

Robert S. Parker

May 1, 1952 - November 26, 2020



Robert S. Parker, Professor in the Division of Nutritional Sciences, died on November 26, 2020 in Ithaca NY. Born in 1952 in Newport, New Hampshire, Bob obtained a BS degree from Duke University majoring in Zoology and Botany. He went on to obtain an MS and PhD from Oregon State University in Food Science.

Dr. Parker joined the Division of Nutritional Sciences (DNS) Faculty in 1980 bringing his training and unique background in food science to the Division program. Over his 40 years in DNS, Bob made significant contributions to the Division's programs in nutrition and dietetics and for many years taught a popular lecture course and a separate laboratory course on the Nutritional and Physiochemical Aspects of Food. These courses were core courses for the undergraduate programs in nutrition and dietetics. Bob held a joint appointment in the Department of Food Science and his courses were also open to Food Science students from the College of Agriculture and Life Sciences. At the graduate level Bob contributed to the micronutrient and macronutrient metabolism courses where his expertise in the biochemistry of fat-soluble vitamins, lipoproteins and lipids was highly valued.

Throughout his research career, Dr. Parker's research interests centered around dietary components derived from plants. In later years, Bob's interests focused on one specific nutrient, the fat-soluble antioxidant vitamin E. In this area, Bob made fundamental discoveries regarding the vitamin's physiological actions and its transformations within cells and tissues. Of particular interest was an old enigma in vitamin E biology: Although plants synthesize eight different forms of vitamin E, only one of these can be found in tissues of animals and humans, namely alpha-tocopherol. Moreover, this bio-discrimination is independent of dietary intake; for example, the major vitamin E form in the American diet is gamma-tocopherol, originating from corn and soy oils. Nevertheless, >95% of the vitamin E found in our tissues is alpha tocopherol. How is this discrimination achieved? Using tools of molecular biology, analytical chemistry, physiology and biochemistry in cells, tissues and multiple animal models, Bob discovered the enzyme that is responsible for this phenomenon; the enzyme CYP4F2 selectively degrades all forms of vitamin E *except* alpha tocopherol. Moreover, Bob demonstrated that the enzyme is ubiquitous across evolution – from fish, to fly, to man, indicating its critical importance in physiology. These findings opened the door for a new focus area in nutritional biochemistry, now accepted to be a prime example of the complex interactions between the environment and physiology.

Bob was a devoted mentor to his graduate students and chaired the committees of 6 Master's and 8 doctoral students. He was a hands-on teacher and was passionate about his research. When not teaching or meeting with his advisees, he was most often found at the lab bench

working alongside his graduate students. Bob was equally devoted to undergraduate education and assumed numerous leadership roles in the undergraduate program of the Division of Nutritional Science. For several years Bob was Director of Undergraduate Studies in DNS and Chaired the Curriculum Committee. He was instrumental in shaping the undergraduate curriculum and in developing the Human Biology Health and Society and Global Public Health majors. He was extremely effective in these roles and his leadership style made all members of these committees feel valued and appreciated.

On a personal level, Bob had a dry sense of humor and loved cooking and entertaining friends and family. He could always be counted on to contribute to DNS cooking competitions and social events. Bob loved the outdoors and was often hiking, skiing, fishing, or golfing in his free time. Bob is survived by his wife, Joy Swanson, by his children Emily and Wesley, and by his grandson Logan Robert.

Written by Charles Chipley W. McCormick, Malden C. Nesheim and Kimberly O. O'Brien