

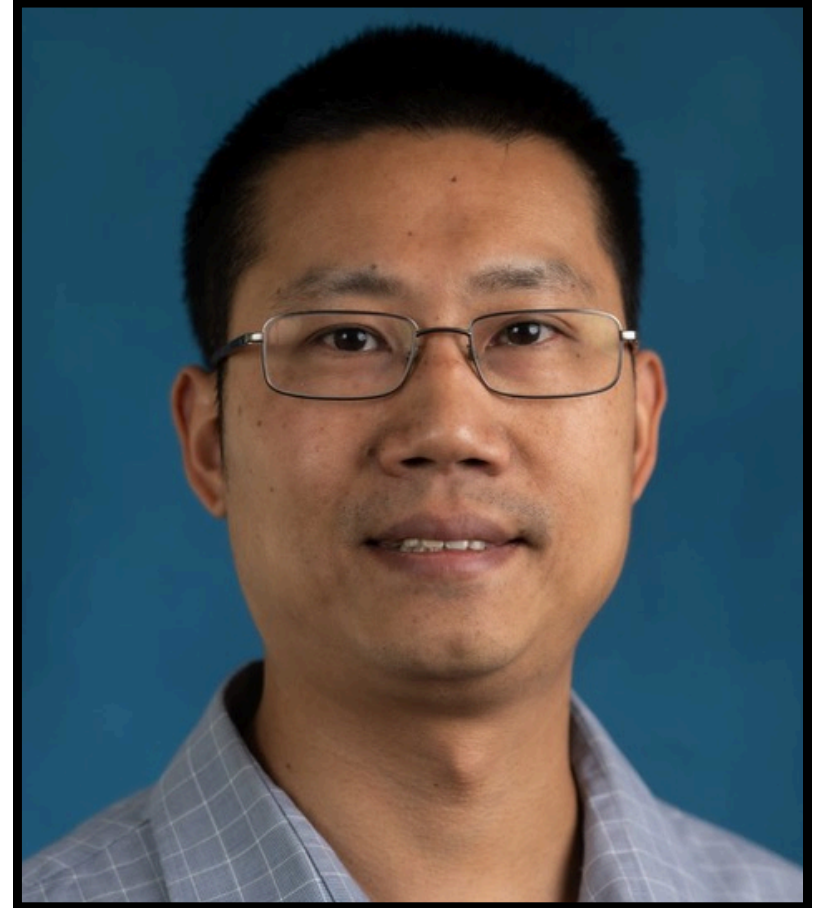
Thursday, October 31, 2024

Refreshments at 3:15pm outside PSF 101
Colloquium from 3:30pm - 4:30pm in PSF 101

Mechanobiology of Membranes: From Mechanotransduction to Artificial Cytoskeleton

Professor Allen Liu

University of Michigan



Abstract:

Biological membranes are involved in many cellular processes including cell migration, membrane trafficking, and cell signaling. A significant amount of work has elucidated the types of molecular machinery that regulate dynamic membrane-based processes. In parallel, there has been growing interest in recent years in trying to understand how the mechanical state of the cells is utilized as a regulatory input to control cellular processes. My lab is broadly interested in studying the mechanochemical responses and force generation of biological systems, both in cells and in cell-like systems. In this talk, I will introduce broadly my lab's research and share three vignettes related to my lab's research theme.

Biography:

Allen Liu received a B.Sc. degree in Biochemistry (Honors) from the University of British Columbia, Vancouver, Canada, in 2001. He obtained his Ph.D. in Biophysics in 2007 from the University of California-Berkeley and received his post-doctoral training at The Scripps Research Institute-La Jolla. He started his group in 2012, and he is currently a Professor in Mechanical Engineering, Biomedical Engineering, and Biophysics at the University of Michigan. His current research interests lie in cellular mechanotransduction, and his lab uses tools from quantitative cell biology, synthetic biology, biophysics, and microfluidics. He has received the NIH Director's New Innovator Award, a Young Innovator by Cellular and Molecular Bioengineering (CMBE), a Rising Star from CMBE-BMES, and a Future of Biophysics Burroughs Wellcome Fund Symposium speaker. He is a recipient of the Endeavour Executive Fellowship (Australia) and the Alexander von Humboldt Fellowship for Experienced Researcher (Germany).

Host: Prof. Rizal Hariadi

View our Fall 2024 Physics Colloquium schedule at <https://physics.asu.edu/colloquia>