

Postdoctoral Researcher Position Investigating the Interface between Roots, Regolith, Rocks, and Climate—the R3-C Frontier

A postdoctoral researcher position is available in the Department of Environmental Sciences at the University of California, Riverside. This position is split between two laboratories: the Catchment Hydrology and Spatial Analysis Lab (<https://www.hooriajami.ucr.edu/>) and the Pedology Lab at Texas Tech University. We are looking for a highly-motivated, independent researcher to join a collaborative, NSF-funded project to address three key knowledge gaps at the interface between roots, regolith, rocks, and climate (aka the R3-C frontier):

- (1) In what ways do bedrock properties interact with overlying regolith to influence the development of the soil pore networks and soil hydraulic properties that control water flow?
- (2) How does the spatial distribution of mineral weathering, influenced by the development of pore networks from bedrock-regolith interactions, control the manner in which roots acquire water and nutrients?
- (3) How do critical zone thickness and root water uptake dynamics interact to regulate evapotranspiration dynamics under changing water supply and demand conditions?

The successful candidate will lead the hydrologic modeling experiments using ParFlow.CLM, and EcoSLIM at four of the project sites (Reynolds Creek CZO, Coal Creek, CO, Konza Prairie Biological Station, and Southern Sierra CZO). The postdoctoral researcher will be expected to participate in regular and annual project meetings as well as lead papers stemming from this work. This position will provide the successful candidate with professional development opportunities within the context of a highly collaborative and interdisciplinary team.

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.

Skills: The ideal candidate will have:

- Strong programming skills in a Unix/Linux environment
- Experience using ParFlow.CLM or other integrated modeling platforms
- Experience with inverse modeling and high performance computing
- Demonstrated record of high-quality publications
- Demonstrated success working and communicating in a team environment
- Excellent communication and presentation skills

Application contents:

- One page cover letter describing the applicant's research experiences and interests
- Curriculum vitae
- Names, addresses, emails, and phone numbers for 3 references

Contact:

Applications or informal inquiries can be sent to Dr. Hoori Ajami at hooria@ucr.edu and Dr. Daniel Hirmas at dhirmas@ttu.edu with R3-C POSTDOC as the subject line.

UCR is a world-class research university with an exceptionally diverse undergraduate student body. Its mission is explicitly linked to providing routes to educational success for underrepresented and first-generation college students. A commitment to this mission is a preferred qualification.

The University of California is an Equal Opportunity / Affirmative Action Employer with a strong institutional commitment to the achievement of excellence and diversity among its faculty and staff. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability, protected veteran status, or any other characteristic protected by law.