

# PHYSICAL MATHEMATICS SEMINAR

## ORDERING AND SWARMING IN A COLLECTION OF FLUIDISED RODS

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### **ABSTRACT:**

I will discuss experiments that study the ordering of fluidised rod-like grains into orientationally ordered states and compare these to the phases of equilibrium liquid crystalline systems. The most dramatic phenomena in the system, however, are associated with the motions of the rods rather than their order. These nonequilibrium effects include persistent vortices and large-scale swirling. Most importantly, the population of rods shows giant, persistent density fluctuations, which I will discuss in the context of recent ideas of the flocking and swarming of active, or self-propelled, particles.

**TUESDAY, MAY 1, 2007**

**2:30 PM**

**Building 2, Room 146**

*Refreshments at 3:30 PM in Building 2, Room 349  
(Applied Math Common Room)*



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