



**You are cordially invited to attend the following seminar sponsored by
the Department of Mechanical Engineering:**

**Friday, September 28, 2007
114 Spencer Lab, 12:15 – 1:15 P.M.**

*Dr. Naomi E. Leonard
Princeton University*

**“COOPERATIVE CONTROL AND MODILE SENSOR
NETWORKS”**

Abstract:

Coordinated motion control of multi-agent systems makes possible the design of mobile sensor networks to follow and sample features and to provide efficient sampling coverage of large areas with time-varying, spatially distributed fields. In this talk I will describe collaborative work on models for coordinated motion of multi-agent systems based on moving particles with steering control driven by an extension of coupled oscillator dynamics. The methodology provides means for systematic design of simply parameterized families of stable collective motion patterns that can be optimized for sampling. I will describe application to design of an adaptive ocean sampling network and present results from field experiments in Monterey Bay, California. I will also describe connections to modeling and analysis of collective motion and decision making in animal groups.

Refreshments will be served