Department: The Ragon Institute
Position Title: Research Fellow in Computational Immunology
Position #:

Position Overview:

The DeKosky Laboratory for Immune Engineering and Drug Discovery (www.dekoskylab.org, Google Scholar: http://scholar.google.com/citations?user=z6TwVIwAAAAJ&hl=en) is hiring a postdoctoral researcher to advance computational drug design and discovery, including the use of artificial intelligence (AI) and machine learning (ML) techniques.

The hired candidate will focus on computational aspects of immune repertoire analyses of antibody functional screening data. These efforts will advance methods for rapid machine learning-based antibody drug design while developing new and improved antibody drug products. We are looking for enthusiastic individuals that are curious about computational drug discovery and immunology, and want to participate in the exciting world of diving deeply into understanding how computational data and molecular design can be applied to discovery new drugs and fight diseases. The selected candidate will join a dynamic research team at the forefront of antibody engineering. These projects are fully funded by the several organizations, including the US National Institutes of Health and collaborative projects with the Bill and Melinda Gates Foundation, with several ongoing efforts and new projects ready to begin.

Required qualifications include an M.D. or Ph.D. at the time of appointment or soon thereafter in immunology, biochemistry, biotechnology, bioinformatics, microbiology, or a related field. Preference will be given to researchers with experience in NGS and bioinformatic analysis, protein display and antibody engineering. Laboratory projects are funded by multiple sources, including NIH, DoD, The Gates Foundation, and private industry.

The Ragon Institute is an internationally renowned immunology-focused research center located in Kendall Square, Cambridge, Massachusetts, and with affiliations with MGH, Harvard, and MIT. This position is ideal for individuals who are interested in launching a career as biomedical research leaders in either academia or industry. Successful candidates will be immersed in a rich scientific community and become experts in advanced high-throughput drug development and establish cutting-edge drug screening approaches while being a part of a supportive, highly collaborative research environment with state-of-the-art facilities. The hired candidate will also be an affiliate of MIT, with access to MIT campus research resources and community facilities.

Job Duties:

60% Research - Design and execution of scientific projects
Carrying out original research relative to the laboratory mission. Advance research that pertains to current research topics at the lab, particularly for implementing and advancing new computational technologies for antibody discovery and improvement. Work with other lab researchers to implement and consolidate data into presentable formats. Plan and implement scientific studies.

20% Reporting - Write reports and papers
Writes technical reports and scientific papers for peer reviewed journals. Additional responsibilities include assisting in the preparation of preparation of grants/contracts and proposals.

15% Collaboration - Assist other laboratory members and research collaborators with scientific projects
Assist the principal investigator to provide experimental and technical supervision of one or more technician, graduate student and/or post-doctoral researchers and/or fellows. Coordinate with collaborators to advance scientific research projects and proposals.

5% Laboratory protocol - Routine lab management
Ensuring systems are in place for efficient planning of lab supplies, records and document management as well as experimental protocols and data, and coordination of good lab practices and lab safety.

Skills and Competencies Required:
• Ability to analyze and interpret data sets & communicate data in a clear and concise manner
• Expertise in computational techniques for high-throughput data analysis, including AI/ML
• Ability to work in a team environment, meet deadlines, and prioritize and balance work from multiple individuals
• Good communication skills
• Good time management skills
• Ability to perform multiple tasks independently
• Independently motivated, detail orientated, and good problem solving ability
• A willingness to learn and grow

Required Qualifications:
1. M.D. or Ph.D. in the area of bioinformatics, immunology, biochemistry, biotechnology, bioengineering, microbiology, or a related field.
2. Documented evidence of high achievement in computational data analysis, statistical approaches, and machine learning for drug discovery and/or human health data

Preferred Qualifications:
1. Research experience in the study of NGS data derived from immune receptors.
2. Expertise in the application of machine learning to complex biological problems
3. Demonstrated ability to work successfully as part of a collaborative research effort.
4. Publications or other evidence of scholarly achievement

Timeline: Review of applications will begin in November 2025 and will continue until the positions are filled. A start date of January 2026 is desired.

Contact Information: Dr. Brandon DeKosky at dekosky@mit.edu