

# CURRICULUM VITAE

**NAME** F. Jay Breidt February 19, 2008

**ADDRESS** 102 Statistics Building **PHONE** (970) 491-6786  
Colorado State University  
Fort Collins, CO 80523-1877

## **EDUCATION**

- 1991 PhD, Statistics, Colorado State University
- 1989 MS, Statistics, Colorado State University
- 1987 BA, Mathematics and English Literature, *summa cum laude* with honors, The College of Idaho

## **ACADEMIC POSITIONS**

(July 2005-Present) Chair, Department of Statistics, Colorado State University  
(July 2003-June 2005) Associate Chair, Department of Statistics, Colorado State University  
(July 2003-December 2003) Acting Chair, Department of Statistics, Colorado State University  
(June 2002-Present) Professor, Department of Statistics, Colorado State University  
(January 2001-May 2002) Associate Professor, Department of Statistics, Colorado State University  
(1996-2000) Associate Professor, Department of Statistics, Iowa State University  
(1991-1996) Assistant Professor, Department of Statistics, Iowa State University

## **HONORS AND AWARDS**

- 2006, Elected Member, International Statistical Institute
- 2004, Fellow, American Statistical Association
- 2004, Distinguished Achievement Award, American Statistical Association Section on Statistics & the Environment
- 1997, Early Excellence in Research Award, College of Liberal Arts and Sciences, Iowa State University
- 1990, James L. Madison Memorial Award, Department of Statistics, Colorado State University
- 1989, Franklin A. Graybill Award, Department of Statistics, Colorado State University

## **SABBATICALS**

Fall 1998 American Statistical Association / National Science Foundation, Bureau of Labor Statistics / Census Bureau Senior Research Fellow  
Spring 1999 Colorado State University, Visiting Associate Professor of Statistics

## **PUBLISHED WORKS**

### **Refereed Journal Articles:**

1. Opsomer, J.D., Claeskens, G., Ranalli, M.G., Kauermann, G., and Breidt, F.J. (2008). Nonparametric small area estimation using penalized spline regression. *Journal of the Royal Statistical Society, Series B* **70**, 265-286.
2. Breidt, F.J., Hsu, N.-J., and Coar, W. (2008). A diagnostic test for autocorrelation in increment-averaged data with

- application to soil sampling. *Environmental and Ecological Statistics* **15**, 15-25.
3. Breidt, F.J. and Opsomer, J.D. (2008). Endogenous post-stratification in surveys: classifying with a sample-fitted model. *Annals of Statistics* **36**, 403-427.
  4. Breidt, F.J., Hsu, N.-J., and Ogle, S.M. (2007). Semiparametric mixed models for increment-averaged data with application to carbon sequestration in agricultural soils. *Journal of the American Statistical Association* **102**, 803-812.
  5. Ogle, S.M., Breidt, F.J., Easter, M., Williams, S. and Paustian, K. (2007). An empirically-based approach for estimating uncertainty associated with modeling carbon sequestration in soils. *Ecological Modelling* **205**, 453-463.
  6. Breidt, F.J., Opsomer, J.D., Johnson, A.A. and Ranalli, M.G. (2007). Semiparametric model-assisted estimation for natural resource surveys. *Survey Methodology* **33**, 35-44.
  7. Andrews, B., Davis, R.A. and Breidt, F.J. (2007). Rank-based estimation for all-pass time series models. *Annals of Statistics* **35**, 844-869.
  8. Opsomer, J.D., Breidt, F.J., Moisen, G.G., and Kauermann, G. (2007). Model-assisted estimation of forest resources with generalized additive models. *Journal of the American Statistical Association* **102**, 400-408 (with discussion pp. 409-414 and rejoinder pp. 415-416).
  9. Lokupitiya, E., Breidt, F.J., Lokupitiya, R.S., Williams, S. and Paustian, K. (2007). Deriving comprehensive county-level crop yield and area data for US cropland. *Agronomy Journal* **99**, 673-681.
  10. Breidt, F.J. (2006). Controlling the American Community Survey to intercensal population estimates. *Journal of Economic and Social Measurement* **31**, 253-270.
  11. Breidt, F.J., Davis, R.A., Hsu, N.J., and Rosenblatt, M. (2006). Pile-up probabilities for the Laplace likelihood estimator of a non-invertible first order moving average. *Time Series and Related Topics: In Memory of Ching-Zong Wei*. IMS Lecture Notes and Monograph Series, Volume 52, pp. 1-19.
  12. Andrews, B., Davis, R.A. and Breidt, F.J. (2006). Maximum likelihood estimation for all-pass time series models. *J. Multivariate Analysis*, **97**, 1638-1659.
  13. Ogle S.M., Breidt F.J., and Paustian K. (2006). Bias and variance in model results due to spatial scaling of measurements for parameterization in regional assessments. *Global Change Biology*, **12**, 516-523.
  14. Breidt, F.J., Claeskens, G. and Opsomer, J.D. (2005). Model-assisted estimation for complex surveys using penalized splines. *Biometrika*. **92**, 831-846.
  15. Ogle, S.M., F.J. Breidt and K. Paustian. (2005). Agricultural Management Impacts on Soil Organic Carbon Storage under Moist and Dry Climatic Conditions of Temperate and Tropical Regions. *Biogeochemistry* **72**, 87-121.
  16. Breidt, F.J. and Hsu, N.J. (2005). Best mean square prediction for moving averages. *Statistica Sinica*, **15**, 427-446.
  17. Breidt, F.J. (2004). Simulation estimation of quantiles from a distribution with known mean. *Journal of Computational and Graphical Statistics*, **13**, 487-498.
  18. Six, J., Ogle, S.M., Breidt, F.J., Conant, R.T., Mosier, A.R., and Paustian, K.. (2004). The potential to mitigate global warming with no-tillage management is only realized when practiced in the long term. *Global Change Biology*, **10**, 155-160.
  19. Ogle, S.M., Breidt, F.J., Eve, M.D., and Paustian, K. (2003). Uncertainty in estimating land use and measurement impacts on soil organic carbon storage for US agricultural lands between 1982 and 1997. *Global Change Biology*, **9**, 1521-1542.
  20. Hsu, N.J. and Breidt, F.J. (2003). Bayesian analysis of fractionally integrated ARMA with additive noise. *Journal of Forecasting*, **22**, 491-514.
  21. Chen, C., Fuller, W.A. and Breidt, F.J. (2003). Spline estimators of the density function of a variable measured with error. *Communications in Statistics - Simulation and Computation*, **32**, 73-86.
  22. Hsu, N.J. and Breidt, F.J. (2002). A class of nearly long-memory time series models. *International Journal of Forecasting*, **18**, 265-281.
  23. Benson, J.T., Breidt, F.J. and Schroeter, J. R. (2002). Television advertising and beef demand: Bayesian inference in a random effects Tobit model. *Canadian Journal of Agricultural Economics*, **50**, 201-219.
  24. Hsu, Nan-Jung , Ray, Bonnie K. , and Breidt, F. Jay (2001), Long-range dependent common factor models: A Bayesian approach, *Communications in Statistics, Part A -- Theory and Methods*, **30**, 1047-1061
  25. Breidt, F.J., Davis, R.A. and Trindade, A.A. (2001). Least absolute deviation estimation for all-pass time series models. *Annals of Statistics*, **29**, 919-946.
  26. Chen, C., Fuller, W.A., and Breidt, F.J. (2000). A semiparametric estimator of the distribution function of a variable measured with error. *Communications in Statistics: Part A -- Theory and Methods*, **29**, 1293-1310.
  27. Breidt, F.J. and Opsomer, J.D. (2000). Local polynomial regression estimators in survey sampling. *Annals of Statistics* **28**, 1026-1053.

28. Breidt, F.J. and Carriquiry, A.L. (2000). Highest density gates for target tracking. *IEEE Transactions on Aerospace and Electronic Systems* **36**, 47-55.
29. Pautsch, G.R., Babcock, B.A., and Breidt, F.J. (1999). Optimal information acquisition under a geostatistical model. *J. Agricultural and Resource Economics* **24**, 342-366.
30. Fuller, W.A. and Breidt, F.J. (1999). Estimation for supplemented panels. *Sankhya: The Indian Journal of Statistics, Series B*, 61, 58-70.
31. Breidt, F.J. and Fuller, W.A. (1999). Design of supplemented panel surveys with application to the National Resources Inventory. *J. Agricultural, Biological, and Environmental Statistics* **4**, 391-403.
32. Breidt, F.J., Crato, N. and de Lima, P. (1998). On the detection and estimation of long memory in stochastic volatility. *J. Econometrics* **83**, 325-348.
33. Nusser, S.M., Breidt, F.J., and Fuller, W.A. (1998). Design and estimation for investigating the dynamics of natural resources. *Ecological Applications* **8**, 234-245.
34. Carriquiry, A.L., Breidt, F.J., and Lakshminarayan, P.G. (1998). Sampling schemes for policy analyses using computer simulation experiments. *J. Environmental Management* **22**, 505-515.
35. Breidt, F.J. and Davis, R.A. (1998). Extremes of stochastic volatility models. *Annals of Applied Probability* **8**, 664-675.
36. Breidt, F.J., McVey, A. and Fuller, W.A. (1996-97). Two phase estimation by imputation. *J. Indian Society Agricultural Statistics*, 79-90.
37. Breidt, F.J., Davis, R.A., and Dunsmuir, W. (1995). Improved bootstrap prediction intervals for autoregressions. *J. Time Series Analysis* **16**, 177-200.
38. Breidt, F.J. (1995). Markov chain designs for one-per-stratum sampling. *Survey Methodology* **21**, 63-70.
39. Breidt, F.J. and Fuller, W.A. (1993). Regression weighting for multiphase samples. *Sankhya: The Indian Journal of Statistics, Series B, Special Volume* **55**, 297-309.
40. Breidt, F.J. and Davis, R.A. (1992). Time-reversibility, identifiability, and independence of innovations for stationary time series. *J. Time Series Analysis* **13**, 377-390.
41. Breidt, F.J., Davis, R.A., Lii, K.S., and M. Rosenblatt (1991). Maximum likelihood estimation for noncausal autoregressive processes. *J. Multivariate Analysis* **36**, 175-198.
42. Breidt, F.J., Boes, D.C., Wagner, J.I., and Flora, M.D. (1991). Antidegradation water quality criteria for the Delaware River: a distribution-free statistical approach. *Water Resources Bulletin* **27**, 849-858.
43. Breidt, F.J., Davis, R.A., Lii, K.S., and M. Rosenblatt (1990). Nonminimum phase nonGaussian autoregressive processes. *Proc. Natl. Acad. Sci. USA* **87**, 179-181.

#### **Refereed Proceedings/Transactions/Panel Reports:**

44. Breidt, F.J. (2007). Controlling the American Community Survey to postcensal population estimates. In National Research Council (2007). *Using the American Community Survey: Benefits and Challenges*. Panel on the Functionality and Usability of Data from the American Community Survey, Constance F. Citro and Graham Kalton, Editors. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press, pp. 269-289.
45. Breidt, F.J. (2007). Alternatives to the multiyear period estimation strategy for the American Community Survey. In National Research Council (2007). *Using the American Community Survey: Benefits and Challenges*. Panel on the Functionality and Usability of Data from the American Community Survey, Constance F. Citro and Graham Kalton, Editors. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press, pp. 290-312.
46. Sullivan, P.J., F.J. Breidt, R.B. Ditton, B.A. Knuth, B.M. Leaman, V.M. O'Connell, G.R. Parsons, K.H. Pollock, S.J. Smith, and S.L. Stokes. (2006). *Review of Recreational Fisheries Survey Methods*. National Academies Press, Washington, DC.
47. Scholz, J.K., F.J. Breidt, R. Briefel, W.F. Eddy, A. Gelman, A.R. Kristal, B.M. Popkin, L.J. Unnevehr, W. Willett, E.S. Pollack, M. ver Ploeg, J. Casey, T.M. Lee, and M. Siri. (2005). *Improving Data to Analyze Food and Nutrition Policies*. National Academies Press, Washington, DC.
48. Abbitt, P.J. and Breidt, F.J. (2002). A hierarchical model for estimating distribution profiles of soil texture. *Case Studies in Bayesian Statistics, Volume 5*. (C. Gatsonis, R.E. Kass, B. Carlin, A. Carriquiry, A. Gelman, I. Verdinelli, and M. West, eds.) New York: Springer-Verlag, pp. 263-278.
49. Hsu, N.-J., Ray, B.K., and Breidt, F.J. (1999). Bayesian estimation of common long-range dependent models. In *Probability Theory and Mathematical Statistics: [Proceedings of the 7th Vilnius Conference \(1998\)](#)*. (B.

Grigelionis, J. Kubilius, V. Paulauskas, H. Pragarauskas, and V. Statulevicius, eds.). Leiden, The Netherlands: VSP International Science Publishers.

50. Breidt, F.J. and Carriquiry, A.L. (1996). Improved quasi-maximum likelihood estimation for stochastic volatility models. In *Modelling and Prediction: Honoring Seymour Geisser*, (Jack C. Lee, Wesley O. Johnson, and Arnold Zellner, eds.) New York: Springer-Verlag, pp. 228-247.
51. Breidt, F.J., Davis, R.A., and Dunsmuir, W. (1992). On backcasting in linear time series models. In *New Directions in Time Series Analysis, Part I* (D. Brillinger, P. Caines, J. Geweke, E. Parzen, M. Rosenblatt, and M. Taqqu, eds.) The IMA Volumes in Mathematics and Its Applications; vol. 45. New York: Springer-Verlag, pp. 25-40.

#### **Manuscripts Accepted for Publication:**

52. Johnson, A.A., Breidt, F.J., and Opsomer, J.D. (2008+). Estimating distribution functions from survey data using nonparametric regression. *Journal of Statistical Theory and Practice*. Accepted 02/19/08.
53. Hsu, N.-J. and Breidt, F.J. (2008+). Exact maximum likelihood estimation for non-Gaussian non-invertible moving averages. *Statistica Sinica*. Accepted 01/02/08.

#### **Encyclopedia Entries:**

- Breidt, F.J. (2002). National Resources Inventory (NRI), US. *Encyclopedia of Environmetrics*, vol.3, pages 135-1356. A.H. El-Shaarawi and W.W. Piegorsch, eds. Wiley.

#### **Book Reviews and Invited Comments**

- Breidt, F.J. (2004). Review of *Nonlinear Time Series: Nonparametric and Parametric Methods*, by Jianqing Fan and Qiwei Yao. *Journal of the American Statistical Association* **100**, 348-349.
- Breidt, F.J. and J.D. Opsomer (2007), Discussion of 'Struggles with survey weighting and regression modeling' by A. Gelman. *Statistical Science* **22**, 168-170.

#### **Non-Refereed Proceedings/Transactions:**

- Breidt, F. Jay (2005). Diseño de redes de vigilancia de suelos: algunas perspectivas de estados unidos. In *Protección del suelo y el desarrollo sostenible*. (Translation of Design of Soil Monitoring Networks: Some US Perspectives.) A. Callaba, I. Iribarren, and P. Fdez.-Cantelli, eds. Publicaciones del Instituto Geológico y Minero de España. Serie: Medio Ambiente No. 6, pp. 119-131.
- Opsomer, J.D., Breidt, F.J., Claeskens, G., Kauermann, G., and Ranalli, M.G. (2004). Nonparametric small area estimation using penalized spline regression. *Proceedings of the Section on Survey Research Methods*, American Statistical Association, to appear.
- Kim, J.Y., Breidt, F.J. and Opsomer, J.D. (2000). Local polynomial regression estimation in two-stage sampling. *Proceedings of the Section on Survey Research Methods*, American Statistical Association, pp. 55-61.
- Breidt, F.J. (2000). Alternative designs for the Consumer Expenditure Survey. *1999 Federal Committee on Statistical Methodology Research Conference: Complete Proceedings*, Statistical Policy Working Paper 30, Office of Management and Budget, pp. 165-173.
- Opsomer, J.D. and Breidt, F.J. (1999). The application of local polynomial regression to survey sampling estimation. *Proceedings of the 14th International Workshop on Statistical Modelling*, to appear.
- Opsomer, J.D., and Breidt, F.J. (1999). Local polynomial regression estimation in a survey of Iowa soils. *Proceedings of the Statistical Computing Section*, American Statistical Association, pp. 17-23.
- Fernández, Soledad A. , Carriquiry, Alicia L. , and Breidt, F. Jay (1998), A time series approach to genetic trend estimation, *Proceedings of the Bayesian Statistical Science Section*, American Statistical Association, pp. 64-70
- Chen, C. and Breidt, F.J. (1997). A spatial autoregressive model in precision farming. *Proceedings of the Section on Statistics and the Environment*, American Statistical Association, pp. 37-42.
- Abbitt, P.J., Breidt, F.J. and Nusser, S.M. (1997). A nonlinear two-phase predictor for soil survey updates. *Proceedings of the Section on Survey Research Methods*, American Statistical Association, pp. 657-660.
- Hsu, N.-J., and Breidt, F.J. (1997). Bayesian analysis of fractionally integrated ARMA with additive noise.

- Proceedings of the Section on Business and Economic Statistics*, American Statistical Association, pp. 167-172.
- Breidt, F.J., and Carriquiry, A.L. (1997). Metamodeling for assessing environmental impact of agricultural policy. *Bulletin of the International Statistical Institute—Contributed Papers*, 51st Session, Book 1, 9-10.
  - Breidt, F.J., and Carriquiry, A.L. (1996). Bayesian estimation of genetic trends. *Proceedings of the Section on Bayesian Statistics*, American Statistical Association, pp. 24-29.
  - Axelson, H.M., Breidt, F.J., and Carriquiry, A.L. (1996). Two-phase regression estimation for policy analysis using computer simulation experiments. *Proceedings of the Section on Survey Research Methods*, Vol. I, American Statistical Association, pp. 320-325.
  - Breidt, F.J. (1995). Markov chain designs for one-per-stratum spatial sampling. *Proceedings of the Section on Survey Research Methods*, Vol. I, American Statistical Association, pp. 356-361.
  - Breidt, F.J., Carriquiry, A.L. and Fuller, W.A. (1995). Alternative estimation procedures for stochastic volatility. *Proceedings of the Section on Business and Economic Statistics*, American Statistical Association, pp. 134-138.
  - Breidt, F.J., Carriquiry, A.L. and Fuller, W.A. (1995). A comparison of estimation procedures for stochastic volatility models. *Bulletin of the International Statistical Institute—Contributed Papers*, 50th Session, Book 1, 116-117.
  - An, A.B., Breidt, F.J. and Fuller, W.A. (1994). Regression weighting methods for SIPP data. *Proceedings of the Section on Survey Research Methods*, American Statistical Association, pp. 434-439.
  - McVey, A., Breidt, F.J. and Fuller, W.A. (1994). Two phase estimation by imputation. *Proceedings of the Section on Survey Research Methods*, American Statistical Association, pp. 1053-1058.
  - Leonard, K.A., An, A.B., Nusser, S.M. and Breidt, F.J. (1994). Approximating the variance of the survey regression estimator using poststratification. *Proceedings of the Section on Survey Research Methods*, American Statistical Association, pp. 222-227.
  - Breidt, F.J. and Fuller, W.A. (1993). Regression weighting for multiphase Forest Service samples. *Proceedings of the Section on Survey Research Methods*, American Statistical Association, pp. 776-780.
  - Breidt, F.J. (1992). Variance estimation in the frequency domain for seasonally adjusted time series. *Proceedings of the Section on Business and Economic Statistics*, American Statistical Association, pp. 337-342. (peer-reviewed by D. Pfefferman.)

### **Manuscripts and Technical Reports:**

- Breidt, F.J. and J.D. Opsomer (2007), Nonparametric and semiparametric estimation in complex surveys. Invited submission for *Handbook of Statistics, Vol. 29: Sample Surveys: Theory, Methods and Inference*, C.R. Rao and D. Pfeffermann (editors), North Holland, Amsterdam
- Huang, H.-C., Hsu, N.-J., Theobald, D. and Breidt, F.J. (2006). Spatial Lasso with applications to GIS model selection. Second submission to *Journal of Computational and Graphical Statistics*.
- Ogle, S.M., Breidt, F.J., and Paustian, K. (2004). Implications of upscaling measurements in a model-based assessment addressing global change. Under revision for *Global Change Biology*.
- Kim, J.Y., Breidt, F.J. and Opsomer, J.D. (2001). Nonparametric regression estimation of finite population totals under two-stage sampling. Under revision for *Survey Methodology*.
- Hsu, N.-J. and Breidt, F.J. (1997). Bayesian analysis of long memory stochastic volatility models. ISU Technical Report 97-4, Department of Statistics, Iowa State University.
- Breidt, F.J. and Boes, D.C. (1989). Statistical analysis of historic water quality data from the Middle Delaware Scenic and Recreational River. CSU Technical Report 90-2, Department of Statistics, Colorado State University.

### **CONTRACTS & GRANTS**

#### **Funded Projects as PI**

- 07/02-06/05, Theory and methods for nonparametric survey regression estimation, National Science Foundation, \$71,000.
- 8/01-9/02, Using American Community Survey data to estimate local area unemployment characteristics, Bureau of Labor Statistics, \$23,358.
- 10/01-09/06, Applying design-based model assisted survey methodology to aquatic resources, US Environmental

Protection Agency, \$541,191.

- 10/01-10/05, Nonparametric model-assisted survey estimation for inventory and monitoring applications, US Forest Service, \$100,000.
- 11/01-10/02, Statistical estimation for annual forest inventory and monitoring, US Forest Service, \$30,000
- 04/01-11/01, Statistical methods for soil survey updates, USDA Natural Resources Conservation Service, \$23,638
- 06/99-08/99, Redesign of the Consumer Expenditure Survey, Bureau of Labor Statistics, \$17,263
- 08/98-12/98, Estimation for surveys with partial rotation, American Statistical Association / National Science Foundation, \$34,660

### **Funded Projects as Co-PI**

- 01/01/08-12/31/10, Resolving net CO<sub>2</sub> exchange in the mid-continent region of North America by comparing and reconciling results from inverse modeling and inventory-based approaches, NASA Carbon Cycle Science \$1,094,526. (S. Ogle, PI) [one month per year of support]
- 01/05-12/09, CO<sub>2</sub> Fluxes between Agricultural Lands and the Atmosphere: Towards more Complete Accounting by Integrating Remote Sensing with Simulation Modeling, USDA \$600,000 and NASA \$713,546 (S. Ogle, PI)
- 2004-2007, Applied MSPA-CSE: Novel a Posteriori Analysis of Ecological Models: The Carbon Cycle, National Science Foundation, \$1,313,546. (D. Estep, PI)
- 10/01-09/06, Space-Time Aquatic Resources Modeling and Analysis Program (STARMAP), US Environmental Protection Agency, \$2,998,331 (PI for sub-project of \$691,226)
- 10/97-09/02, Soils Project, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$600,000
- 10/97-09/02, Soils Project, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$338,000
- 10/98-09/00, Cooperative Agreement, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$90,000
- 10/98-09/00, Cooperative Agreement, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$1,000,000
- 10/97-09/98, Cooperative Agreement, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$875,000
- 10/97-09/98, Cooperative Agreement, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$93,000
- 10/97-09/98, Soils Project, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$664,000
- 10/96-09/97, Cooperative Agreement, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$84,000
- 10/96-09/97, Cooperative Agreement, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI), J.D. Opsomer and W.A. Fuller), \$130,000
- 07/97-06/00, Computing equipment to support research in statistics, National Science Foundation, SCREMS program: (with D.L. Isaacson (PI), N.A.C. Cressie, W.A. Fuller, W.Q. Meeker, K.J. Koehler, W.J. Kennedy and H.S. Stern), \$128,423
- 04/97-03/98, On-farm site-specific crop management for Iowa, Iowa Soybean Promotion Board, \$25,225 (my portion of \$244,491 project with Keith Whigham, PI, and others)
- 01/96-08/98, Nonlinear filtering approaches to multitarget tracking, Office of Naval Research: (with A. Budhiraja, A. Carrquiry, W. Kliemann (PI), D. Mirkovic, Iowa State University), \$1,241,226
- 10/95-09/96, Cooperative Agreement, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI), J.D. Opsomer and W.A. Fuller), \$934,000
- 10/94-09/97, Cooperative Agreement, USDA Natural Resources Conservation Service: (with S.M. Nusser (PI) and W.A. Fuller), \$1,962,480
- 06/94-12/95, Data analysis and statistical planning for the Minnesota Fish Contaminant Monitoring Program, State of Minnesota, Department of Natural Resources: (with M. Kaiser and S. Nusser, Iowa State University and J. Wiener, National Fisheries Research Center, National Biological Survey), \$79,349

- 11/88-12/89, Development of ambient water quality criteria for the Middle Delaware Scenic and Recreational River, United States Department of the Interior, National Park Service, Water Resources Division: (with D.C. Boes, Colorado State University), \$9,971

### **Other Grant Activity**

- Co-author of the NSF IGERT proposal PRIMES (Program for Interdisciplinary Mathematics, Ecology, and Statistics ) \$2.85 million, 2003-2008

## **PROFESSIONAL AFFILIATIONS AND ACTIVITIES**

### **Memberships in professional societies:**

- Institute of Mathematical Statistics
- American Statistical Association
- Mu Sigma Rho
- International Association of Survey Statisticians

### **Office in professional societies:**

- Iowa representative to Council of Chapters, American Statistical Association, 1992-1994
- Nominating Committee, Institute of Mathematical Statistics, 1998-1999
- IMS Local Chair, WNAR/IMS Joint Meeting, Colorado School of Mines, June 22-25, 2003

### **Review/editorial boards:**

- Associate Editor, *Journal of Forecasting*, 10/99-Present
- Associate Editor, *Journal of the American Statistical Association*, 09/00-06/05
- Associate Editor, *Journal of Business and Economic Statistics*, 01/04-01/07
- Associate Editor, *Environmental and Ecological Statistics*, 01/04-Present

### **Advisory Panel/Committee service:**

- National Academy of Sciences, Panel on Dynamics of Economic Well-Being Systems, December 2006-Present
- Federal Economic Statistics Advisory Committee, October 2006-Present
- National Academy of Sciences, Committee to Review Recreational Fisheries Survey Methods, January 2005-September 2006
- National Academy of Sciences, Panel on Enhancing the Data Infrastructure in Support of Food and Nutrition Programs, Research, and Decision-making, March 2004—December 2005
- American Statistical Association National Committee on Energy Statistics (advisory panel for the Energy Information Administration, US Department of Energy)
  - Member, Fall 1998-Fall 2004
  - Vice-Chair 2001-2002
  - Chair, Spring 2003-Fall 2004
- Ecological Society of America/American Statistical Association EMAP Geographic Studies Review Panel, May 5-7, 1998

**Grant refereeing:** National Science Foundation (11 proposals), Kuwait University (1 proposal).

**Manuscript Refereeing:** *The American Statistician* (3 papers), *Annals of Applied Probability* (2 papers), *Annals of Statistics*, *Biometrics* (2 papers), *Biometrika* (2 papers), *Canadian Journal of Statistics*, *Communications in Statistics* (2 papers), *Computational Statistics and Data Analysis*, *DIRASAT* (2 papers), *Ecological Applications* (2 papers), *Environmental and Ecological Statistics* (2 papers), *Environmetrics* (2 papers), *Forest Science* (2

*papers), International Journal of Forecasting, International Statistical Review, Journal of the American Statistical Association (>10 papers), Journal of Business and Economic Statistics, Journal of Econometrics (2 papers), Journal of Empirical Finance, Journal of Forecasting (4 papers), Journal of the Italian Statistical Society, Journal of Multivariate Analysis (2 papers), Journal of Official Statistics (2 papers), Journal of Statistical Planning and Inference, New Zealand and Australian Journal of Statistics, Sankhya, Scandinavian Journal of Statistics, Springer-Verlag (two books), Soil & Sediment Contamination, South African Statistical Journal, Statistical Science (2 papers), Statistics and Probability Letters(3 papers), Stochastic Processes and Their Applications, Survey Methodology (3 papers), Technometrics (2 papers), John Wiley & Sons (three books), US Geological Survey (one report)*

**Promotion and tenure reviews:** outside reviewer for six tenure cases and two cases of promotion to full professor

## **PAPERS PRESENTED/SYMPOSIA/INVITED LECTURES/PROFESSIONAL MEETINGS/WORKSHOPS**

### **Contributed Papers:**

- 08/27/07, Small Area Estimation for Profiles Using Semiparametric Mixed Models, 56<sup>th</sup> Session of the International Statistical Institute, Lisboa, Portugal.
- 09/08/05, Spatial Lasso with Application to GIS Model Selection, Statistics for Aquatic Resources: Monitoring, Modeling, and Management, Corvallis, OR.
- 08/06/02, Least absolute deviation and minimum dispersion estimation for all-pass time series models, Fourth International Conference on Statistical Data Analysis Based on the L1-Norm and Related Methods, Neuchatel, Switzerland.
- 08/12/02, Noninvertible Moving Average Modeling Via All-Pass Filters, Joint Statistical Meetings, New York, NY.
- 11/19/02, Endogenous Post-Stratification in Surveys: Classifying with a Sample-Fitted Model, Joint Meeting of the 4th Annual Forest Inventory and Analysis Symposium and the Southern Forest Mensurationists, New Orleans, LA
- 08/11/99, Alternative Designs for the Consumer Expenditure Survey, 52nd Session of the ISI, Helsinki, Finland
- 08/20/97, Metamodeling for Agricultural Policy Evaluation, 51st Session of the ISI, Istanbul, Turkey
- 07/06/96, A Threshold Autoregressive Stochastic Volatility Model, Workshop on Recent Developments in Time Series and Chaos, Canberra, Australia
- 08/15/95, Markov Chain Designs for One-Per-Stratum Spatial Sampling, Joint Statistical Meetings, Orlando, FL
- 08/29/95, A Comparison of Estimation Procedures for Stochastic Volatility Models, 50th Session of the ISI, Beijing, PRC
- 08/15/94, Approximating the Variance of the Survey Regression Estimator using Poststratification, Joint Statistical Meetings, Toronto, OT
- 06/07/93, Markov Chain Designs for One-Per-Stratum Sampling, 228th Meeting of IMS: Statistics in the Environment and Public Policy, Laramie, WY
- 08/11/93, Regression Weighting for Multiphase Forest Service Samples, Joint Statistical Meetings, San Francisco, CA
- 08/13/92, Variance Estimation in the Frequency Domain for Seasonally Adjusted Time Series, Joint Statistical Meetings, Boston, MA
- 04/26/91, On Noncausal Autoregressions: Reversibility, Identifiability, and Estimation, Colorado-Wyoming ASA Chapter Meeting (winner of student paper competition), Boulder, CO

### **Seminars:**

- 11/19/07, Endogenous Post-Stratification in Surveys, Department of Statistics, Chinese University of Hong Kong, Shatin, New Territories, Hong Kong
- 10/24/07, Semiparametric Stochastic Mixed Models for Increment Averages, Program in Applied Statistics, University of Northern Colorado, Greeley, CO
- 12/16/05, Least Absolute Deviations Estimation for Moving Average Time Series with Unit Root, Joint Seminar

for Department of Statistics, National Chiao Tung University and Department of Statistics, National Tsing Hua University, Hsinchu, Taiwan.

- 12/01/05, Least Absolute Deviations Estimation for Moving Average Time Series with Unit Root, Department of Statistics, Texas A&M University, College Station, TX
- 06/02/04, Small Area Estimation for Aquatic Resources, Western Ecology Division, Environmental Protection Agency, Corvallis, OR
- 05/06/04, Using American Community Survey Data to Estimate Local Area Unemployment Characteristics, US Bureau of Labor Statistics, Washington, DC
- 10/15/03, A Semiparametric Stochastic Mixed Model for Increment-Averaged Data with Application to Carbon Sequestration in Agricultural Soils, Department of Mathematics and Statistic, University of Maryland, Baltimore County, Maryland
- 03/06/02, Noncausal Autoregressive Modeling Via All-Pass Filters, Department of Applied Mathematics, University of Colorado, Boulder, CO.
- 04/06/00, Hierarchical Long Memory Time Series and Some Nearly Long Memory Alternatives, Department of Statistics, Colorado State University, Fort Collins, CO
- 04/28/99, Alternative Designs for the Consumer Expenditure Survey, Bureau of Labor Statistics, Washington, DC
- 04/12/99, Local Polynomial Regression Estimators in Survey Sampling, Department of Statistics, Colorado State University, Fort Collins, CO
- 12/13/99, --, Department of Statistics, North Carolina State University, Raleigh, NC
- 12/10/98, Statistical Methods for Soil Survey Updates, Westat, Rockville, MD
- 12/03/98, --, Department of Mathematics, University of Maryland, College Park, MD
- 04/18/97, Bayesian Analysis of Fractionally Integrated ARMA with Additive Noise, Department of Mathematics, New Jersey Institute of Technology, Newark NJ
- 04/16/97, --, Department of Statistics, University of Connecticut, Storrs, CT
- 11/15/96, Some Results in Stochastic Volatility Modeling: Nonlinearity, Extremes, and Long Memory, Department of Statistics and Operation Research, New York University, New York, NY
- 01/26/94, Modeling Long Memory Stochastic Volatility, Statistics Department Seminar, Iowa State University, Ames, IA
- 02/12/93, Alternative Sample Designs in Alaska, Spatial Statistics Seminar, Iowa State University, Ames, IA
- 02/19/91, On Noncausal Autoregressions: Reversibility, Identifiability, and Estimation, Florida State University, Tallahassee, FL
- 02/20/91, --, Iowa State University, Ames, IA
- 02/22/91, --, University of Iowa, Iowa City, IA
- 02/26/91, --, Johns Hopkins University, Baltimore, MD
- 02/27/91, --, University of Wisconsin-Madison, Madison, WI
- 03/01/91, --, University of Georgia, Athens, GA

### **Invited Lectures:**

- 06/20/07, Uncertainty Analysis for a US Inventory of Soil Organic Carbon Stock Changes, TIES North American Regional Meeting, University of Washington, Seattle, WA.
- 04/11/07, Some Design Issues for a US National Soil Monitoring Network, Workshop on the Development of a Soil Monitoring Network for the USDA-NRCS National Resources Inventory Program, Fort Collins, CO.
- 10/27/06, Ecological Modeling with Soils Data: Semi parametric Stochastic Mixed Models for Increment Averages, Journees de Statistique de Rennes 2006: Estimation non parametrique, Universite Rennes 2-Haute Bretagne, Rennes, France.
- 04/03/06, Uncertainty Analysis for a US Inventory of Soil Organic Carbon Stock Changes, Workshop on Uncertainty in Ecological Analysis, Mathematical Biosciences Institute, The Ohio State University, Columbus, OH.
- 03/28/06, Spatial Lasso with Application to GIS Model Selection, 2006 ENAR Spring Meeting, Tampa, FL
- 11/04/05, Population Controls for the American Community Survey (talk plus panel), 36<sup>th</sup> Annual Meeting of the Southern Demographic Association, Oxford, MS.

- 08/08/05, Extensions of Penalized Spline Regression for Natural Resource Monitoring Applications: Small Area Estimation of Soil Profiles, Joint Statistical Meetings, Minneapolis, MN
- 06/23/05, Spatial Lasso with Application to GIS Model Selection, 2005 WNAR/IMS, Fairbanks, AK.
- 05/09/05, Controlling the American Community Survey to Intercensal Population Estimates, Report to the National Academy of Sciences Panel on the Functionality and Usability of Data from the American Community Survey, Washington, DC.
- 05/09/05, Alternatives to Moving Averages for the American Community Survey, Report to the National Academy of Sciences Panel on the Functionality and Usability of Data from the American Community Survey, Washington, DC.
- 10/22/04, Ecological Modeling with Soils Data: Semiparametric Stochastic Mixed Models for Increment Averages, Computational Environmetrics Conference, Chicago, IL.
- 10/16/04, Ecological Modeling with Soils Data: Semi parametric Stochastic Mixed Models for Increment Averages, The Fifth Winemiller Symposium: New Developments of Statistical Analysis in Wildlife, Fisheries, and Ecological Research. University of Missouri, Columbia, MO.
- 09/23/04, Small Area Estimation for Natural Resource Surveys, Monitoring Science & Technology Symposium, Denver, CO.
- 09/10/04, Nonparametric Survey Regression Estimation Using Penalized Splines. Third Annual Conference on Statistical Survey Design and Analysis for Aquatic Resources, Fort Collins, CO.
- 07/29/04, A Semiparametric Stochastic Mixed Model for Increment-Averaged Data with Application to Carbon Sequestration in Agricultural Soils, 6<sup>th</sup> International Chinese Statistical Association International Conference, Singapore
- 05/05/04, Linking CWA Sections 305(b)/303(d) – Small Area Estimation, EMAP Symposium 2004: Integrated Monitoring and Assessment for Effective Water Quality Management, Newport, RI
- 03/29/04, A Semiparametric Stochastic Mixed Model for Increment-Averaged Data with Application to Carbon Sequestration in Agricultural Soils, 2004 ENAR Spring Meeting, Pittsburgh, PA
- 03/25/04, Non-Invertible Moving Average Modeling Via All-Pass Filters, Second International Workshop in Applied Probability (IWAP 2004), Piraeus, Greece
- 01/03/04, Using American Community Survey Data to Estimate Local Area Unemployment Characteristics, IMS-ASA's SRMS Joint Mini Meeting on Current Trends in Sample Surveys and Official Statistics, Calcutta, India
- 09/19/03, Discussion of “ On the Determination of General Scientific Models” by McCulloch and Gallant, 2003 NBER/NSF Time Series Conference In Honor of George Tiao's Retirement, Chicago, IL
- 08/04/03, A Semiparametric Stochastic Mixed Model for Increment-Averaged Data with Application to Carbon Sequestration in Agricultural Soils, Joint Statistical Meetings, San Francisco, CA
- 06/10/03, Nonparametric Model-Assisted Estimation of Distribution Functions from Survey Data, Statistical Society of Canada, Halifax, Nova Scotia
- 06/02/03, Spatial Ensemble Estimates of Temporal Trends in Acid Neutralizing Capacity, NCAR/SAMSI Workshop on Spatial Statistics, Boulder, CO
- 04/11/03, (Keynote speaker), A Semiparametric Stochastic Mixed Model for Increment-Averaged Data with Application to Carbon Sequestration in Agricultural Soils, CO-WY ASA Spring Meeting, Boulder, CO
- 03/31/03, Nonparametric Model-Assisted Estimation of Distribution Functions from Survey Data, 2003 ENAR Spring Meeting, Tampa, FL
- 05/16/02, Design of Soil Monitoring Networks: Some US Perspectives, European Seminar on Soil Protection and Sustainable Development, Soria, Spain.
- 08/14/01, Nonparametric Model-Assisted Estimation for Overlapping Samples, TIES 2001: Environmetrics for Decision Making, Portland, OR.
- 06/25/01, Modeling Noncausal Autoregressions Using All-Pass Filters, Satellite Meeting of Japan-US Seminar on Statistical Time Series Analysis, Tokyo, Japan
- 06/21/01, Modeling Noncausal Autoregressions Using All-Pass Filters, Japan-US Seminar on Statistical Time Series Analysis, Kyoto, Japan
- 08/13/00, Linear Time Series with `Nonlinear' Behavior, Joint Statistical Meetings, Indianapolis, IN
- 06/28/00, Estimation for All-Pass Time Series Models, National Mathematics Symposium: Non-linear Time Series, Stochastic Networks and Allied Modern Statistical Techniques, Centre for Mathematics and its Applications, Australian National University, Canberra, Australia
- 11/15/99, Alternative Designs for the Consumer Expenditure Survey, Federal Committee on Statistical Methodology Research Conference, Arlington, VA

- 10/28/99, Discussion of “Weighting Adjustments for Ignorable Nonresponse” by J. Bethlehem, International Conference on Survey Nonresponse, Portland, OR
- 06/28/99, Local Polynomial Regression Estimators in Survey Sampling, WNAR/IMS 1999 Annual Meeting, Seattle, WA
- 05/20/99, Estimation Systems for Rolling Samples, Forest Inventory and Monitoring Biometricians Workshop, New Orleans, LA
- 12/02/98, Statistical Methods for Soil Survey Updates, Washington Statistical Society, Washington, DC
- 09/11/98, Comparing and Calibrating the Decennial Census Long Form to the American Community Survey, National Academy of Sciences' American Community Survey Workshop, Washington, DC
- 04/21/98, Annualizing the National Resources Inventory, Workshop on Environmental Monitoring Surveys over Time, Seattle, WA
- 10/18/97, Bayesian Analysis of Fractionally Integrated ARMA with Additive Noise, Statistics for Correlated Data: 50th Anniversary of the Department of Statistics, Iowa State University, Ames, IA
- 10/11/97, Bayesian Analysis of Fractionally Integrated ARMA with Additive Noise, NBER/NSF Time Series Seminar, Duke University, Durham, NC
- 08/10/97, Metamodeling for Agricultural Policy Evaluation, Joint Statistical Meetings, Anaheim, CA
- 05/15/97, Highest Density Gates for Target Tracking, Office of Naval Research Workshop on Tracking, Dahlgren, VA
- 02/07/96, Nonlinear Filtering Approaches to Multitarget Tracking, Office of Naval Research Workshop on Tracking, San Diego, CA
- 11/21/95, A Threshold Autoregressive Stochastic Volatility Model, VI Latin American Congress of Probability and Mathematical Statistics (CLAPEM), Valparaiso, Chile
- 10/01/94, Modeling Long Memory Stochastic Volatility, NBER/NSF Time Series Seminar, Fort Collins, CO
- 09/22/94, The National Resources Inventory: Current Methods and Future Issues, National Institute of Statistical Sciences Workshop on Spatial Sampling for the Environment, Chapel Hill, NC

### **Professional Meetings:**

- 9/29/06-9/30/06, NBER/NSF Time Series Conference, Montreal, Quebec
- 12/12/05-12/14/05, Statistics and Probability Conference in Memory of Ching-Zong Wei, Academia Sinica, Taipei, Taiwan
- 06/01/05-06/03/05, Graybill Conference, Statistics in Information Technology, Fort Collins, CO
- 9/17/04-09/18/04, NBER/NSF Time Series Conference, Dallas, TX
- 06/18/03-06/20/03, Graybill Conference, Microarrays, Bioinformatics & Related Topics, Fort Collins, CO
- 09/22/00-09/23/00, NBER/NSF Time Series Conference, Fort Collins, CO
- 08/23/99-08/25/99, NBER/NSF Time Series Conference, Academia Sinica, Taipei, Taiwan
- 09/04/98-09/05/98, NBER/NSF Time Series Seminar, Chicago, IL
- 10/24/97-10/26/97, New Directions in Survey Sampling, Lincoln, NE
- 07/08/96-07/12/96, Sydney International Statistical Congress, Sydney, Australia
- 03/14/96-03/16/96, ASA Workshop on Monitoring, Washington, DC
- 11/17/95-11/18/95, H.A. David Conference, Ames, IA
- 01/06/95-01/08/95, Allied Social Science Associations Winter Meetings, Washington, DC
- 07/18/94-07/20/94, 1992 National Resources Inventory: Environmental and Resource Assessment Symposium, Washington, DC
- 06/02/92-06/03/92, International Workshop on Seasonal Adjustment Methods and Diagnostics, Washington, DC
- 07/01/90-07/28/90, IMA Summer Workshop on Time Series, Minneapolis, MN

### **Workshops Presented:**

- 08/20/07-08/22/07, Variance Estimation in Complex Surveys, International Association of Survey Statisticians 2007 Programme of Short Courses on Survey Methodology (with Anthony An, Wayne Fuller, and Kirk Wolter).

Lisboa, Portugal.

- 07/29/07, Modeling and Data Analysis for Complex Surveys, 2007 Joint Statistical Meetings (with Jean Opsomer). Salt Lake City, UT.
- 10/17/06-10/19/06, Modeling and Data Analysis for Complex Surveys, Formation Continue Diplomante des Attaches, Ecole Nationale de la Statistique et de l'Analyse de l'Information (ENSAI), Rennes, France
- 07/22/06, Modeling and Data Analysis for Complex Surveys, American Agricultural Economics Association 2006 Annual Meeting (with Jean Opsomer). Long Beach, CA.
- 04/03/05-04/05/05, Variance Estimation in Complex Surveys, International Association of Survey Statisticians 2005 Programme of Short Courses on Survey Methodology (with Anthony An, Wayne Fuller, and Kirk Wolter). Sydney, Australia.
- 08/12/03-08/13/03, Variance Estimation in Complex Surveys, International Association of Survey Statisticians 2003 Programme of Short Courses on Survey Methodology (with Anthony An, Wayne Fuller, and Kirk Wolter). Potsdam, Germany.
- 08/13/01-08/15/01, Variance Estimation in Complex Surveys, International Association of Survey Statisticians 2001 Programme of Short Courses on Survey Methodology (with Wayne Fuller and Jae-Kwang Kim). Seoul, Korea.
- 08/09/99-08/10/99, Variance Estimation in Complex Surveys, International Association of Survey Statisticians 1999 Programme of Short Courses on Survey Methodology (with Kirk Wolter and Wayne Fuller). Jyvaskyla, Finland
- 06/29/98-07/03/98, Markov Chain Monte Carlo Techniques in Forecasting, Cursos da Arrabida, Convento de Arrabida, Portugal
- 08/17/97-08/18/97, Variance Estimation in Complex Surveys, International Association of Survey Statisticians 1997 Programme of Short Courses on Survey Methodology (with Kirk Wolter and Wayne Fuller). Istanbul, Turkey
- 08/20/95-08/21/95, Variance Estimation in Complex Surveys, International Association of Survey Statisticians 1995 Programme of Short Courses on Survey Methodology (with Kirk Wolter and Wayne Fuller). Beijing, PRC
- 03/01/93, Introduction to Survey Sampling, Market Research Group, Pioneer Hi-Bred International. Fort Myers, FL

## **COMMITTEES**

### College Committees:

College of Natural Sciences research and graduate education committee, CSU, 2001  
Liberal Arts & Sciences representative assembly, ISU, 1996-1998  
Liberal Arts & Sciences faculty development committee, ISU, 1994

### Department Committees:

Graduate screening committee, CSU, 2001-2003 (chair), 2003-Present  
Departmental executive committee, CSU, 2001-Present  
Faculty search committees, CSU, 2001-2002 (chair), 2002-2003, 2004-2005 (chair)  
Honors and awards committee, ISU, 1997-8, 1999-2000  
Seminar, ISU, 1996 (chair), 2000 (chair)  
Faculty search committees, ISU, 1994-5, 1995-6, 1997-8 (chair), 1999-2000 (chair)  
STAT-ER faculty advisor, ISU, 1993-8  
Non-thesis masters examination committee, ISU, 1991-2, 1993-4, 1994-5 (chair), 1996-7  
Graduate admissions review, ISU, 1992-3 (chair), 1993-4 (chair), 1994-5 (chair), 1995-6 (chair)  
Assistantship evaluation committee, ISU, 1992-3, 1995-6

## **STUDENT ADVISING/GRADUATE SUPERVISION**

### **GRADUATE STUDENTS:**

#### **Completed MS Students**

- Li, Yang (M.S., Summer 1993), Methods for time series from repeated sample surveys with known autocovariance structure.
- Uken, Elizabeth A. (M.S., Summer 1994), Spectral analysis of atmospheric heat flux in the southern hemisphere.
- Hsu, Nan-Jung (M.S., Summer 1994), Conditional mode smoothing for non-Gaussian state space modeling of stochastic volatility.
- Tseng, Chi-Hong (M.S., Fall 1994), Time series analysis of daily water chemistry variables in a small inland lake (with M.S. Kaiser).
- Hanson, Peter D. (M.S., Fall 1994), Estimation and smoothing problems for stochastic volatility models.
- Barton, Lee J. (M.S., Spring 1995), Generalized variance functions under nonresponse with applications for the cultural diversity study at Iowa State University.
- Klapper, Matthias (M.S., Spring 1995), Fitting a space-time model for regional Florida population data.
- Blakeley, Carter A. (M.S., Summer 1995), On a threshold autoregressive stochastic volatility model.
- Schmidt, Pamela (M.S., Summer 1996), Bayesian analysis of a regime-switching stochastic volatility model via the Gibbs sampler.
- Benson, Jeremy (M.S., Summer 1996), Television advertising's effect on the demand for different types of fresh beef: a Gibbs sampling approach (with John Schroeter, Economics.)
- Yang, Ling-Yu (M.S., Summer 1997), Extended Kalman filtering and highest density gating for target tracking.
- Fung, Iris (M.S., Spring 1998), Modeling the distribution of fitness: a study with finite automata playing iterated prisoner's dilemma.
- Wang, Jun-Yuan (M.S., Spring 1998), Simulation of stochastic differential equations with application to stock market volatility.
- O'Daniel, Mary (General Motors) (M.S., Summer 1998), Statistical modeling of fuel economy measurements on high-mileage vehicles.
- Joeng, Hee-Koung (M.S., Summer 1998), Regression models for studying option pricing relationships.
- Wang, Zhi (M.S., Summer 1998), Maximum likelihood estimation of multiple short time series using the EM algorithm.
- Zhao, Yan (M.S., Fall 1998), Particle filter for target tracking.
- Zhang, Yan (M.S., Spring 2000), Lagrange multiplier tests for detecting nonlinearity in time series.
- Gursel, O. Kubilay (M.S., 2000), Monte Carlo study of tests of persistence in the volatility of financial assets.
- Johnson, Alicia, (M.S., Summer 2003), Estimating distribution functions from survey data using nonparametric regression.
- Everson-Stewart, Siobhan, (M.S., Summer 2003), Nonparametric survey regression estimation in two-stage spatial sampling.
- Yang, Jiangjiang (MS, Summer 2004), The effect of complementing Current Population Survey data with American Community Survey data.
- Ryberg, Karen (MS, Fall 2006; distance, with faculty affiliate Aldo Vecchia), Water-quality trend analysis and sampling design for the Devils Lake basin, North Dakota, January 1965 through September 2003.
- Lewis, Joshua (MS, Summer 2007, distance) Media mix modeling for a changing media landscape.

### Completed PhD Students:

- Al\_Jararha, Jihad (PhD, Spring 2008). Unbiased ratio estimation for finite populations.
- Coar, William J. (PhD, Spring 2007). State-space models for stream networks.
- Kim, Ji-Yeon (PhD, Spring 2004, with Jean Opsomer at Iowa State University), Nonparametric regression estimation in survey sampling.
  - Wang, Junyuan, (2000, PhD, with Wayne Fuller)
  - Chen, Cong, (PhD, Spring 1999, with Wayne Fuller), Spline estimators of the distribution function of a variable measured with error.
    - Abbitt, Pam, (PhD, Summer 1999, with Sarah Nusser), Quantile estimation using auxiliary information with applications to soil texture data.
    - Hsu, Nan-Jung, (PhD, Summer 1997), Hierarchical long memory time series models.
    - Kondo, Koji, (PhD co-major, Fall 1997, with Stefano Athanosoulis, Economics) Statistical analysis of foreign exchange rates: application of cointegration model and regime-switching stochastic volatility

### **Current Graduate Advisees:**

- McConville, Kelly (PhD), joint with Thomas Lee
- Delorey, Mark (PhD)
- Huang, Wenying (PhD), joint with Richard Davis
- Wang, Ke (PhD), joint with Richard Davis
- Gurung, Ram (MS)
- Allen, Marian (MS), joint with Brad Biggerstaff
- Hammad, Haroun (MS)

### **Other Advising / Committee Membership:**

Served on over 100 graduate committees (inside and outside Statistics) at Iowa State and Colorado State. Currently serve as temporary advisor for all incoming graduate students for the Department of Statistics at Colorado State.

### **TEACHING**

ST301 Introduction to statistical methods, CSU, Fall 1989, Summer 1990  
ST309, Engineering statistics (video course), CSU, Spring 1990, Spring 1991  
STAT401C Statistical methods for research workers in physical sciences, math, and engineering, ISU, Fall 1991, Fall 1992  
STAT521 Theory of sample surveys, ISU, Spring 1992, 1993, 1994, 1995, 1996  
STAT538 Econometric statistics, ISU, Fall 1993  
STAT551 Time series analysis, ISU, Fall 1994 (new course), 1995, 1996, 1997 (video course), 1999  
STAT651 Time series, ISU, April 1994 (substitution)  
STAT621 Advanced Theory of Survey Sampling, ISU, Spring 1997, Spring 2000  
ST192, Freshman seminar, CSU, Spring 2001 (with R.A. Davis), 2002, 2003, 2004  
ST302, Design of experiments, CSU, Fall 2001, 2002, 2003  
ST525, Analysis of Time Series I, CSU, Fall 2001, 2007  
ST321, Elementary Probability Models, CSU, Spring 2001  
ST740, Topics in Bioinformatics, CSU, Spring 2002 (with H. Iyer and R.A. Davis)  
ST722, Spatio-Temporal Modeling, CSU, Fall 2002  
EY680, Team Research in Ecology (TREE), CSU, Spring 2004 (with D. Estep and M. Antolin)  
ST640, Design and Linear Modeling I, CSU, Spring 2005  
ST796, Team Research in Ecology (TREE), CSU, Spring 2005 (with D. Estep and R. Davis)  
ST605, Theory of Sampling Techniques, CSU, Spring 2006, 2007  
ST695, Independent Study for Stefan Sillau: Small Angle X-Ray Scattering, CSU, Fall 2007 (with M. van der Woerd)