Osefame Ewaleifoh, a dual Masters in Public Health and fourth-year PhD student in Northwestern University’s Driskill Graduate Program, studies both basic science research in virology and neuroscience as well as public health and how they can be used to help strengthen developing countries. He is also the co-founder and editor-in-chief of the Northwestern Public Health Review, as well as the co-organizer of the Northwestern University Global Health Interdisciplinary Seminar.

Ewaleifoh earned a bachelor’s degree in genetics from Texas A&M University and a master’s in biotechnology with a neuroscience focus from Johns Hopkins University. Ewaleifoh knew early on that he wanted to pursue a PhD, to learn how to effectively ask and answer the right questions and ultimately become a competent scientist.

Q&A

Where is your hometown?
I am from Uromi, a very small rural village in West Africa, right of the tip of southwestern Nigeria.

What are your research interests?
My research interests range from a basic science research question such as understanding the innate immune function of the central nervous system, to broader health policy questions such as understanding health policy innovations and frameworks that have succeeded in the West and how they can be reapplied in developing economies.

What exciting projects are you working on?
I am working on several really exciting projects in the lab right now. The central focus of my current research is to understand how and why neurons in the central nervous system are able to protect themselves from herpes viral infection. We know that herpes infection is fairly common, however the herpes viral infection very rarely moves beyond the peripheral nervous system neurons to the central nervous system, where it can become lethal, causing encephalitis. However a seminal study by our collaborator, Laurent Casanova, MD, PhD, and his colleagues at Rockefeller University, recently showed that mutations in the protein Toll Like Receptor 3 (TLR3) might make human central nervous system neurons more susceptible to infection.

Our research is beginning to provide mechanistic insight into precisely how TLR3 functions to restrict viral infection from the central nervous system. This work is particularly exciting because it is among the earliest attempts to understand herpes viral infection infection in the human central nervous system neurons on a molecular level by using human neurons derived from reprogrammed induced pluripotent stem cells that are derived from patient skin cells.

What attracted you to the PhD program?
Before coming to Northwestern I worked and studied at Johns Hopkins for several years. During this time, I realized that to do meaningful work in science, I needed more focused and specialized training in the fields I was interested in. I also realized that I needed more rigorous training in both scientific thinking and writing. The graduate training program at Northwestern offer an incredibly supportive faculty whom I met when I visited on interview weekend were a wonderful plus.

How would you describe the faculty at Feinberg?
One of the best parts about being here is how supportive and collaborative the faculty here has been. I can stop by the offices of most of my instructors and share my crazy scientific or non-scientific ideas and never be shunned. I have also been very fortunate to work with excellent advisors, specifically my PI, Greg Smith, PhD, associate professor of Microbiology – Immunology; Jack Kessler, MD, professor of Neurology and Pharmacology; and Steve Anderson, PhD, assistant professor of Microbiology-Immunology. They all have been absolutely wonderful mentors.

What do you do in your free time?
I love writing, wandering around antique stores, playing chess and taking long walks.

What are your plans for after graduation?
I am still incubating post-graduation plans, but a lovely long-term goal is to set up an advisory think tank and research institute focused on providing health, scientific and public health counsel to small and emerging economies around the world.

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