

**CENTER FOR FLUID MECHANICS
AND
THE FLUIDS, THERMAL AND CHEMICAL PROCESSES GROUP
OF
THE DIVISION OF ENGINEERING
SEMINAR SERIES**

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**Modeling the Rheological Properties of Suspensions Using Dissipative-
Particle –Dynamics: Application to Yield Stress**

The rheological properties of suspensions plays an important role in a wide variety of technological processes and is of fundamental interest. In this presentation I will discuss recent advances in the modeling of suspensions based on a novel cellular automata approach called Dissipative-Particle-Dynamics. The first part of this presentation will focus on the validation of this approach (comparison of simulation results with well known theoretical predictions and other computational methods). In the latter part I will present some recent results concerning the yield stress of hard sphere systems with interparticle interactions.

**TUESDAY – JANUARY 24, 2006
Barus & Holley, Room 190
3:00pm**