



**Doctoral Research Fellowship
Storm Water Engineering Performance and Modeling
Utah State University**

Utah State University invites applications for a PhD-level graduate research fellowship to **evaluate impacts of alternative urban forms and infrastructure on storm water discharge quantity and water quality in the Wasatch Range Metropolitan Area (WRMA)**. This fellowship opportunity is part of a multi-year, NSF funded study aimed at understanding water resources sustainability in the urbanizing Wasatch Range Metropolitan Area (WRMA; see www.iutahepsco.org for more information). The successful applicant will be expected to:

- (a) Install and manage new urban monitoring stations to determine relationships between neighborhood type and surface water discharge outcomes under different infrastructure and storm event settings;
- (b) Develop models to simulate storm water flows under alternative infrastructure conditions;
- (c) Incorporate new data into modeling and analysis that appear in dissertation chapters and co-authored publications; and
- (d) Participate in iUTAH doctoral fellow mentoring activities.

The successful applicant will conduct a comprehensive examination of alternative storm water collection systems hydraulics (e.g., for appropriate design storms in the WRMA), design standards and efficacy of individual design components, the impacts on surface water quantity and quality and shallow groundwater quality, life-cycle cost of retrofitting the conventional storm water collection system, and the implications of modified storm water return flows with respect to water rights, permitting, and monitoring.

Candidates should have completed a M.S. preferably in engineering, however qualified candidates from watershed sciences, hydrology, landscape architecture/environmental planning or related fields will also be considered. Although the home department for this student will be in the Civil and Environmental Engineering (CEE) at Utah State University, all iUTAH fellows are expected to work in an interdisciplinary, cross-institutional research team that includes researchers from USU, the University of Utah, and several other Utah universities. Full doctoral research fellowship support for a qualified student on this project is initially guaranteed for 3 years at a rate of \$20,000 per year (plus a full tuition award), with expectations and opportunities to pursue supplemental funding from internal and external sources in future years.

Prospective students should contact Dr. Ryan Dupont (ryan.dupont@usu.edu), Dr. Jeff Horsburgh (jeff.horsburgh@usu.edu) or Dr. Bo Yang (bo.yang@usu.edu) for more information: please include a current resume and statement of research interests with your inquiry. Application deadline is March 15, 2014.



Why Utah? The Wasatch Front of Northern Utah offers a stunning landscape for work (and play). The Wasatch/Cache National Forest provides unlimited outdoor recreation year-round. Housing costs are lower than the national average, and there are diverse cultural opportunities. Northern Utah is a short trip from the most scenic National Parks in the USA, including Zion, Bryce Canyon, Canyonlands, Arches, Capitol Reef, Grand Teton, Great Basin, and Yellowstone.