Five PhD positions at New Mexico Tech – DOE EPSCoR funded experimental critical minerals project on rare earth elements (REE) in hydrothermal fluids

We seek motivated candidates to join our new critical minerals experimental research hub – **NMT CritMinExp** – with a strong interest in critical minerals research, experimental geochemistry, Raman/ UV-vis spectroscopy, thermodynamics and computational geochemistry. As part of a cohort of PhD students you will be able to conduct research funded through a Department of Energy (DOE) EPSCoR Basic Energy Sciences/Geosciences project at the New Mexico Institute of Mining and Technology.

PhD positions at New Mexico Tech (NMT) – starting Spring 2026
Five funded PhD projects are available at the Department of Earth and Environmental Science (https://nmt.edu/academics/ees/) and the New Mexico Bureau of Geology and Mineral Resources (https://geoinfo.nmt.edu/) at NMT. The main advisors for the PhD projects are Dr. Alexander Gysi (alexander.gysi@nmt.edu), Dr. Nicole Hurtig (nicole.hurtig@nmt.edu) and Dr. Laura Waters (laura.waters@nmt.edu).

We are seeking expertise for the following three projects:

- Project 1: In situ Raman and UV-vis spectroscopy and derivation of formation constants of aqueous REE complexes in hydrothermal fluids
- Project 2: REE adsorption on mineral surfaces and calorimetry
- Project 3: Solubility of REE mineral solid solutions at elevated temperature and mineral solid solution models

The positions are hosted at New Mexico Tech (NMT) with Summer internship opportunities with national laboratories including PNNL, LANL, and Ames. Prospective PhD students are expected to have a **MSc degree in geochemistry or earth science related fields** and an interest in thermodynamics, laboratory experiments, analytical chemistry, and numerical simulations. Hands-on experience with solution ICP-MS and ICP-OES, and mineral analysis techniques such as XRD, EMPA, LA-ICP-MS and SEM are beneficial. A background in aqueous geochemistry and/or thermodynamics is preferred. Proficiency in English is required, students applying from New Mexico and the US in general will have priority. The PhD positions are funded for a period of three years through research/teaching assistantships that cover stipend and tuition to study at NMT.

For additional questions about the projects please email nicole.hurtig@nmt.edu with your CV and a short cover letter. The letter should explain your previous research experience, career goals, and your interest in one of the listed projects above. Applications will be reviewed **starting immediately until positions are filled**. Prospective candidates will be further invited to submit their full application directly to the Office of Graduate Programs at NMT using the following link: https://apply.nmt.edu/apply/. Applicants are expected to submit a CV, academic transcripts, a letter of introduction and obtain three reference letters. A TOEFL is required for non-native English speakers. For questions about the admission process at New Mexico Tech please contact graduate@nmt.edu. Additional funding is available for applicants that are also recipients of the Honorable Mentions from the NSF Graduate Fellowship Program.