Speaker: D. L. Young  
Department of Civil Engineering  
National Taiwan University  

Title: Method of Fundamental Solutions for the Interaction of Solid Body and External Singularities in an Inviscid Fluid  

Abstract:  
This talk proposes a method that can calculate the hydrodynamic force of a non-circular object in an inviscid, irrotational, and incompressible flow with the presence of external flow singularities. In order to handle irregular object, the method of fundamental solutions (MFS) is employed to numerically construct the singularity system that describes the body and the flow motion and meets the boundary condition. The obtained singularity system is then integrated into the generalized Lagally theorem to compute the instantaneous hydrodynamic forces via algebraic calculations and to describe the unsteady interaction of the object and its ambient flow.  

Further Information  
Further details and information about this and other departmental activities is available online at http://www.math.usm.edu/bulletin_board/.