

Memorial Resolution of the University of Wisconsin-Madison On the Death of Professor Paul Boyer, Distinguished Alumnus

Paul Boyer, a Ph.D. alumnus of the University of Wisconsin–Madison Department of Biochemistry and Nobel Laureate, passed away on June 2, 2018 at the age of 99.

Paul was born in Provo, Utah in 1918 and attended Brigham Young University for his undergraduate studies in chemistry and math. There he also met Lyda Whicker, and they married in 1939, the same year he graduated. August 2017 marked their 78th anniversary. From Utah he traveled to Madison for his Ph.D. in biochemistry, which he completed in 1943 under professor Paul Phillips. As a graduate student he discovered the requirement of potassium as a cofactor for pyruvate kinase. This was the first evidence for an alkaline metal cation participating in enzyme catalysis. He continued studying enzymes throughout his career and served as editor of the multi-volume treatise “The Enzymes.” Shortly after graduate school Paul began work at Stanford University on a project funded by the Committee on Medical Research. There he investigated how to stabilize blood plasma without refrigeration. Discoveries from that work were used on the battlefield during World War II and are still in use today. From Stanford he joined the University of Minnesota as a professor of biochemistry in 1946 and was then recruited to join the University of California, Los Angeles in 1963.

In his early years at UCLA, he helped start and lead their Molecular Biology Institute, which opened in 1965. His most momentous achievement at UCLA came when he earned the Nobel Prize in chemistry for his groundbreaking research on ATP synthase, the enzyme that synthesizes adenosine triphosphate, or ATP. ATP is the main energy source for biological reactions in the cell. Over decades of work he deciphered how ATP synthase couples a flow of protons to joining of adenosine diphosphate and phosphate to form ATP. His conceptualization of this process was subsequently confirmed by structural studies.

Paul used a large portion of his Nobel Prize winnings to support postdoctoral awards at several universities, including UW–Madison. The Boyer Award for Postdoctoral Excellence in Biochemistry recognizes a postdoctoral researcher in the UW–Madison Department of Biochemistry for his or her excellence in research. The recipient of the award also gives a lecture as part of the department’s Boyer Lecture Series.

Paul’s career was also filled with other awards and recognitions. In 1955 he won a Guggenheim Fellowship and in 1970 was elected to the National Academy of Sciences. He served a term as chairman of the biochemistry section of the American Chemical Society and was president of the American Society of Biological Chemists, now known as the American Society of Biochemistry and Molecular Biology. He also received a Rose Award from ASBMB and the ACS Award in Enzyme Chemistry. Paul holds honorary doctorates from Stockholm University, the University of Minnesota, and the University of Wisconsin. He is a member of the National Academy of Sciences and the American Academy of Arts and Sciences.

Paul was also committed to sharing science with the world and was a guest of the king of Jordan and shah of Iran and took a delegation of scientists to China after the Cultural Revolution. Despite all the professional responsibilities the couple found time for tennis, biking, golf, and

building homes. They supervised construction and furnishing of three houses, which gave Paul an outlet for his carpentry skills. Paul and Lyda had three children, Gail Boyer Hayes, Alexandra Boyer and Douglas Boyer, eight grandchildren, and six great-grandchildren.