



University of Pittsburgh

Graduate School of Public Health
Public Health Dynamics Laboratory

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POSTDOCTORAL FELLOWSHIP

The Public Health Dynamics Laboratory at the University of Pittsburgh Graduate School of Public Health, invites applications for a full-time postdoctoral fellowship position to expand our research program on agent-based simulation of vector-borne diseases.

Position summary

As part of the PHDL, the Post-doctoral Fellow will work in a highly dynamic, inter-disciplinary environment to expand our research program in agent-based simulation of infectious diseases. The incumbent will work together with a team of epidemiologists, computer scientists, and software developers to expand our research program on the simulation of vector-borne disease transmission by our agent-based simulation platform FRED (Framework for the Reproduction of Epidemic Dynamics, <http://fred.publichealth.pitt.edu/>). As part of this team, the Fellow will be responsible for improving the mechanistic representation of vector-borne disease transmission based on the scientific literature, and for creating simulation experiments that are of public health relevance.

Environment

The PHDL is a world-class, inter-disciplinary modeling institute at the University of Pittsburgh focused on the development of agent-based simulators to represent transmission of infectious diseases. The PHDL coordinates various large-scale international modeling grants including an NIH funded Center of Excellence of the Models of Infectious Disease Agent Study (MIDAS) and the Gates Foundation funded Vaccine Modeling Initiative (VMI). In addition to world-class modeling, the PHDL hosts a comprehensive data infrastructure named Project Tycho that aims to improve access and use of public health data for decision making. The PHDL has strong links to the NIH Big Data to Knowledge (BD2K) initiative through collaboration with the University of Pittsburgh Department of Biomedical Informatics. The PHDL is at the center of international modeling and data science, maintaining collaborations with academic institutions and health authorities in Europe, Southeast Asia and Latin America, and with various global health agencies such as the US Centers for Disease Control and the World Health Organization. The PHDL offers a competitive package of research and training activities for this position that includes training with world-class investigators including Dr. Donald Burke, PI of the MIDAS and VMI grants and Dean of the University of Pittsburgh Graduate School of Public Health and Dr. Mark Roberts, Director of the PHDL. Post-doctoral fellows will have access to University-wide resources such as the Clinical and Translational Science Institute (CTSI), the Innovation Institute, and the Office of Academic Career Development.

Responsibilities

- Develop a research program on agent-based simulation of vector-borne diseases, particularly Chikungunya and dengue virus, using the FRED simulator, under the supervision and direction of project PI's.
- Work with project PI's, research programmers, and students, to advance the conceptual design and implementation of agent-based simulation research.
- Engage in training and professional development opportunities to advance relevant skills and expertise, as indicated by project PI's
- Maintain strong relationships with academic partners and health agencies in the US and abroad; this may require domestic and international travel
- Publish articles in peer-reviewed journals
- Present research in scientific conferences
- Support project PI's in the development of proposals for research funding
- Mentor and supervise graduate and undergraduate students for agent-based modeling research

Selection criteria: mandatory

- PhD in a relevant domain (e.g. Biology, Ecology, Computer Science, Engineering, Decision Science)
- Demonstrated understanding of or interest in the biological process of disease transmission and the application of agent-based simulation models
- Demonstrated understanding or interest in the mathematical representation of disease transmission and control strategies
- Excellent communication and inter-personal skills
- Proven ability to work in a multi-disciplinary and multi-cultural team
- Proven ability to disseminate research in English at conferences and in peer-reviewed journals
- Demonstrated knowledge and application of the principles underpinning successful grant applications
- Evidence of ability to generate new ideas and build upon existing ideas to generate unique concepts and solutions
- Fluency in English language speaking and writing skills

Selection criteria: desirable

- Experience in object-oriented programming such as C++ or Java
- Experience in statistical and/or GIS software applications such as R, SAS, STATA, ArcMap, or similar
- Experience in Linux
- Knowledge of Spanish language

Compensation

This position will be funded by the Bill & Melinda Gates Foundation Vaccine Modeling Initiative (VMI). The successful candidate will receive a competitive compensation package that includes a salary commensurate with experience and qualifications, an excellent benefits package exceeding the NIH

standard levels, a travel stipend, and state-of-the-art IT equipment and support. We will support applicable immigration requirements for non-US citizens. This position will be for a one-year term, with the possibility of extension depending on performance and interest.

For more information: Dr. Wilbert van Panhuis, wav10@pitt.edu

University of Pittsburgh position listing: <http://postdocjobs.hs.pitt.edu/ViewPost.aspx?q=758>

Applications will be received until this position has been filled.

Expected start date in the Spring-Summer of 2016