

ICTS Seminar

Title : Dynamical arrest in extreme active matter

Speaker : Bulbul Chakraborty, Brandeis University, USA

Date : Wednesday, August 14, 2019

Time : 11:00 AM

Venue : Chern Lecture Hall, ICTS Campus, Bangalore

Abstract : The collective behavior of dense active matter is a subject of intense research activity. Jamming and motility-induced phase transition (MIPS) in models of spherical active particles have been thoroughly investigated. An idea that has emerged is that activity induces an effective attraction between the particles leading to phenomena such as MIPS. Extreme active matter is the limit in which the rotation rate of the persistent direction of the active particles approaches zero. In this limit, a question that arises is whether a scenario of “driven” jamming, similar to shear-jamming can occur. In this talk, I will discuss the appearance of dynamical arrest, similar to gelation in a model of lattice-bound active particles that exhibit glassy dynamics in the passive limit. The results support the general idea that activity can be thought of as an effective attraction between particles.