



## PhD Assistantship Opportunity Agent-Based Modeling of a Hydrological-Human-Ecological Water Systems

Utah State University (USU) invites applicants for a PhD-level graduate research assistant position beginning in August 2015. The research assistant will develop an agent-based model to couple hydrological, human, and ecological components of an integrated water system. The assistantship is part of a multi-year, National Science Foundation-funded iUTAH project aimed at understanding water resources sustainability in Utah's urbanizing Wasatch Front (see [www.iutahepscor.org](http://www.iutahepscor.org)).

### The successful applicant will:

1. Significantly expand the spatial coverage and rules for agricultural, residential, and water manager agent behavior in an existing model of our Northern Utah water system,
2. Add new agents that represent key riparian, canal, and wetland ecosystem features, and
3. Use the model to identify interdependencies among the coupled system components as well as quantify impacts on water use decisions and ecological outcomes.

### Applicants must:

- Hold an M.S. degree in engineering, natural resource management, hydrology, ecology, or a related water resources field, and
- Have prior experience in developing, programming, debugging, calibrating, validating, and/or using agent-based or process models of some or all components of the study system.

The graduate assistant's home department will be Civil and Environmental Engineering, though successful applicants will work as part of an interdisciplinary and multi-institution research team that includes participants from USU, University of Utah, Brigham Young University, several other Utah universities, and stakeholders. The position provides full PhD graduate assistantship support including a tuition award for a qualified student for up to three years pending satisfactory progress in each year. In subsequent years and if needed, there will be opportunities to pursue supplemental funding from internal and external sources.

Please direct further questions about the assistantship by email to Dr. David E. Rosenberg at [david.rosenberg@usu.edu](mailto:david.rosenberg@usu.edu). Use the subject line "iUTAH PhD assistantship". To apply, 1) Email Dr. Rosenberg your vitae, a 1-2 page statement of your research interests, and how your interests and experiences will benefit the iUTAH project and Dr. Rosenberg's other research efforts (see <http://rosenberg.usu.edu>). Then 2) apply for admission to the CEE department through Utah State University's [School of Graduate Studies](#); mention this assistantship opportunity in your statement of purpose. Review of applications will continue until the assistantship is filled.



**Why Northern Utah?** Utah State University hosts a large, interdisciplinary faculty spread across multiple departments and colleges. The university is located 85 miles north of Salt Lake City in Logan. The Wasatch Front of Northern Utah is a stunning landscape for work and play. The nearby Wasatch/Cache National Forest offers ski resorts, lakes, rivers, and mountains. We have low housing and living costs and are a short trip from scenic National Parks including Zion, Bryce Canyon, Canyonlands, Aches, Capitol Reef, Grand Teton, Great Basin, and Yellowstone.