Soil is a key natural resource. Surface soil has importance in a variety of environmental, hydrological, ecological, climatological, and agricultural investigations. Compared to the attention given to water and air, public attention given to soil is miniscule. However, the importance of soil is becoming recognized more fully within the natural science community. Soil scientists are at a critical time for refocusing their attention to studies of soil in various ecosystems. A sociological challenge to the soil science community is to move past the era of specialists researching and teaching for the sake of communicating with other specialists. A technical challenge to soil scientists is to quantify spatial and temporal variability of surface soil properties that impact ecosystem products and services. In this seminar I will present a variety of reasons that encourage integrative investigations of the natural environment. I will also introduce some new measurement methods that can quantify surface soil properties of various ecosystems. It is time to embrace the beauty and importance of soil so that we scientists can more fully study, teach, and manage soil for the service of humanity.

Robert Horton
Iowa State University

Advancing Environmental Investigations by Taming the Challenges Posed by Dynamic Surface Soil Properties

Monday, October 11, 2004
6:30 reception; 7:00-8:00pm lecture
S. H. Smith
Center for Undergraduate Education Rm. 203, Washington State University

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Bob Horton is a Professor of Soil Physics at Iowa State University. He is the recipient of the prestigious Don and Betty Kirkham Soil Physics Award as well as the Soil Science Research Award, both from the Soil Science Society of America. Bob Horton has pioneered the development of instrumentation and techniques for measuring soil physical properties, particularly, the measuring and modeling of heat and mass transfer in soil.