



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.



ERIC N. OLSON, Ph.D.

Eric N. Olson is the founding Director of the Department of Molecular Biology at the University of Texas Southwestern Medical School. He currently holds the Robert A. Welch Distinguished Professorship, the Annie and Willie Nelson Professorship in Stem Cell Research, and the Pogue Distinguished Professorship in Research on Cardiac Birth Defects.

Dr. Olson grew up in North Carolina and attended Wake Forest University, receiving B.A. degrees in Chemistry and Biology, and a Ph.D. in Biochemistry. After postdoctoral training at Washington University School of Medicine, he began his career as an independent investigator at MD Anderson Cancer Center in Houston before moving to UT Southwestern.

Dr. Olson and his trainees discovered the key transcription factors and mechanisms that control development and disease of cardiac and skeletal muscles. His discoveries at the interface of basic science and medicine have profoundly influenced our understanding of the development and dysfunction of the cardiovascular and muscular systems and have provided new targets for therapeutic development. Most recently, Dr. Olson conceived a gene editing method to correct a majority of Duchenne Muscular Dystrophy (DMD) mutations and demonstrated the effectiveness of this method in patient-derived muscle cells, and in mice and dogs with DMD. This method is now being advanced toward clinical translation.

Dr. Olson is an elected member of the National Academy of Sciences, the National Academy of

Medicine, and the American Academy of Arts and Sciences. He has received numerous awards for his research, including the Pasarow Award in Cardiovascular Medicine, the March of Dimes Prize in Developmental Biology, the Edwin G. Conklin Medal in Developmental Biology, and the Passano Award.

Dr. Olson has a longstanding commitment to mentoring, and his former students and postdoctoral fellows have become the next generation of leaders in cardiovascular biology. In recognition of this commitment, Dr. Olson was awarded the Eugene Braunwald Mentorship Award from the American Heart Association, and the International Society for Heart Research recently established the Eric N. Olson Mentorship Award. Dr. Olson serves on the advisory boards of numerous organizations, including the Howard Hughes Medical Institute, and he has founded multiple biotechnology companies to translate the discoveries from his laboratory to the clinic.

In his spare time, Dr. Olson plays guitar and sings with a classic rock/blues/funk band called, appropriately enough, The Transactivators. Dr. Olson's music is inspired by Texas icon Willie Nelson, who created the Professorship that Olson holds.