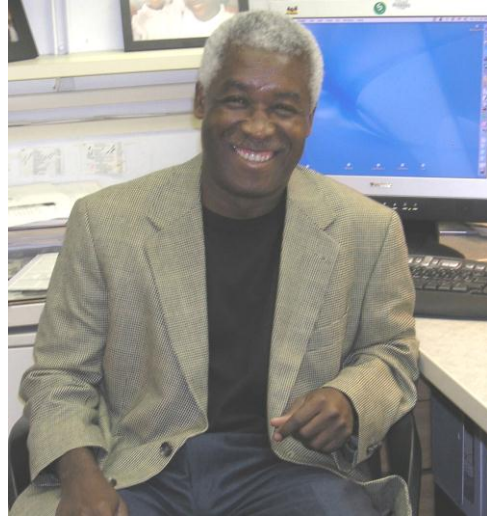


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Dr. Egwuagu currently serves as Chief of the Section on Molecular Immunology in the Laboratory of Immunology (LI) at the National Eye Institute (NEI)/National Institutes of Health (NIH) in Bethesda, MD. He received his PhD from Yale University and MPH from Yale's School of Medicine. After completing his graduate studies, he did a research fellowship at NIH and served as a Commissioned Officer of the US Public Health Service, working his way up to the rank of Captain (06). He has been a tenured Senior Investigator at NIH since 1999. His research focuses on understanding the molecular and cellular mechanisms that regulate immune homeostasis, with an emphasis on epigenetic mechanisms involved in lymphocyte development as well as the impact of pro-/anti-inflammatory cytokines in central nervous system (CNS) disorders, such as uveitis, multiple sclerosis, and age-related macular degeneration. Dr. Egwuagu has been recognized for his outstanding scientific achievements and service to the community by a United States Public Health Service Commendation Medal and mentoring awards in recognition for service by the Howard Hughes Medical Institute/NIH Scholar Program and the Howard Hughes Medical Institute/Montgomery County Public School System & NIH Internship program. Dr. Egwuagu serves on a number of NIH committees, including the NIH Central Tenure Committee, NEI Promotion and Tenure Committee, and is member, Board of Tutors for the NIH Medical Clinical Research Scholars Program.

Have you always been interested in scientific research?

As a student in Cameroon, West Africa, we were given tests to determine the most suitable career paths. I qualified for the high school program focused on science careers. After graduation, I decided to go to the United States to further my education. I received a BA in Biology (Kean University, Union, New Jersey) and MS in Biochemistry (Rutgers University, New Brunswick, New Jersey), and it was then that I realized my interest was infectious diseases and tropical medicine. I enrolled in the Epidemiology and Public Health graduate program at The Yale Graduate School and The Yale School of Medicine (New Haven, CT) and focused my studies on molecular biology and immunology of African sleeping sickness (Trypanosomiasis) and Arthropod-borne (ARBO) viruses.

Can you give us a brief description of how you came to your current research focus?

As an Infectious Disease Epidemiologist, the logical career step was postgraduate training at the Epidemic Intelligence Service (EIS), Centers for Disease Control. I consulted one of my mentors, Dr. George Palade (1974 Nobel Prize in Physiology and

Medicine), about career advice. He suggested I consider further bench research before embarking on a career as a field Epidemiologist.

Although my area of interest and expertise was in Molecular Epidemiology, I accepted a Staff Fellowship position in the Laboratory of Immunology (LI), National Eye Institute at the National Institutes of Health to study the molecular biology of lymphocytes (today known as molecular immunology), which was an emerging field at the time. It was during my postdoctoral training under the direction of the eminent Immunologist, Dr Igal Gery that I switched from a focus on infectious diseases to molecular immunology, which is the current focus of my research – understanding the molecular and cellular mechanisms of immune cell development and cell fate, with particular emphasis on diseases related to the CNS.

During your graduate and post-doc years, did you have mentor(s) that helped guide you along the way?

I was very fortunate to have a number of mentors during my graduate and postdoctoral fellowships. As a predoctoral student, my graduate advisor at Yale was Dr. Curtis Patton (Professor of Epidemiology and African-American Scientist). As previously mentioned, I was also mentored by Dr. Palade and studied under noted immunologist Dr. Charles Janeway (1943-2003) as well as Dr. Nancy Ruddle who continues to do research at Yale. Dr. Ruddle would introduce me to my postdoctoral advisor at NEI, Dr. Igal Gery (Head of Experimental Immunology). At the NIH, my mentors included Drs. Igal Gery; Robert Nussenblatt (Chief, Laboratory of Immunology, NEI); and Ana Chepelinsky (Laboratory of Molecular and Developmental Biology, NEI). Dr. Chi-Chao Chan (Chief, Immunopathology Section, NEI) and Society of Leukocyte Biology member Dr. Rachel R Caspi (Deputy Chief, Laboratory of Immunology and Chief, Immunoregulation Section, NEI) have served as valued colleagues and long-time collaborators.

What was/were the biggest challenge(s) you faced in pursuing your career?

I would have to say mentorship. Although I was privileged to have a number of informal mentors, my specialized research interest in the then burgeoning field of molecular immunology presented a challenge. For example, my early work focused on the molecular cloning/characterization of rat T cell receptors and analysis of transcription factors utilized by immunopathogenic T cells that mediate experimental autoimmune uveitis (EAU) in the rat species. The challenge was not in the immunobiology of EAU, but in developing tools to analyze the rat genome. There were no experts in rat TCR at NIH or elsewhere at that time. However, I am indebted to Dr. Keiko Ozato (Chief, Section on Molecular Genetics of Immunity, NICHD, NIH) who not only served as a mentor in studies on interferon regulatory transcription factors but also allowed me to work and gain the necessary training in her lab on EMSA and transcription factor analysis.

Do you think encouraging diversity in the scientific workforce is an important issue? Why?

I believe it is very important to encourage diversity in science. It fosters new ideas. People with different backgrounds (scientific and otherwise) tend to look at things from

different perspectives. Different perspectives allow you to better address the most complex biomedical research questions. It is not as important that we - as a scientific community - focus on diversity in terms of race, ethnicity, and gender, but rather embrace the fact that each individual brings diversity in their approaches to the same problem. If everyone comes from the same background, it will hinder the depths of scientific exploration and inquiry.

What advice would you give to graduate students from minority or other backgrounds that are interested in a career as a researcher?

Science is not a democracy, and humility is critical. Many minority and other scientists make the egregious or “fatal” mistake of not understanding the dynamics of the scientific enterprise, which tends to limit progression in their professional careers. It is imperative to respect the environment to get what you need from it. Although being aware of fears and prejudices (by both minority and non-minority scientists) is important, oversensitivity can inhibit genuine mentorship. The key to a successful scientific career is to “go with the flow”, understand your role and what is expected of you as a student, apprentice or mentor.