TITLE: Postdoctoral Scholar in Malaria Modeling
LOCATION: Northwestern University, Chicago IL, USA

The malaria modeling team at Northwestern University is looking for great people with strong quantitative skills and an interest in global health to come work with us! Previous malaria or infectious disease experience a plus but not required.

We seek a Postdoctoral Scholar to collaborate on the development, refinement, and application of sophisticated infectious disease models for epidemiological research and intervention-campaign planning. As part of the brand-new malaria modeling team at Northwestern, you will analyze field, trial, and routine health system data; configure, calibrate, and apply malaria transmission models; and design and build new models to answer questions aimed at improving understanding of disease dynamics, informing effective public health campaigns, and guiding rational development of new public-health interventions.

Our team collaborates with academic, NGO, and malaria control programs around the world, including the Global Malaria Programme at the World Health Organization. As part of the Malaria Modeling Consortium, we work with other leaders in malaria modeling to advise the Bill and Melinda Gates Foundation on global eradication strategy. We are affiliate members of the Institute for Disease Modeling in Bellevue, Washington.

We are located at Northwestern's Feinberg School of Medicine in downtown Chicago and are members of the Center for Global Health, the Institute for Public Health and Medicine (IPHAM), and the Northwestern Institute on Complex Systems (NICO).

Why join the team?

- **Make a difference in the world**. Malaria kills hundreds of thousands of people every year. Help policy makers figure out how to save lives with a limited budget.
- **Work on interesting problems that span disciplines**. Our models need to capture processes over a huge range of spatial scales and timescales. Whether you're interested in basic science, product development, or global eradication strategy, there's a problem here for you!
- **Create the culture of science you want to see**. Help build a team culture of positive, collaborative science that extends beyond the walls of Northwestern to the broader health policy world.

Responsibilities:

- Builds new modules for existing disease models; builds and develops new disease models
- Conducts literature searches and analyzes field, clinical trial, survey, and/or routine health system reporting data to understand local transmission and intervention characteristics and inform input data for the models
- Uses models to conduct sensitivity analyses, explore tradeoffs among possible interventions, and optimize intervention campaigns for time, cost, or other factors
- Writes software code (in Python/R) to implement model features and analyze data
- Collects, analyzes, and presents data on model results and performance.

- Prepares research articles and conference presentations to effectively communicate findings to the scientific and programmatic community

Key Qualifications and Required Skills:

- Ph.D. in a quantitative field (e.g. Applied Mathematics, Statistics, Epidemiology, Quantitative Biology, Physics)
- Experience in numerical analysis, dynamical systems, stochastic processes, machine learning, and/or biostatistics
- Proficiency in at least one data-analysis or scripting language (e.g. MATLAB, Python, R)
- Published articles in peer-reviewed scientific journals
- Clear and effective communication of quantitative work to non-experts
- Ability to work occasional extended hours to meet a deadline
- Ability to work productively as part of a small team as well as independently drive a project to completion

Optional Skills:

- In depth knowledge of the malaria disease system
- In depth knowledge of issues of public health in developing world settings
- In depth knowledge of principles, techniques, and tools of computational epidemiology
- Experience in C/C++ software development

How to apply:

- Send cover letter and CV to jgerardin@northwestern.edu