

Postdoctoral Researcher Position in Integrated Watershed Modeling – UC Riverside

The Department of Environmental Sciences at the University of California Riverside (UCR) seeks to hire a postdoctoral researcher. The selected candidate will work closely with a team of scientists from UCR and the USDA ARS Sustainable Agricultural Water Systems (SAWS) research unit in Davis to investigate the mechanisms and processes controlling groundwater recharge on hillslopes and headwater catchments. The postdoc is encouraged to collaborate in interdisciplinary projects and is expected to engage in various modeling projects, including developing computationally efficient integrated hydrologic models, implementing high-resolution groundwater models, and contributing to initiatives at UCR and USDA-ARS SAWS unit. This position offers exceptional professional development opportunities within a highly collaborative and multidisciplinary environment.

Roles and Responsibilities:

- Lead efforts pertaining to collecting data on road infrastructure and quantifying runoff captured in the roadside channel systems.
- Lead efforts on instrumentation/preparation of field sites and acquisition/analysis of supporting hydro-meteorological, geology, and/or soils data for design of pilot managed aquifer recharge experimental sites in the hillslopes.
- Develop and apply numerical models of surface, saturated, and unsaturated flow like KINEROS2, KINEROS/Hydrus-1D, MIKE SHE, and FullSWOF to evaluate surface and near-surface flow processes and assess impacts of local slope modification on infiltration, runoff, and soil water storage.
- Conduct hydrologic flow systems and transit time modeling to compute the water balance partitioning.
- Produce high quality scientific and technical output including journal articles, conference papers and presentations, reports, presentations, and graphics.
- Support team members in the development of proposals to secure external funding for research.

Qualifications: The successful candidate should hold a Ph.D. in Hydrology, Civil and Environmental Engineering or a related field with a specialization in physical hydrology or hydrogeology. Candidates must have received a PhD within the past five years from an accredited college or university.

Skills: The ideal candidate will have:

- Strong programming skills in Fortran, Python, MATLAB, and/or C++.
- Proficiency in hydrologic modeling. Experiences in application of HYDRUS, KINEROS2, FullSWOF, or MIKE SHE are plus.
- Proficient in ArcGIS and spatial data analysis.
- Experience in high-performance and parallel computing.
- A proven record of high-quality publications.
- Previous work experience in a collaborative research environment.

Application contents:

- Cover letter describing the applicant's research experiences and interests
- Curriculum vitae including a summary of education and research experience, publication list, involvement in research grants, etc.
- Names, addresses, emails, and phone numbers for three academic referees

Contact:

Applications or informal inquiries can be sent to Drs. Hoori Ajami (hooria@ucr.edu), and Menberu Meles (Menberu.Meles@usda.gov). The initial appointment is for one year with the possibility of annual renewal based on performance and the availability of funds. Applications will be accepted until the position is filled.