



# Community Spotlight

Each [Community Spotlight](#) features an outstanding group, partner, resource, or member of our community.

## BIOME 2022 Keynote Speakers

We are thrilled to have [Mica Estrada, PhD](#), and [Ruthmae Sears, PhD](#), as our BIOME 2022 Keynote Speakers. They will each be giving talks relating to this year's theme, *Sparkling IDEAS: Inclusive, Diverse, Equitable, and Accessible Communities in STEM Classrooms*.

Their presentations will ignite our conversations and inspire innovation and reform. Learn more about their talks below and [join the conversation at this year's BIOME!](#)

*P.S. A generous BioQUEST supporter has made fellowship funding available for additional BIOME participants - ideally for new or contingent faculty, those new to BIOME, or educators from community colleges or minority-serving institutions. Applicants can write "seeking support" in the comment section of the application, and we will be in touch!*

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### Mica Estrada, PhD

#### Creating Pathways of Kindness and Inclusion in STEM Education

July 22, 3:00 - 4:00 PM ET

An ongoing tension exists between breaking apart and coming together that happens at every level of the biosphere, including among people. STEM education has historically focused on providing knowledge to integrate people into an academic community. Data shows that not all people became equally integrated into this academic community.

With all this in mind, Dr. Estrada will describe findings from her research program in which she longitudinally tracks and examines what types of mentorship, experiences and supports are more likely to result in students integrating into their professional fields and persisting in STEM career pathways. She will describe findings regarding persons historically excluded because of ethnicity and race. Further, she will talk about how institutional policies and climate that provide kindness cues that affirm social inclusion may impact the integration experience for historically underrepresented college students, faculty and administrators in STEM training and professional settings.



**Bio:**

[Mica Estrada](#) is an Associate Professor at the University of California at San Francisco's School of Nursing in the Department of Social and Behavioral Sciences and the Institute for Health and Aging. Her research program focuses on social influence, including the study of identity, values, kindness, well-being, and integrative education. Currently she leads, as Principal Investigator, several longitudinal studies, which implement and assess interventions aimed to increase student persistence in Science, Technology, Engineering and Mathematics (STEM) careers (funded by NIH, NSF, and HHMI).

Dr. Estrada's research focuses on ethnic populations that are historically excluded and underrepresented in higher education, most vulnerable to the impacts of climate change, and are providing diverse and creative solutions to the pressing challenges of our day. She received the Leadership Institute Graduate Award from the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) in 2013 and the Adolphus Toliver Award for Outstanding Research in 2016. She has previously served as a member of the National Academy of Science, Engineering and Medicine study on Strengthening Research Experiences for Undergraduate STEM Students, and currently serves as a NAS Roundtable on Systemic Change in Undergraduate STEM Education member and the Advancing Anti-Racism, Diversity, Equity, and Inclusion in STEM Organizations census study. She writes a Psychology Today Blog entitled "Lead with Kindness." Dr. Estrada earned her B.A. in Psychology from the University of California, Berkeley, and her Ph.D. in Social Psychology from Harvard University.

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## Ruthmae Sears, PhD

### **A Blueprint to Attend to Justice, Equity, Diversity, and Inclusion (JEDI) in STEM Curriculum**

*July 18, 3:00 - 4:00 PM ET*

This presentation provides a blueprint to attend to justice, equity, diversity, and inclusion (JEDI) within the STEM curriculum. The presentation will illustrate how using a four-square typology of change

categories, and a change dashboard - two tools for assessing and characterizing relationships between strategies - can help ensure desired goals are attained. Factors and barriers that can help or hinder the extent that JEDI is attended to will also be identified.



### **Bio:**

[Dr. Ruthmae Sears](#) is an associate professor for mathematics education, associate director for 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. Her research focuses on curriculum issues and systemic changes in K-20, the development of reasoning and proof skills, clinical experiences in secondary mathematics, and the integration of technology in mathematics teaching and learning. She has presented nationally and internationally and has published in leading mathematics education journals, such as: Journal for Research in Mathematics Education, ZDM: The International Journal on Mathematics Education, MathAMATYC Educator, and the National Council of Teachers of Mathematics Annual Perspective of Mathematics Education (APME). She also coordinates developmental mathematics courses and the undergraduate and master's degree programs in

mathematics education.

Dr. Sears is actively engaged in scholarly activities. She is the principal investigator for the City of St. Petersburg funded grant entitled, "Examination of the historical and modern-day impact of structural racism on the lives of Black people in the City of St. Petersburg, Florida," and the NSF-IUSE funded collaborative grant (#1726362) entitled "Attaining Excellence in Secondary Mathematics Clinical Experiences with a Lens on Equity." Dr. Sears is also a co-principal investigator for the Robert Noyce Teacher Scholarship Program and key personnel for the NSF-funded grant (#1525574) Systemic Transformation of Education through Evidence-Based Reforms (STEER).

In addition to her research activities, Dr. Sears provides extensive service to the profession and to her local environment. Notably, Dr. Sears is the co-chair of the Network of STEM Education Centers (NSEC) Annual Meeting, and the Accelerating Systemic Change Network (ASCN) in STEM Higher Education Working group for Diversity, Equity and Inclusion. She is also a University of South Florida representative for the Bay View Alliance. Moreover, Dr. Sears is the associate editor for the NCTM journal (Mathematics Teacher: Learning and Teaching PreK12 (MTLT)) for the high school grade band, and the editor for the [AAAS-ARISE Blog](#). Dr. Sears is also the Florida Department of Education – State Course Numbering System (SCNS) Discipline Coordinator in the field of Mathematics Education and STEM Education.

Additionally, Dr. Sears is a board member for the Ronald McDonald House Charities of Tampa Bay and the Bahamas' PACE Foundation. At the University of South Florida, Dr. Sears is a member of the Anchin Center STEM Professional Development Leadership Team and serves on the NSF-funded STEER-Transformation Implementation Leadership Team (TILT). Dr. Sears serves on the university sabbatical committee, and as the constitution committee chair for the Faculty Policy Council. She is also the chair of the university-wide diversity equity and inclusion initiative entitled [the Enlightenment Series](#), and is a member of the university's IAspire Implementation Team, and the NSF-funded "All ABOARD" – A Bull's Eye for JEDI initiative.

Dr. Sears is a 2021 AAAS Fellow and was selected as an NSF-funded IAspire Leadership Academy Fellow in 2020. She was also the 2016 Florida Association of Mathematics Teacher Educator (FAMTE) - Mathematics Teacher Educator of the Year. At the University of South Florida, Dr. Sears received multiple awards for her scholarship and commitment to inclusive excellence. Notably, she was awarded the 2022 University of South Florida-Outstanding Faculty Award, the 2022 Office of Multicultural Affairs- I Heart Diversity Award, the 2022 Office of Diversity, Equity, and Inclusion - Inclusive Excellence Impact Award, the 2022 College of Education – Excellence in Undergraduate Education Award, the 2021 Black Faculty and Staff Association (BFSA) – Connections for Life- Mentorship Program's Paper Plate Award, and the 2018 USF chapter of the National Council of Negro Women – Catherine Johnson STEM Award. Dr. Sears previously received the Ronald McDonald House Charities of Mid Missouri Heroes award, and the VEX robotics volunteer of the year award.

Dr. Sears was a recipient of the Organization of American States Fellowship Award, Lyford Cay Foundation Graduate Scholarship Award, Kappa Delta Pi Hollis Caswell Doctoral Award, Center for The Study of Mathematics Curriculum (CSMC) fellowship award, and the University of Missouri Mathematics Education Scholarship Award.

[Learn more about the 2022 BIOME Institute.](#)



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