

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

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**Electric-field-driven Control and Manipulation of Particles in Micro- and
Nano-fluidics**

Compared to other available methods, the use of electric fields is particularly well-suited for the manipulation of minute particles in micro- and nano-devices. We present recent results of our experimental and theoretical studies of collective phenomena which affect the suspension flow in a micro-channel due to its small dimensions. Next, we consider the molecular dynamics simulations of the motion of a single particle through a fluid-filled nano-channel and examine to which extent continuum mechanics can predict the particle motion.

**TUESDAY, FEBRUARY 22, 2005
BARUS & HOLLEY, ROOM 190
4:00pm**