

## Berkeley Lab's Earth Sciences Division is Hiring Postdocs!!

The mission of Berkeley Lab's Earth Sciences Division (ESD) is to create new *knowledge and understanding of earth sciences* in order to provide effective solutions with significant impact to energy and environmental problems of national and global importance and to continually strive for improvements in safety, the quality of science, and employee work satisfaction. Researchers in the Earth Sciences Division work in a wide range of areas such as environmental remediation, nuclear waste disposal, geothermal systems, geologic carbon sequestration, and climate modeling. To learn more about Earth Sciences, please visit <http://esd.lbl.gov/home/>.

ESD is seeking five postdoctoral fellows to work on problems related to geologic sequestration of CO<sub>2</sub>. Researchers in ESD have been investigating critical issues in geologic carbon sequestration since 1998. The Geologic Carbon Sequestration (GCS) Program within ESD addresses the pressing energy-climate issue by investigating the science and technology related to [geologic carbon storage](#). The GCS mission is to develop the knowledge and understanding of CO<sub>2</sub> injection, storage, migration processes, impacts, and monitoring to inform and guide the safe and effective implementation of geologic carbon sequestration.

The positions offer an excellent environment for working with a highly skilled interdisciplinary team and will require strong motivation and excellent oral and written communication skills. Berkeley Lab is a U.S. Department of Energy national laboratory located in Berkeley, California. It is a renowned center of scientific expertise in the many facets of energy-related fundamental and applied science. Eleven Nobel laureates are associated with Berkeley Lab, which is managed by the University of California. Learn more at <http://www.youtube.com/berkeleylab>.

Successful candidates will have a recent PhD, record of productivity in setting up and conducting numerical modeling and/or experimental studies, and the ability to identify and solve problems, to use observational data for improving models, and to implement alternative solutions.

### OPENINGS ARE IN:

#### 1) Hydrogeology: Multi-phase modeling (#25246)

Successful candidates will develop and apply multiphase flow and transport modeling approaches to geologic carbon sequestration applications from the CO<sub>2</sub> plume scale to the sedimentary basin scale, analyze results and compare to monitoring data. Activities may include analytical and numerical modeling of (1) CO<sub>2</sub> migration and trapping in heterogeneous sedimentary rock, (2) induced pressure buildup and brine migration, and (3) impact of leaked CO<sub>2</sub> and brine on shallow groundwater resources.

#### 2) Hydrogeology: Joint inversion (#25247)

This position entails development and application of inversion techniques for combining hydrological and geophysical datasets for characterizing subsurface properties, monitoring CO<sub>2</sub> migration, and aiding in the detection of CO<sub>2</sub> leakage during geological sequestration operations.

#### 3) Hydrogeology: Coupled hydro-mechanical modeling (#25248)

The focus of this position is coupled hydraulic and geomechanical process modeling related to CO<sub>2</sub> geological sequestration, e.g., to better understand impact of injection of CO<sub>2</sub> on mechanical deformation or fault/fracture activation.

#### 4) Geochemistry: Reactive transport modeling (#25249)

The successful candidate will work on applying multicomponent reactive transport modeling to problems related to geological sequestration of CO<sub>2</sub> and its potential impacts on groundwater resources. Activities may include design and analysis of laboratory and field experiments, interpretation of geochemical data sets, modeling of water quality impacts from CO<sub>2</sub> and/or brine leakage into aquifers, and evaluation of pressure and temperature effects on leakage of CO<sub>2</sub>-water mixtures and co-migrating contaminants.

#### 5) Geochemistry: Experimental geochemistry (#25250)

This position entails designing and building a multiphase flow cell to simulate and investigate processes related to geological sequestration of CO<sub>2</sub> and its potential impacts on groundwater resources. Additional activities may include interpretation of existing geochemical data sets and evaluation of pressure and temperature effects on leakage of CO<sub>2</sub>-water mixtures and co-migrating contaminants.

To apply online at <http://jobs.lbl.gov>, please select "Search Jobs", enter the job number above in the keyword search field, and follow the online instructions to complete the application process.

Berkeley Lab is an affirmative action/equal opportunity employer committed to the development of a diverse workforce.