Date: **February 11th, 2005**

Time: **10:30 AM**

Location: **Olin 305**

Speaker: **Dr. Larry Sanford**
University of Maryland Center for Environmental Science

Title: **"Particle Transport Dynamics in the Chesapeake Bay"**

Abstract

The major factors influencing the transport of suspended particles in estuarine and coastal waters are sources of "new" particles, particle settling rates, physical forcing and circulation, and bottom sediment erodibility. In Chesapeake Bay, sediment re-suspension and re-deposition are the dominant influences on instantaneous suspended sediment concentrations most of the time and in most places. This seminar will present data on sediment erodibility (or re-suspension potential) and sediment flocculation/settling obtained in northern Chesapeake Bay over the past several years using newly developed techniques. These data reveal several previously unknown aspects of suspended particle transport dynamics in the estuary, including extensive spatial and temporal variability in floc size and density through the upper estuary, a persistent layer of large, loosely packed flocs in the pycnocline, and large gradients in erodibility just at or below the sediment surface. Conceptual and mathematical constructs attempting to explain the observed features will be presented as well.