

Seminar

Some Surprises and Open Questions in Soft Matter

Steve Granick

IBS Center for Soft and Living Matter, South Korea

A fundamental challenge of modern fundamental and applied science is to form structure that is not frozen in place but instead reconfigures internally driven by energy throughput and adapts to its environment robustly. Predicated on fluorescence imaging at the single-particle level, this talk describes quantitative studies of how this can happen. With Janus colloidal clusters, we show the powerful role of synchronized motion in self-assembly. In living cells, we find that transportation efficiency problems bear a provocative parallel with polymer chain trajectories with their spatial extent, and with jammed matter in their time evolution. A picture emerges in which simple experiments, performed at single-particle and single-molecule resolution, can dissect macroscopic phenomena in ways that surprise.

Thursday, Nov 10th 2016

11:30 AM (Tea/Coffee at 11:15 AM)

Seminar Hall, TCIS