



PHYSICS COLLOQUIUM: Tenure Talk

The Shape of Soft Matter and Fluid Flows

Dustin Kleckner

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University of California, Merced



Date:

3/01/2024

Time:

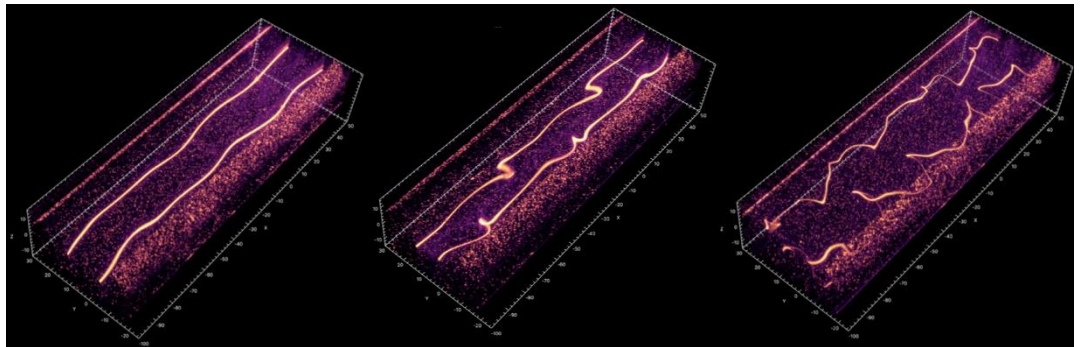
10:30 AM – 11:50 AM

Location:

GRANITE PASS 135

Abstract:

In this talk I will give a summary of the research I've been doing since joining the faculty at UC Merced. This work has been focused on two main areas: (1) how does the 3D structure of vortices control the stability and dynamics of fluid flows, and (2) can we control the self-organization of colloidal systems using multi-particle forces induced by light and sound? Although my interests span a variety of topics, they are unified by an emphasis on how the organization of material systems affects their behavior. My efforts also include the development of new experimental and numerical tools, including advanced optical techniques like high-speed 3D imaging techniques and new models for radiation scattering and vortex mechanics.



About the Speaker:

Professor Kleckner got his undergraduate degree from the University of Minnesota Twin Cities and his PhD from UC Santa Barbara. He did his doctoral research in Dirk Bouwmeester's Quantum Optics group, where he worked on an experiment to test quantum mechanics in relatively massive mechanical systems. After finishing his PhD in 2010 he started a postdoc at the University of Chicago, where he studied fluid mechanics and soft matter physics in William Irvine's group. In 2015 he joined the faculty at UC Merced, where he is continuing his research on fluids and self-organization of colloidal systems.

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