



# Steve Granick

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Institute for Basic Science (IBS), South Korea**

**Monday, March 12, 2018 ~ 2:00 pm 331 Klamath Hall**

## **Some Surprises and Open Questions in Modern Physical Chemistry**

A fundamental challenge of modern physical 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.

Steve Granick is a member of the U.S. National Academy of Sciences and American Academy of Arts and Sciences. Among his other major awards are the Paris-Sciences Medal, APS national Polymer Physics Prize, and ACS national Colloid and Surface Chemistry Prize. Holding and having held Honorary and Visiting Positions at multiple universities in Europe and Asia, he has core experience in science globalization.

***Refreshments served at 1:45 pm 331 Klamath Hall***

***Hosted by Andy Marcus***