K. Bingham (Bing) Cady, professor emeritus of nuclear engineering in the Sibley School of Mechanical and Aerospace Engineering, died December 10, 2020, at Northwestern Memorial Hospital in Chicago. He was 84.

In a career that straddled academia and industry, Bing helped improve the safety of nuclear fission reactors by developing computational models to simulate how reactors would respond to operational fluctuations. He was part of a generation of nuclear reactor theorists that were trained at a remarkably deep level, in large part because they studied under the founders of the field.

Bing was born in Chicago, Illinois in 1936. A prodigy, he dropped out of high school and entered the University of Wisconsin, Madison, at the age of 15 through a Ford Foundation pre-induction scholarship. He soon transferred to MIT, where he studied naval architecture and marine engineering. For the summer of 1955, Bing took a job in the merchant marine working for Moore-McCormack Steamship Lines, a position which took him to ports around South America. A shore-leave in Brazil landed him in jail after he went to a bar with fellow sailors and a fight broke out. The captain of the ship bailed them out the following day, but that experience evidently ended Bing’s interest in the merchant marine. He instead took a job with Bethlehem Steel, Shipbuilding Division, in Quincy, Massachusetts, working on the construction of the first nuclear-powered surface ship, the USS Long Beach, after receiving his S.B. from MIT in 1956. Bethlehem Steel sent Bing back to MIT in 1959 to get his M.S. degree and he then decided to go straight for the Ph.D., which he completed in 1962. At MIT, Bing worked for Manson Benedict, who was responsible for developing the gaseous diffusion method of isotope enrichment in the Manhattan Project, and who subsequently founded the nuclear engineering program at MIT.

Bing joined the faculty at Cornell in 1962, in part to work with people like Hans Bethe and Mark Nelkin (a student of Bethe’s). For the next 49 years, Bing taught in the departments of Applied and Engineering Physics, Nuclear Science and Engineering, and Theoretical and Applied Mechanics. He served as the College of Engineering’s associate dean for professional programs

In the 1960s, Bing developed foundational techniques in response theory that allow one to estimate the transient behavior of systems with many degrees of freedom. This approach to modeling the response of a system to perturbations also found applications in systems analysis in the physical sciences, the quantitative social sciences, and financial analysis. Following the partial meltdown of a reactor at Three Mile Island in 1979, Bing participated in an industry-wide effort to analyze how light-water reactors could handle degraded-core and melted-core accidents. Bing and his team contributed to the computer-code systems and physical modeling required for the development of the Modular Accident Analysis Program (MAAP), which became the industry standard for simulating the response of nuclear reactors to severe accidents and stabilizing their performance.

While on various sabbaticals from Cornell, Bing was a consultant for a number of companies and national laboratories, including Knolls Atomic Power Laboratory; the U.S. Atomic Energy Commission’s Division of Nuclear Licensing; the Department of Nuclear Energy, Brookhaven National Laboratory; Hanford Engineering Development Laboratory; Fauske and Associates, Inc.; and the Milwaukee Company Properties, Inc.. He also served as president of the Niagara-Finger Lakes section of the American Nuclear Society.

At Cornell, Bing advised numerous doctoral students. His first, Charles Robert MacVean, commanded the nuclear submarine, USS Seawolf, during critical missions in the Pacific to monitor Soviet communications (and was the subject of the book Blind Man’s Bluff). Many of his other students joined the faculties of major institutions, including MIT, UC Berkeley, and the University of Texas at Austin. Bing was a member of Phi Eta Sigma, Sigma Xi, and Tau Beta Pi. In addition to being a Ford Foundation scholar, he received a Bethlehem Steel fellowship, a Woodrow Wilson fellowship, and a U.S. Atomic Energy Commission fellowship in nuclear science and engineering.

After he retired from Cornell in 2011, Bing moved back to Chicago, where he enjoyed spending time with his family and sailing on Lake Michigan. Four of his five children attended Cornell, and he taught all of them to sail on Cayuga Lake, which was one of Bing’s true passions.

In addition to his professional accomplishments, successes as a teacher of undergraduates and mentor of graduate students, Bing was a great colleague for those of us who were lucky enough to work closely with him. He was always friendly, enthusiastic, and a good listener, whether in technical discussions or in his stints in the Dean’s Office, and he invariably tried to be helpful if he could be. His infectious smile was passed around liberally to all of those around him.

K. Bingham Cady is survived by his partner, Janet Reece; a sister, Susan Westby; children Julia Cady Marrocco ’77 (Dante), Sarah Cady Minas (Ed), Nell Cady-Kruse ’84, MBA ’85 (Steve), C. Conrad Cady ’86 (Laura) and Courtney Cady Wood ’98 (Sean); and numerous grandchildren.

Written by Mark R. Deinert, David A. Hammer, and Vaclav O. Kostroun