Wong and Colleen Ryan he is co-author of an introductory statistics book, Exploring the World Through Data, and was a co-author of the 2020 American Statistical Association and National Council of Teachers of Mathematics Guidelines for Assessment and Instruction in Statistics Education, preK-12 Report.
	**Katie Headrick Taylor** is Associate Professor of Learning Sciences and Human Development at University of Washington's College of Education. Research-practice partnerships led by Taylor center racial and gender equity in STEM, data science, and digital literacy. These collaborations have occurred across museums, public libraries, public schools, homes, undergraduate courses, and family-serving organizations in New York, Chicago, Nashville, Seattle, and nonmetropolitan areas of East Tennessee. Her scholarship and teaching focus on community well-being through the digital re-mediation of learning, foregrounding the ingenuity that young people from Immigrant and/or communities of color have within and across contexts. Taylor's commitment to care as a design value for digitally-mediated learning interventions has been fundamentally shaped by her roles as mother, daughter, educator, and writer. Funded by, among others, the National Science Foundation, the NAEd/Spencer Foundation, and the Heising-Simons Foundation, Taylor's research and public scholarship can be found in venues such as The Conversation, The Journal of the Learning Sciences, Cognition & Instruction, Connected Science Learning and Learning, Media, & Technology.
	**Ryan "Seth" Jones** studies ways of supporting students to use mathematics and science to construct and revise knowledge. He currently leads a team funded by an NSF CAREER Award that is working to help middle school math and science teachers better coordinate their instruction around data and statistics so that students can have a more coherent learning experience. Three commitments motivate this work: 1) Children are innovative, creative, and incredible sense-makers. 2) It is increasingly important to be able to reason with data in order to have access to important cultural resources and to engage in public discourse. So, all students should have opportunities to develop competency in using data science to make sense of the world around them, and to engage in their communities in ways that are meaningful to them. 3) Research to develop these opportunities in ways that leverages children's ingenuity should be

	done in partnership with teachers and schools and leverage expertise from as many stakeholders as possible.
	**Randy Kochevar** trained as a deep-sea biologist at the University of California, Santa Barbara, studying the physiology of hydrothermal vent and hydrocarbon seep animals. The discovery of similar animal communities in the Monterey Submarine Canyon brought Randy up the coast, initially to the Monterey Bay Aquarium Research Institute (MBARI), and then to the Monterey Bay Aquarium, where he was involved in exhibit development, website development and print publishing, and media relations. From 2008-2015 Randy worked at Stanford University's Hopkins Marine Station, collaborating with Dr. Barbara Block on electronic tagging of marine apex predators including tunas, billfish, and sharks. In 2015 Randy was invited to take over as director of the Oceans of Data Institute at the Education Development Center (EDC), where he oversees a portfolio of projects to build data literacy skills in K-16 students, and to help build pathways for data science and analytics careers. In addition to his role at EDC, Randy teaches Environmental Science and Environmental Science Lab at Monterey Peninsula College.
	**Victor R. Lee** is an Associate Professor in the Graduate School of Education at Stanford University. Through his research, he asks what STEM knowledge, tools, and practices are important to know in order to enable active participation and critical engagement with our increasingly digitally-infused lives. Currently, this work involves researching and designing experiences for K-12 teaching and learning about data - often through a "quantified self" perspective, documenting and supporting the development of computational thinking in elementary school classrooms, and analyzing and supporting maker education in out-of-school settings. He has been past recipient of the National Science Foundation CAREER Award, the Jan Hawkins early career award from the American Educational Research Association, and a National Academy of Education/Spencer Foundation Postdoctoral Fellowship and is a Fellow of the International Society of the Learning Sciences. His work appears in leading national and international journals, and he was a co-author on the National Academies of Science, Engineering, and Medicine's 2021 consensus report on authentic experiences for computing education. Lee completed his undergraduate education in the areas of Cognitive Science, Human-Computer Interaction, and Mathematics at UC San Diego and his PhD in Learning Sciences at Northwestern University.

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	**Anne Ottenbreit-Leftwich** is the Barbara B. Jacobs Chair in Education and Technology. She is a Professor and Interim Chair of Instructional Systems Technology within the School of Education and an Adjunct Professor of Computer Science at Indiana University – Bloomington. Dr. Leftwich's expertise lies in the areas of the design of K-12 curriculum resources (particularly focused on technology and computer science), the use of technology to support teacher education, and development/implementation of professional development for teachers and teacher educators. Dr. Leftwich investigates ways to teach computer science and ways to prepare preservice and inservice teachers to teach CS. She is a co-PI for the ECEP alliance, which seeks to broaden participation in computing at the K-16 levels. She is also a co-founder of CSforIN, which focuses on increasing CS access opportunities for all K-12 Indiana students. Her research focuses on the adoption and implementation of technology and computer science at the K-12 levels.
	**Jo Louie**, senior research scientist, specializes in research on innovations in STEM education. Her research currently focuses on interventions that promote interests and learning in STEM fields of rapidly growing importance, such as data science, with an emphasis on collaborating with interdisciplinary teams and community partners to and co-develop greater educational opportunities for learners from historically marginalized communities. Drawing on her extensive expertise in quantitative and qualitative research methodologies, she is the principal investigator of multiple projects funded by the National Science Foundation. She leads the Strengthening Data Literacy across the Curriculum project, which has been researching high school mathematics curriculum modules focused on social justice issues to promote understanding of and interests in statistics and data analysis among students from Black, Latinx, and low-income communities. She also leads the WeatherX: Understanding Weather Extremes with Big Data project, which has been developing and studying middle-school science curriculum units to promote students' interests and abilities in data practices as they learn about extreme weather and long-term climate patterns in their local communities. She received an AB in Social Studies from Harvard College, a Master of City Planning from MIT, and an EdD from the Harvard Graduate School of Education.

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	**Suyen Machado** is the Data Science Education Project Director at the University of California, Los Angeles. She is a former classroom teacher, instructional coach, professional development facilitator, and administrator for the Los Angeles Unified School District (LAUSD). Ms. Machado is co-author of the Introduction to Data Science (IDS) curriculum, a high school data science course that authentically engages students in working with and reasoning critically about data in all forms. The IDS curriculum, originally piloted at LAUSD in 2014, is being implemented nationally and internationally. In addition to co-authoring IDS, Ms. Machado leads the team that designed and developed the IDS professional development series. Her work focuses on developing STEM curricula that engage students and improve teachers' pedagogical skills. Ms. Machado's goal is to bring 21st century data science teaching and learning to K-12 education.
	**Stephanie Melville** strives to bring dynamic change to UTK-12 education as a Central Office Math Coach with the San Diego Unified School District. She began the Data Science initiative in San Diego Unified by increasing access to relevant and rigorous STEM courses, providing flexible pathways to graduation, and paving the way for future pathways as industry demands. Her greatest hope is to see equitable education policy put into place that makes data science a non-negotiable part of curricula, allowing historically excluded populations to gain entry to fields in which their voices are desperately needed.
	**Gemma F. Mojica** is a Research Scholar at the Friday Institute at NC State University where she focuses on the teaching and learning of statistics and data science. She has over a decade of experience designing, implementing and researching various models of professional learning in small settings and at scale, which includes designing and implementing online curricular materials, technology tools and online learning platforms for teachers. She works on the HI-RiSE [Hub for Innovation and Research in Statistics Education] team on multiple initiatives focused on building foundations for K-12 data science education and data-informed citizenry.
	**Leticia Perez** is a former high school Integrated and AP Environmental science teacher with a passion for creating opportunities for educators to explore the intersections of identity, data, Computational Thinking and Rightful Presence within STEM classrooms. Currently, she is applying lessons learned from working with the GAISEII team to support the development of Data Fluency professional learning modules and frameworks at WestEd. Previous work includes developing and supporting teachers with K-12 science storylines, lesson study, and supporting teacher leader cohorts with the UCLA Science Project. There, she also served as the curriculum director for STEM+C3 which focuses on integrating computational thinking and data literacy within their teacher education program.

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	**Josh Radinsky** is an Associate Professor of the Learning Sciences and Education at the University of Illinois at Chicago. His research examines sense-making with data in middle school, high school and college classrooms; everyday data practices; and the design of data visualization tools, curriculum and instruction. He teaches courses on the design of learning environments, qualitative research methods, and social studies teaching methods, among others, and does professional development with middle school and high school social studies teachers. He is former Co-Editor in Chief of the Journal of the Learning Sciences, and a Fellow of the International Society of the Learning Sciences.
	**Josh Recio** is a member of the curriculum team at the Charles A. Dana Center, where he authors and manages content development for Agile Mind middle and high school mathematics course programs. He also supports the Dana Center's Launch Years Initiative, which seeks to usher in a new paradigm to support students for college preparation and guide them through mathematics pathways for degree attainment, specifically focusing on the transition from the junior year of high school through the junior year in college.
	**Joshua M. Rosenberg** is an assistant professor of STEM education and faculty fellow at the Center for Enhancing Education in Mathematics and Sciences at the University of Tennessee, Knoxville. His research focuses on how learners think of and with data, particularly in science education settings. A former high school science teacher Rosenberg tries to understand how practices such as creating, representing, and modeling data create new opportunities for learning how to use data to pose and answer questions about scientific phenomena. In addition to how learners think of and with data, Rosenberg is also interested in student engagement across a range of STEM learning environments and the use of technology in education, particularly for teacher professional development. As a part of this work, Rosenberg makes use of quantitative methods, such as multi-level models and their Bayesian extensions for analyzing data collected through the experience sampling method, and newer approaches, such as social network analysis to analyze teachers' conversations on social media. Rosenberg has been awarded more than five million dollars in federal grants as principal investigator (PI) or co-PI and has published in outlets such as Journal of Research in Science Teaching, AERA Open, and Educational Researcher. He received his Ph.D. from Michigan State University.

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	**Andee Rubin** is a mathematician, computer scientist, and learning scientist at TERC, an educational research and development non-profit, where she has been studying the growth of students' and teachers' statistical reasoning for over 30 years, particularly as it is enabled by research-based tools for statistics education. She was involved in the development of several such pieces of software: Stretchy Histograms, Shifty Lines, TinkerPlots, and Fathom, and led the ViSOR (Visualizing Statistical Reasoning) project, which studied how middle and high school teachers used data visualization tools with their students. She has developed curriculum materials around data for students as young as 6, both in and out of school, as well as professional development materials for teachers and out-of-school facilitators. She was PI of the Data Clubs project, which developed three data modules for middle school students in informal contexts. She is currently PI of 4 projects creating materials to facilitate students' learning about data and doing research on students' successes and struggles as they explore large and complex datasets. She is committed to empowering all learners to use data to pursue social justice.
	**Rafi Santo** is a learning scientist focused on the intersection of digital culture, education, and institutional change. As principal researcher at Telos Learning, he partners with education institutions, foundations, coalitions and government agencies to generate insights through basic and applied research, develop novel strategies for impact, and create new designs for equitable learning. He has studied, collaborated with, and facilitated a range of organizational networks related to digital learning, computing, and technology in education including the Mozilla Hive NYC Learning Network, CSforALL, NASA, and the Corporation for Public Broadcasting. His scholarship spans multiple levels of activity—from understanding youth learning pathways across settings to investigating policy implementation and organizational network design—in order to develop practical insights that come from a holistic perspective. His work has been supported by the Spencer Foundation, the MacArthur Foundation, the Wallace Foundation, the National Science Foundation, the Mozilla Foundation, the Susan Crown Exchange, Google, and the Corporation for Public Broadcasting. Rafi holds a PhD in Learning and Developmental Sciences from Indiana University.
	**Emmanuel Schanzer** is the co-founder of Bootstrap, which builds curricula that bring integrated computing to the mainstream classes that reach every child. He is an educational researcher and curriculum developer, as well as a former public school teacher from Boston and program manager at Microsoft. Emmanuel is a longtime advocate for equity in education, and is the director of National CSPdWeek. He holds degrees in computer science and education, and completed his doctoral studies at Harvard with a research focus on using programming to teach algebra. He has an amazing daughter and fixes a heck of a risotto.

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	**Tricia Shelton** is Chief Learning Officer at the National Science Teaching Association, supporting educators and students across the county as they work to integrate contemporary research in science education into classroom teaching and learning. She designs and leads professional learning, writes curriculum, speaks on panels, and works with national groups to promote science teaching and learning for ALL students as recommended by research and policy. Previously, she was a middle and high school science teacher and teacher leader in Kentucky for over two decades.
	**Lissa Soep** is Special Project Producer and Senior Scholar-in-Residence at YR Media, a youth-driven production company where she served as Executive Producer for journalism until 2020. Her stories co-created with youth and other colleagues have won Peabody, Murrow, Kennedy, Investigative Reporters and Editors, Third Coast International Audio Festival, Gracie, and NLGJA awards. Her work as a writer, producer, and editor has been featured on NPR, NYT, CityLab, KQED, and Teen Vogue. Lissa's books include Code for What? (forthcoming MIT Press with Clifford Lee), Participatory Politics (MIT Press), Drop that Knowledge (UC Press with Vivian Chávez), and Youthscapes (UPenn Press with Sunaina Maira). She served on the Youth and Participatory Politics research network — a group of scholars brought together by the MacArthur Foundation to shift how we understand and promote youth civic life in digital times. She's an advisor to the Civic Imagination Project at the University of Southern California and the Data Literacy with, for, and by Youth project at Pratt Institute. Lissa is a Senior Editor with the Vox Media Podcast Network and led development of learning tools for Vox Media's Language, Please initiative. She received her Ph.D. from Stanford University.
	**Alfred Spector** is a Visiting Scholar at MIT. His career began with innovation in large scale, networked computing systems (at Stanford, as a professor at CMU, and as founder of Transarc) and then transitioned to research leadership (As global VP of IBM Software Research, Google Research, and then as CTO of Two Sigma Investments). Dr. Spector has lectured widely on the growing importance of computer science across all disciplines ("CS+X"), and he has just completed: Data Science in Context: Foundations, Challenges, and Opportunities (Spector, Norvig, Wiggins, & Wing; Cambridge Univ. Press; 2022). He is a Fellow of the ACM, IEEE, the National Academy of Engineering, and the American Academy of Arts and Sciences, where he serves on its Council. Dr. Spector was a Hertz Fellow, won the 2001 IEEE Kanai Award for Distributed Computing, was co-awarded the 2016 ACM Software Systems Award, and was a Phi Beta Kappa Visiting Scholar. He received a Ph.D from Stanford and an A.B. from Harvard.

	**Paul Strode** has 30 years of teaching experience. He currently teaches a hybrid AP/IB Biology course (grade 12), a one-semester Anatomy and Physiology crash course (grades 10-12), and a year-long Science Research Seminar course (grades 10-12) at Fairview High School in Boulder Colorado. Paul also teaches as an adjunct professor at the University of Colorado, and in the fall of 2022 he is teaching Skills and Strategies for Teaching Biology with MCDB professor, Jenny Knight. Paul has a Biochemistry degree ('91) from Manchester College (IN; now University), and Masters in Science Education ('96) from the University of Washington (Seattle), and a Ph.D. in Ecology and Environmental Science ('04) from the University of Illinois, Urbana-Champaign. Paul received the 2013 Evolution Education Award from the National Association of Biology Teachers (NABT) and in 2017 he was selected by the NABT as the Outstanding Biology Teacher for the Mountain Region. Paul is also a Teaching Ambassador for the Howard Hughes Medical Institute.
	**Stephen Miles Uzzo** is Chief Scientist for the New York Hall of Science in New York City. He develops and leads large-scale design and research initiatives to study and integrate data-driven science into teaching and learning. His research interests include the coupling of complex human and natural systems, evolution and scaling of complex networks, equity and artificial intelligence, and the effect of climate change on vulnerable coastal communities. He holds a terminal degree in network theory and environmental studies from Union Institute and serves on a number of institutional and advisory boards related to his interests. Having never lived very far from the ocean in New York, California and Massachusetts, Dr. Uzzo has been a lifelong advocate for marine education and conservation.
	**Trena Wilkerson** is President of the National Council of Teachers of Mathematics, an international mathematics education organization with more than 30,000 members. She is also Professor of Mathematics Education in the Department of Curriculum and Instruction in the School of Education at Baylor University and interim department chair. She teaches both graduate and undergraduate mathematics education courses and conducts professional development and research. Her research interests include mathematics education, algebra teacher efficacy, and professional development. She previously taught high school mathematics for 18 years. Trena received the Award for Excellence in Integrating Science and Mathematics from the School Science Mathematics Association for her role as Director of the GEAR UP Math Initiative funded by the U.S. Department of Education. She has also received the Prakken Professional Cooperation Award from the International Technology and Engineering Educators Association, the Association of Mathematics Teacher Education-Texas Outstanding Service Award, and the Texas Council of Teachers of Mathematics E. Glenadine Gibb Achievement Award.