

**MEMORIAL RESOLUTION OF THE FACULTY
OF THE UNIVERSITY OF WISCONSIN-MADISON**

ON THE DEATH OF PROFESSOR EMERITUS ROBERT WINFIELD SWICK

Professor Emeritus Robert Winfield Swick was born in Jackson, Michigan, on July 6, 1925, and died in the Sun Prairie Hospital on November 11, 2011. Bob grew up in Rockford, Illinois, and graduated from Rockford East High school. He then enrolled in Beloit College, majoring in chemistry and biology. He graduated from Beloit College in 1947 and soon enrolled at UW-Madison, selecting the Department of Biochemistry, pursuing first the MS and then the PhD. Dr. Carl A. Baumann guided him in the PhD, which focused on carotenoids and tocopherol in animal metabolism. He left the UW in 1951 with the PhD and joined the Division of Biological and Medical Research at the Argonne National Laboratory in Argonne, Illinois.

While at Argonne, Dr. Swick developed a line of research that utilized radioisotopes in the study of the metabolism of amino acids and nucleic acids in the laboratory rat. He developed an interest in using radioisotopes as a means of investigation of the rate of nucleic acid and amino acid turnover in the rat. This was a new area of interest in metabolism and led to new concepts on tissue pools of amino acids and the concept of the dynamic equilibrium of tissue amino acids and proteins. This work required the development of new laboratory procedures and concepts of mathematical analysis of experimental results to obtain estimates of the size and rate of turnover of amino acid and protein pools in living animals in order to appreciate the dynamic nature of body constituents. As a result of his interests, Dr. Swick developed a novel technique using radioactive carbon dioxide to measure the pool size and rate of protein turnover in rat liver. The principal of the approach was based on the biosynthesis of arginine being dependent on the incorporation of CO₂ into the guanidine carbon of arginine. The use of this approach was also based on the fact that in the liver, arginine is rapidly destroyed, making the reincorporation of the amino acid into protein less likely and the estimated half-life of the protein shorter and thus more likely to be true. This seminal work is part of a manuscript entitled "Measurement of Protein Turnover in Rat Liver," published in the *Journal of Biological Chemistry* in 1958 and is a fundamental technique used by many. This work and that which followed on mitochondrial protein metabolism is what made Dr. Swick a prime candidate for a position that became available in the Department of Nutritional Sciences in 1969. He joined the "Tuesday Noon" seminar group which focused on amino acid and protein metabolism in laboratory and farm animals. Bob and his laboratory were active seminar participants until his retirement in 1986. Some of his studies focused on the mitochondrion. He was a campus resource for mitochondrial protein and amino acid metabolism and showed that proteins in the mitochondrion had shorter half-lives than the intact mitochondrion, indicating a need for protein catabolism and synthesis in the mitochondrion. In addition to his focus on protein and amino acid metabolism, which was directed toward the liver and, in particular, mitochondria, he developed an interest in mitochondria in brown adipose tissue because of its role in body temperature regulation. His work focused on the mechanism by which mitochondrial control could be used to produce heat from uncoupled mitochondria. This work and all of his work, was published in prestigious journals.

During his time on the faculty, Dr. Swick guided twelve students to graduate degrees in the Department of Nutritional Sciences. All of his students have gone on to productive careers in the academic field or science in the business world.

The busy life that Bob led prior to retirement from the university in 1986 was maintained. He retained his home on Lake Ripley in Cambridge and focused on community issues. He became involved in the Lake Ripley Management Board and headed a major lake cleanup effort. He also served on the Cambridge Library Board and became involved in the fundraising required to support the design and construction of the new Cambridge library.

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A true academic, Professor Swick could not turn his back on a real need. His skill as a teacher became beneficial to the Cambridge community at the nearby Cambridge Elementary School. A school has students in need, and Dr. Swick was just the person to meet those needs. The second grade teachers had students who were in need of help with mathematics. Who better to provide remedial one-on-one instruction in mathematics than Professor Swick? This was a perfect fit: a teacher who had the skill and the time to meet the needs of students who needed one-on-one guidance by a compassionate teacher. His description of the reception he received from the students each day that he arrived always brought a smile. The students would run to greet him and give him a bear hug wherever a hug was possible, usually his legs. What a contribution he made.

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