The advent of high-throughput sequencing has revolutionized genomic epidemiology and is creating vast new opportunities for understanding the dynamics and control of infectious diseases. In response, the Association for Public Health Laboratories (APHL) and U.S. Centers for Disease Control and Prevention (CDC), Office of Advanced Molecular Detection (OAMD) are seeking graduates of bioinformatics and related programs who are interested in applying their skills and expertise in this emerging field.

Fellowship Description

Administered by APHL, the APHL-CDC Bioinformatics Fellowship Program provides masters- and doctoral-level graduates with the opportunity to collaborate on a range of important and emerging public health problems. Qualified applicants will be paired with complimentary host laboratories located at CDC or in US Public Health Laboratories (PHL) and contribute to real-world infectious disease projects during their 12-month term. Post-doctoral fellows may have the opportunity to extend for an additional 12 months, provided funding is available.

Professional Mentorship and Research Opportunities

Bioinformatics fellows will work directly with CDC or PHL mentors, who will outline the objectives of fellows’ assigned projects and provide guidance for the duration of the program. In addition, bioinformatics fellows will team with public health laboratorians, epidemiologists, and other subject matter experts to synthesize and correlate data into actionable public health information as part of ongoing AMD projects.

Example Bioinformatics Fellowship projects include:

- Comparative genomics of pathogenic microorganisms, leading to the development and validation of candidate targets and strategies for high-throughput assays for subtyping, virulence, or antimicrobial resistance screening
• Modeling of predicted structural changes in antigenic surface proteins, and correlation of these differences with known differences in vaccine coverage and efficacy
• Transcriptomic studies of specific infection models to understand the role of host responses in determining the course and outcome of infection
• Proteomic identification and characterization of pathogenic microorganisms from mass spectrometry data
• Metagenomic identification of unknown pathogenic organisms from complex environmental or clinical samples
• Development of comprehensive reference databases, combining genomic data with microbiologic, clinical, and epidemiologic data

Application Requirements

Applicants for the APHL-CDC Bioinformatics Fellowship Program must hold a masters or doctoral degree in bioinformatics or a related discipline. Those completing their final semester of studies, and who anticipate receiving their degree prior to the projected start date (July – August 2017), are welcome to apply.

Stipends and Benefits

APHL-CDC Bioinformatics Fellows will receive:
• A stipend, disbursed on a biweekly basis, for the duration of the fellowship. Stipends follow U.S. Health and Human Services’ Government Schedule (GS) rating scale. Current rates are
  o Post-Doctoral Fellows, GS-11 ($61,956 per year; $5,163/month)
  o Post-Masters Fellows, GS-9 ($51,208 per year; $4,267/ month)
• Individual (single) major medical insurance.
• A professional development allowance, to cover attendance at appropriate professional meetings, training courses, and/or purchase of relevant books or software.
• The customary leave and holidays of the host laboratory.

Selection Criteria

APHL and CDC will review applications and select a subset for matching prospective fellows with infectious disease host laboratories. A Selection Panel will evaluate each application and make recommendations based on applicants’
• Education, skills, and experience;
• Reasons for participation in the program/career goal;
• References/letters of recommendation; and
• Degree to which candidates can meet the needs of the host laboratories.

“Here’s what a former Bioinformatics Fellows is up to now.”

“I now work in the Polio and Picornavirus Laboratory branch at CDC. Now that the end is in sight for poliovirus, the team is looking at their long term research questions and meaningful use of their large amount of data collected over the years. This will help to finally end polio.”

Kelley Bullard, MS
2014 Fellow
HOW TO APPLY

Questions should be directed to:

Bioinformatics in Public Health Fellowship Program
Attention: Christin Hanigan
Association of Public Health Laboratories
8515 Georgia Avenue, Suite 700
Silver Spring, MD 20910
Tel. 240-485-2748 Fax 240-485-2700
Email: christin.hanigan@aphl.org

OR

Attention: Kelly Wroblewski
Association of Public Health Laboratories
8515 Georgia Avenue, Suite 700
Silver Spring, MD 20910
Tel. 240-485-2728 Fax 240-485-2700
Email: kelly.wroblewski@aphl.org

Application information can be found at www.aphl.org/fellowships/Pages/Bioinformatics.aspx

All Applications are due by COB on Tuesday, February 28, 2017.

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