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Michael Woodroofe, longtime statistics professor and Leonard J. Savage chair, died on February 22, 2022 at age 81.

Woodroofe had broad interests surrounding the interface between probability and mathematical statistics. In earlier years of his career, he worked on sequential analysis. This area of statistics concerns repeating an experiment until the data gathered crosses some threshold for success. While exact calculation of probability or expected number is generally intractable, Woodroofe and others introduced techniques to approximate these in more complicated situations than had previously been known. His 1982 monograph *Nonlinear Renewal Theory in Sequential Analysis* described these techniques in a collected manner, and helped influence later work on the topic.

Another thread in his work was statistical methods in astronomy. Already in 1985, Woodroofe described techniques for estimating probability distributions from truncated data. An example application for these techniques is in astronomy, where stars and other astronomical objects are distributed in some manner through outer space, but it is only possible to detect sufficiently bright objects. Woodroofe returned to applications in astronomy in the early 2000s, when the University of Michigan offered grants for interdisciplinary research, for which Woodroofe, astronomer Mario Mateo, and philosopher Jim Joyce successfully applied. The project led to the adaptation of statistical tools to infer the amount and spatial distribution of dark matter within galaxies.

Woodroofe also worked in central limit theory. Broadly considered, a central limit theorem is a result that says that some sum or other summary of random variables tends towards a normal distribution, the so-called bell curve. Woodroofe did notable work on central limit theorems for stationary processes, where random behavior does not change over time (in a specific sense), beginning in the early 1990s. His later work with Michael Maxwell has been well cited; also impactful were papers with Wei Biao Wu and with Yizao Wang. He continued to collaborate with Dalibor Volny on related problems until his late 70s.

Michael Barrett Woodroofe was born in Corvallis, Oregon on March 17, 1940 to Helen Lucille Woodroofe (née Barrett) and Robin Russell Woodroofe. He grew up in the small town of Athena, in the northeast of Oregon. His mother taught English. His father was a farmer who also worked at a variety of other jobs, including in the soil conservation service and as a high school science teacher. Woodroofe remembered his parents quoting Shakespeare to one another over the dining room table.

Woodroofe graduated from McEwen High School in 1958. With the encouragement of his parents, he went to Stanford University for his bachelors of science degree in mathematics, which he completed in 1962. As a son of a farming family, he did not feel that he fit in well at Stanford, and he went to the University of Oregon for his graduate work. He completed his PhD in mathematics in just three years.

After the PhD, he spent a year as a research associate at Stanford University, followed by two years as an assistant professor at Carnegie Mellon University. In 1968, he came as an assistant professor to the Mathematics Department at the University of Michigan in Ann Arbor. In 1969, he helped found (with Bill Ericson, Chuck Bell, Paul Dwyer, Bruce Hill, Norm Starr, and slightly later Ed Rothman) the Statistics Department. Woodroofe was promoted to full professor in 1973, and served as department chair from

1977 until 1983. He remained at the Michigan Statistics Department, apart from several year-long visits, for the remainder of his career. He spent sabbatical or visiting years at Columbia in the academic year of 1970-1971, at the Massachusetts Institute of Technology in that of 1976-1977, and at Rutgers University in 1983-1984.

Also in Michigan, he met Frances Smock, an elementary school teacher. The couple married in 1974, and they had three children: Russ, Carolyn, and Blake. Woodroofe began playing hockey around age 50, when his son Blake started with the sport. He became an avid player, known around the Ann Arbor hockey community. For many years, he spent part of the summer at a family cottage in northern Michigan; he later spoke in an interview about the benefits of a place with no internet and few distractions. Woodroofe was often seen biking into Mason Hall on the University of Michigan campus, and was seldom seen without his pipe.

Woodroofe served as the editor of the *Annals of Statistics* from 1992 to 1994; after his term, the editorship was split between two people. In 1994, he was named the Leonard J. Savage Professor of Statistics at the University of Michigan. The department established a Michael Woodroofe Lecture series in 2008 to honor his contributions to the field. Over his career, Woodroofe supervised over 40 PhD students, and mentored many early career researchers. Many of his PhD students have gone on to successful research careers.

Woodroofe retired as a professor emeritus in 2009. He began to lose his hearing in midlife, and this became severe in later years. He underwent surgery to correct an aneurism in 2010, and suffered a stroke during the surgery. He continued to collaborate with coauthors, albeit at a diminished pace, until around 2017. His colleague David Siegmund recalled seeing him during this period, and said "... he had trouble hearing and being heard by an audience. But when I asked him specific questions after his presentation, when the audience had left, he quickly filled the blackboard with symbols and answered my question as only he could." Woodroofe suffered from dementia in his last few years, and spent his final year in assisted living in Palm Bay, Florida. He remained physically active until the end. He died of complications of the dementia in the early morning of February 22, 2022. He is survived by his wife and children, and by four grandchildren.