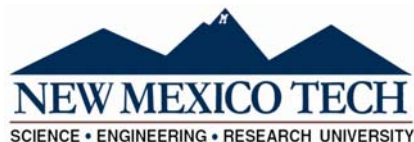


**Posted:** October 7, 2021



## POSITION ANNOUNCEMENT

**TITLE:** POSTDOCTORAL FELLOW IN EXPERIMENTAL GEOCHEMISTRY

**DEPT:** BUREAU OF GEOLOGY

**REG**

**TEMP**

**FULL TIME**

**PART TIME**

**STARTING RATE or SALARY RANGE** \$50,000

Employees being promoted to a higher classified position receive the minimum for the position or a pay rate adjustment of 8% whichever is greater.

**All regular positions also entitle the employee to several benefits including health, dental, vision, life insurance, and retirement which is largely paid by New Mexico Tech for the employee and dependents.**

**INTERNAL POSTING THROUGH:** Concurrent\* CONSIDERATION WILL BE GIVEN FIRST TO TEMPORARY AND REGULAR TECH EMPLOYEES WHO APPLY WITHIN THE 7 DAY INTERNAL POSTING. APPLICATIONS RECEIVED AFTER THE 7 DAY POSTING MARGIN WILL BE CONSIDERED WITH OTHER OUTSIDE APPLICANTS.

### JOB DUTIES:

The Postdoctoral Fellow will conduct hydrothermal laboratory experiments using X-ray absorption spectroscopic (XAS) techniques combined with hydrothermal diamond anvil cells (HDAC) and Raman/UV-Vis flow-through experiments to determine the speciation of REE in high temperature supercritical fluids. The Postdoctoral Fellow will design and test new laboratory experiments, conduct spectroscopic analyses, train students in the laboratory experiments and conduct data interpretation, analyze experimental solutions using ICP-MS, ICP-OES and minerals using XRD and SEM. This work will be complemented with molecular dynamic simulations and the development of thermodynamic and experimental databases. The Postdoctoral Fellow will also be writing research publications for peer-reviewed journals and present at conferences. This position is hosted at New Mexico Tech with Alexander Gysi as supervisor, but includes collaborations with our partners in the new U.S. geoscience critical minerals experimental – thermodynamic research hub between New Mexico Tech (NMT), Los Alamos National Laboratory (LANL), and Indiana University Bloomington (IUB). As such, the Postdoctoral Fellow will be expected to travel yearly with up to 5 months internships at LANL and apply for beamline time and travel to the GSECARS facility in Chicago for XAS-HDAC experiments.

### REQUIRED QUALIFICATIONS:

Ph.D. or other doctorate level equivalent required- area of study Geochemistry/ Chemistry/ Geosciences. X-ray absorption (XAS) spectroscopy and hydrothermal diamond anvil cell (HDAC) required. UV-Vis and/or Raman spectroscopy required. Analytical chemistry (ICP-OES, ICP-MS) and mineralogy (XRD, SEM) desired. Molecular simulations and thermodynamic modeling desired. Coding of python and/or C++ desired. Writing of peer-reviewed articles (first-authored publications) desired.