

Postdoctoral Scholar - Biology Tufts University

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Posted Dec. 12, 2025, set to expire Apr. 24, 2026

Job Title	Postdoctoral Scholar - Biology
Department	Department of Biology
Institution	Tufts University Medford, Massachusetts
Date Posted	Dec. 12, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Biology - Microbiology Biology - Computational Biology - General
Job Website	https://jobs.tufts.edu/jobs/22628?lang=en-us&iis=Job+Board&iisn=AcademicKeys
Apply By Email	
Job Description	

Overview

The Tufts Department of Biology is dedicated to providing our students a unified and comprehensive view of biological processes, as well as opportunities for undergraduates to actively participate in cutting-edge biological research in molecular biology, cell biology, genetics, physiology, plant ecology, animal behavior, and conservation biology. The Department of Biology maintains an active research and teaching program on the Medford campus and in various field locales, and trains and advises graduate and undergraduate students as well as post-doctoral fellows.

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What You'll Do

Postdoctoral Fellow – Ecology and Evolution of the Vaginal Microbiome

The Hussain Laboratory, Department of Biology, Tufts University

The Hussain Laboratory at Tufts University is seeking a highly motivated, independent, and enthusiastic full-time postdoctoral fellow to study the ecology and evolution of the vaginal microbiome using wet lab and/or computational approaches. Our research focuses on phage–bacteria and bacteria–bacteria interactions, and how these ecological forces shape the fine-scale genomic diversity of community members. We also investigate the evolution of commensal organisms, like *L. crispatus*, over time in diverse human subjects using observational cohorts and through clinical trial data from medical collaborations.

An ideal candidate will be able to independently lead the genomic and metagenomic analyses for their own project and will be genuinely excited to collaborate—both within the lab and with our broader network of partners. They will help strengthen the supportive culture of the lab, which values rigor, humor, and clear communication. Across all projects, there will be opportunities to mentor undergraduates, technicians, and PhD students, and we are looking for someone who is eager to talk science, share ideas, and teach.

We welcome applicants who are primarily computational: the lab has multiple fully computational projects using existing genomic, metagenomic, and longitudinal microbiome datasets, making this position an excellent fit for candidates with biological training who have transitioned into computational work.

Responsibilities

- Design, execute, and analyze laboratory experiments and/or computational analyses
- Lead genomic, metagenomic, and comparative genomic analyses using existing or newly-generated datasets
- Develop and optimize laboratory protocols (if applicable) and help train and mentor new lab members

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- Visualize and interpret results for publications, presentations, and grant applications
- Maintain accurate records and communicate findings to the PI and team
- Order supplies, maintain specialized equipment (as relevant), and assist with lab organization
- Apply for postdoctoral funding with support from the PI

Note: Because we are a new lab, we expect the Postdoc—who will be the most senior member of the group—to contribute to lab management and help establish workflows, best practices, and lab culture.

Qualifications

- PhD (near completion is ok) in biology, microbiology, biological engineering, computational biology, systems biology, or a related field
- Experience with both wet lab and computational (dry lab) projects
- Strong interest in teaching, mentoring, and collaborative research
- Excellent communication skills, problem-solving ability, and organizational skills
- Ability to coordinate multiple projects and work effectively in a shared, open-lab space

Position Details

- **Start date: as early as January 2026; open until filled**
- Initial one-year appointment with potential extension based on funding and performance
- Opportunity to tailor the position to career goals, whether toward industry, academia, or teaching

Environment

The Hussain Laboratory values diversity, inclusivity, and fostering an environment where professional growth and varied career paths are supported. We are located in a newly renovated research space on Tufts University's Medford, MA campus.

What We're Looking For

Basic Requirements:

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- Recent PhD degree in microbiology, biological engineering, or similar field with both wet lab and computational experience (ratio can vary – e.g., 40% wet lab + 60% dry lab completely acceptable)
- Fluency in python, R, and command line interface
- Expertise with PCR, qPCR, DNA/RNA extraction, sequencing library preparation, molecular cloning
- Expertise with 16s rRNA amplicon library preparation and analysis
- Experience with genomic and metagenomic tools

Preferred Qualifications:

- Specific experience with anaerobic microbiology and phage assays
- Experience using REDCap
- Experience teaching and mentoring in classroom and laboratory settings

Special Work Schedule Requirements:

Will work with and be exposed to hazardous chemicals and materials, human vaginal fluids.

Need to adhere to proper safety procedures. The employee is occasionally exposed to fumes or airborne particles. The noise level in the work environment is usually moderate.

Pay Range

Minimum \$65,000.00, Midpoint \$65,000.00, Maximum \$65,000.00

Salary is based on related experience, expertise, and internal equity; generally, new hires can expect pay between the minimum and midpoint of the range.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

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