CAREER PATHWAYS in Public Health Laboratory Science

Meet the Fellow

Want to be featured in a future Meet the Fellow?
Contact Us!



Angela Adjei

Host Laboratory: Illinois Department of Public Health Laboratory

Degree of Study: Master's in biotechnology

Graduated: May 2025

School: Johns Hopkins University

Tell us about your educational background?

My educational journey began in Accra, Ghana, and continued when I moved to the United States for high school. Like many people with an interest in science and helping others, I initially thought my path would lead me to medicine. I earned my bachelor's degree in Biological Sciences from Georgia State University, where I was on the pre-med track.

But along the way, I was introduced to the possibilities of research, and that changed how I saw my future.

I realized that while my passion for science was still very much alive, medical school was no longer the dream I felt called to pursue. Instead, I became more curious about the questions behind disease and health, and how science can help us better understand complex problems while exploring solutions that can make a real difference.

That curiosity led me to Johns Hopkins University, where I earned my master's degree in biotechnology with a concentration in biodefense. My education has helped me grow not only as a scientist, but also as someone who is still learning how to connect science, public health, and service in a meaningful way.

For me, education has never felt like a finished chapter. It has been a journey of discovering who I am, what I care about, and how I want to contribute. I know my passion for learning will continue to grow as I keep moving forward in this field.

What brought you into laboratory science?

My path into laboratory science began during my time at Georgia State University, when I had the amazing opportunity to participate in an internship with the California Academy of Sciences Summer Systematics Institute. During that experience, I investigated the diversity and evolution of visual genes in a side-neck turtle using a whole-eye transcriptome.

That experience was one of the first times I saw how research could take a question and turn it into discovery. It sparked my interest in research and laboratory science and helped me realize that I wanted to be more involved in the research side of science. After that, I became more intentional about choosing coursework that gave me greater exposure to laboratory science.

I later joined the Course-based Undergraduate Research Experiences (CUREs) Lab program as an undergraduate research student, where I investigated p-cymAa in the p-cymene pathway for novel proteins against bacterial resistance. That project allowed me to continue building my curiosity around microbiology, molecular biology, and how research can be used to explore solutions to real scientific challenges.

After undergrad, I went on to work in a research lab at Emory University, where I developed a stronger foundation in laboratory and molecular biology skills. I was then able to carry those skills into stem cell research in the Chamling Lab at the Wilmer Eye Institute at Johns Hopkins University School of Medicine. While earning my master's degree, I worked full time in the lab and attended school full time, which was challenging but deeply formative.

Each of these experiences helped me grow from someone who was simply interested in science into someone who could see herself contributing to it. Laboratory science gave me a way to ask questions, build technical skills, and be part of work that helps us better understand biology, disease, and possible solutions.

How did you hear about the Public Health Laboratory Fellowship Program?

Toward the end of my master's program, I did not feel ready to jump straight into a PhD program. I knew I wanted to continue growing as a scientist, but I wanted more time to gain different work and research experiences better understand my interest and be more intentional about the direction I wanted to take with a future PhD.

So, I started researching opportunities that would allow me to continue developing as a scientist while also exposing me to new areas of applied research. That was when I came across the APHL Public Health Laboratory Fellowship Program.

When I learned more about the fellowship, it felt like the kind of opportunity I had been looking for. It offered a way to continue developing scientifically while gaining hands-on experience in public health laboratory work and seeing how laboratory science directly supports communities. I saw it as a meaningful next step that could help give me the direction, clarity, and experience I needed as I thought about my next steps, including a future PhD.

So, I applied, and here we are!

How did this fellowship match or exceed your expectations?

Before this fellowship, most of my experience had been in academic research spaces. I understood laboratory science through the lens of research, discovery, and experimentation, but I did not know as much about the incredible work being done in public health laboratories. I feel very fortunate to have come across APHL because this fellowship has matched my expectations by giving me more clarity about the direction I want to take in pursuing doctoral training.

At the same time, the fellowship has exceeded my expectations because it has opened my eyes to how much work happens behind the scenes in public health. So much of this work can go unnoticed or unrecognized, but it is essential. Being in this space has given me a newfound appreciation for the people, systems, and laboratory processes that help keep communities safe. It has made me even more motivated to continue contributing to this field.

Tell us what you learned from your mentor.

My mentor has been amazing, and I have already learned a great deal from her. One of the biggest things

CAREER PATHWAYS in Public Health Laboratory Science

Meet the Fellow

Want to be featured in a future Meet the Fellow?
Contact Us!

Angela Adjei

she has taught me is how to think like a public health laboratorian.
Coming from an academic research background, I was used to thinking about experiments, discovery, and research questions. Through my mentor's guidance, I have learned how public health laboratory work requires accuracy, consistency, strong documentation, and an understanding of how each result can support surveillance, outbreak response, and decision-making in our communities.
She has helped me better understand the process of validating and verifying infectious disease testing workflows. I have learned that assay validation is not just about whether a test works, but about making sure it is reliable, reproducible, and appropriate for the purpose it will serve in the laboratory.
Beyond the technical skills, I have also learned the importance of communication, patience, asking thoughtful questions, and staying open to growth. That has been one of the most meaningful parts of this fellowship.



Tell us about your project assignments/laboratory roles.

My project and role involve supporting the validation, verification, and implementation of new laboratory testing workflows for infectious disease testing and surveillance. Through this work, I am learning what it takes to move an assay from an older instrument to a newer platform, how to culture organisms needed for testing, and how to support both qPCR/RT-PCR-based and sequencing-based methods.
These workflows are used to detect and characterize clinically and public health-relevant organisms such as Candida, Shiga toxin-producing E. coli (STEC), Legionella, rabies virus, carbapenem-resistant Enterobacterales/carbapenemase-producing organisms (CRE/CPO), invasive Group A Streptococcus (iGAS), and Clostridium botulinum (CBOT). I am also gaining experience with next-generation sequencing, specifically whole genome sequencing workflows for pathogen characterization.
Another important part of my role is learning how validation and verification studies are planned, documented, and reported. I am learning how to write a study plan before testing begins and the final report once the validation or verification work is complete. This has helped me better understand the amount of organization, accuracy, and documentation required before a test can be implemented in a public health laboratory.
In addition to my main project work, I have had opportunities to shadow and learn from other areas of the laboratory, including molecular, enteric, and environmental testing laboratories/sections. Seeing these different areas has helped me understand how samples move through the public health laboratory system and how different testing processes support surveillance, outbreak investigations, and public health response.
I am also building my bioinformatics skills through training such as the BV-BRC workshop, DataCamp, and working with our bioinformatician so I can better understand how genomic data can be used in public health decision-making.
Through these assignments, I have been able to see how laboratory science supports disease surveillance, outbreak investigations, and timely responses to infectious disease threats. My projects have helped me connect the technical work I do in the lab to a larger purpose: producing accurate data that can help protect communities.

How has your fellowship experience inspired you?

My fellowship experience has inspired me to keep learning about public health and to continue doing work that feels meaningful and impactful. Before this fellowship, I understood laboratory science mostly through academic research, but this experience has shown me how science is applied in real time to support communities, surveillance, and outbreak response. It has helped me see that public health laboratory work may not always be visible to the public, but it is incredibly important. This experience has made me more motivated to continue growing in this field and to find ways to contribute to work that protects people and supports better health outcomes.

How would you describe the Fellowship to other students?

I would describe the APHL Fellowship as a great opportunity for students or early-career scientists who want to grow, gain hands-on experience, and better understand what public health laboratory work looks like.
For me, it has been a bridge between academic research and applied public health.
It gives you the chance to develop and build laboratory skills, learn from experienced professionals, understand how testing and surveillance support public health decisions, and explore where you may want to take your career next.
I would tell other students that if they are curious, open to learning, and interested in work that connects science to real-world impact, the APHL Fellowship is a meaningful opportunity.

Aside from the laboratory and the science, did you gain any other beneficial life experiences?

Aside from the laboratory and the science, this fellowship has helped me grow personally. It has given me time to reflect on the lessons I have learned throughout my educational and professional journey and apply them in a new way.
This experience has also pushed me to do some internal