

Postdoctoral Researcher University of Pennsylvania, Department of Biology

The Evolution and Ecology of Disease Systems laboratory at the University of Pennsylvania is searching for a postdoctoral researcher to enable microbial population genomics by advancing the selective whole genome amplification (SWGA) protocol development pipeline. Microbial population genomic research is often hindered by the practicalities of obtaining samples with sufficient amounts of relatively pure microbial genomic DNA for next-generation sequencing. The goals of this project are to reduce the technical barriers that currently prevent researchers from collecting populations of whole genome sequences from microbes by developing an efficient selective whole genome amplification (SWGA) development pipeline that can create SWGA protocols to rapidly and cheaply amplify the genome of any focal microbial species, even if the focal microbial genome constitutes only a miniscule fraction of the sample (which often contains contaminating DNA from the host and other organisms).

For more information on SWGA, see:

<https://www.ncbi.nlm.nih.gov/pubmed/28190880>

<https://www.ncbi.nlm.nih.gov/pubmed/28334194>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4804174/>

<https://www.ncbi.nlm.nih.gov/pubmed/25096321>

The main duties of the postdoctoral researcher will be designing and troubleshooting advanced molecular tools, processing and analyzing next generation sequence data including quality control and bioinformatics, and interfacing with computer scientists to identify criteria that can improve protocol efficacy. The ideal candidate should have experience designing and troubleshooting advanced molecular protocols, working with genomic data, and have enthusiasm for evolutionary based questions. This post is part of a larger project on the population genomics of microbial pathogens that includes researchers at Penn and other universities around the world.

The Department of Biology has a long-standing tradition of maintaining an integrated research and educational program across all basic biological sciences including Ecology and Evolution, Plant Sciences, Molecular and Cellular Biology, Genomics, and Neuroscience. The Department values interdisciplinary research, collaboration, and collegiality, emphasizing Life in its Natural Context. The University of Pennsylvania has a strong group of evolutionary biologists that frequently interact with each other and with an accomplished group of microbiologists in the Medical and Veterinary schools. Unlikely many universities, the proximity of the medical, veterinary, and arts and science schools are centrally located on the Philadelphia campus, which promotes a cross-talk and collaboration. The University of Pennsylvania is an equal opportunity employer. Minorities, women, individuals with disabilities, and protected veterans are encouraged to apply.

The position is available as early as Summer 2017. Salary is commensurate with experience based on the NIH guidelines.

To apply, please send (1) a cover letter outlining your previous experiences that make you suited for this position as well as your research, training, and career goals, (2) CV, and (3) Contact information for 3 references via email to dbrisson@sas.upenn.edu.

Please send enquiries to dbrisson@sas.upenn.edu

Dustin Brisson, Associate Professor
Director, Evolution and Ecology of Disease Systems Laboratory
Department of Biology
University of Pennsylvania
Philadelphia PA 19104-6018

<http://www.bio.upenn.edu/faculty/brisson/> - <https://sites.sas.upenn.edu/brisson-lab/>