Postdoctoral Research Associate in Environmental Geochemistry and Nuclear Waste Disposal at the University of Maryland, College Park

The Department of Geological, Environmental, and Planetary Sciences at the University of Maryland, College Park invites applications for a Postdoctoral Research Associate position on a nuclear waste disposal project. This is a full-time, 12-month position for three years, with an anticipated start date of August 1, 2026. The salary is $72,000 per year, plus benefits.

The project will characterize radionuclide adsorption behavior on repository-relevant mineral surfaces under hydrothermal conditions relevant to deep geologic disposal of spent nuclear fuel and high-level radioactive waste. The work will integrate experimental geochemistry, mineralogy, spectroscopy, and surface complexation and reactive transport modeling, with collaboration involving scientists at Lawrence Berkeley National Laboratory.

The successful candidate will contribute to research activities that include 1) development and operation of hydrothermal experimental systems; 2) adsorption, titration, and kinetics experiments on mineral-water interfaces; 3) analysis of samples using *in situ* X-ray absorption spectroscopy; 4) interpretation of data using surface complexation and related geochemical models; 5) publication of results in peer-reviewed journals; 6) presentation of findings at professional meetings; and 7) mentorship of students in the research group.

Required qualifications

- Ph.D. in geochemistry, environmental chemistry, environmental and chemical engineering, or a closely related field by the start date
- Strong background in aqueous geochemistry, mineral-water interactions, mineralogy, or related experimental geochemistry
- Strong written and oral communication skills
- Ability to work independently and collaboratively

Preferred qualifications

- Experience with hydrothermal experiments
- Experience with adsorption experiments, XAS, surface complexation modeling, or related analytical/modeling approaches
- Interest in environmental radiochemistry and nuclear waste disposal

Applicants should submit a cover letter, curriculum vita, and names and contact information for at least 3 referees who can provide a letter of recommendation upon request, as well as two representative publications, to Dr. Mengqiang Zhu at mqzhu@umd.edu. In the cover letter, applicants need to state research interests and experience addressing the criteria listed above and give a date of availability. All documents must be submitted as a single pdf file. The application review will start immediately and continues until the position is filled. The anticipated project start date is August 1, 2026, but later start dates for the successful candidate can be considered. For more information regarding the position, please contact Dr. Mengqiang Zhu.

The University of Maryland, College Park is the state's flagship university and one of the nation's preeminent public research universities. A global leader in research, entrepreneurship and innovation, the university is home to more than 40,700 students, 14,000 faculty and staff, and nearly 400,000 alumni all dedicated to the pursuit of Fearless Ideas. Located just outside Washington, D.C., we discover and share new knowledge every day through our renowned research enterprise and programs in academics, the arts and athletics. And we are committed to social entrepreneurship as the nation’s first “Do Good” campus.