



Michael Roberts Waterman was born on November 23, 1939 and grew up in Portland, OR. He died on November 7, 2021 in Dallas, TX (age 81). He obtained his baccalaureate degree at Willamette University and completed his doctoral studies with Howard S. Mason at the University of Oregon Medical School in Portland. He spent a postdoctoral research interval with Takashi Yonetani at the Johnson Research Foundation at the University of Pennsylvania studying the properties of modified hemoglobins. His initial academic position was at the University of Texas Southwestern Medical School in Dallas, where he attained the rank of Professor of Biochemistry in 1982. He assumed the Chairmanship of the Department of Biochemistry at Vanderbilt University School of Medicine in 1992 as the Natalie Overall Warren Chair of Biochemistry. He retired from the Chair in 2010 (and from Vanderbilt in 2012) and spent his retirement in Dallas.

He is survived by his wife Mimi (Mary Anne DeShula) and two children, Peter Waterman and Amanda Guerra, all of Dallas. He has four grandchildren, Kennedy and Jack Waterman and Abigail and Andrew Guerra.

Prof. Waterman's early research at the University of Texas Health Science Center was focused on the physical chemistry of hemoglobins, due to his training with Yonetani, particularly hemoglobin S whose mutations dictate the sickle cell disorder seen in patients with the mutant gene. His studies investigated ways to ameliorate the sickling disorder by modifying the structure of the heme protein. He subsequently turned his attention to the molecular regulation of the cytochrome P450 enzymes. In addition to understanding steroidogenic P450s and related proteins, his group was one of the first to successfully produce mammalian cytochrome P450 enzymes in bacteria, a seminal advance in this area. For several decades his laboratory addressed the structure and function of steroidogenic P450s in the adrenal gland, particularly the cholesterol side-chain cleavage P450 (CYP11A1), and the steroid aromatase CYP19A1, including the characterization of the cDNA and gene. Studies were also focused on CYP17A1 and CYP21 to define the mechanisms of several CYP mutations. His research involved collaborations with myriad luminaries in this field to elucidate the structure and function of adrenal steroidogenic enzyme systems. More recently his group studied the regulation and function of various CYP51 genes from various organisms. More recently his group studied the regulation and function of various CYP51 genes from various organisms. Mike Waterman's research has led to a better understanding of processes underlying hormonal disturbances related to genetic defects and also provides the basis for developing better anti-fungal drugs, defining the potential roles of steroid metabolism in the control of human parasites, and many other issues of clinical importance.

He led a federally funded research laboratory for 42 years, with much of his work focusing on the structure, function, and regulation of P450 monooxygenases. He mentored 12 Ph.D. candidates and more than 50 research fellows. He published 278 peer-reviewed articles, 79 symposium publications, 61 invited articles, and three book chapters and edited five books.

Mike Waterman was also heavily involved in the peer-review process throughout his career, including service on the NIH Physical Biochemistry Study Section and on the editorial boards of numerous journals. He also served as a consultant for a number of agencies and foundations. Mike worked with other University of Texas Southwestern Medical faculty to establish the company Oxygene LLC, providing molecular biological products related to cytochromes P450. He was frequently invited to present his research findings at international meetings and at universities around the world. His leadership skills at Vanderbilt were characterized by his calm and thoughtful approach to the management of his department and were appreciated by his faculty. The Department was expanded significantly and thrived under his direction.

Mike enjoyed the friendship of his many colleagues and collaborators, as well as their scientific interactions. We missed him in recent years, after his retirement from his leadership at Vanderbilt and leaving the research for his colleagues to carry forward. His loss will be felt by many in the cytochrome P450 field of research, not only for his seminal contributions, but also for the collegial relationships he developed among his fellow scientists throughout the world.