

Bob Jernigan Pampa High School Class of 1959



Bob Jernigan lived in Pampa from age 4 through 18, and received all of his pre-collegiate education in the Pampa schools. The strong influences of the excellent school system served well in establishing his educational foundation. The schools reflected the wisdom, effort and planning of Superintendent of Schools, Knox Kinard and High School Principal Jack Edmundson. His major scientific mentor was his chemistry teacher Elaine Ledbetter, who encouraged him to enter a number of competitions, including the National Science Fair, and who was almost solely responsible for directing him toward a career in the sciences. Other Pampa High School teachers who were important in his education include, but are not limited to: Elizabeth Hurley, Mrs. O. Mangold, William Tregoe, Lula B. Owen, John Plaster, James Webb, Virginia Vaughan, Howard Graham, Mrs. J. E. Torvie, Aubra Nooncaster, Mrs. E.L. Norman, Helen Schafer, B.G. Gordon, Lucy Cathcart, Madge Rusk and Mrs. Walter Bowen. He also appreciates the self-discipline learned from his piano teacher William Haley. And of course, last but not least, he fondly remembers his fellow students.

He attended CalTech, graduating in 1963, followed by graduate school in Physical Chemistry at Stanford University, earning a Ph.D. in 1967. As a graduate student he studied computations on synthetic polymers with Nobel Prize winner Paul J. Flory. Following this he did a postdoctoral period of study at the University of California, San Diego with Bruno Zimm. His research at the NIH began with synthetic polypeptides and gradually expanded to encompass proteins and nucleic acids.

Present: At present he is Deputy Laboratory Chief, Chief Molecular Structure Section, Theoretical Physical Chemist in the Laboratory of Experimental and Computational Biology of the National Cancer Institute at the National Institutes of Health in Bethesda, MD, which is the largest biomedical research institute in the world.

He has research interests in computational biology, bioinformatics, structural biology and genomics, focusing on structure-function studies of biochemical and biophysical processes. In particular he has developed new methods for computer modeling and simulation. Applications have been to develop new medical therapies, including protein engineering, database extraction and drug design. These studies have been described in his 150+ publications.

He lives in Washington, DC and has engaged in many efforts supporting local citizens' activities to improve the Dupont Circle neighborhood.

Awards and Honors: various NIH Awards and Grants; US-Israel Binational Science Foundation Grants; US Army Breast Cancer Grant; Fellow, Institute for Advanced Studies, Hebrew University, Jerusalem; NIH Merit Award "in recognition of research contributions on protein and nucleic acids..."; Fellow American Association for the Advancement of Science, 1999-.

Future: The age of genomics has brought the new science pursued by Dr. Jernigan to the forefront. The basic approaches that he has developed will now have a major impact for interpreting genes in terms of protein structure and behavior. He will move back to the Plains in 2002 to take up a Professorship in Biochemistry, Biophysics and Molecular Biology, together with serving as Director of the Laurence H. Baker Center for Bioinformatics and Biological Statistics in the Plant Sciences Institute at Iowa State University. He is planning research activities in plant genomics with agricultural applications.