

**Committee on Equitable and Effective Teaching in
Undergraduate STEM Education: A Framework for Institutions,
Educators, and Disciplines**

Division of Behavioral and Social Sciences and Education (DBASSE)

Board on Science Education (BOSE)

Meeting #3 July 26-27, 2023

Speaker Biographies

Corbin Campbell is Associate Dean of Academic Affairs and Associate Professor in the School of Education at American University. Prior to this role, Dr. Campbell was tenured Associate Professor of Higher Education at Teachers College, Columbia University. Her research, previously funded by the Spencer Foundation and the Bill and Melinda Gates Foundation, examines three interrelated streams: college teaching, assessments of higher education quality, and the organizational environments that support faculty in their careers. Her most recent research is discussed in her 2023 book, [*Great College Teaching: Where It Happens and How to Foster It Everywhere*](#), published by Harvard Education Press. Dr. Campbell's research has been published in numerous top-tier journals and has been highlighted in several public news venues. She served on a National Academies committee on college assessments and a committee of the National Center for Education Statistics, revising the postsecondary sample surveys. Dr. Campbell received her Ph.D. in educational policy from the University of Maryland, M.A. in Higher Education and Student Affairs from The Ohio State University, and B.A. in psychology from the University of Virginia.

Milagros Castillo-Montoya, Dr. Castillo-Montoya is a first-generation scholar. She is an Associate Professor of Higher Education and Student Affairs in the Educational Leadership Department at the Neag School of Education at the University of Connecticut. She also serves as a Senior Faculty Fellow at the [Office for Diversity and Inclusion](#) and as a Faculty Affiliate with the [Center for Excellence in Teaching and Learning](#) (CETL), and [El Instituto](#). Dr. Castillo-Montoya studies equity-based teaching and learning in racially and ethnically diverse college classrooms. Dr. Castillo-Montoya's research has published in top-tier journals such as the *Journal of Higher Education*, *Review of Educational Research*, *Review of Higher Education*, *Teaching in Higher Education*, *Harvard Educational Review*, among other outlets. Dr. Castillo-Montoya has 20 years of professional experience in various functional areas of higher education including faculty work, higher education policy, academic affairs, and student affairs.

Flower Darby is the Associate Director of the Teaching for Learning Center. Flower Darby celebrates and promotes effective and inclusive teaching in all modalities to advance equitable learning outcomes for all students. Darby has taught in person and online for over 27 years at community colleges and universities in a range of subjects including English, Technology, Education, Leadership, Dance, and Pilates, and her previous roles include Assistant Dean of Online and Innovative Pedagogies and Director of Teaching for Student Success. Her recent books include [The Norton Guide to Equity-Minded Teaching](#) (2023) and [Small Teaching Online: Applying Learning Science in Online Classes](#) (2019). When not working or teaching, Darby loves traveling and playing card games with her family.

Bryan Dewsbury is an Associate Professor of Biology at Florida International University where he also is an Associate Director of the STEM Transformation Institute. He received his Bachelors degree in Biology from Morehouse College in Atlanta, GA, and his Masters and PhD in Biology from Florida International University in Miami, FL. He is the Principal Investigator of the Science Education And Society (SEAS) program, where his team conducts research on the social context of education. He is a Fellow of the John N. Gardner Institute and Director at the RIOS (Racially-Just Inclusive Open Science) institute. He conducts faculty development and support for institutions interested in transforming their educational practices pertaining to creating inclusive environments and in this regard has worked with over 100 institutions across North America, United Kingdom and West Africa. He is a co-author on the upcoming book 'Norton's Guide to Inclusive Teaching' and author of the upcoming book 'What then shall I teach? - Rethinking equity in higher education'. He is the creator of the HHMI Biointeractive produced MOOC called Inclusive Teaching which will be launched on August 15th. He is the founder of the National Science Foundation (NSF) funded Deep Teaching Residency, a national workshop aimed at supporting faculty in transforming their classroom to more meaningfully incorporate inclusive practices. Bryan is originally from the Republic of Trinidad and Tobago and proudly still calls the twin island republic home.

Jayne Dyer, teaches Biology as an adjunct instructor at Durham Technical Community College in Durham, NC. She implements alternative grading policies in her classes and researches the equity-related impacts of grading policies in STEM courses at Durham Tech. She is particularly interested in developing grading and assessment policies that promote learning from mistakes, and which provide flexibility within a structured course system. Additionally, Dr. Dyer produces videos for her own science education YouTube channel (YouTooBio), and she consults research scientists to improve their scientific presentations and outreach materials. In 2022, Dr. Dyer was awarded *The Innovation in Education Award* from the American Society for Cell Biology, and the *Professor Chan Two-Year College Award for the Engaged Teaching of Biology* from the National Association of Biology Teachers.

Cassandra V. Horii is Associate Vice Provost for Education and Director of the Center for Teaching and Learning at Stanford University. Previously, Dr. Horii served as Assistant Vice Provost and Founding Director of the Center for Teaching, Learning, and Outreach at the California Institute of Technology and as Dean of the Faculty at Curry College. She has taught undergraduate and graduate-level courses on university teaching and learning in STEM, atmospheric science, environmental chemistry, expository writing, and a first-year seminar on sustainability. Her scholarship has addressed the roles of centers for teaching and learning in institutional change and accreditation, the experiences of faculty with disabilities, inclusive and equity-minded teaching and mentoring, educational spaces and technologies, teaching consultation methods, and projects related to writing and visual rhetoric in higher education. Dr. Horii has been a member of the NASEM Roundtable on Systemic Change in Undergraduate STEM Education since its inception and previously served as president of the POD Network in Higher Education. Horii received a B.A. in Physics from the University of Colorado at Boulder and Ph.D. in Atmospheric Chemistry from the Department of Earth and Planetary Science at Harvard University.

Matthew T. Hora is an Associate Professor of Adult and Higher Education in the Departments of Educational Policy Studies and Liberal Arts and Applied Studies at UW–Madison. After several years of experience in organic agriculture, he received his master’s degree in applied anthropology from the University of Maryland – College Park, and a Ph.D. in the learning sciences from UW-Madison. Hora’s early work focused on cultural aspects of curricular decision-making and organizational change, classroom observation instruments, and student study habits within STEM departments. His work has been featured in a wide range of academic papers, magazine articles, and the book “Beyond the Skills Gap: Preparing College Students for Life and Work” which won the 2018 AAC&U Frederic W. Ness Award. Hora’s current research is focused on issues related to college internship access, quality, and outcomes in Minority Serving Institutions, career decision-making trajectories of college students during the Covid-19 pandemic, and cultural responsive approaches for training faculty on teaching disciplinary “soft” skills.

Carol A. Hurney is currently the Associate Provost for Teaching and Learning at Colby College. Dr. Hurney came to Colby in 2016 to start the Center for Teaching and Learning and she is now collaborating with campus partners to develop a student success center. She earned her Ph.D. in biology at the University of Virginia and then taught biology at James Madison University for 20 years where she also directed the faculty development center. Her scholarly interests include learner-centered teaching, active learning, and measuring the impact of educational development on faculty. Dr. Hurney is an active member of the New England Faculty Development Consortium (NEFDC) and the Professional and Organizational Development Network (POD), where she served on the board of both organizations. She is currently the past president of the POD Network and serves on the editorial teams of the *Journal of College Teaching* and the *Journal of General Education*. She consults with Centers of Teaching and Learning

to support strategic planning efforts and offers workshops for faculty to support their efforts to implement active learning strategies. She regularly attends and speaks at regional and national conferences on topics that span her expertise as a faculty member and educational developer.

Ebony McGee is an Associate Professor of Diversity and STEM Education at Vanderbilt University's Peabody College. Dr. McGee investigates what it means to be racially marginalized while minoritized in the context of learning and achieving in STEM higher education and in the STEM professions. She studies the racialized experiences and racial stereotypes that adversely affect the education and career trajectories of underrepresented groups of color. This involves exploring the social, material, and health costs of academic achievement and problematizing traditional forms of success in higher education, with an unapologetic focus on Black folk in these places and spaces. Her National Science Foundation (NSF) CAREER grant investigates how marginalization undercuts success in STEM through psychological stress, interrupted STEM career trajectories, impostor phenomenon, and other debilitating race-related trauma for Black, Indigenous, and Latinx doctoral students. Dr. McGee earned her Ph.D. in Mathematics Education from the University of Illinois at Chicago.

Brian McGowan is a Provost Associate Professor of Education and Associate Director in the Center for Teaching, Research, & Learning at American University. He is a co-principal investigator of a \$1.3 million National Science Foundation award titled, Examining Blackness in Postsecondary STEM education through a multidimensional-multiplicative lens, where he is the research lead for District of Columbia, Maryland, and Virginia. His research program has two strands: 1.) Black college men's experiences navigating postsecondary environments across multiple education contexts and 2.) Black faculty experiences in the college classroom. Dr. McGowan's scholarship, teaching, and professional practice have been praised through awards and honors from multiple professional associations and higher education institutions. He has published 2 books and over 30 scholarly peer-reviewed publications. Dr. McGowan has delivered over 60 presentations and invited talks at colleges and universities, research and evaluation organizations, and professional conferences. Dr. McGowan received his Ph.D. in higher education from Indiana University, M.A. in higher education and student affairs from The Ohio State University, and B.M. in music education from Old Dominion University.

Luis Perez is the Disability & Digital Inclusion Lead for CAST, Luis promotes the creation, delivery and use of high-quality accessible educational materials and technologies to support equitable learning opportunities for all students and job seekers. Luis is embedded with the Postsecondary and Workforce Development group at CAST which works to increase access to middle- and high-income careers for populations underrepresented in the workforce, including people with disabilities. Luis's perspective is informed by his own lived experience as a person with a disability and a multilingual learner. He was recognized with an International Society for Technology in Education (ISTE) Making It Happen! Award in 2020 and has published three

books on accessibility, mobile learning, and UDL: *Mobile Learning for All* (Corwin Press), *Dive into UDL* (ISTE), and *Learning on the Go* (CAST Publishing). He currently serves as a Transition and Workplace Accessibility strand advisor for the Assistive Technology Industry Association (ATIA).

Daniel Reinholz, Ph.D. is an Associate Professor in the Department of Mathematics and Statistics at San Diego State University. Dr. Reinholz engaged in groundbreaking work in the study of classroom equity in postsecondary mathematics. This work has been organized around the development of the EQUIP tool and the equity analytics approach, which focuses on generating actionable data to illuminate the subtle and sometimes invisible patterns that play out in classroom participation (by race, gender, disability, etc.). These data can be incorporated into robust professional learning opportunities through equity learning communities that support instructors to transform their teaching. Beyond the classroom, Dr. Reinholz serves as a Working Group Leader in the Accelerating Systemic Change Network, which aims to catalyze sustainable and scalable changes to STEM higher education. This work involves developing new models grounded in organizational change, and helping STEM departments build their own capacity for change. Dr. Reinholz has published over 67 refereed journal articles, and has a forthcoming book, *Equitable and Engaging Mathematics Teaching: A Guide to Disrupting Hierarchies in the Classroom*.

Ruthmae Sears is a professor of mathematics education, associate director for the Coalition for Science Literacy with a focus on inclusive excellence, and lead faculty facilitator for the inclusive and equitable pedagogy program at the University of South Florida. Dr. Sears' research examines the written curriculum relative to reasoning and proof skills, and equity; describes strategies to attend to justice, equity, diversity, and inclusion (JEDI) and reasoning and proof in the operational curriculum; and identifies and addresses specific factors that contribute to enacted lessons and students learning outcomes. Dr. Sears is a recipient of numerous awards due to her research, teaching, and service activities. Dr. Sears is a 2022 University of South Florida Outstanding Faculty Award recipient and a [2021 American Association for the Advancement of Science \(AAAS\) Fellow](#). Moreover, Dr. Sears is a 2023 honoree for [Mathematically Gifted and Black](#), and the [2023 Griffith Leadership Society for Women – Spirit of Martha Award](#). Dr. Sears was also the 2016 Florida Association of Mathematics Teacher Educators (FAMTE) Mathematics Teacher Educator of the Year.

Michelle K. Smith is the Senior Associate Dean for Undergraduate Education in the College of Arts & Sciences, and the Ann S. Bowers Professor in the Department of Ecology and Evolutionary Biology at Cornell University. Michelle has a Ph.D. in biology from the University of Washington and started doing education research as a postdoc with the University of Colorado Science Education Initiative. She has published over 50 education research papers on several topics including the benefits of peer discussion, active learning, and creating faculty networks to support teaching. Michelle has developed several professional development experiences for educators. For example, she

directed a program where middle and high school teachers observed and provided feedback on active learning instructional practices to college instructors. In her role as the Senior Associate Dean for Undergraduate Education in the College of Arts & Sciences, Michelle oversees a new program called the Nexus Scholars to support paid summer research opportunities for 100 undergraduate students across the college. She also oversees several undergraduate diversity initiatives in the College of Arts & Sciences, including an advising seminar for first-year students who are in the Higher Education Opportunity Program and programs that help first-generation and low-income students connect with opportunities and resources.

Suzanne Wakim is a Distance Education Coordinator and Biology Instructor at Butte College. She has been teaching since 2000, Suzanne has taught, designed, and created many different biology courses for biology majors, non-majors and pre-health professional students. Having taught such a wide variety of classes and modalities has helped Suzanne develop a flexible teaching approach and an understanding of the varied types of approaches that work (or don't) for a given topic. Suzanne has been teaching online since 2010 and has developed 3 online courses for Butte College. She developed the first online biology course ("Current Issues in Biology") in the department in 2010. She has also developed an online version of "Human Biology" and "honors biology". Suzanne received her M.S. in Biology from the University of California, Davis.