

ICTS MONTHLY COLLOQUIUM

Colloidal Glasses: Bringing Glass Physics Into Focus

Colloidal suspensions consist of micrometer-sized particles that remain suspended in a fluid by Brownian motion. Their phase behavior bears striking similarities with atomic systems and for suitable particle number densities, colloidal suspensions readily form liquid, glass, and crystalline phases. This combined with their large size, which allows direct interrogation of their dynamics in real-space and at the single-particle level, makes them ideal candidates to address problems in statistical and condensed matter physics. In the first part of my talk, I will present results from a recent real-space imaging study that shows how a glass can transform to a crystal despite the dynamics in the glass being frozen at the particle length scale. In the second part of my talk, I will describe experiments where we critically evaluated competing theories of the glass transition by probing the dynamics of dense liquids residing on the surface of a sphere.

Rajesh Ganapathy

Rajesh Ganapathy obtained his PhD in Physics from the Indian Institute of Science Bangalore in (2007). From 2007-2009, he was a postdoctoral fellow in the Dept. of Physics, Cornell University, Ithaca, NY USA. He joined the International Centre for Materials Science (ICMS), JNCASR Bangalore as a Faculty Fellow in 2009. Since 2015, he has been an Associate Professor at ICMS, JNCASR.

Rajesh's research interests are in the area of Soft and Active Matter. His current topics of study include: Colloidal suspensions, gels, dense liquids and glasses, active liquids and glasses, driven soft matter, nucleation and growth, soft matter on non-Euclidean surfaces, surface growth, rheology of dense suspensions, stochastic heat engines.

3.30 pm,
14 December 2020

ONLINE COLLOQUIUM

Use this link to join the Zoom meeting -
<https://bit.ly/ictsMCdec20>

Meeting ID: 910 9809 0631

Passcode : 503858

