

Curriculum Vitae

Michael J. Daniels
Department of Epidemiology and Biostatistics
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Education

AB	Applied Mathematics	Brown University (magna cum laude)	1991
ScD	Biostatistics	Harvard University	1995
	Thesis:	<i>Hierarchical Regression Models with Applications</i>	
	Minors:		
	Theoretical Statistics		
	Cancer Biology		

Academic Appointments

1995-1997	Visiting Assistant Professor Department of Statistics Carnegie Mellon University, Pittsburgh, PA — supported in part by Psychiatric Statistics Postdoctoral Fellowship
1997-2002	Assistant Professor Department of Statistics Iowa State University, Ames, IA
2002-2007	Associate Professor (with tenure) Department of Statistics University of Florida, Gainesville, FL
2005-	Executive Committee and Leader of Biostatistics, Data Management, and Methodology C Institute on Aging, University of Florida
2006-	Chief of Division of Biostatistics Associate Professor (with tenure) Department of Epidemiology and Biostatistics Department of Statistics (joint appointment)
2007-	Professor Department of Epidemiology and Biostatistics Department of Statistics (joint appointment)
2008-	Interim Chair, Department of Statistics

GrantsNIH

PI : Covariance estimation in longitudinal cancer studies (NIH, R01), \$150,000, 2001-2004.

co-PI : Conference on Data mining and Bioinformatics (NIH, R13), submitted June 2003;
Not Funded.

co-PI : Analyzing complex longitudinal data in behavior science (NIH, R01), \$180,000 (direct costs: subcontract from Brown University, PI on subcontract), 2004-2007.

PI : Bayesian methods for longitudinal cancer data (NIH, R01), \$300,000 (direct costs), 2004-2009.

co-PI (Leader of Biostatistics and Data Management Core): Claude D. Pepper Older Americans Independence Center (OAIC), \$600,000 /per year (direct costs). 2007-2012.

Consultant: ACE inhibition and physical performance in aged rats, \$1.1 million (direct costs), 2005-2010.

PI (Program Director), Biostatistical training program in genetics and public health, submitted September 2007, NIH (T32), \$1.2 million (total direct costs), not funded.

co-PI : CMS Nonpayment for Nosocomial Injury and Risk of Falls in Hospitals, submitted January 2008, NIH (R01), \$1.6 million, pending.

co-I: Krista DMD grant

co-I: Rural Lifestyle Intervention Treatment Effectiveness Trial (Rural Lite), \$3.6 million (direct costs), 2008-2013,

co-I: Leeuwenburgh P01

co-I: Krista P01

PI : Bayesian methods for (incomplete) longitudinal cancer data (NIH, R01), \$500,000 (direct costs), 2009-2013, pending.

NSF

Co-PI : Development of Conditionally Specified Statistical Models for Analysis of Environmental Studies (NSF), \$300,000, 1998-2001.

co-PI : Conference on Data mining and Bioinformatics (NSF), January 2004, \$17,500.

co-PI (PI is Christman at UF), Workshop on Environmental and Spatial Statistics, NSF, not funded.

PI: Workshop on semiparametric methodology, NSF, pending.

Other

Co-PI : Spatial Statistics Research Applied to Ecological Resource Monitoring Programs (EPA, CR822919-01-0), 1997-1998.

Co-PI: Statistical Treatment of Class Evidence (FBI through Ames Lab), \$150,000 1998-1999.

PI : Improved estimation of correlations in longitudinal and spatial data (University Research Grant, Iowa State University), \$12,000, 1998-1999

Co-PI : Effect of Prenatal Stress on the Health and Well-Being of Swine (USDA), \$205,000, 2000-2003.

Co-PI: Multi-drug resistant salmonella in swine: epidemiology, virulence, and immunity (NRI [USDA]), Not Funded.

Co-PI: Development of small sample methodologies for research in exotic, endangered and companion animal health. (Carver Grant, Iowa State University), \$19,000, Not Funded.

PI : Quantification of Animal Well Being, (USDA Cooperative Agreement), \$33,000, 2002-2007.

Awards and Honors

Member of Sigma Xi Scientific Honor Society, 1991-1994

National Institutes of Health Training Grant Recipient, 1991-92

Generalized Linear Models Conference Travel Award, 1994

Howard Hughes Medical Institute Predoctoral Fellowship in Biological Sciences, 1992-1995

Eastern North American Region of Biometrics Society Student Travel Award, 1995

National Research Service Award in Psychiatric Statistics (NIMH), 1995-1997

Fellow of the American Statistical association (elected 2007)

Professional Societies

American Statistical Association, International Biometric Society, Institute of Mathematical Statistics, International Society for Bayesian Analysis

Research Interests

Bayesian methodology, Bayesian biostatistics, Covariance structures, Hierarchical modelling, Longitudinal data models, Missing data models, Spatial models

Applications in cancer, nutrition, health services, the environment, and forensics

Books

Daniels, M.J. and Hogan, J.W. (2008) Missing data in longitudinal studies: Strategies for Bayesian Modeling and Sensitivity Analysis. Chapman & Hall (CRC Press).

PapersPublished (Refereed)

Lenhard R, Daniels M, Oken M, Glick J, Ettinger D, Kalish L, O'Connell M (1994) An Aggressive High Dose Cyclophosphamide and Prednisone Regimen for Advanced Multiple Myeloma. *Leukemia and Lymphoma*. 13:485-489.

Devlin B, Daniels M, Roeder K. (1997) Heritability of IQ. *Nature*. 388:468-471.

Daniels M, Hughes M. (1997) Meta-Analysis for the evaluation of potential surrogate markers. *Statistics in Medicine*. 16:1965-1982.

Daniels M, Gatsonis C. (1997) Hierarchical Polytomous Regression Models with Applications to Health Services Research. *Statistics in Medicine*. 16:2311-2325.

Hughes MD, Daniels MJ, Fischl MA, Kim S, Schooley RT. (1998) CD4 cell count as a surrogate endpoint in HIV clinical trials: a meta-analysis of studies of the AIDS Clinical Trials Group. *AIDS*. 12:1823-1832.

Daniels M, Kass R. (1998) A note on first stage approximation in two stage hierarchical models. *Sankhya, Series B*. 60:19-30.

Daniels M, Gatsonis C. (1999) Hierarchical Generalized Linear Models in the Analysis of Variations in Health Care Utilization. *Journal of the American Statistical Association*. 94:29-42.

Daniels M. (1999) A prior for the variance in hierarchical models. *Canadian Journal of Statistics*. 27:569-580.

Lay, D.C., Jr., M.F. Haussman, H.S. Buchanan, and M.J. Daniels. (1999) Danger to piglets due to crushing can be reduced by the use of a simulated udder. *Journal of Animal Science*. 77:2060-2064.

Cressie N, Kaiser M, Daniels M, Aldworth J, Lee J, Lahiri S, Cox L. (1999) Spatial analysis of particulate matter in an urban environment, In *geoENV II - Geostatistics for Environmental Applications: Proceedings of the Second European Conference on Geostatistics for Environmental Applications*, eds. J. Gomez-Hernandez, A. Soares, R. Froidevaux, 41-52.

Daniels M, Kass R. (1999) Nonconjugate Bayesian estimation of covariance matrices in hierarchical models. *Journal of the American Statistical Association*, 94, 1254-1263.

Lay D., Haussmann M, Daniels M. (2000) Hoop Housing for feeder pigs offers a welfare friendly environment compared to a non-bedded system. *Journal of Animal Welfare Science*, 3:33-48.

- Sidorenko, L.V., Li, X., Cocciolone, S.M., Chopra, S., Tagliani, L., Bowen, B., Daniels, M. and Peterson, T. (2000) Complex structure of a maize Myb gene promoter: functional analysis in transgenic plants. *The Plant Journal*, 22:1-14.
- Daniels M, Dominici F, Samet J., Zeger, S. (2000) Estimating particulate matter-mortality dose-response curves and threshold levels: An analysis of daily time series data for the 20 largest U.S. cities (with invited commentary). *American Journal of Epidemiology*, 152, 397-406.
- Hausmann, M.F., Carroll, J.A., Weesner, G.D., Daniels, M.J., Matteri, and Lay, D.C. Jr. (2000) Administration of ACTH to restrained, pregnant sows alters their pigs hypothalamic-pituitary-adrenal (HPA) axis. *Journal of Animal Science*, 78:2399-2411.
- HIV Surrogate Marker Collaborative Group (2000) Human Immunodeficiency Virus Type I RNA Level and CD4 Count as Prognostic Markers and Surrogate Endpoints: A Meta-Analysis. *AIDS Research and Human Retroviruses*, 16, 1123-1133.
- Daniels M, Hogan J. (2000) Reparameterizing the pattern mixture model for sensitivity analysis under informative dropout in longitudinal studies. *Biometrics*, 56, 1241-1249.
- Daniels M, Cressie N. (2001) A hierarchical approach to covariance function estimation for time series. *Journal of Time Series Analysis*, 22, 253-266.
- Daniels M, Lee Y-D, Kaiser M. (2001) Assessing sources of variability in measurement of ambient particulate matter. *Environmetrics*, 12, 547-558.
- Hellmich, R.L., Siegfried, B.D., Sears, M.K., Stanley-Horn, D.E., Daniels, M.J., Mattila, H.R., Spencer, T., Bidne, K.G., and Lewis, L.C. (2001) Monarch larvae sensitivity to *Bacillus thuringiensis* - purified proteins and pollen. *Proceedings of the National Academy of Sciences*, 98: 11925-11930.
- Carriquiry A., Daniels M. (2001) Adjusting for measurement error of a dietary risk factor in age-related maculopathy. *Bayesian Methods with Applications to Science, Policy, and Official Statistics: Selected Papers from ISBA 2000: The Sixth World Meeting of the International Society for Bayesian Analysis*.
- Daniels M.J., Kass R.E. (2001) Shrinkage estimators for covariance matrices. *Biometrics*, 57: 1173-1184.
- Daniels, M.J., and Carriquiry, A.L. (2001) Computing the posterior distribution of individual level usual intakes with application to disease models. *Research in Official Statistics*, 4: 67-79.
- Hogan J, Daniels M. (2002) A hierarchical modelling approach to analysing longitudinal measurements with dropout and non-compliance, with application to an equivalence trial in paediatric acquired immune deficiency syndrome. *Applied Statistics (JRSS-C)*, 51:1-21.

- Dominici, F., Daniels, M., Zeger S., Samet J. (2002) National models for estimating the effect of particulate matter on mortality in U.S. cities. *Journal of the American Statistical Association*, 97:100-111.
- Pourahmadi M, Daniels M. (2002) Dynamic conditionally linear mixed models. *Biometrics*, 58:225-231.
- Daniels, M. Pourahmadi, M. (2002) Bayesian analysis of covariance matrices and dynamic models for longitudinal data. *Biometrika*, 89, 553-566.
- Kaiser, M., Daniels, M., Furakawa, K., Dixon, P. (2002) Analysis of particulate matter air pollution using markov random field models of spatial dependence. *Environmetrics*, 13, 615-628.
- Pogranichnyy, R.M., Yoon K-J., Harms, P.A., Sorden, S.D., Daniels M. (2002) Case-control study on association of porcine circovirus type 2 and other swine viruses in postweaning multisystemic wasting syndrome. *Journal of Veterinary Diagnostic Laboratory Investigation*, 14, 449-456.
- Daniels, M. and Zhao, Y. (2003) Modelling the random effects covariance matrix in longitudinal data. *Statistics in Medicine*, 22, 1631-1647.
- Sidorenko, L, Bruce W., Maddock, S., Tagliani, L., Li, X., Daniels, M., Peterson, T. (2003) Functional analysis of two matrix attachment region (MAR) elements in transgenic maize plants. *Transgenic Research*, 12, 137-154.
- Scharfstein D, Daniels M, Robins J. (2003) Incorporating prior beliefs about selection bias into the analysis of randomized trials with missing outcomes. *Biostatistics*, 4: 495-512.
- Daniels, M.J., Dominici, F., Zeger, S. (2004) Underestimation of standard errors in multi site time series studies. *Epidemiology*, 15: 57-62.
- Daniels, M.J. (2005) Shrinkage priors for the dependence structure in longitudinal data. *Journal of Statistical Planning and Inference*, 127: 119-130.
- Dominici F., McDermott A., Daniels, M., Zeger S.L, Samet J.M. (2005) Revised analyses of the National Morbidity, Mortality, and Air Pollution Study: mortality among resident of 90 cities. *Journal of Toxicology and Environmental Health Part A.*, 68, 1071-1092.
- Daniels, M., Normand, S-L.(2006) Longitudinal profiling of health care units based on mixed multivariate patient outcomes. *Biostatistics*, 7, 1-15.
- Krieger, J.W., Sitren, H.S., Daniels, M.J., Landkamp-Henken, B. (2006) Effects of variation in protein and carbohydrate intake on body mass and composition during energy restriction: a meta-analysis. *American Journal of Clinical Nutrition*, 83: 260-274.
- Daniels, M., Zhou, Z, and Zou, H. (2006) Conditionally specified space-time models for multivariate processes. *Journal of Computational and Graphical Statistics*, 15, 157-177.
- Botts, C., Daniels, M. (2006) A shrinkage estimator for the spectral densities. *Biometrika*, 93, 179-195.

- Daniels, M.J. (2006) Bayesian modelling of several covariance matrices and some results on the propriety of the posterior for linear regression with correlated and/or heterogeneous errors. *Journal of Multivariate Analysis*, 97, 1185-1207.
- Scharfstein, D.O., Halloran, M.E., Chu, H., and Daniels, M.J. (2006) On Estimation of Vaccine Efficacy Using Validation Samples with Selection Bias. *Biostatistics*, 7, 615-629.
- Liu, X. and Daniels, M.J. (2006) A new algorithm for simulating a correlation matrix based on parameter expansion and re-parameterization. *Journal of Computational and Graphical Statistics*, 15, 897-914.
- Pourahmadi, M., Daniels M., Park, T. (2007) Simultaneous modelling of covariance matrices using the modified Choleski decomposition with applications. *Journal of Multivariate Analysis*, 98, 568-587.
- Ilk O., Daniels, M. (2007) Marginalized transition random effects models for multivariate longitudinal binary data. *Canadian Journal of Statistics*, 35, 105-123.
- Lee, K., Daniels, M.J. (2007) A class of Markov models for longitudinal ordinal data. *Biometrics*, 63, 1060-1067.
- Lay, D., Kattesh, H., Cunnick, J., Daniels, M.J., McMunn, K., Toscano, M. and Roberts, M. (2008) Prenatal stress on pig development and response to weaning. *Journal of Animal Science*, 86, 1316-1324.
- Roy, J. and Daniels, M.J. (2008) A General Class of Pattern Mixture Models for Nonignorable Dropout with Many Possible Dropout Times. *Biometrics*, 64, 538-545.
- Liu, X, Daniels, M., Marcus, B. (2008) Joint models for the association of a longitudinal binary and continuous process. To appear in *Journal of the American Statistical Association*.
- Lee, K. and Daniels, M.J. (2008) Marginalized models for longitudinal ordinal data with application to quality of life studies. To appear in *Statistics in Medicine*.
- Botts, C. and Daniels, M.J. (2008) A flexible approach to Bayesian multiple curve fitting. To appear in *Computational Statistics and Data Analysis*.
- Perri, M.G., Limacher, M.C., Durning, P.E., Janicke, D.M., Lutes, L.D., Bobroff, L.B., Dale, M.S., Daniels, M.J., Radcliff, T.A., and Martin, A.D. (2008) Treatment of Obesity in Underserved Rural Settings (TOURS): A Randomized Trial of Extended-Care Programs for Weight Management in Women. To appear in *Archives of Internal Medicine*.
- Judge, M.K., Zhang, J., Tumer, N., Carter, C., Daniels, M.J., and Scarpace, P.J. (2008) Prolonged hyperphagia with HF feeding contributes to exacerbated weight gain in rats with adult-onset obesity. To appear in *American Journal of Physiology - Regulatory, Integrative, and Comparative Physiology*.

Peer Reviewed

Daniels, M, Dominici F, Samet J., Zeger, S. (2004) The National Morbidity-Mortality, and Air Pollution Study Part III: Concentration Response Curves and Thresholds for the 20 Largest U.S. Cities, The Health Effects Institute, Cambridge, MA.

Dominici F., McDermott A. Daniels, M. Samet J.M. Zeger S.L. (2004) A Report to the Health Effects Institute on Reanalyses of the NMMAPS Database, The Health Effects Institute, Cambridge, MA.

Daniels M, Dominici F, Samet J., Zeger, S. (2001) Reply to the letter of Tobias and Saez re: "Estimating particulate matter-mortality dose-response curves and threshold levels: An analysis of daily time series data for the 20 largest U.S. cities." *American Journal of Epidemiology*, 153, 1027-1028.

Submitted

Daniels, M.J. and Pourahmadi, M. (2008) Modeling covariance matrices using partial autocorrelations. Submitted.

Published (Non-Refereed)

Daniels M, Devlin B, Roeder K (1997) 'Of Genes and IQ' in *Intelligence, Genes, and Success: Scientists respond to "The Bell Curve"*, editors B Devlin, S Fienberg, D Resnick, and K Roeder, New York: Springer-Verlag.

Daniels M. (1998) Computing posterior distributions for covariance matrices in *Computing Science and Statistics, Volume 30, Proceedings of the 30th Symposium on the Interface*, editor S. Weisberg, p. 192-196.

Daniels, M., Carriquiry A. (1999) Dietary assessment and estimation of intake densities. In: Paulino, C.D., Pacheco, A., and Ferreira da Cunha, A.P. (eds.) *Afirmar a Estatística: Um Desafio para o Seculo XXI*, Sociedade Portuguesa de Estatística, Lisboa, Portugal.

Daniels, M., Zhang, Y, Erdman, M., Harris IT. (2001) Experience with the Danish Mix-ELISA in the United States. *Proceedings of the 4th International Symposium on the Epidemiology and Control of Salmonella and other food-borne pathogens in Pork (Salinpork 2001)*, ed. PJ van der Wolf, 492-495.

Daniels, MJ, Zhang, Y., Erdmann, M., Harris, IT (2002) Estimating the accuracy of the DME in the U.S. *Proceedings of the 17th International Pig Veterinary Society (IPVS) Congress*, Ames, Iowa, June 2-5, 2002, p. 243.

Daniels, MJ (2003) Review of "Contemporary Statistical Models for the Plant and Soil Sciences" for *Journal of the American Statistical Association*, 98, 1080-1082.

Teaching Experience

1991-95	Teaching Fellow in Biostatistics Harvard School of Public Health, Boston, MA — Introduction to Statistical Methods — Statistical Inference I — Regression and Analysis of Variance — Discrete Multivariate Analysis
95F	Statistics for Engineering and the Physical Sciences (Undergraduate)
96S	Engineering Statistics and Quality Control (Undergraduate)
96F	Intermediate Probability (Core course for Statistics graduate students)
97S	Continuous Multivariate Analysis (Graduate course)
97F	Statistical Methods for Research Workers
98S	Design of Experiments
98F,00F	Statistical Methods (Core course for Statistics graduate students)
99F, 01F	Methods in Biostatistics (introduced and developed this course)
99S,00S, 01S	Introduction to Statistics (Introductory Undergraduate course)
02S	Theory of Probability and Statistics I (Undergraduate)
'03S,04S	Introduction to Biostatistics (MPH course)
'03F	Survival Analysis (Undergraduate)
'03F	Survival Analysis (MS elective)
'04F,07S	Analysis of spatial data (MS elective)
'05F, 07F	Analysis of Longitudinal data (PhD elective)
'06S	Generalized linear models (PhD core course)

Short courses

- Statistical Methods in Forensic Science (with Carriquiry and Stern)
 - Federal Bureau of Investigation, Washington D.C., May 2000
- Hierarchical Models in Health Services and Outcomes Research (with Gatsonis)
 - Statistics and Health Conference, Edmonton, June 2000
 - National Center for Health Statistics, Bethesda, August 2000
 - Joint Statistical Meetings, Indianapolis, August 2000
 - Centers for Disease Control, Atlanta, September, 2002
- Workshop on Quantitative Tools for Risk Assessment (one of several presenters)
 - Iowa State University Agroterrorism Council, Ames, May 2002
- Dropout in Longitudinal Studies: Strategies for Bayesian Modeling and Sensitivity Analysis (with Hogan)
 - Joint Statistical Meetings, Salt Lake City, July 2007
 - Centers for Disease Control, Atlanta, August 2007
 - Deming Conference on Applied Statistics, Atlantic City, December 2007
 - ENAR, Crystal City, March 2008

PresentationsInvited

‘Hierarchical Generalized Linear Models,’ Department of Statistics, University of Georgia, 1995.

‘Hierarchical Generalized Linear Models,’ Department of Statistics, State University of New York - Buffalo, 1995.

‘Hierarchical Generalized Linear Models,’ Department of Statistics, Carnegie Mellon University, 1995.

‘Hierarchical Generalized Linear Models,’ Department of Statistics, Brown University, 1995.

‘Hierarchical Generalized Linear Models,’ Division of Biostatistics, Indiana University, 1995.

‘Hierarchical Polytomous Regression Models for Health Services Research,’ International Health Care Policy Conference, Boston, 1995.

‘Hierarchical Polytomous Regression Models for Health Services Research,’ ENAR Spring Meetings, Richmond, 1996.

‘Hierarchical Regression Models for Health Services Research,’ Health Services Research Seminar Series, Center for Research on Health Care, University of Pittsburgh, 1996.

‘Nonconjugate Bayesian estimation of covariance matrices,’ Department of Statistics, Iowa State University, 1997.

‘Nonconjugate Bayesian estimation of covariance matrices,’ Department of Statistics, University of Georgia, 1997.

‘Nonconjugate Bayesian estimation of covariance matrices,’ Department of Biostatistics, University of Pennsylvania, 1997.

‘Nonconjugate Bayesian estimation of covariance matrices,’ Department of Health Studies, University of Chicago, 1997.

‘Nonconjugate Bayesian estimation of covariance matrices,’ Department of Biostatistics, University of Rochester, 1997.

‘Nonconjugate Bayesian estimation of covariance matrices,’ RAND, 1997.

‘Nonconjugate Bayesian estimation of covariance matrices,’ International Conference on combinatorics, information theory and statistics, Portland, 1997.

‘What’s wrong with *The Bell Curve*’, Joint Statistical Meetings, Anaheim, 1997.

‘Nonconjugate Bayesian estimation of covariance matrices,’ Seminar, Department of Statistics and Econometrics, University of Chicago Business School, October 1997.

- ‘Meta-Analysis for the Evaluation of Potential Surrogate Markers’, Department of Statistics, Iowa State University, November, 1997.
- ‘Meta-Analysis for the Evaluation of Potential Surrogate Markers’, Mayo Clinic, December, 1997.
- ‘Nonconjugate Bayesian estimation of covariance matrices,’ Seminar, Department of Statistics, University of Minnesota, December, 1997.
- ‘Computing posterior distributions for covariance matrices’, Interface 98, Minneapolis, May, 1998.
- ‘What do we eat? Analysis of dietary survey data’, Seminar, Center for Statistical Sciences, Brown University, October, 1998.
- ‘Spatial-temporal modelling of PM10 in Pittsburgh’, Department of Biostatistics, Johns Hopkins University, May, 1999.
- ‘Modelling covariance matrices for longitudinal data’, Joint Statistical Meetings, Baltimore, 1999.
- ‘A hierarchical model for the covariance function in time series data’, Seminar, Department of Statistics, University of Iowa, September, 1999.
- ‘Estimating large covariance matrices with applications to hierarchical models’, Seminar, Division of Statistics, Northern Illinois University, October, 1999.
- ‘Estimating large covariance matrices with applications to hierarchical models’, Seminar, Department of Biostatistics, University of Minnesota, October, 1999.
- ‘Estimating large covariance matrices with applications to hierarchical models’, Seminar, Department of Biostatistics, Columbia University, November, 1999.
- ‘Shrinkage estimators for covariance matrices with applications’, Seminar at Department of Mathematics and Statistics, Boston University, March 2000
- ‘Dynamic Models and Bayesian Modelling of Covariance Matrices in Longitudinal Data’, Seminar at Department of Statistics, Harvard University, March 2000
- ‘Informative dropout in a Growth Hormone trial’, ENAR, Chicago, March, 2000.
- ‘Spatio-temporal Models for Air Pollution’, Invited talk at Workshop on Hierarchical Modeling in Environmental Statistics, Columbus, May 2000.
- ‘Frequentist and Bayesian inference for potentially non-ignorable non-response in randomized clinical trials.’ Invited talk at American Mathematical Society Summer Research Conference on Bayes, Frequentist and Likelihood Inference: A Synthesis, Mount Holyoke, July 2000.
- ‘Dynamic models for analysis of Longitudinal Data’, Seminar, Department of Statistics, Iowa State University, October 2000.

- ‘Dynamic models for analysis of Longitudinal Data’, Seminar, Department of Statistics, University of Connecticut, November 2000.
- ‘Spatio-temporal Models for Air Pollution’, ENAR, Charlotte, March 2001.
- Discussant, ISBA Regional Meeting, Laguna Beach (CA), April, 2001.
- ‘Space-time Models for Multiple Pollutants’, Joint meetings, Atlanta, August 2001.
- ‘Bayesian analysis of covariance matrices for longitudinal data’, VIII Latin American Congress on Probability and Mathematical Statistics, Havana, Cuba, November, 2001.
- ‘Modelling dependence in longitudinal data’, Department of Statistics, University of Florida, April 2002.
- ‘Modelling dependence in longitudinal data’, Department of Biostatistics, University of Minnesota, April 2002.
- ‘Modelling heterogeneous and parsimonious covariance structures in longitudinal data’, WNAR, Los Angeles, June, 2002.
- (Unable to attend) Invited Participant, American Mathematical Society Summer Research Conference on Emerging Issues in Longitudinal Data, Mount Holyoke, July 2002.
- ‘Examining assumptions about missing data using prior distributions’, Joint meetings, New York, August 2002 (co-author presented).
- (Unable to attend) Invited panel discussant, Statistics and Air Quality – the USEPA Criteria Document for Particulate Matter, Joint meetings, New York, August 2002.
- ‘Shrinkage priors for the dependence structure in temporal data’, The Granada International Workshop on Objective Bayesian Analysis, University of Granada, Granada, Spain, December, 2002.
- ‘Conditional modelling of spatio-temporal processes’, ENAR, Tampa, March 2003.
- “Shrinkage priors for the dependence structure in temporal data”, Department of Statistics, University of Missouri, Spring 2003.
- Discussion of “Nonparametric Bayesian Survival Analysis” by J. Lee, Fourth International Workshop on Objective Prior Methodology, Aussois, France, June 2003.
- “Modelling conditionally specified space-time models with application to multiple pollutants”, Department of Statistics, University of Chicago, October, 2003.
- “Modelling complex dependence in health services data”, International Conference on Health Policy Research, Chicago, October, 2003.
- “Conditionally specified space-time models for multivariate processes”, Department of Statistics/Biostatistics, University of South Carolina, March 2004.

- “Conditionally specified space-time models for multivariate processes”, Bayesian Methods Working Seminar, Department of Biostatistics, Harvard University, April, 2004.
- “Conditionally specified space-time models for multivariate processes”, Department of Statistics, North Carolina State, April 2004.
- “Conditionally specified space-time models for multivariate processes”, IISA conference, Athens, GA, May 2004.
- “Some issues/strategies for inference with pattern mixture models in the presence of (informative) dropout”, ISBA meetings, Chile, May 2004.
- “Marginalized transition random effects models for multivariate longitudinal binary data”, SRCOS meetings, Blacksburg, VA, June 2004.
- “Bayesian modelling of several covariance matrices and some results on propriety of the posterior for linear regression with correlated and/or heterogeneous errors”, Joint meetings, Toronto, August 2004.
- “Using the Cholesky Decomposition to Model the Covariance Matrix in Ordered Data”, Vision-Learning Seminar, Department of Computer Science, University of Florida, November, 2004.
- Invited discussant, Objective Bayes 2005, Branson, Missouri, June, 2005.
- “Marginalized models for multivariate longitudinal binary data”, Joint meetings, Minneapolis, August 2005.
- “Bayesian multiple curve fitting”, Center for Statistical Science, Brown University, November 2005.
- “Bayesian multiple curve fitting: Likelihood approximations”, Department of Biostatistics, Emory University, March 2006.
- “Longitudinal profiling of health care units based on mixed multivariate patient outcomes,” ENAR, Tampa, March 2006
- “Joint modelling of longitudinal continuous and binary processes”, Department of Biostatistics, Vanderbilt University, May 2006
- “A General Class of Pattern Mixture Models for Nonignorable Dropout with Many Possible Dropout Times,” ICSA Symposium, Storrs (CT), June 2006
- “Modelling the association between a binary and a continuous longitudinal process”, IBC 2006, Montreal, July 2006.
- “On Estimation of Vaccine Efficacy Using Validation Samples with Selection Bias,” Joint meetings, Seattle, August 2006.
- “A Class of Markov models for longitudinal ordinal data”, ENAR, Atlanta, March 2007.

- “Joint modelling of longitudinal continuous and binary processes”, Department of Statistics, Florida State University (joint UF/FSU colloquium), March 2007
- “Joint modelling of longitudinal continuous and binary processes”, Department of Biostatistics and Applied Mathematics, University of Texas MD Anderson Cancer Center, April 2007.
- “Analysis of the treatment mechanism in a smoking cessation trial”, Department of Mathematics and Statistics, Williams College, May 2007.
- “Bayesian modelling of longitudinal processes with dropout and non-compliance” Joint meetings, Salt Lake City, July 2007.
- “Joint modelling of longitudinal continuous and binary processes”, Department of Biostatistics, University of Washington, November 2007.
- “A general class of pattern mixture models for nonignorable dropout with many possibly dropout times”, LSU Biostatistics, November 2007.
- “Modeling correlation matrices via partial autocorrelations”, ENAR, Crystal City, March 2008.
- “Joint modelling of longitudinal continuous and binary processes”, Department of Statistics and Department of Epidemiology & Biostatistics, University of South Carolina (joint Stat/Biostat colloquium), March 2008
- “Statistical methods for missing data in longitudinal studies”, Academy Health Annual Research Meeting, Washington, D.C., June 2008.

Contributed

- ‘Multilevel Hierarchical Generalized Linear Models,’ ENAR Spring Meetings, Birmingham, 1995.
- ‘Bivariate Meta-Analysis for the Evaluation of Potential Surrogate Markers’, Joint Statistical Meetings, Orlando, 1995.
- ‘Model Checking and Selection in Hierarchical Models,’ Special Contributed Paper, Joint Statistical Meetings, Chicago, 1996.
- ‘Nonconjugate Bayesian estimation of covariance matrices,’ Meetings for Analysis of Longitudinal Data (abstract accepted), Nantucket, 1996.
- ‘Nonconjugate Bayesian estimation of covariance matrices,’ Seminar for Bayesian inference in econometrics and statistics, Columbus, 1997.
- ‘Computing posterior distributions for covariance matrices’, Special Contributed Paper, Joint Statistical Meetings, Dallas, 1998.
- ‘Estimating Usual Intake for Dietary Data’, Meetings on Bayesian Statistics, Valencia, 1998.

- ‘What do we eat? Analysis of dietary survey data’, ENAR Spring Meetings, Atlanta, 1999.
- ‘Exploration of measurement error and microscale variability in pm monitoring in pittsburgh’, Third Colloquium on Particulate Matter and Human Health, (abstract accepted), Durham, 1999.
- ‘Hierarchical non-parametric poisson models in environmental epidemiology: investigating the association between particulate matter and mortality’, Third Colloquium on Particulate Matter and Human Health, (abstract accepted), Durham, 1999.
- ‘Assessing sources of variability in measurement of ambient particulate matter’, Special Contributed (Topic) Session, Joint Statistical Meetings, Indianapolis, August, 2000.
- ‘Dynamic conditionally linear mixed models’, ISBA Regional Meeting, Laguna Beach (CA), April, 2001.
- ‘Experience with the Danish Mix-ELISA in the United States’, Salin pork 2001, (abstract accepted), Leipzig (Germany), September, 2001.
- ‘Experience with the Danish Mix-ELISA in the United States’, Food Safety Consortium, Ames, September, 2001.
- ‘Bayesian analysis of covariance matrices in longitudinal data’, (paper accepted), Valencia 7 Meetings, Tenerife (Spain), June 2002.
- ‘Estimating the accuracy of the DME in the U.S.’, (paper accepted) IPVS 2002, Ames, June, 2002.

Editorial Boards

- Corresponding Editor for Institute of Mathematical Statistics Bulletin, 1998-2001
- Associate Editor for Biometrics, 2003-2010 (3 terms)
- Associate Editor for Journal of the American Statistical Association, Applications and Case Studies, 2005-2010
- Associate Editor for Statistics & Probability Letters, July 2007-June 2010

Professional activities

- Member of EPA FIFRA Scientific Advisory Panel, September, 1999
- Review Committee for ENAR Student Paper Awards, 1999-2000
- Co-organized ENAR invited session on informative missing data, 2000.
- NIH Study Section (Small grants program for cancer), Spring and Fall 2001
- Member of EPA Scientific Advisory Panel on Water Quality, December 2001

Organized ENAR invited session on longitudinal data, 2002.

ENAR Regional Advisory Board, 2003-2005.

Organized JSM invited session on modelling dependence, 2004.

ad hoc member, NIH BMRD Study Section, 2004, 2006.

HPSS Section Representative to ENAR, 2004-2005.

Member of ENAR Program Committee, 2005

Organized invited session on Bayesian Biostatistics, International Workshop/Conference on Bayesian Statistics and its Applications, India, January, 2005.

Organized JSM invited session on longitudinal data, 2005.

Biometrics section program chair for JSM 2006

Nominated to stand for election as member of International Society for Bayesian Analysis (ISBA) Board, Spring 2007 (election).

Review Committee for Student Paper Awards for Section on Bayesian Statistical Science (SBSS) of the ASA, 2007.

Program Chair Elect, Section on Bayesian Statistical Science (SBSS) of the ASA, 2008 (elected in 2007).

Council of Sections Representative, Biometrics Section of the ASA, 2008 (elected in 2007).

Refereeing/Reviewing

Refereed papers for JASA, JRSS-B, Environmetrics, Canadian Journal of Statistics, JCGS, JBES, JABES, Archives of General Psychiatry, Case Studies in Bayesian Statistics, Journal of Clinical Oncology, Statistics in Medicine, Biostatistics, American Journal of Epidemiology, Biometrics, Health Services and Outcomes Research Methodology, Annals of Internal Medicine, Psychological Bulletin, Journal of Statistical Planning and Inference, Statistical Science, Environmental Health Perspectives, Science for the Total Environment, Biometrika, Statistical Modelling, Lifetime Data Analysis, Biometrical Journal, JRSS-A, Atmospheric Environment, Statistica Sinica, Annals of Statistics, Ecology, Journal of Clinical Epidemiology, Bayesian Analysis, Statistics and Computing

Grant reviewer for NSF, NIH, and HEI (Health Effects Institute)

Reviewed manuscripts for Springer-Verlage, Duxbury Press, and Addison Wesley Longman

External thesis examiner for F.K. Wong's PhD thesis, Australian Graduate School of Management, 2004

Consulting/Collaborations

Boston Medical Area (Consulting Lab), 1993-1994

Western Psychiatric Institute and Clinic, in designing and analyzing studies, grant preparation, 1995-1996

Legal Firm (Freedman and Lockhart), analysis of data regarding potentially forged document, 1996

Carnegie Mellon History Department, analysis of educational data, 1996-1997

HIV RNA Surrogate Marker Collaborative Group, analysis of surrogate markers in AIDS trials, 1997-1999

Iowa State University, Department of Animal Science, Agronomy, Zoology and Genetics, and Veterinary Medicine, 1997-

Des Moines hospitals, analysis of perinatology data, design of survey on factors related to having genetic counseling, 1998-

Pfizer, study design and data analysis for drug testing, 1998-1999

Nextran, risk factors in Xenotransplantation, 1999-

Iowa State University, Department of Microbiology and School of Veterinary Medicine: project involving eventual eradication of multi-drug resistant salmonella in swine, 2001-

Environomics, review document on water quality regulations, 2004

Departmental and University Service

Master's Exam Committee, 1997, Carnegie Mellon

Joint Statistics/Education Position Search Committee, 1998-1999, Iowa State

Joint Statistics/Genetics Position Search Committee, 1999-2000, Iowa State

Seminar Chair, 1999 (Fall), Iowa State

Written questions for Masters' and PhD exams, 1999-2002, Iowa State

Masters' Exam Committee, 1999-2001, Iowa State

Baker Center Director Search Committee, 2000-2001, Iowa State

Bioinformatics/Computing Position Search Committee, 2001, Iowa State

Ph.D. Prelim Exam Committee, 2001-2002

Senior Position Search Committee, 2002, Iowa State

COG position search committee, 2002 University of Florida

Ag/Biostat position search committee, 2003 University of Florida

Core search committee for College of Public Health, 2003-2004, University of Florida

Chair of Biostatistics search committee, 2003-2004, University of Florida

Chair of CLAS Statistics search committee, 2004-2005, University of Florida

Department By-Laws Committee, 2006

Winter Workshop Committee, 2006

College of Public Health and Health Professions (PHHP) Public Health Executive Committee, 2006-present

PHHP Leadership Committee, 2006-2007

PHHP Public Health Operations Committee, 2007-present

Epidemiology faculty search committee, 2006-2007

Chair of Social and Behavior Sciences faculty search committee, 2007

Miscellaneous

discussed 1997 Nature paper on radio shows in Texas and Minnesota

PhD Students

- Ozlem Ilk (Iowa State), co-supervise with Cook, (graduated Spring 2004)
 - thesis title: Exploratory multivariate longitudinal data analysis and models for multivariate longitudinal binary data
 - currently Instructor, Department of Statistics, Middle East Technical University
- Carsten Botts (Iowa State), graduated Summer 2005
 - thesis title: Bayesian methods in single and multiple curve fitting
 - currently (tenure track) Assistant Professor, Williams College
- Xuefeng Liu (Florida), graduated Summer 2006
 - thesis title: Bayesian methodology for models with multivariate longitudinal outcomes
 - currently Assistant Professor, Division of Translational Research and Clinical Epidemiology, Wayne State University
- Keunbaik Lee (Florida), graduated Summer 2007
 - thesis title: Markov models for Longitudinal Categorical Data
 - Awarded an ENAR Distinguished Student Paper Award, 2006
 - currently (tenure track) Assistant Professor in Biostatistics, Louisiana State University