

Postdoctoral Research Position

Position: Postdoctoral Scholar
Salary: Depends on experience

Starting date: July 1, 2026 (preferred)

The Department of Chemical and Biomolecular Engineering at the University of California, Irvine invites applicants for a Postdoctoral Scholar to join Dr. Han Li's laboratory of Metabolic Engineering and Synthetic Biology.

This postdoctoral position is available in the area of Integrated Computational–Experimental Enzyme Engineering, focused on advancing biocatalysts through tightly coupled in silico design and high-throughput experimental validation.

Research Focus

The successful candidate will contribute to an interdisciplinary research program integrating:

- **Sequence- and structure-based enzyme mining and design**
 - Homology-based discovery, SSN-guided mining, and ML-assisted sequence exploration
 - Structure-guided active-site remodeling and conformational engineering
 - De novo and semi-rational enzyme design
- **Directed evolution theory and workflow development**
 - Library design strategies (focused, combinatorial, and machine-learning-guided)
 - Evolutionary trajectory analysis and fitness landscape modeling
 - Integration of predictive algorithms with experimental iteration cycles
- **High-throughput screening and selection platform development**
 - Microplate, droplet, cell-free, or growth-coupled systems
 - UPLC, LC, and GC-MS based screening assay development
 - Automation and data-driven optimization
- **Biochemistry and Chemical biology**
 - Design, synthesis, and interface biology with small molecules

- Enzyme kinetics characterization and mechanistic enzymology
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- **Biocatalytic process development and translation**
 - Cell-free and whole-cell systems
 - Kinetic and thermodynamic analysis
 - Scalability and industrial feasibility

The program emphasizes mechanistically informed enzyme engineering, quantitative design principles, and translational relevance. We value candidates who are intellectually rigorous and interested in bridging theory, AI/ML tools, and state-of-the-art computational protein design methods with experimental implementation.

Qualifications

Required:

- Ph.D. in Chemical Engineering, Bioengineering, Biochemistry, Chemistry, Computational Biology, or a related field.
- Demonstrated expertise in enzyme engineering, protein design, or related areas as closely related to the research areas mentioned above. Experience spanning both computational and experimental domains is preferred.
- Strong organization and communication skills.

Interested candidates should send a cover letter, curriculum vitae, and contact information for at least 3 references to our online RECRUIT system at:

<https://recruit.ap.uci.edu/JPF10062>

The University of California, Irvine is an Equal Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, protected veteran status, or other protected categories covered by the [UC anti-discrimination policy](#).

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 for Employees, Students and Third Parties*](#)
- [*APM - 035: Affirmative Action and Nondiscrimination in Employment.*](#)

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.