

Thin-Film Instabilities of Active Suspensions

Sriram Ramaswamy
Department of Physics
Indian Institute of Science, Bangalore

Active hydrodynamics is now generally acknowledged as the natural framework to understand the mechanical and statistical properties of collections of self-driven particles, such as shoals of fish, bacteria in a fluid, or the cytoskeleton of the living cell. I shall discuss a thin-film suspension of self-propelled particles spread on a solid surface, and highlight a novel instability arising from the interplay of the active stresses with the coupling of particle orientation to the free surface of the film.