Postdoctoral Scholar - Process Simulation and Techno-Economic Analysis - California Institute for Quantitative Biosciences (QB3 Berkeley)
University of California Berkeley

Job Title	Postdoctoral Scholar - Process Simulation and Techno-Economic Analysis - California Institute for Quantitative Biosciences (QB3 Berkeley)
Department	California Institute for Quantitative Biosciences
Institution	University of California Berkeley Berkeley, California
Date Posted	Jul. 31, 2025
Application Deadline	08/29/2025
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Biology - Microbiology Biology - Biochemistry Biology - General
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Job Description

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Position overview

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Position title: Postdoc Employee
Salary range: The UC academic salary scales set the minimum pay determined by rank and step at appointment. See the following table(s) for the current salary scale(s) for this position https://www.ucop.edu/academic-personnel-programs/_files/2024-25/oct-2024-scales/t23.pdf. A reasonable estimate for this position is $66,737 - $74,425.

Percent time: 100%

Anticipated start: Fall 2025

Position duration: 28 months with the possibility of extension based on performance and availability of funding.

Application Window
Open date: July 29, 2025

Next review date: Wednesday, Aug 13, 2025 at 11:59pm (Pacific Time)
Apply by this date to ensure full consideration by the committee.

Final date: Friday, Aug 29, 2025 at 11:59pm (Pacific Time)
Applications will continue to be accepted until this date, but those received after the review date will only be considered if the position has not yet been filled.

Position description

A Postdoctoral Scholar position in Process Simulation and Techno-Economic Analysis (TEA) is available in the Joint BioEnergy Institute's Keasling Lab, University of California, Berkeley, in collaboration with the Advanced Biofuels and Bioproducts Process Development Unit (ABPDU) at Lawrence Berkeley National Laboratory (LBNL). The Postdoctoral Scholar will report to Prof. Jay Keasling and work primarily under the direct supervision of Dr. Chang Dou, a Senior Engineer at the ABPDU. The successful candidate will conduct TEA for continuous bioprocesses utilizing microbial strains with switchable metabolism, aiming to enable demand-responsive biomanufacturing. As the primary TEA expert, the Postdoctoral Scholar will be part of an interdisciplinary team consisting of strain engineers, process engineers, analytical chemists, and technoeconomic experts. The Postdoctoral Scholar will develop a comprehensive analysis of the research team's continuous fermentation processes, producing 16 products in sequence using a single microbial strain. This position offers the opportunity to gain expertise in biomanufacturing at the ABPDU and collaborate with

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a team of experts in the field. The Postdoctoral Scholar will play a crucial role in advancing the project's objectives and contributing to the development of innovative biomanufacturing technologies.

Responsibilities of Position:

- Design and analyze complex bioprocesses using process simulation software programs to optimize efficiency and productivity.
- Perform Techno-Economic Analysis (TEA) of bioprocesses to evaluate their final product costs, process economics, and identify areas for improvement.
- Integrate principles of industrial ecology into the design and management of biomanufacturing systems, contributing to the development of innovative strategies to reduce biomanufacturing production costs.
- Work closely with team members to optimize bioprocesses and achieve project goals.
- Prepare and present research progress reports, internal updates, and assist with grant proposal development.
- Publish research findings in high-impact, peer-reviewed journals and present research at top-tier conferences to disseminate results to the scientific community.

Lab: https://keaslinglab.lbl.gov/

School: https://vcresearch.berkeley.edu/faculty/jay-keasling

Qualifications
Basic qualifications (required at time of application)
PhD (or equivalent international degree) or enrolled in a PhD degree program (or equivalent international degree)

Additional qualifications (required at time of start)

- PhD (or equivalent international degree) by the start date.
- No more than three years of post-degree research experience by start date.

Preferred qualifications

- Proven expertise in process simulation and TEA methodologies, with a track record of peer-reviewed publications in chemical and biochemical systems.
- Familiarity with industrial biotechnology, microbiology, and synthetic biology, with preferred experience in process development.

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- Knowledge of industrial ecology principles and circular economy principles.
- Experience with sustainability assessments and environmental impact analysis, with a good understanding of their application in chemical and/or biomanufacturing industries.
- Experience in independent research and collaborative work with interdisciplinary teams.
- Excellent communication and interpersonal skills, with a strong record of scientific presentations.

Application Requirements

Document requirements

- Curriculum Vitae - Your most recently updated C.V.
- Cover Letter
- Research Statement - Please discuss research accomplishments and proposed plans. This can include, for example, your publication record, awards, presentations, inclusive research practices that promote the excellence of your research, and areas for future research.
  (Optional)

Reference requirements

- 3-5 required (contact information only)

Apply link: https://aprecruit.berkeley.edu/JPF05047

Help contact: m.p.mennie@berkeley.edu

About UC Berkeley

UC Berkeley is committed to diversity, equity, inclusion, and belonging in our public mission of research, teaching, and service, consistent with UC Regents Policy 4400 and University of California Academic Personnel policy (APM 210 1-d). These values are embedded in our Principles of Community , which reflect our passion for critical inquiry, debate, discovery and innovation, and our deep commitment to contributing to a better world. Every member of the UC Berkeley community has a role in sustaining a safe, caring and humane environment in which these values can thrive.

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For more information, please refer to the University of California's Affirmative Action and Nondiscrimination in Employment Policy and the University of California's Anti-Discrimination Policy.

In searches when letters of reference are required all letters will be treated as confidential per University of California policy and California state law. Please refer potential referees, including when letters are provided via a third party (i.e., dossier service or career center), to the UC Berkeley statement of confidentiality prior to submitting their letter.

As a University employee, you will be required to comply with all applicable University policies and/or collective bargaining agreements, as may be amended from time to time. Federal, state, or local government directives may impose additional requirements.

As a condition of employment, the finalist will be required to disclose if they are subject to any **final** administrative or judicial decisions within the last seven years determining that they committed any misconduct.

- "Misconduct" means any violation of the policies or laws governing conduct at the applicant's previous place of employment, including, but not limited to, violations of policies or laws prohibiting sexual harassment, sexual assault, or other forms of harassment or discrimination, as defined by the employer.
- UC Sexual Violence and Sexual Harassment Policy
- UC Anti-Discrimination Policy
- APM - 035: Affirmative Action and Nondiscrimination in Employment

Job location
University of California, Berkeley

To apply, visit https://aprecruit.berkeley.edu/JPF05047

Contact Information

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Contact

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University of California Berkeley
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