
Mathematics can be a gateway or a gatekeeper for students pursuing STEM degrees and careers. Often, for students with disabilities, it is a gatekeeper, as resources for making mathematics accessible are limited, creating barriers for students pursuing STEM-related careers that rely on mathematics achievement to earn degrees necessary for employment.

Join us for a panel discussion that will introduce Process-Driven Math (PDM), a novel method for teaching and assessing mathematics that was initially developed as a fully audio-based method to ensure accessibility for students who are blind or who have low vision. It has since been adapted for sighted learners, including those who have dyslexia, dyscalculia and other disabilities.

With funding from the National Science Foundation’s Improving Undergraduate STEM Education (IUSE) program, the research team is studying the efficacy of PDM in foundational mathematics courses. They will show how user-centered, universal design can be used to improve learning for all students, and how this can translate to increased workforce opportunities.
Greetings colleagues, students and friends:

On behalf of the leadership of the University of Texas at Dallas and the Office of Diversity, Equity and Inclusion, it is my pleasure and honor to welcome you to the 2021 DiversAbility Summit.

I have worked in higher education for over 25 years. My career has spanned multiple institutions plus a federal agency and has involved diversity, equity and inclusion (DEI) across a number of dimensions. Not until fairly recently have disability and accessibility been a significant part of mainstream DEI conversations, and honestly, we are still working to tear down some barriers in that regard. That is why recognitions such as National Disability Employment Awareness Month are so important. They give us an opportunity to shine a spotlight on accessibility; on possibilities and on abilities we all bring to the table, rather than what others perceive we lack. They give us the opportunity to challenge the status quo; to challenge long-held misconceptions and misperceptions about disability, and to contextualize access to education and careers as a matter of equity that is a measure of excellence rather than a “lowering of the bar” as some might believe.

Today, I have the extra honor of joining a panel of colleagues and friends to share our work with you. It focuses on mathematics accessibility and is built on concepts and principles of user-centered design and universal design for learning, which are transferable to all disciplines and learning contexts.

I extend a special “thank you” to Mrs. Rosie Peterson, Ms. Jasmine Johnson and their team in the Department of Institutional Diversity Initiatives for organizing this event; to our partners and sponsors for your support; to our guests and my friends – The Logan Project team – for sharing your insights and experiences; and to all audience members who took the time to join us today.

Yvette E. Pearson, Ph.D., P.E., FASCE
Vice President
Office of Diversity, Equity and Inclusion

The 2021 DiversAbility Summit


Dr. Yvette E. Pearson is vice president for diversity, equity and inclusion (DEI) at the University of Texas at Dallas. Pearson is recognized globally for over 25 years of contributions to engineering education. In 2019, she was appointed inaugural chair of ASCE’s board-level committee, MOSAIC (Members of Society Advancing an Inclusive Culture), which is charged with leading the Society in all matters of DEI for the profession. Prior to joining UT Dallas, Pearson was an associate dean in the George R. Brown School of Engineering at Rice University, where she led initiatives focused on DEI in engineering, including a research portfolio comprised of projects focused on mathematics accessibility, equity in STEM faculty hiring and developing strategies to remove barriers for low-income students in STEM education and careers. Her numerous awards and honors include ABET’s Claire L. Felbinger Award for Diversity and Inclusion, University of Texas Regents Outstanding Teaching Award, the Society of Women Engineers’ Distinguished Engineering Educator Award, and ASCE’s President’s Medal. Pearson is a registered Professional Engineer, a Commissioner on ABET’s Engineering Accreditation Commission, and host of Engineering Change Podcast, which has listeners in over 50 countries on six continents.

Dr. Canek Phillips is a research scientist in the George R. Brown School of Engineering at Rice University where his research interests touch broadly on efforts to promote greater equity for under-represented groups in engineering. Phillips earned his Ph.D. from the Purdue School of Engineering Education in 2016 and worked as a graduate research assistant in Dr. Alice Pawley’s Feminist Research in Engineering Education Lab. He joined Rice as a postdoctoral research associate in 2017 as part of the Pearson Education Research Team on an NSF-funded study that investigates the efficacy of Process-Driven Math (PDM), an audio-based method of teaching and assessing mathematics; he now serves as the principal investigator for the project. Phillips is applying PDM to engineering dynamics to make engineering mechanics more accessible for all students.

Logan Prickett, co-founder of The Logan Project, graduated from Auburn University at Montgomery (AUM) in May 2018 with a degree in psychology. He is currently pursuing a master’s degree in clinical mental health counseling at AUM. Prickett’s experiences as a student who is blind, unable to use braille and unable to speak above a whisper were essential in the development of Process-Driven Math (PDM). This methodology of math instruction and assessment gave Logan the tools he needed to succeed in college-level math and has provided support for other learners across the spectrum of ability. Prickett has been an invited speaker at the National Science Foundation and his research focus is the development of technologies from a User Centered Design perspective that will increase educational opportunities for students with disabilities.

Dr. Canek Phillips
Research Scientist
Brown School of Engineering
Rice University

About the Presenters

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Clinical Mental Health Counseling
Auburn University Montgomery

Dr. Ann Gulley
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Dr. Ann Gulley is co-founder of The Logan Project, a mathematics education research project that originated at Auburn University at Montgomery while she was working in the academic support unit. Her primary research focus is the development of tools to promote inclusive learning environments. Gulley places a high value on the experiences that students across the spectrum of ability bring to the table. She is committed to both a User Centered Design and a Universal Design for Learning approach to the development of new educational methods and technologies. Along with the other members of The Logan Project team, Gulley was an invited speaker at the National Science Foundation, and she also gave a plenary address at the 2019 CoNED conference with Mr. Logan Prickett. Currently, Gulley is working at Auburn University where she coordinates tutoring services for the College of Engineering and teaches a graduate class in Education Research Methods for the College of Education.

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