IN MEMORIAM

Robert Brady Williamson
Professor of Civil and Environmental Engineering, Emeritus
UC Berkeley
1933 – 2007

Robert Brady Williamson, professor emeritus of civil and environmental engineering at the University of California, Berkeley, died of melanoma at Alta Bates Summit Medical Center in Berkeley, California, on August 1, 2007.

Born in the state of New York on November 19, 1933, Professor Williamson lived in various locations around the country before his family settled in Kansas City, Missouri, where he attended Pembroke Country Day School. Majoring in physics, he received an A.B. degree from Harvard University in 1956. He continued his graduate education in applied physics at Harvard, where he received S.B. cum laude and Ph.D. degrees in 1959 and 1965, respectively.

In 1961 and 1962, he participated in "Berlin Add- On," a U.S. military call- up of troops after Soviet Premier Nikita Khrushchev erected the Berlin Wall. Williamson was called into active duty as a member of the U.S. Navy Reserves, serving as an aviation electronics technician and an air crewman with the Air Anti-Submarine Squadron 915 at South Weymouth, Massachuetts, and Guantanamo Bay, Cuba. In 1965, the Massachusetts Institute of Technology (MIT) hired him as an assistant professor in the Department of Civil Engineering. Williamson accepted a position of associate professor in the Department of Civil Engineering at Berkeley in 1968. He was promoted to professor in 1979, and upon retirement in 2001 he continued doing research as a Professor in the Graduate School.

Professor Williamson was a pioneer and world leader in fire safety engineering. Apart from his work in fire resistance, he will perhaps be most remembered for two other contributions: characterizing the fire hazards of plastics and helping establish fire safety engineering science education as a recognized branch of science. In the research he directed, and especially in the research with his students, he drew upon a diverse group of disciplines, including architecture, systems analysis, materials science, wood and polymer science, and many other engineering fields.

Professor Williamson was one of the most prominent advocates for science in the fire safety profession, leading to today's situation, where fire safety science and fire protection engineering overlap significantly. Practitioners of fire protection engineering practice a discipline that has become greatly more scientific, and a consequence of this is significant improvement in modern building codes and reduction in fire risk. Besides his creative work performed at UC Berkeley, he also held appointments at the Lawrence Berkeley National Laboratory and the UC Berkeley Forest Products Laboratory.

One of Professor Williamson's most significant contributions to the field of fire safety was the development of the "corner test," which was literally done in the corner of a room, where a small fire would be ignited. The corner test had a geometry that reflected more accurately how materials were used in situ, with materials

actually bursting into flames, as would be the case in actual fires. In contrast, other fire tests subject materials to heat sources that have them melting slowly over time. Williamson's research demonstrated the high flammability of cellular foam plastics, which were commonly used as building insulation; based on previously inadequate testing methods, the American Society for Testing and Materials (ASTM) had designated these plastics as self- extinguishing and slow- burning. The corner test and its updated version, the scaled compartment corner test, are now used by the International Standards Organization.

Even though most of his research was in the field of fire safety, while at MIT Williamson also wrote a series of landmark papers on the hydration mechanism of cements, using scanning electron microscopy. He observed that some calcium silicate hydrates had a peculiar morphology that he labeled “sheaf- of- wheat morphology.” Recent advanced characterization methods confirmed the importance of calcium silicate for the properties of concrete, and to honor Williamson’s contribution to the field this feature has been designated as “Williamson’s morphology.”

The quality of Williamson’s research earned him numerous awards and honors throughout his career, including the 2001 Arthur B. Guise Medal from the Society of Fire Protection Engineers and the 1988 Harry C. Bigglestone Award for Excellence in Communication of Fire Protection Concepts. He was a member of the American Society of Civil Engineers, the National Fire Protection Association, the International Association for Fire Safety Science, and the Society of Fire Protection Engineers.

In the years since the mid-1970s, more scholars have obtained Ph.D. degrees in fire- related subjects from UC Berkeley than from any other university. Although Berkeley never had a formal department for teaching fire safety science and engineering, its influence on this field has been enormous, and much of it was due to Professor Williamson’s leadership and vision. He was a wonderful mentor, and his former students now occupy distinguished positions in academia and industry. He was an engaging lecturer, and he inspired researchers from all over the world. Professor Williamson was genuinely gracious and kind to his colleagues, students, and friends, who greatly miss him.

Robert Brady Williamson is survived by his wife, Nancy Brown- Williamson, of Berkeley, who is head of the Atmospheric Sciences Department at Lawrence Berkeley National Laboratory; their son, John Bradford Williamson of San Francisco; his children from a previous marriage, Robert Lowell Williamson of Incline Village, Nevada; Katherine T. Bettencourt of Clio, Michigan, Anne L. Curtis of Belmont, Massachusetts, and Sarah T. St. John of San Jose, California; a brother, Otis Turner Williamson of Kilmarnock, Virginia; and six grandchildren.

Paulo Monteiro
P. Kumar Mehta
Claudia P. Ostertag