

Festschrift for Professor Joseph L. Gastwirth

It is a great pleasure to have this special festschrift issue for Prof. Joseph L. Gastwirth. This is one of the two issues to celebrate his forty-five years of contributions to Statistics. The other, which focuses on legal statistics, will appear in *Law, Probability and Risk*.

After receiving his PhD in Statistics from Columbia in 1963, Prof. Gastwirth spent an academic year as a post-doctoral research associate at Stanford with Prof. Herman Chernoff. He spent the next eight years at the Department of Statistics of the Johns Hopkins University. After a year as Visiting Faculty Advisor in the Office of Statistical Policy of the Executive Office of the President in the US Government, he became a Professor of Statistics at George Washington University in 1972. During his tenure at George Washington University, Prof. Gastwirth was a Visiting Professor at MIT and a Guggenheim Foundation Fellow at UC Davis. He was also statistical consultant for the Office of Information and Regulatory Analysis of Office of Management and Budget of the US Government, and Visiting Scientist at the Biostatistics Branch of the Division of Cancer Epidemiology and Genetics of the National Cancer Institute.

Prof. Gastwirth has broad research interests and has contributed to many areas of statistical theory and applications. In his early career, he focused on nonparametric and robust methods for data analysis, including L-statistics (e.g., Chernoff et al., 1967; Gastwirth and Rubin, 1969; Gastwirth and Cohen, 1970) and robust rank tests (e.g., Gastwirth, 1965; Gastwirth and Wolff, 1968; Gastwirth, 1970), with applications to time series (Wolff and Gastwirth, 1967), electrical engineering (Coleman and Gastwirth, 1969), and dependent data (Gastwirth and Rubin, 1971, 1975). Later he collaborated on theoretical studies of Fisher information in ordered data (Zheng and Gastwirth, 2000, 2001). He is an authority on methods to measure economic inequality and employment discrimination and published seminal papers on the Lorenz curve and the Gini index (e.g., Gastwirth, 1971, 1972). He later showed how these statistics could be used to test the goodness-of-fit to an assumed distribution (Gail and Gastwirth, 1978 a,b). Other important research themes of Prof. Gastwirth include grouping data to protect confidentiality (Spruill and Gastwirth, 1982) or for administrative convenience (Krieger and Gastwirth, 1984; Gastwirth and Krieger, 1991) and efficiency robust tests that have good power for an entire family of possible alternative models (Gastwirth, 1966, 1985; Freidlin et al., 1999). Prof. Gastwirth and his collaborators have applied these ideas to DNA pooling (Pfeiffer et al., 2002) and to testing for genetic associations with disease (Gastwirth and Freidlin, 2000; Gastwirth, 2000; Zheng and Gastwirth, 2006; Li et al., 2009).

Prof. Gastwirth has published in other areas of biostatistics and genetics, including medical screening (e.g., Gastwirth and Greenhouse, 1987; Gastwirth, 1987; Johnson and Gastwirth, 1991; Johnson et al., 2001), analysis of contingency tables (Freidlin and Gastwirth, 1999), the Cornfield inequality (Yu and Gastwirth, 2003) and public health disparities (Graubard et al., 2005).

Prof. Gastwirth is a Fellow of ASA (1970), IMS (1972), and AAAS (1971), and an elected member of ISI (1980). He received the Washington Statistical Society Award (1969), and the Shiskin Award for Economic Statistics (1998), and was a co-recipient of ASA's Award for the Outstanding Applications Article (2002). He was President of the Washington Statistical Society (1982–1983) and a member and chairman of many scientific committees of ASA.

We thank the friends, collaborators and former students who have contributed to this special issue to honor Prof. Gastwirth and his enormous contributions to statistics. We also thank Prof. Heping Zhang, the Editor-in-Chief of *Statistics and Its Interface*, for his excellent editorial support. The fourteen articles in this special issue reflect several of the research areas that Prof. Gastwirth has influenced over the past 45 years. We hope and expect that Prof. Gastwirth and others will continue to build on that research legacy for years to come.

Co-Editors of the special issue:
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