



RECONNECT Workshop 2013
Water Infrastructure, Contamination, and Risk Assessment

Where: Morgan State University in Baltimore, MD

When: June 2 – 8, 2013

About Reconnect:

This CCICADA Summer Reconnect Workshops expose faculty teaching undergraduates to the role of the mathematical and computer sciences in homeland security and provides an opportunity to researchers in government or industry to learn about recent material in the area of internet privacy, a component of data analytics. Topics are presented in a weeklong series of lectures and activities; participants are involved in both research activities and in writing materials useful in the classroom or to share with their colleagues. Participants may develop materials for publication in either the CCICADA Technical Reports or the Educational Modules Series published by the DIMACS Center at Rutgers University.

Topic: Water Infrastructure, Contamination, and Risk Assessment

The water distribution system, which is a critical component of assuring safe drinking water, constitutes a significant management challenge from both an operational and public health standpoint. Reconnect 2013 focuses on water infrastructure systems including water hydrology, contamination, and decision making. Dr. Paul Houser will look at quantifying and predicting water cycle and environmental consequences of earth system variability through numerical hydrologic data simulations and regional land surface-atmospheric hydrologic modeling. Web-based data visualization tools for climate and water data will be utilized. Contamination of water supplies will be highlighted by Dr. Abdul-Aziz Yakubu, with a guest lecture by a fracking expert. Epidemiological and surveillance data of sporadic cases of waterborne diseases and health effects from accidental or intentional chemical and microbial contamination can be linked to problems in water distribution systems. The issue of water contamination due to the process of fracking to obtain natural gas from the ground has heightened the general public's awareness of this key issue. In addition to contamination, losses of life and property in the United States and throughout the world resulting from hydrologic hazards, including floods, droughts, and related phenomena, are significant and increasing. In the United States, over three-quarters of federal disaster declarations result from water-related events and in many parts of the world (e.g., Bangladesh) floods and droughts (e.g., Ethiopia and elsewhere in Africa) have threatened the viability of society. Dr. Midge Cozzens will conclude the week using game theory to manage water resource system conflicts.

Organizers: Midge Cozzens, Research Faculty at DIMACS Rutgers University,
Asamoah Nkwanta, Professor of Mathematics, Morgan State University

Speakers: Paul Houser, Professor of Global Hydrology, George Mason University
Abdul-Aziz Yakubu, Professor of Mathematics, Howard University
Midge Cozzens, Research Professor and Mathematician, Rutgers University

Registration fees, lodging, meals and travel: *Academic participants:* registration, lodging and meals will be provided through DHS funding. *Government participants:* \$350. *For-Profit Corporation participants:* \$500 (includes all meals from Sunday dinner to Saturday lunch). Limited funds are expected to be available to provide partial support for travel.

Deadline for Applications is April 1, 2013 or until all slots are filled. Applications will be submitted online found on the Reconnect web page, and will be reviewed as they are received. Please email Midge Cozzens if you are interested.

For more information: Christine Spassione (spassion@dimacs.rutgers.edu) or Midge Cozzens (midge6930@comcast.net) or visit the Reconnect web page <http://ccicada.org/Reconnect/2013/>.