Postdoctoral Research Fellow

Position

Title

Postdoctoral Research Fellow

School

Harvard T.H. Chan School of Public Health

Department/Area

Epidemiology

Position Description

Dr. Michael Mina, MD, PhD, Assistant Professor in the Center for Communicable Disease Dynamics in the Department of Epidemiology and the Department of Immunology and Infectious Disease, at the Harvard Chan School of Public Health invites applications for two to three Postdoctoral Researcher positions 1.) computational and/or 2.) laboratory-based, within his lab. Dr. Mina's research focuses on cross-species and cross-scale dynamics of infectious diseases and vaccines utilizing combinations of high-throughput serological techniques and ecological modeling. His work has shown how measles vaccines preserve individual and population immunity and shape the landscape of all other infectious diseases. He also studies the additional benefits of live vaccines in reducing the mortality of all-cause childhood infectious disease. Dr. Mina's research has demonstrated how viral vaccines, such as the influenza vaccine, can have an impact on bacterial respiratory pathogen transmission and disease. Another area of his research focuses on the development of "next generation" serological tools, at the lab bench and downstream statistical pipelines.

The Postdoctoral Researcher will have an opportunity to work on numerous projects that include combinations of extremely high-throughput serology, ecological modeling of infectious diseases, and linking immunology to pathogen dynamics and population outcomes across scales: from individual immunological consequences and responses to vaccines and infections, to modeling landscapes of infectious disease dynamics across space, time, ages, etc.

Potential projects include:
Computational +/- lab component
• Using high-complexity serological data (1000's of antibody responses per individual) to help elucidate the heterologous effects of vaccines and infections at the immunological and population levels (Collaboration with Steve Elledge at Harvard Medical School).
• Evaluating the role of measles vaccines to reduce morbidity and mortality due to all other infections.
• Development of novel methods for the detection and reconstruction of ongoing or past epidemics using high-throughput serological data.
• Estimating global landscapes of infectious diseases from age and geographically structured serological data.
• Linking vaccines and infectious disease dynamics to long-term economic and human-capital gains.

Lab bench +/- computational
• Development of novel accessible high-throughput serological assays through incorporation of nanopore sequencing and other portable technologies, for use in public health settings.
• Considerable opportunity for advancing new technologies and for collaboration with Steve Elledge's lab at Harvard Medical School)

Basic Qualifications

• Doctoral qualification in epidemiology, statistics, public health or related field (see below if primarily interested in laboratory / biotech development).
• Significant research experience and success in publishing papers.
• Strong quantitative, analytical, monitoring and evaluation, and writing skills
• Expert knowledge of R, Python and/or similar programming language (again can be relaxed if primarily interested in laboratory / biotech development)
• Interest in forging new methodological frontiers, whether computational or lab based, or both
• Innovative, ability to work independently and part of a team, and excited to work in a collaborative environment within the Harvard School of Public Health, and within the larger research ecosystems that Harvard and Boston have to offer.

Additional Qualifications

Additional Qualifications for Computational Position:
• Successful candidates interesting in computational work will have very strong quantitative/statistical and/or coding skills and be very proficient with R (ideally) or similar language. Experience with dynamical, ecological and epidemiological models is beneficial for certain projects of interest. Successful candidates will be able to think creatively and innovate new approaches to integrate relevant data streams: complex serology, ecological data, national or regional morbidity and mortality data, clinical data, other available immunological parameters, age structured data, etc.

Additional Qualifications for Laboratory-Based Position:
• Successful candidates interested in laboratory work will have significant laboratory experience and interest in further developing novel high-throughput technologies with an aim to refine and miniaturize / make more portable and accessible for public health use existing massively multiplexed serological tools for public health programs. Experience with molecular biology and sequencing is important. Experience or knowledge of phage display systems, nanopore technologies, or interest in learning necessary. Significant opportunity will additionally exist through close collaborations with Steve Elledge's lab at Harvard Medical School.

Special Instructions

Contact Information

Interested candidates should contact Michael Mina at mmina@hsph.harvard.edu. Inquiries or requests for more information can additionally be sent to mmina@hsph.harvard.edu along with a CV.

Contact Email

mmina@hsph.harvard.edu

Equal Opportunity Employer

We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, gender identity, sexual orientation, pregnancy and pregnancy-related conditions or any other characteristic protected by law.

Minimum Number of References Required

2

Maximum Number of References Allowed

4

Supplemental Questions

Required fields are indicated with an asterisk (*).

Applicant Documents

Required Documents

1. Curriculum Vitae
2. Cover Letter

Optional Documents

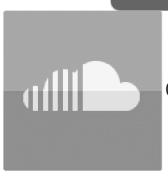
1. Additional Letter


(https://www.facebook.com/Harvard/)

(https://twitter.com/harvard)

(https://www.linkedin.com/school/1646/)

(https://www.instagram.com/harvard/)

(https://www.youtube.com/harvard)

(https://soundcloud.com/harvard)

(https://plus.google.com/+harvard)

(http://www.harvard.edu/itunes)