

Research & Development Engineer (7120U) - NanoLab
University of California, Berkeley

Direct Link: <https://www.AcademicKeys.com/r?job=228371>

Downloaded On: May. 8, 2024 10:08pm

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

Job Title	Research & Development Engineer (7120U) - NanoLab
Department	NanoLab
Institution	University of California, Berkeley Berkeley, California
Date Posted	Jan. 4, 2024
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Research Scientist/Associate
Academic Field(s)	Engineering Physics Material/Metallurgy Bioengineering (all Bio-related fields)
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Job Description

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Research & Development Engineer (7120U) - NanoLab

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.

Departmental Overview

The Marvell NanoLab, located in the CITRIS headquarters building, Sutardja Dai Hall , includes more than 15,000 sq feet of Class100 and Class1000 cleanroom. The Marvell NanoLab is a shared research center providing more than 100 Principal Investigators and over 500 academic and industrial researchers a complete set of micro- and nano-fabrication tools.

The Research and Development Engineer provides professional engineering development and maintenance support of facilities and equipment in the College of Engineering Nanofabrication Laboratory (aka: the NanoLab).

This is a 1-year contract, 100% FTE appointment with the possibility of extension for up to 2 additional years.

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Application Review Date

The First Review Date for this job is: January 17, 2024 - Open Until Filled

Responsibilities

50%

- Performs design, fabrication, and testing of next generation micro and nanoelectronic device technologies.
- Provides engineering and fabrication support to the research team of EECS Professor Sayeef Salahuddin focusing on fabricating advanced transistors.
- Though all NanoLab process engineers are expected to provide support in any technology area provided by the NanoLab, this position will have focused responsibility film deposition, atomoc layer deposition, chemical mechanical planarization, lithography and fabrication.
- Reviews MSDS, verify correct handling, evaluate cross compatibility issues, order chemical, coordinate install with equipment engineer, test and develop process release to researchers.
- Select range of possible tools from multiple facilities to coordinate fabrication of complex structures across multiple sites. Recommend best process flow for best chance of success. Define contingency plan if single site removed from options. Oversee process across multiple facilities.

20%

- Provide full range of professional engineering services to research projects; meets with research staff in the design and development phase.
- Provide a broad range of professional semiconductor equipment engineering services for supporting equipment used in research projects.
- Participate in meetings, tool startups and assist equipment staff in developing and characterizing new processes. Use critical thinking to solve complex problems.
- Work in teams as required. Meet with Principal Investigators (PI's), the NanoLab Director, research staff and researchers to resolve issues.
- Contribute designs to develop and improve process and process reliability.
- Develop and define a.) operator procedures, manuals, and verification tests; b.) training and qualification procedures; c.) process specifications and process monitoring schedule; d.) process consumable inventory needs.
- Liaison with vendors for support services.

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20%

- Determines project specifications and parameters.
- Perform short loop process tests for equipment state of health verification and for lab wide quality monitoring program.
- Assist in developing new process recipes.
- Support development of new laboratory CMOS baseline process.
- Develop and perform short loop process tests for baseline process.
- Provides direction and guidance to lower level R&D Engineers.
- Analyze failure modes of complex process flow. All short loops and process steps integrated successfully but final device characteristics do not meet design specification and expectation. Determine if design flaw or subtle process interference.
- Supervision: This position may be responsible for supervision of up to four part time work study student workers depending upon work load. Supervisory tasks may be expanded due to operations growth to include up to three R&D1 or R&D2 engineers or visiting scholar, post doctoral researcher or other temporary academic appointee.

10%

- Understand and use the Mercury database to mark equipment status, enable tools, enter comments and problem reports and add needed support documents (e.g., detailed web-based instruction manuals, CAD drawings).
- Gathers, analyzes, prepares and summarizes annual and/or semi-annual reports, writes additional reports as needed. Write, edit and revise equipment manuals, support documents, startup and shutdown procedures.
- Assist in the development of, and follow standard operating procedures and best-known methods for safety and to prevent injuries.
- Practice and comply with safe working practices to assure personal safety and safety to the lab environment for colleagues and researchers.
- Understand and work within guidelines to protect the environment.

Required Qualifications

- Materials Science Engineering, Bioengineering, Physics, Applied Physics or equivalent experience. Master's degree preferred depending upon specialization.

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- Thorough knowledge associated with independently performing the full range of engineering professional design work.
- Thorough knowledge necessary to apply principles, practices and procedures in the completion of assignments.
- Demonstrated organizational and decision-making abilities to prioritize competing work assignments in order to meet deadlines and adherence to quality standards
- Strong analytical and judgment skills to independently conduct analyses and develop appropriate recommendations.
- Effective written and verbal communication and presentation skills.
- Ability to work in a collaborative manner; identify challenges and barriers and recommend resolutions.
- Ability to lead and influence others.
- Experience with broad range of micro/nanofabrication and semiconductor processing equipment.
- Hands on experience with photolithography equipment, thin film measurement and characterization equipment, thin film deposition equipment for atomic layer deposition (ALD).

Preferred Qualifications

- Hands on experience with epitaxial film deposition and chemical mechanical polishing.

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 \$85,800 to \$122,000 annually. This is a 1-year, 100% FTE appointment eligible for benefits.

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Driving Required

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

Other Information

This is a 1-year contract, 100% FTE appointment with the possibility of extension for up to 2 additional years.

Conviction History Background

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

For the complete University of California nondiscrimination and affirmative action policy, please see the University of California [Discrimination, Harassment, and Affirmative Action in the Workplace](#) policy.

To apply, visit

https://careerspub.universityofcalifornia.edu/psp/ucb/EMPLOYEE/HRMS/c/HRS_HRAM.HRS_APP_SCH

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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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