

Chemist Postdoctoral Fellow - 96142

Division: MB-Molecular Biophys & Integ Bio

Berkeley Lab's Molecular Biophysics & Integrated Bioimaging (MBIB) Division is looking for a Chemist Postdoctoral Fellow to conduct research in one or more of the following studies:

- The biochemical preparations and biophysical studies of several model enzymes that will be used as test cases for the development of novel sample delivery and mixing systems.
- The development of instrumentation for delivery of small sample aliquots (in the picoliter range) that will allow mixing of the sample with either other liquids or gasses and subsequent interrogation of the sample volume after various delay times (sub millisecond to seconds) by X-ray and other spectroscopic methods and X-ray diffraction.
- The development of instrumentation that allows electrochemical interrogation or triggering of enzyme samples for subsequent spectroscopic/diffraction studies.
- Conduct time-resolved X-ray crystallography/spectroscopic experiments to study chemical intermediates in the reaction cycles of various model enzymes and important metalloenzymes using X-ray free electron laser and synchrotron radiation facilities.

What You Will Do:

- Develop a sample delivery and liquid/liquid or liquid/gas mixing system for use in time-resolved spectroscopy/diffraction studies.
- Establish enzyme test systems to benchmark the experimental setup.
- Participate in group meetings and seminars.
- Work with other members of the group and collaborators under the supervision of senior members of the group and the principal investigator.
- Work closely with Advanced Light Source (ALS), Stanford Synchrotron Radiation Laboratory (SSRL) and Linac Coherent Light Source (LCLS) scientists in developing/modifying sample delivery protocols for use in time-resolved measurements.
- Maintain an accurate and detailed scientific logbook of all experiments performed; ensure that others could duplicate results.
- Analyze and interpret the results of the time-resolved studies and write papers describing the results.

What is Required:

- A PhD in Physical Chemistry, Biophysical Chemistry, Biochemistry, Physics or a related field.
- A strong background in at least one of the following fields:
 - Macromolecular crystallography
 - Microfluidics or stopped-flow instrumentation and application to enzyme studies
 - X-ray spectroscopy of dilute transition metal systems/biological systems
 - Ultrafast transient absorption spectroscopy
 - Designing of experimental setups for use at synchrotron/X-ray free laser facilities
 - Electrochemistry of redox active enzymes
 - Experience with the handling and characterization of enzymes/proteins.
- A strong background in biochemical or crystallography/spectroscopy techniques.

- Excellent oral and written communication skills including demonstrated ability to conduct independent research as evidenced by publications in scientific journals.
- Strong interpersonal skills including ability to work as part of a diverse team in a collaborative interdisciplinary team environment.
- Must be able to participate in shift work at XFEL/synchrotron radiation facilities including nights and weekends as needed depending on x-ray beamtime allotments.

What We Prefer:

- Experience with using x-ray laser/synchrotron radiation facilities.
- Experience in scientific programming and developing instrumentation control software (e.g., EPICS, LabView, etc).
- Experience with CAD software.

For full consideration, please apply by July 15, 2022 with the following application materials:

- Cover Letter - Describe your interest in this position and the relevance of your background.
- Curriculum Vitae (CV) or Resume.

Notes:

- This is a full time, exempt from overtime pay (monthly paid), 1 year, Postdoctoral Fellow position with the possibility of renewal based upon satisfactory job performance, continuing availability of funds, and ongoing operational needs. You must have less than 4 years of paid postdoctoral experience.
- This position is represented by a union for collective bargaining purposes with predetermined postdoctoral step rates dependent on years of experience post-degree.
- Salary is commensurate with experience.
- This position may be subject to a background check. Any convictions will be evaluated to determine if they directly relate to the responsibilities and requirements of the position. Having a conviction history will not automatically disqualify an applicant from being considered for employment.
- Work will be performed onsite at Lawrence Berkeley National Lab, 1 Cyclotron Road, Berkeley, CA.

How To Apply

Apply directly online at <http://50.73.55.13/counter.php?id=232369> and follow the on-line instructions to complete the application process.

Learn About Us:

Berkeley Lab (LBNL, <http://www.lbl.gov/>) addresses the world's most urgent scientific challenges by advancing sustainable energy, protecting human health, creating new materials, and revealing the origin and fate of the universe. Founded in 1931, Berkeley Lab's scientific expertise has been recognized with 13 Nobel prizes. The University of California manages Berkeley Lab for the U.S. Department of Energy's Office of Science.

Berkeley Lab's Postdoc Program is committed to providing Postdoctoral Researchers and Visiting scholars with a positive and impactful experience to jump-start their career through premium research and career development, networking opportunities, mentoring programs, and a strong community. For more information, please visit our Berkeley Lab Postdoc Resources site (<http://postdocresources.lbl.gov/>) and our Berkeley Lab Postdoc Association site (<http://postdoc.lbl.gov/>).

Based on University of California Policy - SARS-CoV-2 (COVID-19) Vaccination Program and U.S Federal Government requirements, Berkeley Lab requires that all members of our community obtain the COVID-19 vaccine as soon as they are eligible. As a condition of employment at Berkeley Lab, all Covered Individuals must Participate in the COVID-19 Vaccination Program by providing proof of Full Vaccination or submitting a request for Exception or Deferral. Visit covid.lbl.gov (<http://covid.lbl.gov/>) for more information.

Berkeley Lab is committed to Inclusion, Diversity, Equity and Accountability (IDEA, <https://diversity.lbl.gov/ideaberkeleylab/>) and strives to continue building community with these shared values and commitments.

Berkeley Lab is an Equal Opportunity and Affirmative Action Employer. We heartily welcome applications from women, minorities, veterans, and all who would contribute to the Lab's mission of leading scientific discovery, inclusion, and professionalism. In support of our diverse global community, all qualified applicants will be considered for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, or protected veteran status.

Equal Opportunity and IDEA Information Links:

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