



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.



MELISSA J. MOORE, PH.D.

Melissa J. Moore, Ph.D. is Chief Scientific Officer, Emeritus, of Moderna. From 2016-2021, she led the early-stage research teams developing Moderna's platform technologies in mRNA design and delivery. These technologies were foundational for Moderna's ability to rapidly create a highly effective vaccine against SARS-CoV-2. Since 2021, her main focus has now become communicating the science of mRNA medicines both internally and to the outside world.

Dr. Moore is an elected member of the National Academy of Sciences (2017), a Fellow of the American Academy of Arts and Sciences (2019), and recipient of the RNA Society Lifetime Achievement Award (2021). Other accolades include being named one of the 100 Fiercest Women in Biotech (2018), to the PharmaVoice 100 (2019) and one of the 100 people transforming business by Business Insider (2022).

Dr. Moore joined Moderna in 2016 from the University of Massachusetts Medical School (UMMS), where she served as Professor of Biochemistry & Molecular Pharmacology, Eleanor Eustis Farrington Chair in Cancer Research, and a long-time Investigator at the Howard Hughes Medical Institute (HHMI). Dr. Moore was also a founding Co-Director of the UMMS RNA Therapeutics Institute (RTI). She currently sits on the Board of Directors of Tessera Therapeutics, multiple Scientific Advisory Boards, and has co-founded two companies (Comanche Biopharma and Via Scientific) to further initiatives begun at UMMS.

Dr. Moore holds a B.S. in Chemistry and Biology from the College of William and Mary, and a Ph.D. in Biological Chemistry from MIT, where she specialized in enzymology under Prof. Christopher T. Walsh. She began working on RNA metabolism during her postdoctoral training with Phillip A. Sharp at MIT. During her 23 years as faculty member, first at Brandeis University (1994-2007) and then at UMMS (2007-2016), her research encompassed a broad array of topics related to the roles of RNA and RNA-protein (RNP) complexes in gene expression, and touched on many human diseases including cancer, neurodegeneration and preeclampsia. Her passions include educating the public about the coming age of nucleic acid medicines and increasing Diversity, Equality and Inclusion (DEI) at all levels of the biotechnology workforce.