



DANIEL NATHANS, M.D.

The Daniel Nathans, M.D., Lecture in Molecular Genetics was established in 2000 to honor his extraordinary contributions to science and to Johns Hopkins University. The lecture provides a forum in which eminent scientists have the opportunity to share their most recent discoveries with the Johns Hopkins community.

Dr. Nathans obtained his bachelors degree from the University of Delaware and his medical degree from Washington University in St. Louis.

Following completion of a residency in internal medicine at Columbia-Presbyterian Medical Center and two years as a clinical associate at the National Cancer Institute, he went to Rockefeller University where he began his studies on protein synthesis in the laboratory of Dr. Fritz Lipmann. In 1962, he was recruited to the microbiology department of the Johns Hopkins University School of Medicine by Dr. Barry Wood. Dr. Nathans remained on the faculty at Johns Hopkins until his untimely death in 1999. From 1995 to 1996, he served as interim president of Johns Hopkins University. He was also a Howard Hughes Medical Institute senior investigator.

In the late 1960's, Dr. Nathans switched his research focus to the study of viral tumorigenesis. Using simian virus 40 as a model, he pioneered the use of restriction enzymes to construct physical maps of genes and genetic elements. His work laid the cornerstone for the ensuing revolution in molecular biology. In 1978, he shared the Nobel Prize in physiology or medicine with his colleague Hamilton O. Smith and with Swiss scientist Werner M. Arber. In 1993, Dr. Nathans was awarded the U.S. National Medal of Science.



HUDA ZOGHBI, M.D.

Huda Zoghbi, M.D., is Distinguished Service Professor of Pediatrics, Molecular and Human Genetics, Neurology, and Neuroscience at Baylor College of Medicine, an Investigator with the Howard Hughes Medical Institute, and founding Director of the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital.

Dr. Zoghbi graduated with distinction from the American University of Beirut (AUB). She attended AUB's medical school for one year, but due to the civil war, she moved to the U.S. and received her medical degree from Meharry Medical College. She joined Baylor College of Medicine for her residency and subsequently obtained additional training in molecular genetics.

Dr. Zoghbi's expertise ranges from neurodevelopment to neurodegeneration. She and Dr. Harry Orr discovered that Spinocerebellar Ataxia type 1 is caused by expansion of a polyglutamine tract. Her subsequent studies demonstrating that such expansion leads to accumulation of the mutant protein in neurons has had profound ramifications since many late-onset neurological disorders involve similar accumulations of disease-driving proteins. Her work in neurodevelopment led to the discovery of the gene *Math1/Atoh1* and showed that it governs the development of several components of the proprioceptive, balance, hearing, vestibular, and breathing pathways. She also discovered that mutations in *MECP2* cause the postnatal neurological disorder Rett syndrome and revealed the importance of this gene for various neuropsychiatric disorders.

Dr. Zoghbi has trained over 100 scientists and physician-scientists. Dr. Zoghbi has been committed to educating the next generation of scientists and to creating collaborative opportunities. She is a member of multiple professional organizations and boards. She has been elected to the National Academy of Medicine, the National Academy of Sciences, and the American Academy of Arts and Sciences.

Dr. Zoghbi's honors include the Pearl Meister Greengard Prize from Rockefeller University; the Shaw Prize in Life Science and Medicine; the Breakthrough Prize in Life Sciences; the Canada Gairdner International Prize; the Victor A. McKusick Leadership Award from the American Society of Human Genetics; the Citation Laureate by Web of Science; and the Lundbeck Foundation's 2020 Brain Prize. She has received honorary degrees from Harvard University, the University of Massachusetts, and Yale University.