



Saad Bhamla

Seminar Title: Fast, Furious and Frugal: Soft matter principles in ultrafast organismal biophysics and low-cost science tools

Abstract: In this talk, I will share two stories. The first documents our journey into the world of extreme single cells that exhibit ultrafast contractions. Using the lens of soft matter physics, we will discover how these extraordinary cells leverage these rapid contractions to transmit signals over long distances in a phenomena we term 'hydrodynamic communication'. The second explores development of low-cost tools for science education and global health. Guided by our 'frugal science' philosophy, I will share how we harness unusual materials and their physics to build centrifuges, electroporators and hearing aids that all cost less than a cup of coffee.