

Job#: IRC70389

Title: Post-Masters Student (GRA)/ Laboratory Rock Shear Fracture and Fluid Flow Experimentation

Organization: EES-14/Earth System Observations

Post-Masters position in laboratory rock shear fracture and fluid flow experimentation at Los Alamos National Laboratory.

The Earth and Environmental Sciences Division (EES-DO) is seeking a post-masters candidate to perform and analyze the results from triaxial coreflood experiments investigating rock fracturing and fluid flow for oil and gas, geothermal energy, induced seismicity, CO₂ sequestration, and radioactive waste disposal applications. These experiments include *in situ* x-ray or neutron imaging, geomechanical characterization, acoustic emission monitoring, and multi-phase flow characterization. The focus of these experiments will be on the development of scaling relationships and integration of measurements into numerical models.

The successful candidate for this position will be part of an interdisciplinary team that is involved with developing theory to predict fracture fluid flow behavior, design of experiments to quantify the associated parameters, analysis of the results from these experiments, and implementation of what is learned into larger-scale numerical models, such as discrete fracture network (DFN) and multi-porosity models. Opportunities will be available for the successful candidate to contribute to any or all of these tasks.

Requirements:

- MS in engineering, geosciences, physics, or a related field at the time of hire
- Experience numerically modelling flow through fractured and porous media
- Aptitude for operating high-pressure laboratory equipment
- Excellent English writing skills

Desirable Skills:

- Proficient programming skills, especially if applied to machine learning
- Experience performing high-pressure laboratory experiments
- Field or industry experience in oil and gas, geothermal energy, tunneling, and/or mining

The successful candidate could start as early as May 2019. For more details see the Los Alamos National Lab graduate research assistant program web page at <https://www.lanl.gov/careers/career-options/student-internships/graduate/index.php>.

Education:

MS in engineering, geosciences, physics, or a related field at the time of hire.

Notes to Applicants:

In addition to submitting your application online (Job#: IRC70389: <https://bit.ly/2TTlj5r>), interested candidates should send their CV and cover letter to Dr. Luke P Frash (lfrash@lanl.gov) or Dr. Bill Carey (bcarey@lanl.gov).

Appointments are for one year, with a possible 2nd year extension.

Candidates who have the ability to obtain a DOE "Q" clearance will have more opportunities. To obtain a clearance, an individual must be at least 18 years of age and be a U.S. citizen.