“Unpacking Values and Power in Bioengineering Education: A Critical Sociotechnical Design Approach”

ABSTRACT: Far too often, the benefits and costs of technology development are distributed along inequitable patterns rooted in systemic racism and, more specifically, anti-Blackness. In this three-part talk, Zithri Ahmed Saleem will introduce critical sociotechnical design (CSD) as a framework that can be useful in dissecting the information values, behaviors, and power dynamics underpinning institutional technology programs, policies, and interventions. His discussion will focus on the affordances of CSD in designing and executing equitable disciplinary education programs such as bioengineering education. Firstly, Zithri will provide background on CSD as an extension of Critical Race Theory (CRT), illuminating how deeper considerations of human values and counternarratives can prevent unintended but avoidable sociotechnical consequences. Secondly, Zithri will present implementation strategies for a national research program using CSD as an experience design method for improving the journey of all bioengineering students with a clear focus on the outreach, admissions, and mentoring of Black and racialized students. This will lead to a conversation on tactical implications for curriculum, assessment, and pedagogy, including improving outcomes across all students and stakeholders. Thirdly, Zithri will discuss his vision for a sustainable three-to-five-year participatory action-research (PAR) agenda to make meaningful contributions to the bioengineering education field. This agenda is rooted in collaborative mixed methodological (i.e., qualitative and quantitative) approaches and builds on his lived, professional, and academic experiences.

BIO: Zithri Ahmed Saleem is a Doctoral Candidate at the University of Washington Information School with a research focus on designing sociotechnical policies and interventions to improve racialized people’s lives and learning experiences in the United States and Europe. For over twenty-five (25) years, his work in STEM education and technology workforce development has won national awards and successfully secured sizable competitive grants, including those from Microsoft, the Bill and Melinda Gates Foundation, the Paul G. Allen Family Foundation, Social Venture Partners (SVP), the Ashoka Foundation, Adobe, Facebook, and the National Institutes of Health (NIH). He most notably designed the award-winning STEM school, TAF Academy, which won national awards for its pedagogical approaches, project-based STEM Education curriculum, and teacher-scientist partnerships. He is a former WA State Arts Commissioner and 2015 German Marshall Memorial Fellow. Born in Waterloo, Iowa, he was raised in Seattle and is widely recognized as a tireless mentor and advocate for racialized students and communities in STEM.