I am a Public Health Bioinformatician

Bioinformatics is revolutionizing the way the world tracks and detects infectious disease. In public health, the use of Next Generation Sequencing (NGS) technology has reshaped outbreak investigations and pathogen surveillance. Bioinformaticians are crucial for this transition to the use of NGS in public health. They develop pipelines and help interpret the data, identifying and characterizing pathogens; playing a vital role in the public health engine that keeps us all healthy. The US Centers for Disease Control and Prevention (CDC)'s Advanced Molecular Detection initiative is spearheading use of NGS technology in public health laboratories. The CDC Office of Advanced Molecular Detection (OAMD) and the Association of Public Health Laboratories (APHL) are offering exciting fellowship opportunities for graduates of bioinformatics and related programs to apply their skillset and become part of the public health engine.

"The work is both satisfying and gratifying. I'm getting to use my knowledge and my position to make an impactful and meaningful difference in people's lives by preventing illness and fighting the spread of disease through modern surveillance and computational techniques."

— Logan Fink, 2018 Fellow (Colorado Department of Public Health and Environment)

My Role — I am a programmer, a teacher, an investigator, or a translator. In addition to our programming skills, bioinformaticians must be able to communicate their work to a variety of different audiences.

"It was a good transition, joining a much larger group in public health. In graduate school, research labs are often small and isolated. Working here you are often connected with other units, your branch, and division and often collaborate with them on a daily basis."

— Sarah Schmedes, 2019 Fellow
(CDC Malaria Genomics Laboratory, Laboratory Research and Development Unit)

My Background — Bioinformaticians come with diverse backgrounds and fields of study, including biology, computer science, biochemistry, microbial genomics, metagenomics, algorithm development, microbiology, molecular genetics, biomedical sciences, forensic biology, comparative and molecular bioscience, epidemiology and many more topics. APHL-CDC Fellows have either a master's or doctorate degree.

"The APHL/CDC joint fellowship aligned perfectly with my values and with the kind of work I wanted to do."

— Logan Fink, 2018 Fellow

What I Know — Bioinformatics is the cross-section between computer science, biology and information technology. This multidisciplinary field calls upon knowledge of:

- Programming languages and data analytics
- Machine learning
- Cluster algorithms
- Next Generation Sequencing analysis and pipeline developments

- Molecular Biology
- Genomic Microbiology
- Metagenomics
- Cloud Computing
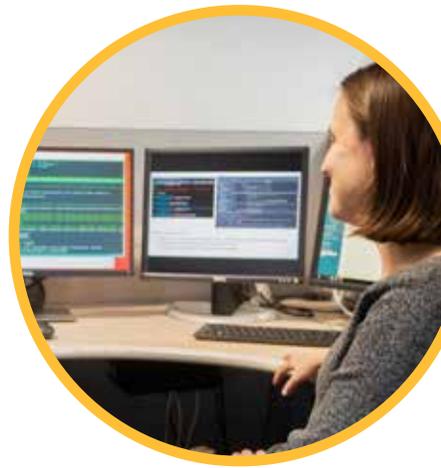
My Experience — Whether your area of expertise is metagenomics, algorithm/software development, microbial genomics, or another research area, we have a place for you.

"The most valuable part of the fellowship would be time spent at CDC and seeing how it works as an agency and how they collaborate with epidemiologists. The access to trainings is also very valuable. Being at CDC, attending trainings was strongly encouraged."
— Sarah Schmedes, 2019 Fellow

"I think that the work I did during the fellowship really cemented my resolve and my passion for public health work."
— Logan Fink, 2018 Fellow

Fellowship Opportunities

APHL-CDC Bioinformatics Fellowships provide post-masters and post-doctoral level professionals the opportunity to apply their skills to a range of important and emerging public health problems, while gaining experience in their fields. These 12-month fellowships include a stipend, opportunities to participate in training and attend conferences, as well as other benefits. Post-doctoral fellows may extend for an additional 12 months, provided funding is available.

Work with World-class Scientists on Real-world Public Health Projects

OAMD supports research in a variety of pathogen detection and surveillance areas, including antimicrobial resistance, healthcare associated infections, food-borne and vetor-borne pathogens, among others. As an APHL-CDC Bioinformatics Fellow, you will be paired with an experienced mentor, who shares your research goals or background. Your mentor will outline the objectives of your assignment and guide you throughout your fellowship term to help you gain the most from your time in the fellowship while working with vital genomic science data.

Learn more about the APHL-CDC Bioinformatics Fellowship

www.aphl.org/BIF
www.cdc.gov/amd