

MPIDS Colloquium



MAX-PLANCK-GESELLSCHAFT

Fluid dynamics of living cells

Prof. Dr. Mike Shelley

*Center for Computational Biology, Flatiron Institute
and New York University, NY, USA*



The organized movement of intracellular fluids is part of the functioning of cells and the development of organisms. These flows often arise from the action of molecular motors on the transitory and flexible scaffoldings of the cell. That sounds complex and multiscaled, as is much of biology, but its study is also becoming a beautiful sub-branch of fluid dynamics characterized by geometric complexity, confinement, and microscale activity. Understanding phenomena in this realm has necessitated the development of new simulation tools, and of new coarse-grain mathematical models to analyze and simulate. In that context, I'll discuss how genetic material is "properly" positioned within a cell, how a symmetry-breaking "swirling" instability may be an important part of the development of an oocyte, and how flows in the nucleus give us clues to its internal mechanics.

Wednesday, November 4th, 2020 at 2:15 pm

MPIDS, video conference at www.zoom.us

Meeting ID: 959 2774 3389

Passcode: 651129, [direct link](#)



Max Planck Institute for Dynamics and Self-Organization

Living Matter Physics

Dr. Evelyn Tang

Email: evelyn.tang@ds.mpg.de, Phone: +49-(0)551/5176-155

Am Faßberg 17, 37077 Göttingen, Germany