

Dr. Johannes Ledolter (1950-2023): Obituary

By Peter Hackl

Dr. Johannes Ledolter, our outstanding colleague and my friend, passed away on November 5, 2023 in Iowa City, USA. Hannes was born on August 26, 1950, and grew up in Langenwang in Styria. In 1968, he enrolled in statistics and mathematics at the Vienna University. Hannes received a Fulbright scholarship in 1971 and continued his studies as graduate student at the University of Wisconsin in Madison. He received his Master of Science in Statistics in 1972 and his Ph.D. in 1975, with George Box as his PhD advisor, a leading statistician of that era. In the same year, Hannes completed his Master's degree in Social and Economic Statistics at Vienna University.

After spending two years in Austria as a consultant for WIFO and a research scholar at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Hannes worked as a research associate at the University of Wisconsin in 1977/78. He then joined the faculty at the University of Iowa in Iowa City in 1978. From 1987 onwards, he was Professor of Statistics/Actuarial Science and Professor of Management Sciences at the University of Iowa. Hannes was a visiting professor at well-respected universities – Yale (1994/95), Chicago (2011), Stanford (2014, 2016).

At the Vienna University of Economics and Business (Wirtschaftsuniversität), Hannes served as a faculty member and professor at the Institute for Statistics and Mathematics from 1997 to 2002. Subsequently, from 2002 to 2015, Hannes held a 25% position at the Wirtschaftsuniversität and a 75% appointment as the Robert Thomas Holmes Professor of Business at the Henry B. Tippie College of Business, as well as Professor of Statistics and Actuarial Science at the University of Iowa. Since 2015, Hannes has held the title of Emeritus Professor at the Wirtschaftsuniversität.

Hannes was a highly productive researcher who made a strong impact in the field of applied statistics. According to Google Scholar, his publications have been cited almost 10,000 times



Figure 1: Johannes Ledolter

and his h-index is almost 50. His book “Statistical Methods for Forecasting”, co-authored with Bovas Abraham, has been cited over 1,600 times. Hannes has authored more than ten books covering topics such as time series and forecasting, engineering statistics, process improvement and statistical methods, the statistical design of experiments, regression, business analytics, and most recently, he co-wrote a book with his wife Lea on textual analysis. He has published more than 150 papers on statistics and its applications.

Hannes focused his research on time series analysis and forecasting, with publications on modelling and predicting univariate and multivariate time series; it covered ARIMA models, state space models, smoothing and shrinkage methods, time series models for count data, the detection of outliers and adaptive estimation, and the reduction of dimensionality in multiple time series. Another focus was on statistical methods for process improvement; this included design of experiments for industry, economics, and business, as well as statistical surveillance of processes including statistical control chart methods like CUSUM charts and robust control charts for time-change detection. More recently, Hannes has applied statistical methods in the health sciences, specifically in anaesthesiology and ophthalmology.

Hannes was passionate about the application of statistics. He has provided exceptional industrial consultation for various organizations, such as Ford Motor Company, Procter and Gamble, American Express, during his time in Austria for Lenzing AG and Telekom Austria. He has taught short courses and workshops for business and quality professionals, engineers and scientists, covering statistical modelling, time series analysis and forecasting, statistical methods for quality and productivity improvement, and business analytics and data mining. His books on applied statistics cover areas such as forecasting, engineering statistics, quality improvement, regression, and data science, all written with the practitioner in mind. His book on Design of Experiments in Marketing is highly innovative and demonstrates the utilization of fractional factorial designs in marketing experiments, resulting from his collaboration with marketing colleagues.

Hannes saw himself and was really an “applied statistician” which for him meant letting the problem lead the way to the use of appropriate and, if necessary, the discovery of new statistical methods. In his consultations, he was a careful listener to determine the actual problem, and an excellent communicator of statistical ideas; his statistical problem-solving strategy was problem-centred as opposed to tool-centred. That meant that, as one of his co-authors, Frank Dexter wrote, that Hannes had developed one of the broadest portfolios imaginable in a lifetime of problem solving.

Professor Ledolter was an excellent lecturer and has won several teaching awards at the University of Iowa, such as the Great Instructor of the Year Award of the executive MBA program (1999), the Dean’s Teaching Award (2005) of the Henry B. Tippie College of Business, University of Iowa, and the College of Business Nomination for the University of Iowa President/Provost Teaching Award (2005).

Hannes has given talks, invited addresses and lectures at various national and international conferences and has been recognized as a fellow of the American Society for Quality (ASQ) and the American Statistical Association (ASA). He was also an elected member of the International Statistical Institute (ISI).

Hannes’ favourable relationships with the National Bureau of Economic Research and the National Science Foundation enabled the Wirtschaftsuniversität to host the NBER-NSF Time Series Conference in 2015. This esteemed yearly event has been previously hosted by renowned institutions, including Harvard University, Duke University, University of Chicago, Wharton School at the University of Pennsylvania, University of Montreal, and Federal Reserve Banks of New York and St. Louis. It was rarely held outside the US. It consistently attracts top economists and financial time series experts, along with Nobel Prize laureates like Engle, Granger, Sims and Sargent.

Hannes was a member of the Austrian Statistical Society (ÖSG) and contributed to various events. He was an associate editor of the Austrian Journal of Statistics since 1996 and has

published several papers in this journal.

Hannes was a devoted family man who prioritized his loved ones, including his mother who is living alone far away. Hannes' wife, Lea, was not only his beloved wife, but also a strong partner in climbing the academic ladder; Professor Lea VanderVelde, Josephine R. Witte Professor of Law at the University of Iowa, was recently awarded the University's distinguished chair.

Hannes was a great friend to many. He was always helpful, communicated easily with everyone, and had a great sense of humour. His attitude is well expressed in his saying: Everyone can profit from a friendly push or advice, and it should help to create a better world.

The Wirtschaftsuniversität and the Institute for Statistics and Mathematics must be proud to have had Hannes as a faculty member and colleague, an outstanding statistical leader, communicator, consultant, and educator who served the statistics profession in many capacities.

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