Job Opportunity: Graduate Research Assistant
Soil and Water Resources Engineering

Position summary: The Department of Agricultural and Biological Engineering at the University of Illinois at Urbana-Champaign is seeking two graduate students (one MS and one PhD) in Soil and Water Resources Engineering. The research position will focus on watershed-ecosystem dynamics under changing climate and land use.

Climate variability and change compounded by changes in land use have the capability to significantly disrupt watershed hydrology and ecosystem services. Expected changes in precipitation patterns and temperature may drive non-linear responses in streamflow regimes, water balance, and fate and transport phenomena at regional to local scales. For instance, predicted increases in extreme events characterized by high intensity short duration rainfall and recurrent cyclical droughts may change flow variability which can directly impact the aquatic ecosystem. Land use changes linked to population and economic growth can further aggravate these effects by significantly altering surface water processes while adding competition on water resource use. Considering the expected increases in human population and the extent of urbanized areas in the coming century (United Nations, 2012) under various climate change scenarios (IPCC 5), the assessment of the relationship between climate/land use changes and the watershed is critical to the development of sound management and conservation strategies for sustainable ecosystem services.

Qualifications: The candidate(s) should have degree/s in agricultural/civil engineering or closely related engineering discipline with strong background in hydrological research, statistics, and computational methods. Experience with watershed models and scripting in any platform (e.g. unix or windows) are desirable. Exceptional organizational and communication skills (oral and written) are required to help facilitate a multi-discipline research project as well as prepare scientific papers for publication. The researcher will be responsible for:

- Analyzing historical hydrologic and climate data to understand watershed response under changing climate and land use.
- Developing numerical and statistical models of the hydrologic and climatic systems.
- Global uncertainty and sensitivity analysis of environmental models.
- Publishing peer-review journal papers and conference papers.

Salary and Benefits: Starting salary/stipend and position will be commensurate with experience. Position will include full benefits including tuition.

Anticipated Starting Date: January 2015 (open until filled)

Interested applicants please send your CV including the contact information of three references to:
Dr. Maria L. Chu
Department of Agricultural & Biological Engineering
332-Q Agricultural Engineering Sciences Building, MC-644
email: mlchu@illinois.edu