

On behalf of the Chemical and Biological Engineering Department at Tufts University, you are invited to the following talk:

Am I an Engineer: Identity, Belonging, and Motivation in Engineering Education

Monday, September 23, 2024 // 11:45 AM

Science Technology Center - 4 Colby St., Room 132 // Refreshments Provided



**Dr. Allison
Godwin**

Professor,
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Allison Godwin, Ph.D. is the Dr. G. Stephen Irwin '67, '68 Professor in Engineering Education Research in the Robert Frederick Smith School of Chemical and Biomolecular Engineering at Cornell University. She also serves as the Associate Director for the Cornell NanoScale Science and Technology Facility. Her research focuses on how identity, among other affective factors, influences diverse groups of students to choose engineering and persist in engineering. She also studies how different experiences within the practice and culture of engineering foster or hinder belonging and identity development. Dr. Godwin graduated from Clemson University with a B.S. in Chemical Engineering and a Ph.D. in Engineering and Science Education. Her research earned her a 2016 National Science Foundation CAREER Award focused on characterizing latent diversity, which includes diverse attitudes, mindsets, and approaches to learning to understand engineering students' identity development. She has won several awards for her research including the 2021 Journal of Civil Engineering Education Best Technical Paper, the 2021 Chemical Engineering Education William H. Corcoran Award, the 2022 American Educational Research Association Education in the Professions (Division I) 2021-2022 Outstanding Research Publication Award, and the 2023 American Institute of Chemical Engineers Award for Excellence in Engineering Education Research.

Abstract

Identity is an enduring and continuous sense of oneself and is often thought of as the answer to the questions, "Who am I, Who can I be, and Where do I belong?" Research shows that developing a robust engineering identity is important for academic and personal development, integration into engineering fields, and success and well-being in engineering programs. In addition to identity, other related factors like motivation and belonging have a similar influence on important student outcomes. And in the ecosystem of engineering education, marginalized students, including women, Black, Latiné, and Indigenous students, may have more difficulty developing engineering identities, belonging, or feeling motivated to engage and persist because of the white, masculine culture of engineering. Indeed, the proportions of bachelor's degrees in engineering awarded to minoritized students have not dramatically changed in the last three decades.

This talk will describe my research trajectory from fundamental research on identity development in engineering education to my current efforts in studying effective pedagogies and practices in chemical engineering. Data from multiple national studies (both large quantitative survey results and rich "small n" qualitative interviews) will be discussed, as well as classroom-level research in a sophomore chemical engineering materials and balances course and a first-year introduction to chemical and biomolecular engineering course. The collective results of this trajectory engineering the key role that identity, belonging, and motivation play in students' engineering trajectories and provide actionable practices to better support student development.