Opportunities at the Boundaries between Systems Engineering & Design Theory

In this panel presentation, we will hear from academic faculty and industry professionals discussing their experiences with unique design challenges that cannot be fully addressed by design theory or system engineering practices alone. This panel is comprised of those with experience in academia, private industry, and on federally funded projects. Each panelist will provide insight into specific challenges faced within these various contexts and will describe their efforts to address them. Topics may include biologically inspired design, developments in computer-aided design tools, how personnel and project scale impact process, or how the context of stakeholders constrains the design space. Ultimately, this panel serves as ***a call to action for systems engineering and design theory researchers to address these contemporary challenges.***

Panelists

Dr. Astrid Layton: Dr. Astrid Layton is an assistant professor and Donna Walker Faculty Fellow at Texas A&M University in the Mechanical Engineering department. She served on ASME's DTM technical committee from 2020-23 and is currently an Associate Editor for ASME's Journal of Mechanical Design. She is the recipient of several awards, including a 2024 NSF CAREER Award from the EDSE program and a 2021 ASME IDETC-CIE best paper award in SEIKM. Her research focuses on the use of biological ecosystems as inspiration for achieving sustainability and resilience in the design of complex human systems and systems of systems.

Matthew Mueller: Matthew Mueller is the manager of Education Innovation at PTC where he is the product manager for Onshape's education features and leads academic research collaborations. He completed his Ph.D. in Mechanical Engineering at Tufts University where his research focused on engineering education. His current research focuses on how CAD can be used to understand and improve design.

Diarny Fernandes: Diarny Fernandes is a mechanical engineer at the Johns Hopkins Applied Physics Laboratory working on the Dragonfly mission as part of NASA's New Frontiers program. He earned a master's degree in mechanical engineering from MIT and is completing a second master's degree in space systems engineering at Johns Hopkins. Diarny is the lead engineer on the Dragonfly thermal development test module (DTM), which is a full-scale thermal model of the Dragonfly lander for thermal design testing and analysis.

Why You Should Join Us!

Attendees of this panel will have opportunities to engage in conversation and share their thoughts during the panel session. In addition, attendees will receive access to a networking tool that continues the conversation after the conclusion of the panel discussion. ***Those who join us will form new collaborations across disciplines to enable future research directions.***

QR Code

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ASME IDETC-CIE 2024