From: Michelle Gilmore
Subject: MS/PhD assistantships available: hydrology, water mgmt, food-energy-water nexus

Multiple MS and PhD Graduate Research Assistantships available at University of California, Merced

The Mountain Hydrology Research Group at University of California Merced seeks applications for 2-3 highly qualified applicants who are committed to pursuing an MS or PhD degree in Environmental Systems, in one of three areas:

1) Food–Energy–Water Nexus. The PhD student will engage in developing integrated modeling tools and analysis using systems engineering approach to natural resource management. The prospective student will analyze the nexus between food-energy-water systems, comprised of connected wildland-storage-cropland subsystems in California, and explore how different climate-adaption pathways affect resilience, vulnerability, and sustainability of CA's highly leveraged rivers. We are looking for students with hydrology, water resources engineering, system engineering backgrounds for 5-year USDA funded project. Experience in scientific programming, remote sensing, and data analytics are greatly preferred.

2) Forest Hydrology and Watershed Management. The MS or PhD student will engage in developing data and modeling tools to better understand and predict the effects of restoration treatments on forest health, water supply, and carbon. The prospective student will also engage in building partnerships, among different stakeholder groups, for improving drought resiliency and reducing high intensity wildfire risk while enhancing both forest health and water related benefits. We are looking for students with watershed hydrology, water resources engineering, agriculture engineering, and forestry backgrounds for 2-year (possibly longer) USDI funded project. Experience in hydrologic modeling, snow, remote sensing, and data analytics are greatly preferred.

3) Groundwater and Surface-Water Interactions. The MS or PhD student will combine tracer and other data on groundwater inflow and subsurface storage to inform a detailed and high-fidelity model (i.e. ParFlow) to better understand the dynamics of snow and subsurface storage at varying geo-climatic settings of the Sierra Nevada under current and future climate. The prospective student will also explore lower-fidelity "surrogate" or "proxy" modeling technique using PRMS to capture and upscale the findings of the high-fidelity modeling to basin-scale at which water resources are managed. We are looking for students with hydrology, water resources engineering, and numerical modeling backgrounds for 3-year UCOP funded project.

Interested candidates are encouraged to contact Drs. Martha Conklin (mconklin@ucmerced.edu), Mohammad Safeeq (msafeeq@ucmerced.edu), and Roger Bales (rbales@ucmerced.edu) for further information related to project or application process.

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