

Biography of Matthew J. Traum, Ph.D.

Dr. Matthew J. Traum is a Senior Lecturer and Instructional Associate Professor in the Department of Mechanical & Aerospace Engineering at the University of Florida (UF). He is Principle Investigator of UF's GatorKits Laboratory, focused on pedagogical STEM research and best practices for hands-on remote, hybrid, and in-person instruction using kits.

Dr. Traum has been active in Sigma Xi for over 20 years. He initiated as an Associate Member in 2003 with elevation to Full Member in 2007. Most of Dr. Traum's research is conducted with undergraduate and master's students, and he is proactive in mentoring them through publication then leveraging those publications to nominate junior collaborators into Sigma Xi. In addition to nominating over 40 new Sigma Xi associate members, Dr. Traum mentored a 2011 Grant-In-Aid of Research (GIAR) student project that seeded a renewable energy startup company. In 2021, Dr. Traum co-presented research with Egyptian collaborators at Sigma Xi's Annual Meeting. Most recently, Dr. Traum has engaged in rejuvenating UF's Sigma Xi chapter (which went dormant in 2018 before his UF arrival). He served as the chapter's delegate at Sigma Xi's 123rd Assembly of Delegates in 2022, and he is collaborating with a new leadership team to reactivate UF's chapter in 2024.

A serial entrepreneur and inventor in Education Tech, Energy Tech, and Bio Tech, Dr. Traum has successfully collaborated with interdisciplinary startup teams across many industries. Today, he is a founding Director of RaveBio, a biotechnology startup and UF spin-off created by his former students to commercialize multifunctional biological shaker tables. Previously, Dr. Traum was founding Chief Executive Officer of Engineer Inc., a successful STEM education technology social enterprise for remote hands-on STEM teaching using kits. Earlier, Traum was founding Chief Technology Officer of EASE NET, a biomass renewable energy startup created by former students and seeded through Sigma Xi's GIAR.

Dr. Traum is also an experienced academic administrator, educator, fund raiser, and researcher with co-authorship of 1 book chapter, 21 peer-reviewed research and pedagogical journal articles, 57 refereed research and pedagogical conference papers, and 5 invited / keynote talks. As a PI or Co-PI, Traum has attracted over \$927 K in funding for research and education. Prior to his current UF appointment, Dr. Traum was an Associate Professor and Director of Engineering Programs at Philadelphia University. He previously served at the Milwaukee School of Engineering on the mechanical engineering faculty as well as co-founding the Mechanical & Energy Engineering Department at the University of North Texas – Denton.

Traum received Ph.D. and M.S. degrees in mechanical engineering from MIT, and he holds two B.S. degrees from UC Irvine in mechanical and aerospace engineering. Through the University of California Education Abroad Program, Traum was a non-matriculating scholar at the University of Bristol, UK in the Aerospace Engineering Department.