



University of Pittsburgh



UNIVERSITY OF PITTSBURGH **Public Health Dynamics Laboratory**

www.phdl.pitt.edu

Director: John Grefenstette, PhD

The Public Health Dynamics Laboratory (PHDL) was established to lead the development of computational modeling and simulation in the University of Pittsburgh Graduate School of Public Health.

The PHDL represents a unique resource for faculty, providing expert advice on experimental design, assistance in the preparation of research grants, and technical support for computational projects. The laboratory also serves as a link between computational projects in the School of Public Health and the Schools of Medicine, Engineering, and Arts and Science, as well as the Pittsburgh Center for Simulation and Modeling, the Pittsburgh Supercomputing Center, and computational scientists at Carnegie Mellon University. The PHDL creates open-source software that allows unprecedented access to data and simulated populations.

The PHDL contributes to the teaching mission of the school by designing and delivering new courses that emphasize “*systems thinking*.” It also provides an invigorating research environment for faculty, students and post-doctoral fellows interested in advancing computational approaches to problems in public health.

Research areas:

- Models of infectious disease
- Global open source public health data access
- Vaccine distribution in developing countries
- Public health response to epidemics and other emergencies
- Social networks and effects on obesity, smoking, and other health behaviors
- Racism, segregation, and health disparities

Major projects supported include:

- **Vaccine Modeling Initiative** (supported by the Bill and Melinda Gates Foundation)
- **Models of Infectious Disease Agent Study** (supported by the National Institutes of Health)
- **Public Health Adaptive Systems Studies** (supported by the Centers for Disease Control & Prevention)

To consult with the PHDL about devising outbreak scenarios or informing effective public health intervention strategies, contact John Grefenstette, PHDL Director, at gref@pitt.edu