
Colloquium

Alignment vs Noise: Minimal but non-trivial framework for active matter and collective motion

Hugues Chaté

**Commission for Atomic Energy and Alternative
Energies (CEA), France**

The collective properties of self-propelled particles interacting solely via some kind of effective alignment constitute one of the simplest frameworks for studying active matter. I will first argue that despite its minimality, it is not devoid of experimental relevance, and then proceed to provide a synthetic account of our current understanding of the problem. I will in particular stress that the problem of the onset of collective motion/orientational order is better understood as a liquid-gas transition, but one with unusual liquid and coexistence phases. I will also stress the remarkable success of hydrodynamic theories in describing the large-scale properties of these active particle models.

Friday, July 25th 2014

11:30 AM (Tea/Coffee at 11:15 AM)

Seminar Hall, TCIS