

Peter John Bickel



Peter John Bickel, American statistician and Professor of Statistics at the University of California, Berkeley was born on September 21, 1940, in Bucharest, Romania to a Jewish family. His father Eliezer (Lothar) Bickel was a medical doctor, researcher and philosopher and mother Madelein ran the household.

In an interview he recalled that he was not very aware of the war, except that sometimes they had to go to the bomb shelters (when the Americans were bombing the oil field in Ploesti). Once, when they were coming back, he saw broken windows in some office buildings. Then, after the war and after the communists took over, they left Romania for France in 1948 and then to Canada in 1949. He studied in France in a public school for ten months. In France his father insisted on giving him English lessons. His father died in 1951 when he was eleven. Then he tried to help his mother, in the house, and by taking a job delivering for the local drugstore. His mother remarried, and then they came to California in 1957 having finished 5 years of high school in Ontario.

Peter wanted to be a scientist ever since he read the books of George Gamow. He was broadly interested in physics on the one hand and physiology and biochemistry on the other. Ultimately, he found his way through mathematics to statistics, which has allowed him to dip into almost every science.

He started his undergraduate study in physics at Caltech in 1957 but transferred to Berkeley in 1959. In 1960, as undergraduate student in mathematics, he took Joe Hodges's senior statistical inference course. Joe's brilliant problem-oriented teaching attracted him into statistics and the following years he took graduate inference course from Erich Lehmann. In a reminiscences on Lehmann's 75th birthday Peter described his move to statistics. He had moved to UCB intending to switch to psychology. That's what brought him to a class taught by Joe Hodges. He thought statistics would be necessary for a psychology student. He took a Master's degree in Math in 1961. Then he started his Doctoral study in 1961 in the Statistics Department. When he joined the Berkeley Statistics department, it boasted some of the leading figures in the Statistics profession: Jerzy Neyman (its founder), David Blackwell, Joe Hodges, Lucien Le Cam, Erich Lehmann, Michel Loeve and Henry Scheffe.

He got his Ph.D. in 1963 with a thesis on nonparametric methods in the multivariate case. From the thesis, he published two papers on multivariate analogues of Hotelling's T^2 (Bickel, 1964; Bickel, 1965a), without knowing much about multivariate analysis at all, learning asymptotics as he went along. During his student days, he met Yossi Yahav who became a close friend and collaborator, and early after his Ph.D. he met Willem van Zwet who played a similar role.

Recognizing his great talent, he was offered a position and has been a member of the statistics faculty since then. Quickly he became a prolific researcher. His close to 150 papers cover a broad spectrum of problems.

Bickel's research began with his thesis work on multivariate analysis under the supervision of Erich Lehmann, followed by his work on robust statistics. His work on robustness led him to the seminal year in Princeton from 1970-71 which became known as "the Princeton Robustness Year". There he met John Tukey, Peter Huber, David Andrews and Frank Hampel. The second area of major interest to Bickel was semiparametric models which later led to a book, jointly authored with Klaassen, Ritov and Wellner, "Efficient and Adaptive Estimation for Semiparametric Models" (1993).

The other topics on which he worked included the distribution of order statistics, inference in restricted parameter spaces, minimax procedures in various settings, properties of the bootstrap and, more recently, hidden Markov models and high dimensional classification and regression.

Bickel has made wide-ranging contributions to statistical science and his career encompasses the majority of statistical developments. In the later stage of his career he has also become interested in some applied problems with major works in the areas of molecular biology and climate models.

In addition to his research, Peter has also been very active in administration, both within the department and nationally. After serving as the Vice Chair of the department, he served as the Chair from 1976 to 1979. From 1980 to 1986 he was Dean of Physical Sciences. For the next 10 years he returned to administrative work and teaching within the department first as Director of the Statistical Laboratory and then for a second term as Chair. In 1998, he was appointed to a three-year term on the Committee on Physical and Mathematical Sciences and Applications of the National Research Council (NRC) and in 2000 he became Chair of the NRC's Board of Mathematical Sciences and Applications, a surprising appointment for a statistician. He was the President of the Institute of Mathematical Statistics (IMS) and of the Bernoulli Society. He has served on several national committees and commissions, including some of the National Academy of Sciences, National Research Council, the American Association for the Advancement of Science and EURANDOM.

Peter's work on suspected gender bias at UC Berkeley has now become a textbook illustration of Simpson's paradox, in which the propensity of female students of applying to departments with a smaller selection percentage led to the false appearance of university-wide gender bias in admissions.

Peter married Nancy Kramer in 1964. They have two children Amanda and Stephen and five grandchildren.

He has received many distinguished awards and honors. He gave the Wald Memorial Lectures (1980) and the Rietz Lectures (2004) of the IMS. He was also the first recipient of the COPSS Presidents' Award (1981) and received the C. R. Rao and Bhargavi Rao prize (2009). He also received the Guggenheim Fellowship (1970), the MacArthur Fellowship (1984), was elected to the National Academy of Sciences (1986) and The American Academy of Arts and Sciences (1986). He has received honorary doctoral degrees from the Hebrew University of Jerusalem (1986) and the ETH (Zurich) and was appointed Commander in the Order of Orange-Nassau of the Netherlands (2006). He was also honored with the Chancellor's Professorship (1996-1999) at UC Berkeley.

For the depth, breadth and impact of his work, Bickel is widely viewed as one of the leading statisticians of his time. A post-war Berkeley statistician who certainly is one of the leaders of the third generation of mathematical statisticians, a generation which is still fruitful today.

Prof. Bickel delivered a lecture titled “Statistics through my eyes” on the occasion of the 55th Convocation of Indian Statistical Institute on 27th January 2021.

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