

Research & Development Engineer 2 (7119U) - Civil &  
Environmental Engineering  
University of California, Berkeley

Direct Link: <https://www.AcademicKeys.com/r?job=234102>

Downloaded On: May. 21, 2024 9:41pm

Posted Apr. 4, 2024, set to expire Jun. 30, 2024

<b>Job Title</b>	Research & Development Engineer 2 (7119U) - Civil & Environmental Engineering
<b>Department</b>	
<b>Institution</b>	University of California, Berkeley Berkeley, California
<b>Date Posted</b>	Apr. 4, 2024
<b>Application Deadline</b>	Open until filled
<b>Position Start Date</b>	Available immediately
<b>Job Categories</b>	Professional Staff
<b>Academic Field(s)</b>	Ecological and Environmental Civil Engineering
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**Job Description**

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**Research & Development Engineer 2 (7119U) - Civil & Environmental Engineering**

About Berkeley

At the University of California, Berkeley, we are committed to creating a community that fosters equity of experience and opportunity, and ensures that students, faculty, and staff of all backgrounds feel safe, welcome and included. Our culture of openness, freedom and belonging make it a special place for students, faculty and staff.

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The University of California, Berkeley, is one of the world's leading institutions of higher education, distinguished by its combination of internationally recognized academic and research excellence; the transformative opportunity it provides to a large and diverse student body; its public mission and commitment to equity and social justice; and its roots in the California experience, animated by such values as innovation, questioning the status quo, and respect for the environment and nature. Since its founding in 1868, Berkeley has fueled a perpetual renaissance, generating unparalleled intellectual, economic and social value in California, the United States and the world.

We are looking for equity-minded applicants who represent the full diversity of California and who demonstrate a sensitivity to and understanding of the diverse academic, socioeconomic, cultural, disability, gender identity, sexual orientation, and ethnic backgrounds present in our community. When you join the team at Berkeley, you can expect to be part of an inclusive, innovative and equity-focused community that approaches higher education as a matter of social justice that requires broad collaboration among faculty, staff, students and community partners. In deciding whether to apply for a position at Berkeley, you are strongly encouraged to consider whether your values align with our [Guiding Values and Principles](#), our [Principles of Community](#), and [our Strategic Plan](#).

At UC Berkeley, we believe that learning is a fundamental part of working, and our goal is for everyone on the Berkeley campus to feel supported and equipped to realize their full potential. We actively support this by providing all of our staff employees with at least 80 hours (10 days) of paid time per year to engage in professional development activities. To find out more about how you can grow your career at UC Berkeley, visit [grow.berkeley.edu](http://grow.berkeley.edu).

### Departmental Overview

The purpose of this position is to provide engineering support for pilot-testing two novel technologies to remove arsenic contamination from groundwater in a low-income rural community in California. This project is being conducted as part of the research and technology development portfolio of the Gadgil Lab (<http://GadgilLab.berkeley.edu>) for addressing the water quality problems of low-income communities around the world. The two technologies are based on the inventions made in the laboratory that have been successfully tested in the field on a limited basis. Now the technologies are ready for a longer term pilot test at a selected field site. The engineer will assist in all phases of this project.

The R&D Engineer will participate and assist in all phases of prototype development and pilot testing. These phases are described here. They are sequential, not concurrent. At all phases of the work, the engineer will have oversight and support from the PI (who is the Senior Engineer), and the postdocs on

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this project. Nevertheless, the scope of the engineer's work includes suggesting changes, as appropriate, to improve the efficiency, affordability, and reliability of the treatment train.

***This is a 100% FTE (full time), 2-year contract appointment with the possibility of extension.***

Application Review Date

The First Review Date for this job is: April 16, 2024 - Open Until Filled

Responsibilities

- The R&D Engineer monitors performance of the Pilot Plant operation by following prior-documented Standard Operating Procedures for collecting water samples at various points in a treatment train in the field, and conducting physical and chemical analyses by using several analytical research equipment (after due training provided for their use) at UC Berkeley or obtaining the analyses from third-party outside service providers, under the general guidance of an expert team member. Collaborates with the team to analyze experimental data to solve physical and engineering problems, if and as, they might occur. Responsible for keeping the lab equipment in calibration (by sending it for factory-calibration as needed), and will follow at all times applicable environmental safety and health rules.
- Under general guidance from the PI who is also the senior engineer, the R&D Engineer develops design of the arsenic treatment plant. This includes making engineering drawings and specifying components, based on an existing process flow diagram, and a previously built and field-tested plant. Collaborates with the postdocs, to construct the treatment train initially at RFS, purchasing and connecting most components from suppliers, and building the electrochemical reactors at UC Berkeley for the two technologies based on prior design, and new ideas. During the construction phase of the work (at the RFS of UC Berkeley), the engineer will be responsible for evaluating supplier information, and providing engineering support to develop and implement changes in existing processes or products to improve the function, reduce cost, and improve quality.
- Participates (along with other researchers) in the performance testing of the treatment train built at UC Berkeley's RFS. This testing includes collecting samples of water at multiple points according to existing Standard Operating Procedures (SOPs), and measuring the physical and chemical parameters of the samples according to existing SOPs. Responsible for identifying deviations from expected performance of the treatment train, and analysis of the deviation under the leadership of the postdocs, and with guidance from the Senior Engineer. Assists and participates in correcting errors in design, construction, or operation at UC Berkeley's RFS. Contributes to preparing an O&M manual for the pilot plant, and developing documentation for future users. Responsible for keeping a record of maintenance.

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- Working closely with other team members, and learning from prior example of the past (2022) field test plant at Allensworth, the engineer will design the layout, and supervise the construction of the pilot plant at the new field site in Central California. Under guidance from the PI, the engineer facilitates preparation and presentation of relevant information for any permit process for the pilot test.
- As a critical member of the research team the engineer will prepare short draft progress reports to the funding agency, perform design calculations, conduct site visits. This work will be performed in both office and in the field setting. As needed, supports outreach efforts to the community and school at the field site.
- The engineer will prepare graphical and narrative reports, and status reports, from acquired data for review by the Senior Engineer. Contributes to the development of Operation and
- Maintenance (O&M) manuals for end users. Participates as needed in meetings with visitors from external agencies and private sector parties, to present current and prior work.
- Meets at least once a week one-on-one with the PI to discuss progress, discuss challenges and resolution of problems, identify next steps. These meetings will be in-person on Zoom as needed. In addition the engineer will participate in the weekly meeting of the full research team to understand the bigger picture, and add to the discussion of current status, and near-term and long-term directions.
- An important part of the testing at RFS and then at the field site is the automation and remote operation of the treatment train that is already in place at UC Berkeley on a mock-up basis. The engineer will first re-confirm the operation of the mock-up at UC Berkeley lab, then install it on the fully operational system at RFS and test and debug it, and then transfer and install it at the Field site in collaboration with the research team.

#### Required Qualifications

- Working knowledge of engineering principles and methods in order to independently perform professional Engineering Design of limited scope and complexity.
- Working knowledge necessary to begin Independent Application of principles, practices and procedures in the completion of assignments.
- Organizational abilities and decision-making to correctly Prioritize Work-Assignments from among several assigned work-assignments.
- Excellent written and verbal communication skills.
- Ability to work in a collaborative manner, to assist in identifying any challenges or barriers.

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### Preferred Qualifications

- Master's degree in environmental engineering, Chemical Engineering, or equivalent experience.
- Industry experience in water and wastewater treatment.
- Experience in electrochemistry research at the University level.
- Minimum six months field experience working and living in rural low-resource settings.

### Salary & Benefits

For information on the comprehensive benefits package offered by the University, please visit the University of California's [Compensation & Benefits](#) website.

Under California law, the University of California, Berkeley is required to provide a reasonable estimate of the compensation range for this role and should not offer a salary outside of the range posted in this job announcement. This range takes into account the wide range of factors that are considered in making compensation decisions including but not limited to experience, skills, knowledge, abilities, education, licensure and certifications, analysis of internal equity, and other business and organizational needs. It is not typical for an individual to be offered a salary at or near the top of the range for a position. Salary offers are determined based on final candidate qualifications and experience.

The budgeted salary or hourly range that the University reasonably expects to pay for this position is \$90,000 to \$98,000 yearly. This is a 100% FTE, 2-year contract position eligible for benefits.

### Driving Required

A valid driver's license and DMV check for driving record is required.

### Other Information

*This is a 100% FTE (full time), 2-year contract appointment with the possibility of extension.*

### Conviction History Background

This is a designated position requiring fingerprinting and a background check due to the nature of the

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job responsibilities. Berkeley does hire people with conviction histories and reviews information received in the context of the job responsibilities. The University reserves the right to make employment contingent upon successful completion of the background check.

**Equal Employment Opportunity**

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, or protected veteran status. For more information about your rights as an applicant, please see the [U.S. Equal Employment Opportunity Commission](#) poster.

The [University of California's Affirmative action policy](#).

The [University of California's Anti-Discrimination policy](#).

**To apply, visit**

[https://careerspub.universityofcalifornia.edu/psp/ucb/EMPLOYEE/HRMS/c/HRS\\_HRAM.HRS\\_APP\\_SCH](https://careerspub.universityofcalifornia.edu/psp/ucb/EMPLOYEE/HRMS/c/HRS_HRAM.HRS_APP_SCH)

**Contact Information**

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

**Contact**

N/A

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