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EDUCATION

Ph.D., Statistics, University of Chicago, December 2003
M.A., Mathematics, Washington University in St. Louis, December 1998
B.S., Mathematics, University of Chicago, June 1995

PROFESSIONAL EXPERIENCE

Postdoctoral Fellow, Department of Biostatistics, Johns Hopkins University, October 2003–present
Research Assistant, Department of Statistics, University of Chicago, 1999–2003
Research Assistant, Department of Mathematics, Washington University in St. Louis, 1997–1998
Mathematics Instructor, The Lawrenceville School, 1995–1997

PUBLICATIONS

Welty, L. J. and Zeger, S. L., “Are the Acute Effects of PM₁₀ on Mortality the Result of Inadequate Control for Weather and Season? A Sensitivity Analysis using Flexible Distributed Lag Models” *American Journal of Epidemiology*, to appear.

Welty, L. J., Stein, M. L., Lesht, B. M., Vanderploeg, H. A., Johengen, T. H. “A Quantitative Correction for Non-Photochemical Quenching in the Calibration of Chlorophyll Fluorescence to Chlorophyll a Concentration, Applied to Lake Michigan.” Submitted.

Peng, R. and Welty, L. “The National Morbidity, Mortality, and Air Pollution Study Database in R.” Submitted.

Stein, M., Chi, Z., Welty, L. “Approximating the Likelihood for Irregularly Observed Gaussian Random Fields.” (2004) *JRSS Series B*, 66, 275-296.

Welty, L. J., Stein, M. L. “Modeling Phytoplankton: Covariance and Variogram Model Specification for Phytoplankton Levels in Lake Michigan.” (2004) *geoENV IV – Geostatistics for Environmental Applications*, 4.

Lesht, B. M., Stroud, J. R., McCormick, M. J., Fahnenstiel, G. L., Stein, M. L., Welty, L. J. and Leshkevich, G. A. “An event-driven phytoplankton bloom in southern Lake Michigan observed by satellite.” (2002) *Geophysical Research Letters*, 29, 013533.

TEACHING EXPERIENCE

Instructor, Department of Biostatistics, Johns Hopkins University, 2004
Data Analysis Workshop I & II, Summer 2004
Biostatistics in Public Health, Autumn 2004

Course Assistant, Department of Statistics, University of Chicago, 1999–2003

Analysis of Environmental Data, Winter 2001, 2002, 2003

Applied Regression Analysis, Autumn 2001

Applied Linear Statistical Methods, Autumn 1999

Introduction to Statistics, Spring 1999, Autumn 2002

Lecturer, Department of Statistics, University of Chicago, 2000

Introduction to Statistics, Spring 2000

Instructor, University of Chicago Young Scholars Program, Summer 1999, 2000

Designed and taught introductory statistics and probability enrichment courses with complementary computer laboratory to Chicago area high school students.

Mathematics Instructor, The Lawrenceville School, 1995–1997

AP Statistics, Calculus AB and BC, Geometry, Algebra

CONSULTING EXPERIENCE

Consultant, Department of Statistics Consulting Program, University of Chicago, 2001–2002

Estimating the Effect of Caregiver Speech on Vocabulary Acquisition, Winter 2002

Significance Testing for Species Composition Effects on Ecosystem Productivity, Winter 2001

INVITED TALKS

Northwestern University, Department of Preventive Medicine, 2004

University of Chicago, Department of Health Studies, 2005

Sixteenth Conference for the International Society of Environmental Epidemiology, 2004

WNAR, International Biometric Society Annual Meeting, 2004

National Center for Atmospheric Research, 2004

Johns Hopkins University Bloomberg School of Public Health, 2003

Great Lakes Environmental Research Laboratory, 2003

Los Alamos National Laboratory, 2003

National Center for Atmospheric Research, 2003

Haverford College, 2003

San Francisco State University, 2003

INVITED POSTERS

Joint Statistical Meetings, 2004

CONTRIBUTED TALKS

Fourth European Conference on Geostatistics for Environmental Applications, 2002

Joint Statistical Meetings, Section on Statistics and the Environment, 2002

University of Chicago Summer Statistics Institute for High School Teachers 2001, 2002

Graduate Student Seminar, Department of Statistics, University of Chicago, 1999, 2000, 2002

RESEARCH INTERESTS

Applications of statistics to medical and environmental sciences. In particular, environmental statistics, modeling health effects of air pollution and weather, spatial statistics, time series, distributed lag models, and combining physical and statistical models.

DISSERTATION

Title: *Spatial Statistics for Modeling Phytoplankton*

Advisor: Michael L. Stein

Summary: Interpolating chlorophyll levels using irregularly spaced observations from multiple sources. Investigating covariance models for badly anisotropic data, modeling measurement bias, and estimating parameters through approximate restricted maximum likelihood techniques.

AWARDS

National Science Foundation Graduate Fellowship, 1998–2000.

Phi Beta Kappa, elected 1995.

Sigma Xi, elected 1995.

EDITORIAL ACTIVITIES

Referee for *Environmental Research*, *American Journal of Epidemiology*.

PROFESSIONAL MEMBERSHIPS

American Statistical Association

International Biometric Society, Eastern North American Region

Institute of Mathematical Statistics