

SCIENCE & TECHNOLOGY INNOVATORS LECTURE SERIES

UNIVERSITY OF MINNESOTA

DIGITAL TECHNOLOGY CENTER

A Center for the Institute of Technology

A Services Oriented Architecture for Water Resources Data

Presented by

David Maidment

Civil, Architectural and
Environmental Engineering
University of Texas

Monday, October 15

Walter 402

4:30 Reception

5:00 Lecture

DATA ON STREAMFLOW, WATER QUALITY, GROUNDWATER, PRECIPITATION and climate conditions are measured by a large number of organizations in the United States. These range from the USGS National Water Information System (NWIS), which contains data from about 1.6 million locations, through state and local water agencies, to academic investigators, such as those in the WATERS network testbed site at the University of Minnesota, who are collecting experimental data on water quality in Minnehaha Creek in Minneapolis.

The Consortium of Universities for the Advancement of Hydrologic Science, Inc., (CUAHSI) has a Hydrologic Information System (HIS) project supported by the National Science Foundation which has developed WaterML, an XML language for communicating water information via the internet, and WaterOneFlow, a set of web services functions that deliver data in WaterML format. The CUAHSI HIS project has deployed a set of hydrologic information servers, including one at the University of Minnesota, that enable locally observed data to be published in WaterML, and seen through a map viewer along with similar services to national data sources such as NWIS.

This seminar will demonstrate these web services and describe the mechanisms needed to operate a services oriented architecture for this class of information.



DIGITAL TECHNOLOGY CENTER

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About the Speaker

Dr. David Maidment

Dr. David Maidment earned his Ph.D. in civil engineering from the University of Illinois at Urbana-Champaign in 1976. He joined the faculty of The University of Texas at Austin in 1981. He directs the Center for Research in Water Resources.

Dr. Maidment researches surface water hydrology, particular in the application of geographic information systems to hydrology. He has been collaborating with ESRI, the leading manufacturer of geographic information systems (GIS), or computer programs for geographic data. He has also worked with the Hydrologic Engineering Center of the U.S. Army Corps of Engineers, to prepare GIS interfaces for the center's models. He is the principal designer of the Arc Hydro data model, which is a customization of the ArcGIS computer program for water resource data. He and his research team also have current projects applying GIS for floodplain mapping, water quality modeling, water resources assessment, hydrologic simulation, global hydrology and the interaction between surface water and groundwater.

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Please call 612-624-9510.