ICTS Seminar

Title : Pattern formation in active matter

Speaker : Jemseena V, ICTS-TIFR, Bangalore

Date : Friday, June 22, 2018

Time : 3:00 PM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : Active materials are a generic class of nonequilibrium systems where the consumption and dissipation of energy occur at the level of the individual entities. I will first discuss some exact results for a non-interacting gas of run-and-tumble particles in one dimension. I will then discuss, at a coarse-grained hydrodynamic level, pattern formation in an active fluid. For instance, in the actomyosin cortex of cells, the ATP consuming activity of molecular motors generates active stresses and can lead to emergent spontaneous patterns. I will discuss active mechanochemical patterns on various surfaces and highlight the role of geometry in pattern selection on curved surfaces.