Real-Time Observation and Management Using Machine Learning and Advanced Information Systems: Lessons from Environmental and Sustainability Arenas

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Logistics
- Wednesday 04/04/2012 at 2:00PM
- Siebel Center 4403
- Donuts and coffee will be provided!

Abstract
Emerging sensing and information technology are rapidly creating a new paradigm for fusing data from multiple sensors and information sources to adaptively guide real-time observation and decision making. This talk will provide an overview of emerging technologies and case studies in the environmental and sustainability arenas. An advanced information system for real-time decision making, created in collaboration with researchers at the National Center for Supercomputing Applications (NCSA) will be presented as an example of cyber-infrastructure that enables easier implementation of numerous real-time applications. Recent research findings on the use of machine learning for automating anomaly detection in real-time sensor data and fusing multiple data sources will also be highlighted.

Biography
Barbara Minsker is Professor of Environmental and Water Resources Systems Engineering in the Department of Civil and Environmental Engineering and the National Center for Supercomputing Applications. Her research uses information technology to improve understanding and management of complex environmental systems, with a focus on water and sustainability. She earned a BS in Operations Research and Industrial Engineering in 1986 and a PhD in Civil and Environmental Engineering in 1995 from Cornell University. She served as a policy consultant to the Environmental Protection Agency from 1986-1990, and has been at the University of Illinois since 1996.