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DGS - Postdoctoral Fellow (CO2 - ultramafic rocks physical and chemical interactions)

Apply

 UT MAIN CAMPUS

 Full time

 Posted 6 Days Ago

 R_00026598

Job Posting Title:

DGS - Postdoctoral Fellow (CO2 - ultramafic rocks physical and chemical interactions)

Hiring Department:

Department of Geological Sciences

Position Open To:

All Applicants

Weekly Scheduled Hours:

40

FLSA Status:

Exempt

Earliest Start Date:

Immediately

Position Duration:

Expected to Continue Until Aug 31, 2025

Location:

UT MAIN CAMPUS

Job Details:

General Notes

The Department of Geological Sciences at The University of Texas at Austin seeks to hire a talented and innovative postdoctoral Scholar who will be supervised by an Assistant Professor. The scholar will collaborate with scientists in the Rock Deformation Laboratory, the Department of Geological Sciences, and the Petroleum and Geosystems Engineering Department at UT Austin.

The postdoctoral appointment is initially for a twelve (12) month period, with the aim for an extension for another twelve (12) months pending a successful first-year evaluation. During the second year, the Postdoctoral

Fellow will be hired by an Associate professor at the Petroleum and Geosystems Engineering Department at UT Austin but will continue to work on the same scientific problems with the same scientists in the same laboratories.

The application package should include:

A document outlining past achievements and general research interests (1 page);

A research statement outlining

A CV including a list of publications; and

A list with the names of three (3) potential references to contact

Upload all material to Workday, incomplete applications will not be considered. Top applicants will also be asked to submit three (3) letters of recommendation.

Purpose

To work on a project in collaboration with the Bureau of Economic Geology and the Petroleum and Geosystems Engineering Department at UT Austin.

Responsibilities

- To conduct independent research focused on the carbonation of ultramafic rocks through an activity revolving around laboratory experiments.
- Design, prepare and perform rock mechanics and rock physics experiments. The experiments will require the postdoctoral fellow to collaborate with project partners to secure rock hand samples from which to prepare rock core plugs (cylinders) by using a drill press and a lathe in a fully equipped laboratory.
- Characterize such core plugs using common laboratory tools such as a scale, a caliper, and a gas pycnometer.
- Using internal UT Austin or external laboratories to prepare thin sections and perform analyses to characterize the rocks, for example, using scanning electron microscopy analyses.
- Perform other analyses on the studied rocks that will require manipulating the samples (e.g., grinding

to powder).

- Perform experiments on the core plugs by means of high-pressure and temperature-pressure vessels also in combination with X-ray imaging techniques to assess the dissolution and precipitation of new mineral phases when CO₂ and water are injected into the core plug. Thus, the Postdoctoral fellow is required to work with apparatuses that can hold high-pressure (max 200 MPa) fluids and produce elevated temperatures (max 400 degC).
- Performing these experiments will require the Postdoctoral fellow to set up the experiments, which could include collaborating with machine shops (internal to UT Austin) to engineer new mechanical parts and devise other electric or electronic parts in collaboration with the PIs.
- Acquire and analyze experimental data and use rock physics laws and tools to model the results.
- Perform literature reviews, give presentations at conferences, write manuscripts for peer-review journals, and write research grant proposals if needed.
- The postdoctoral fellow will have direct access to several facilities at UT Austin, including the Rock Deformation Laboratory and the Rock Mechanics Laboratory.

Required Qualifications

PhD in geological sciences or a closely related field received within the last three (3) years. Experience with Rock Physics and/or Rock Mechanics laboratory methodologies;. Experience with data analysis and proficiency with one or more scientific programming languages (e.g., Matlab, Python, Julia, Java, etc); Knowledge of fluids-rocks chemo-physical interactions. Strong verbal and written communication skills. Strong creativity and problem-solving skills.

Preferred Qualifications

Research experience in carbon dioxide sequestration. Research experience in fluids-rocks chemo-physical interaction. Experience in analytical methodologies (e.g., XRD, XRF, CT-scanning). Experience with CT-scan imaging and imaging processing software (e.g., imageJ, etc). Experience with sensors and microcontroller programming (e.g., Arduino, etc).

Salary Range

\$65,000

Working Conditions

- May work around standard office conditions and in laboratories;
- Repetitive use of a keyboard at a workstation;
- Use of manual dexterity;
- Climbing of stairs and walking between buildings inside UT Austin campus;
- Lifting and moving;

Required Materials

- Resume/CV
- 3 work references with their contact information; at least one reference should be from a supervisor
- Letter of interest

Important for applicants who are NOT current university employees or contingent workers: You will be prompted to submit your resume the first time you apply, then you will be provided an option to upload a new Resume for subsequent applications. Any additional Required Materials (letter of interest, references, etc.) will be uploaded in the Application Questions section; you will be able to multi-select additional files. Before submitting your online job application, ensure that ALL Required Materials have been uploaded. Once your job application has been submitted, you cannot make changes.

Important for Current university employees and contingent workers: As a current university employee or contingent worker, you MUST apply within Workday by searching for Find UT Jobs. If you are a current University employee, log-in to Workday, navigate to your Worker Profile, click the Career link in the left hand navigation menu and then update the sections in your Professional Profile before you apply. This information will be pulled in to your application. The application is one page and you will be prompted to upload your resume. In addition, you must respond to the application questions presented to upload any additional Required Materials (letter of

interest, references, etc.) that were noted above.

Employment Eligibility:

Please make sure you meet all the required qualifications and you can perform all of the essential functions with or without a reasonable accommodation.

Retirement Plan Eligibility:

The retirement plan for this position is Teacher Retirement System of Texas (TRS), subject to the position being at least 20 hours per week and at least 135 days in length. This position has the option to elect the Optional Retirement Program (ORP) instead of TRS, subject to the position being 40 hours per week and at least 135 days in length.

Background Checks:

A criminal history background check will be required for finalist(s) under consideration for this position.

Equal Opportunity Employer:

The University of Texas at Austin, as an [equal opportunity/affirmative action employer](#), complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, or veteran status in employment, educational programs and activities, and admissions.

Pay Transparency:

The University of Texas at Austin will not discharge or in any other manner discriminate against employees or applicants because they have inquired about, discussed, or disclosed their own pay or the pay of another employee or applicant. However, employees who have access to the compensation information of other employees or applicants as a part of their essential job functions cannot disclose the pay of other employees or applicants to individuals who do not otherwise have access to compensation information, unless the disclosure is (a) in response to a formal complaint or charge, (b) in furtherance of an investigation, proceeding, hearing, or

action, including an investigation conducted by the employer, or (c) consistent with the contractor's legal duty to furnish information.

Employment Eligibility Verification:

If hired, you will be required to complete the federal Employment Eligibility Verification I-9 form. You will be required to present acceptable and original [documents](#) to prove your identity and authorization to work in the United States. Documents need to be presented no later than the third day of employment. Failure to do so will result in loss of employment at the university.

E-Verify:

The University of Texas at Austin use E-Verify to check the work authorization of all new hires effective May 2015. The university's company ID number for purposes of E-Verify is 854197. For more information about E-Verify, please see the following:

- [E-Verify Poster \(English\)](#) [PDF]
- [E-Verify Poster \(Spanish\)](#) [PDF]
- [Right To Work Poster \(English\)](#) [PDF]
- [Right To Work Poster \(Spanish\)](#) [PDF]

Compliance:

Employees may be required to report violations of law under Title IX and the Jeanne Clery Disclosure of Campus Security Policy and Crime Statistics Act (Clery Act). If this position is identified a Campus Security Authority (Clery Act), you will be notified and provided resources for reporting. Responsible employees under Title IX are defined and outlined in [HOP-3031](#).


The Clery Act requires all prospective employees be notified of the availability of the Annual Security and Fire Safety report. You may [access the most recent report here](#) or obtain a copy at University Compliance Services, 1616 Guadalupe Street, UTA 2.206, Austin, Texas 78701.

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DGS - Postdoctoral Fellow (Modeling Carbonation of Ultramafic Rocks)

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 Full time

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About Us



In 2023, The University of Texas at Austin placed in the top 10 among Texas employers and came in the top 15 for higher education institutions on Forbes's 2023 list of 500 best large employers. The university's aspiration to become the world's highest-impact public research university is driven by our outstanding people. Our employees are the bedrock of our university and are empowered to be true to themselves, to participate fully in our vibrant university, and to thrive as individuals. UT Austin offers competitive salaries, full benefits, an extensive support network, and above all, an enriching and

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