Catherine A. Calder

Department of Statistics and Data Sciences
The University of Texas at Austin
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Austin, TX 78712

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Education

Duke University — Durham, NC

PhD in Statistics and Decision Sciences, May 2003
Advisors: David Higdon, PhD and Michael Lavine, PhD

Certificate in Ecology, May 2003

MS in Statistics and Decision Sciences, May 2001

Northwestern University — Evanston, IL

BA in Mathematics with honors, June 1999

Research Interests

Methodological
Spatial and Spatio-temporal Statistics, Bayesian Modeling and Computation, Multivariate Analysis, Network/Relational Data Analysis

Applied
Exposure Analysis, Health Effects, Neighborhood Effects, Environmental Science

Experience

The University of Texas at Austin — Austin, TX

Chair, Department of Statistics & Data Sciences, 2019-present

Professor of Statistics & Data Sciences (with tenure), 2019-present

Associate Director for the Science & Technology Core, Population Research Center, 2021-present

Faculty Scholar, Population Research Center, 2019-present

The Ohio State University — Columbus, OH

Co-Director, Mathematical Biosciences Institute, 2018-2019

Professor of Statistics (with tenure), 2015-2019

Associate Director, Mathematical Biosciences Institute, 2015-2017

Associate Professor of Statistics (with tenure), 2009-2015

Associate Director, Program in Spatial Statistics and Environmental Statistics, 2004-2009

Assistant Professor of Statistics, 2003 - 2009

Lecturer, June 2003 - September 2003

Statistical and Applied Mathematical Sciences Institute Research Triangle Park, NC

Visiting Faculty Research Fellow, September 2009 - December 2009

Duke University Durham, NC

Research Assistant, August 2000 - May 2003

Teaching Assistant, August 1999 - May 2000

Awards and Honors

Duke Graduate Fellowship, 1999-2003

ASA/NSF Travel Award, 2007, 2009

The Thomas E. and Jean D. Powers Award for Excellence in the Teaching of Statistics, Department of Statistics, The Ohio State University, 2010

Young Investigator Award, Section on Statistics and the Environment, The American Statistical Association, 2013

Fellow, American Statistical Association, 2014 (year elected)

Outstanding Section Service Award, American Statistical Association, 2022

Rom Rhome Award for Leadership Excellence, College of Natural Sciences, University of Texas at Austin, 2022

Fellow, American Association for the Advancement of Science, 2023 (year elected)

Fellow, Institute for Mathematical Statistics, 2024 (year elected)

Leadership Development and Professional Development

Executive Management and Leadership Program, University of Texas at Austin, Spring 2020

Center for the Improvement of Mentored Experiences in Research (CIMER) Facilitator Training Workshop, Fall 2024

Publications

Refereed Publications

1) **Calder, C.A.**, Holloman, C., and Higdon, D. (2002). Exploring Space-Time Structure in Ozone Concentration Using a Dynamic Process Convolution Model. In *Case Studies in Bayesian Statistics 6*, 165-176.

2) **Calder, C.A.**, Lavine, M., Müller, P., and Clark, J.S. (2003). Incorporating Multiple Sources of Stochasticity into Dynamic Population Models, *Ecology*, 84(6), 1395-1402.

3) Dunson, D.B., Holloman, C., **Calder, C.**, and Gunn, L. (2004). Bayesian Modeling of Multiple Lesion Onset and Growth from Interval Censored Data. *Biometrics*, 60(3), 676-683.

4) Holloman, C.H., Bortnick, S., Morara, M., Strauss, W., and **Calder, C.A.** (2004). A Bayesian Hierarchical Approach for Relating $PM_{2.5}$ Exposure to Cardiovascular Mortality in North Carolina. *Environmental Health Perspectives*, 112(3), 1282-1288.

5) Lee, H.K.H., Higdon, D.M., **Calder, C.A.**, and Holloman, C.H. (2004). Efficient Models for Correlated Data via Convolutions of Intrinsic Processes. *Statistical Modelling*, 5(1), 53-74.

6) Mosley-Thompson, E., Readinger, C.R.*, Craigmile, P.F., Thompson, L.G., and **Calder, C.A.** (2005). Regional Sensitivity of Greenland Precipitation to NAO Variability. *Geophysical Research Letters*, 32, L24707, DOI:10.1029/2005GL024776.

7) **Calder, C.A.** (2007). Dynamic Factor Process Convolution Models for Multivariate Space-Time Data with Application to Air Quality Assessment. *Environmental and Ecological Statistics*, 14, 229-247, DOI:10.1007/s10651-007-0019-y.

8) Cressie, N., Buxton, B.E., **Calder, C.A.**, Craigmile, P.F., Dong, C.*, McMillan, N.J., Morara, M., Santner, T.J., Wang, K.*, Young, G., and Zhang, J.* (2007). From Sources to Biomarkers: A Hierarchical Bayesian Approach for Human Exposure Modeling. *Journal of Statistical Planning and Inference*, 137, 3361-3379.

9) Li, H.*, **Calder, C.A.**, and Cressie, N. (2007). Beyond Moran's I: Testing for Spatial Dependence Based on the SAR Model. *Geographical Analysis*, 39, 357-375.

10) Wheeler, D.*, and **Calder, C.A.** (2007). An Assessment of Coefficient Accuracy in Linear Regression Models with Spatially Varying Coefficients. *Journal of Geographical Systems*, 9, 145-166.

11) Xiao, N., **Calder, C.A.**, and Armstrong, M.C. (2007). Assessing the Effect of Uncertainty on Choropleth Map Classification. *International Journal of Geographic Information Science*, 21, 121-144.

12) **Calder, C.A.** (2008). A Bayesian Dynamic Process Convolution Approach to Modeling the Joint Distribution of $PM_{2.5}$ and PM_{10}. *Environmetrics*, 19, 39-48, DOI: 10.1002/env.852.

13) **Calder, C.A.**, Craigmile, P.F., Mosley-Thompson, E. (2008). Spatial Variation in the Influence of the North Atlantic Oscillation on Precipitation Across Greenland. *Journal of Geophysical Research - Atmospheres*, 113, D06112, DOI:10.1029/2007JD009227.

14) **Calder, C.A.**, Holloman, C.H., Bortnick, S., Strauss, W. and Morara, M. (2008). Relating Ambient Particulate Matter Concentration Levels to Mortality Using an Exposure Simulator. *Journal of the American Statistical Association*, 103(481), 137-148.

15) LaDeau, S.L., Marra, P.P., Kilpatrick, A.M., and **Calder, C.A.**. (2008). West Nile Virus Revisited: Consequences for North American Ecology. *Bioscience*, 58, 937-946.

16) Munroe, D.K., Wolfinbarger, S.R.*, **Calder, C.A.**, Shi, T., Xiao, N., Lam, C.Q.*, and Li, D.* (2008). The Relationships Between Biomass Burning, Land-Cover/Use Change, and the Distribution of Carbonaceous Aerosols in Mainland Southeast Asia: A Review and Synthesis. *Journal of Land Use Science*, 3, 161-183.

17) Santner, T.J., Craigmile, P.F., **Calder, C.A.**, and Paul, R.* (2008). Demographic and Behavioral Modifiers of Arsenic Exposure Pathways: A Bayesian Hierarchical Analysis of NHEXAS Data. *Environmental Science & Technology*, 42(15), 5607-5614.

18) **Calder, C.A.**, Craigmile, P.F., and Zhang, J.* (2009). Regional Spatial Modeling of Topsoil Geochemistry. *Biometrics*, 65, 206-215, DOI:10.1111/j.1541-0420.2008.01041.x.

19) **Calder, C.A.** and Cressie, N. (2009). Kriging and Variogram Models. In the *International Encyclopedia of Human Geography*, Volume, 1, edited by R. Kitchin and N. Thrift, 49-55. Oxford: Elsevier.

20) Craigmile, P.F., **Calder, C.A.**, Li, H.*, Paul, R.*, and Cressie, N. (2009). Hierarchical Model Building, Fitting, and Checking: A Behind-the-Scenes Look at a Bayesian Analysis of Arsenic Exposure Pathways (with discussion). *Bayesian Analysis*, 4 (1), 1-36.

21) Cressie, N., **Calder, C.A.**, Clark, J.S., Ver Hoef, J.M., and Wikle, C.K. (2009). Accounting for Uncertainty in Ecological Analysis: The Strengths and Limitations of Hierarchical Statistical Modeling (with discussion). *Ecological Applications*, 19(3), 553-570.

22) Xiao, N., Shi, T., **Calder, C.A.**, Munroe, D.K., Berrett, C.*, Wolfinbarger, S.*, and Li, D.* (2009). Spatial Characteristics of the Difference between MISR and MODIS Aerosol Optical Depth Retrievals over Mainland Southeast Asia. *Remote Sensing of Environment*, 113, 1-9.

23) Browning, C.R., Byron, R.A.*, **Calder, C.A.**, Krivo, L.J., Kwan, M.-P., Lee, J.-Y.*, and Peterson, R.D. (2010). Commercial Density, Residential Concentration, and Crime: Land Use Patterns and Violence in Neighborhood Context. *Journal of Research in Crime and Delinquency*, 47, 329-357.

24) **Calder, C.A.**, Berrett, C.*, Shi, T., Xiao, N., and Munroe, D.K. (2011). Modeling Space-Time Dynamics of Aerosols Using Satellite Data and Atmospheric Transport Model Output. *Journal of Agricultural, Biological, and Environmental Statistics*, 16(4), 495-512.

25) LaDeau, S.L., **Calder, C.A.**, Doran, P., Marra, P. (2011). West Nile Virus Impacts in American Crow Populations are Associated with Human Land Use and Climate. *Ecological Research*, 26, 909-916.

26) Li, H.*, **Calder, C.A.**, and Cressie, N. (2011). One-Step Estimation of Spatial Dependence Parameters: Properties and Extensions of the APLE Statistic. *Journal of Multivariate Analysis*, 105, 68-84.

27) Berrett, C.* and **Calder, C.A.** (2012). Data Augmentation Strategies for the Bayesian Spatial Probit Regression Model. *Computational Statistics & Data Analysis*, 56, 478-490.

28) Krivo, L.J., Washington, H.M.*, Peterson, R.D., Browning, C.R., **Calder, C.A.**, and Kwan, M.-P. (2013). Social Isolation of Disadvantage and Advantage: The Reproduction of Inequality in Urban Space. *Social Forces*, 92(1) 141-164.

29) Mangel Pflugeisen*, B. and **Calder, C.A.** (2013). Bayesian Hierarchical Mixture Models for Otolith Microchemistry Analysis. *Environmental and Ecological Statistics*, 20(2), 179-190.

30) **Calder, C.A.** (2013). Spatial Exposure Modeling: Reconsidering the Data Generating Mechanism (Invited Discussion). *Environmetrics*, 24(8), 525-526. (Editor reviewed)

31) Tatsumi, D.*, **Calder, C.A.**, and Tomita, T. (2014). Bayesian Near-Field Tsunami Forecasting with Uncertainty Estimates. *Journal of Geophysical Research: Oceans*, 119(4), 2201-2211.

32) Risser, M.D.* and **Calder, C.A.** (2015). Regression-Based Covariance Functions for Nonstationary Spatial Modeling. *Environmetrics*, 26(4), 284-297.

33) Krivo, L.J., Byron, R.A.*, **Calder, C.A.**, Peterson, R.D., Browning, C.R., Kwan, M.-P., Lee, J.Y.* (2015). Patterns of Local Segregation: Do They Matter for Neighborhood Crime?, *Social Science Research*, 54, 303-318.

34) Berrett, C. and **Calder, C.A.** (2016). Bayesian Spatial Binary Classification. *Spatial Statistics*, 16, 72-102.

35) Smith, A.*, **Calder, C.A.**, Browning, C.R. (2016). Empirical Reference Distributions for Networks of Different Size. *Social Networks*, 47, 24-37.

36) Wheeler, D. and **Calder, C.A.** (2016). Socio-Spatial Epidemiology: Residential History Analysis. *Handbook of Spatial Epidemiology*. Chapman & Hall/CRC. (Editor Reviewed)

37) Browning, C.R., **Calder, C.A.**, Ford, J.L., Boettner, B., Smith, A., and Haynie, D. (2017). Understanding Differences in Exposure to Violent Areas: Integrating Survey, Smartphone, and Administrative Data Resources. *The Annals of the American Association of Political and Social Science*, 669(1), 41-62.

38) Browning, C.R., **Calder, C.A.**, Krivo, L.J., Smith, A.L.*, and Boettner, B. (2017). Socioeconomic Segregation of Activity Spaces in Urban Neighborhoods: Does Shared Residence Mean Shared Routines? *Russell Sage Foundation's Journal of the Social Sciences*, 3(2), 210-231.

39) Browning, C.R. **Calder, C.A.**, Sollar, B.*, Jackson, A.L.*, and Dirlam, J.* (2017). Ecological Networks and Neighborhood Social Organization. *American Journal of Sociology*, 122(6), 1939-1988.

40) Browning, C.R., **Calder, C.A.**, Boettner, B., and Smith, A. * (2017). Ecological Networks and Urban Crime: The Structure of Shared Routine Activity Locations and Neighborhood-Level Informal Control Capacity. *Criminology*, 55(4), 754-778.

41) Risser, M.D.* and **Calder, C.A.** (2017). Local Likelihood Estimation for Covariance Functions with Spatially-Varying Parameters: The convoSPAT Package for R. *Journal of Statistical Software*, 81(14), 1-32.

42) **Calder, C.A.** and Berrett, C. (2018). Invited discussion of "Computationally Efficient Multivariate Spatio-Temporal Models for High-Dimensional Count-Valued Data." *Bayesian Analysis*, 13(1), 292-297. (Editor reviewed.)

43) Schmeer, K.K., Tarrence, J.*; Browning, C.R., **Calder, C.A.**, Ford, J., and Boettner, B. (2019). Family Contexts and Adolescent Intra-Individual Variation in Sleep Time. *Social Science and Medicine*, 7, 100320.

44) Boettner, B., Browning, C.R., and **Calder, C.A.** (2019) Feasibility and Reliability of Geographically Explicit Momentary Assessment (GEMA) with Recall-Aided Space-Time Budgets. *Journal of Adolescent Research*, 29(3), 627-645.

45) Risser, M.D.*, **Calder, C.A.**, Berrocal, V.J., and Berrett, C. (2019). Nonstationary Spatial Prediction of Soil Organic Carbon: Implications for Stock Assessment Decision Making. *Annals of Applied Statistics*, 13(1), 165-188.

46) Smith, A.L.*, Asta, D.M., and **Calder, C.A.** (2019). The Geometry of Continuous Latent Space Models for Network Data. *Statistical Science*, 34(3), 428-453.

47) Joseph, A.-C.*, **Calder, C.A.**, and Wheeler, D.C (2020). The Timing of Geographic Power. *Statistics in Medicine*, 39(25), 3624-3636.

48) Keymanesh M.*, Gurukar S.*, Boettner B., Browning C., **Calder C.A.**, Parthasarathy S. (2020) Twitter Watch: Leveraging Social Media to Monitor and Predict Collective-Efficacy of Neighborhoods. In *Complex Networks XI* (eds: Barbosa H., Gomez-Gardenes J., Gonçalves B., Mangioni G., Menezes R., Oliveira M.) Springer Proceedings in Complexity.

49) Xi, W.*, **Calder, C.A.**, and Browning, C.R. (2020) Beyond Activity Space: Detecting Communities in Ecological Networks. *Annals of the Association of American Geographers*, 110(6), 1787-1806.

50) Browning, C.R., **Calder, C.A.**, Boettner, B., Tarrence, J.*, Khan, K.*, Sollar, B., and Ford, J.L. (2021) Neighborhoods, Activity Spaces, and the Span of Adolescent Exposures, *American Sociological Review* 86(2), 201-233.

51) Browning, C.R., Pinchak, N.*, and **Calder, C.A.**. (2021) Human Mobility and Crime: Theoretical Approaches and Novel Data Collection Strategies. *Annual Review of Criminology*, 4, 99-123.

52) Browning, C.R., Tarrence, J.*, LaPlant, E.*, Boettner, B., Schmeer, K., **Calder, C.A.**, Way, B., and Ford, J.L. (2021) Exposure to Police Killings and Physiological Stress Among Urban Black Male Youth. *Psychoneuroendocrinology*, 25, 104884.

53) Gunaker, S.*, Parthasarathy, S., Ramnath, R., **Calder, C.A.**, and Moosavi, S. (2021) Locationtrails: A Federated Approach to Learning Location Embeddings (2021). Proceedings of the *2021 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, 377-384.

54) Pinchak, N.*, Browning, C.R., **Calder, C.A.**, and Boettner, B. (2021) Activity Locations, Residential Segregation, and the Significance of Residential Neighborhood Boundary Perceptions. *Urban Studies*, 58, 13, 2758–2781.

55) Gunaker, S.*, Boettner, B., Browning, C.R., **Calder, C.A.**, and Parthasarathy, S. (2022). Leveraging Network Representation Learning and Community Detection for Analyzing the Activity Profiles of Adolescents. *Applied Network Science*, 7:27, 1-24.

56) Khan, K.* and **Calder, C.A.** (2022) Restricted Spatial Regression Methods: Implications for Inference. *Journal of the American Statistical Association, Theory & Methods*, 117:537, 482-494.

57) Pinchak, N.P.*, Browning, C.R., **Calder, C.A.**, and Boettner, B. (2022) Racial Inequalities in Adolescents' Exposure to Racial and Socioeconomic Segregation, Collective Efficacy, and Violence, *Demography*, 59(5), 1763-1789.

58) Browning, C.R., Terrance, J.*, **Calder, C.A.**, Pinchak, N.P.*, and Boettner, B. (2022). Geographic Isolation, Compelled Mobility, and Everyday Exposure to Neighborhood Racial Composition Among Urban Youth. *American Journal of Sociology*, 128(3), 914-961.

59) Pinchak, N.P.*, Browning, C.R., Boettner, B., **Calder, C.A.**, Terrance, J.* (2023). Paws on the Street: Neighborhood-Level Concentration of Households with Dogs and Urban Crime, *Social Forces*, 101(4), 1888–1917.

60) Browning, C.R., Ford, J.L., Tarrence, J.*, Kertes, D.A., Pickler, R.H., Way, B.M., **Calder, C.A.** (2023). Everyday Perceptions of Safety and Racial Disparities in Hair Cortisol Concentration. *Psychoneuroendocrinology*, 153, 106088.

61) Browning, C.R., Pinchak, N.P.*, **Calder, C.A.**, Boettner, B. (2024). Racial Differences in Activity Space Exposures and Everyday Perceptions of Safety Among Urban Youth. *Journal of Adolescent Health*, 74 (6), 1156-1163.

62) Browning, C.R., Pinchak, N.P.*, **Calder, C.A.**, Boettner, B. (2024). Leveraging Experience Sampling/Ecological Momentary Assessment for Sociological Investigations of Everyday Life. *Annual Review of Sociology*, 50, 41-59.

63) Carter, J.B.*, Browning, C.R., Boettner, B., Pinchak, N.*, **Calder, C.A.** (2024). Land-Use Filtering for Nonstationary Prediction of Collective Efficacy in an Urban Environment. *Annals of Applied Statistics*,

18(1), 794–818.

64) Jurek, M., **Calder, C.A.**, and Zigler, C. (2024). Statistical Inference for Complete and Incomplete Mobility Trajectories under the Flight-Pause Model. *Journal of the Royal Statistical Society, Series C*, 73, 1, 162-192.

Non-refereed Publications

1) **Calder, C.A.** (2004). Efficient Posterior Inference and Prediction of Space-Time Processes Using Dynamic Process Convolutions. In the *Joint Proceedings of the Sixth International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences and the Fifteenth Annual Conference of TIES, The International Environmetrics Society*. Portland, ME. June 28 - July 1, 2004.

2) **Calder, C.A.** (2006). Bayesian Modeling of Exposure Pathways. *International Society for Bayesian Analysis (ISBA) Bulletin*, 13(1), 10-12.

3) Wheeler, D.* and **Calder, C.A.** (2006). Bayesian Spatially Varying Coefficient Models in the Presence of Collinearity. In the *Proceedings of the Joint Statistical Meetings*. Seattle, WA. August 6-10, 2006.

4) **Calder, C.A.** and Cressie, N. (2007). Some Topics in Convolution-Based Spatial Modeling. In the *Proceedings of the 56th Session of the International Statistics Institute*. Lisbon, Portugal. August 22-29, 2007.

5) Paul, R.*, Cressie, N., Buxton, B.E., **Calder, C.A.**, Craigmile, P.F., Li, H.*, McMillan, N.J., Morara, M., Sanford, J., Santner, T.J., Zhang, J.* (2007). A Bayesian Hierarchical Model of Arsenic Exposure Based on NHEXAS Data: A Comparison of US EPA Region 5 and Arizona. In the *Proceedings of the Joint Statistical Meetings*. Salt Lake City, UT. July 29 - August 2, 2007.

6) Munroe, D.K., Xiao, N., **Calder, C.A.**, and Shi, T. (2008). Fire-Land-Atmosphere Modeling and Evaluation for Southeast Asia. In the *Newsletter of the Global Land Project*, 3, January, 2008.

7) Kwan, M.-P., Peterson, R.D., Browning, C.R., Burrington, L.*, **Calder, C.A.**, and Krivo, L.J. (2008). Reconceptualizing Sociogeographical Context for the Study of Drug Use, Abuse, and Addiction. In *Geography and Drug Addiction*, edited by Y. Thomas, D. Richardson, and I. Cheung, 445-454. Berlin: Springer-Verlag.

8) **Calder, C.A.** (2009). Spatial Data Assimilation for Regional Environmental Exposure Studies. In the *Proceedings of the 57th Session of the International Statistics Institute*. Durban, South Africa. August 16-22, 2009.

9) Beekman, C.*, Herbei, R., **Calder, C.A.** and Allen, C. H. (2011). Bayesian Inversion for Long-path Spectroscopic Data: Estimation of Vertical Profiles for Trace Gases in the Atmosphere. Technical Report, Department of Statistics, The Ohio State University.

10) Jia, Y.*, **Calder, C.A.**, and Browning, C.R. (2015). Bilinear Mixed Effects Models for Affiliation Networks. Available at `http://arxiv.org/abs/1406.5954`.

11) Rathouz, P.J. and **Calder, C.A.** (2020) A Framework for SARS-CoV-2 Testing on a Large University Campus: Statistical Considerations. Available at `https://www.medrxiv.org/content/10.1101/2020.07.23.20160788v1`.

* denotes trainee co-author

Presentations

Invited Talks/Seminars

Mathematics Department, Kenyon College, Gambier, OH, October 2002
"Assessing Sources of Uncertainty in a Dynamic Forest Model"

Department of Statistics, The Ohio State University, Columbus, OH, February 2003
"Exploring Latent Structure in Multivariate Spatial Temporal Processes Using Dynamic Process Convolutions"

Joint Meetings of TIES and Spatial Accuracy, Portland, ME, June 2004
"Efficient Posterior Inference and Prediction of Space-Time Processes Using Dynamic Process Convolutions"

Computational Environmetrics Conference, Chicago, IL, October 2004
"Space-Time Modeling Using Dynamic Process Convolutions"

Division of Epidemiology and Biostatistics, School of Public Health, The Ohio State University, Columbus, OH, November 2004
"A Bayesian Analysis of the Relationship Between Exposure to Fine Particulate Matter and Cardiovascular Mortality"

WNAR-International Biometrics Society/IMS Meeting, Fairbanks, AK, June 2005
"A Bayesian Hierarchical Approach to Modeling Spatial Variation in Personal Exposure to Fine Particular Matter and Associated Cardiovascular Mortality"

National Consortium on Violence Research's (NCOVR) workshop on Space, Networks and Social Influence: Individual and Community Level Influences on Violence, University of California, Irvine, CA, February 2006
"Exposure to Violence in Urban Neighborhoods: A Bayesian Hierarchical Approach to Multilevel Spatial Modeling"
(with Christopher Browning, Department of Sociology, Ohio State)

Joint Statistical Meetings, Seattle, WA, August 2006
"Regional Spatial Modeling of Toxic Metals in Various Environmental Media"

Quantitative Studies in Consumer Behavior Seminar, The Ohio State University, Columbus, OH, November 2006
"Spatial Variation in Exposure to Violence Across Urban Neighborhoods: A Hierarchical Bayesian Analysis"

MISR Data Users Science Symposium, Caltech, Pasadena, CA, December 2006
"Spatio-temporal Statistical Modeling of Biomass Burning and Regional Black Carbon Aerosols in Southeast Asia"

Environmental Exposure and Health Data Seminar Series, The Ohio State University, February 2007
"Bayesian Modeling of Exposure Pathways"

Joint Statistical Meetings, Salt Lake City, UT, July 2007
"Space-Time Modeling of Biomass Burning and Regional Aerosols in Southeast Asia"

56th Session of the International Statistics Institute, Lisbon, Portugal, August 2007
"Some Topics in Convolution-Based Spatial Modeling"

International Society for Exposure Assessment Conference, Durham, NC, October 2007
"Demographic and Behavioral Modifiers of Arsenic Exposure Pathways: A Bayesian Hierarchical Analysis

of NHEXAS Data"

Econometrics and Statistics Seminar, Graduate School of Business, University of Chicago, Chicago, IL, November 2007
"Convolution-Based Models for Spatial and Spatio-Temporal Data"

ENAR-International Biometrics Society/IMS Meeting, Washington DC, March 2008
"Regional Spatial Modeling of Arsenic in Environmental Media: Implications for Human Exposure Assessment"

First Midwest Statistics Research Colloquium, Chicago, IL, March 2008
"A Multiscale Approach to Regional Spatial Modeling of Topsoil Geochemistry"

The International Environmetrics Society Conference, Kelowna, BC, Canada, June 2008
"Spatial Data Assimilation for Regional Environmental Exposure Studies"

Workshop on Complex Data in Economics and Finance: Spatial Models, Social Networks, and Factor Models, Stanford Institute for Theoretical Economics, Palo Alto, CA, July 2008
"Dynamic Factor Process Convolution Models for Multivariate Space-Time Data with Application to Air Quality Assessment"

ENVR Workshop on Environmetrics, NCAR, Boulder, CO, October 2008
"Multiscale Spatial Modeling of Topsoil Geochemistry"

Department of Statistics Seminar, University of Washington, Seattle, WA, November 2008
"Spatial Data Assimilation for Regional Environmental Exposure Studies"

Department of Statistics Colloquium, Virginia Tech, Blacksburg, VA, March 2009
"Multiscale Spatial Modeling of Topsoil Geochemistry"

Department of Statistics Colloquium, Texas A&M University, College Station, TX, April 2009
"Kernel-Based Models for Space-Time Data"

Sixth Workshop on Bayesian Statistics in Stochastic Processes, Bressanone/Brixen, Italy, June 2009
"Kernel-Based Models for Space-Time Data"

57th Session of the International Statistics Institute, Durban, South Africa, August 2009
"Spatial Data Assimilation for Regional Environmental Exposure Studies"

Conference on the Dynamics of Space-Time Use: Measurement, Patterns and Consequences, The Ohio State University, Columbus, OH, October 2009
"Bayesian Estimation of Individual Activity Spaces from Incomplete Activity Pattern Data"

Cary Institute for Ecosystem Studies Seminar Series, Millbrook, NY, April 2010
"Regional Spatial Modeling of Topsoil Geochemistry"

Institute for Population Research GeoHealth Seminar Series, The Ohio State University, Columbus, OH, April 2010
"Spatial Data Assimilation for Environmental Exposure Studies"

Transition Workshop, SAMSI Program on Space-time Analysis for Environmental Mapping, Epidemiology and Climate Change, RTP, North Carolina, October 2010
"Bayesian Inference for Incomplete Marked Spatial Point Patters: Estimating Individual Activity Spaces"

Association of American Geographers Annual Meeting, Seattle, WA, April 2011

"Estimation of Individual Activity Spaces from Incomplete Activity Pattern Data"

Department of Statistics Seminar, Purdue University, West Lafayette, IN, November 2011
"Space-Time Dynamical Modeling of Aerosol Transport"

Department of Statistics Seminar, North Carolina State University, Raleigh, NC, February 2012
"Space-Time Dynamical Modeling of Aerosol Transport"

International Society for Bayesian Analysis World Meeting, Kyoto, Japan, June 2012
Invited Discussion: "Advances in Gaussian Processes"

Joint Statistical Meetings, San Diego, CA, August 2012
"Space-Time Dynamical Modeling of Aerosol Transport"

ENVR Workshop on Environmetrics, North Carolina State University, Raleigh, NC, October 2012
"Bayesian Probit Regression Models for Multicategory Spatial Data"

25th Anniversary Conference, Department of Statistical Science, Duke University, Durham, NC, October 2012
"Bayesian Probit Regression Models for Multicategory Spatial Data"

Department of Statistics Seminar, Brigham Young Univeristy, Provo, UT, January 2013
"Spatial and Network-Based Modeling of Activity Pattern Data"

ENAR-International Biometric Society Meeting, Orlando, FL, March 2013
"Bayesian Models for Cumulative Spatio-Temporal Risk Assessment"

Workshop on Spatial Statistics, Colorado State University, Fort Collins, CO, April 2013
"Bayesian Multicategory Spatial Modeling and Classification"

Department of Mathematics, Applied Mathematics and Statistics Colloquium, Case Western Reserve University, November 2013
"Generalized Linear and Bilinear Mixed-Effects Models for Affiliation Networks"

ISBA World Meeting, Cancun, Mexico, July 2014
"A Nonstationary Spatial Covariance Regression Model"

Institute for Population Research Seminar Series, The Ohio State University, October 2014
"Mixed-Effects Models for Two-Mode Networks: Uncovering Patterns in Overlapping Routine Activity Spaces"

Department of Biostatistics, Yale University, December 2014
"Generalized Linear and Bilinear Mixed-Effects Models for Ecological Network Analysis"

INSNA Sunbelt Conference, Brighton, UK, June 2015
"Bilinear Mixed-Effects Models for Affiliation Network"
Submitted abstract selected for presentation by conference organizers.

Workshop on Spatially-Varying SDEs, with Application to the Biological Sciences, Mathematical Biosciences Institute, The Ohio State University, July 2015
"Nonstationary Spatial Modeling"

Joint Statistical Meetings, Seattle, WA, August 2015
"Socio-Spatial Epidemiology: Statistical Methods for Ecological Networks"

Department of Statistics and Probability Colloquium Series, Michigan State University, November 2015

"Regression-Based Covariance Functions for Nonstationary Spatial Modeling"

World Meeting, International Society for Bayesian Analysis, Sardinia, IT, June 2016
"Treed Covariate Segmentation Models for Nonstationary Spatial Processes

Statistics Triple Crowning, National Center for Atmospheric Research, Bolder, CO, July 2016
"Covariate-Driven Nonstationary Spatial Modeling"

PRIISM Seminar Series, New York University, New York, NY, October 2016
"Latent Space Models for Affiliation Networks"

Department of Statistics Colloquium, Pennsylvania State University, State College, PA, October 2016
"Bilinear Mixed-Effects Models for Affiliation Networks"

Mathematical Biosciences Institute Seminar Series, The Ohio State University, Columbus, OH, November 2016
"Statistical Models for Network Data"

10th ICSA International Conference, Shanghai, China, December 2016
"Regression-Based Covariance Functions for Nonstationary Spatial Modeling"

NSF-DMS REU Virtual PI Meeting, June 2017
"Sharing Best Practices: Evaluation and Assessment"

Joint Statistical Meetings, Baltimore, MD, August 2017
"Statistical Methods for Ecological Networks"

Workshop on Modern Statistics for Complex Data Structures, KAUST, Thuwal, Saudi Arabia, November 2017
"Bilinear Mixed-Effects Models for Affiliation Networks"

CMStatistics, London, UK, December 2017
"Latent Space Models for Ecological Networks"

ENAR-International Biometric Society Meeting, Atlanta, GA, March 2018
"Activity Pattern Data and Ecological Networks"'

Biostatistics Colloquium Harvard School of Public Health, Boston, MA, March 2018
"Activity Patterns and Ecological Networks: Identifying Shared Exposures to Social Contexts"

Workshop of Social Epidemiology, Mathematical Biosciences Institute, Columbus, OH, March 2018
"Activity Patterns and Ecological Networks: Identifying Shared Exposures to Social Contexts"

STEAM Exchange on "Dependence", STEAM Factory, Columbus, OH, April 2018
"Spatial Dependence: No Longer Nature's Nuissance"

Statistics and Data Science Seminar, University of Texas, Austin, TX, May 2018
"Continuous Latent Space Models for Ecological Networks"

World Meeting of the International Society for Bayesian Analysis, Edinburgh, UK, June 2018
"Bayesian Spatial Clustering of Adolescent Activity Patterns Across an Urban Environment"

MBI Workshop: Modeling and Analysis of Dynamic Social Networks, Columbus, OH, November 2018
"Community Detection in Co-Location Networks"

Seminar, Department of Statistics, Virginia Tech University, Blacksburg, VA, November 2018

"The Geometry of Continuous Latent Space Models for Network Data"

Keynote Address, 5th Spatial Statistics Conference, Stiges, Spain, July 2019
"Nonstationary Spatial Prediction of Soil Organic Carbon"

Joint Statistical Meetings, Denver, CO, August 2019
"Lessons Learned from Collecting and Analyzing High-Dimensional GPS Data on Adolescent Activity Patterns"

Seminar, Department of Statistics, Rice University, November 2019
"The Geometry of Continuous Latent Space Models for Network Data"

CMStatistics, London, UK, December 2019
"Community Detection in Co-Location Networks"

ENAR-International Biometric Society Meeting, Online, March 2020
"Community Detection in Co-Location Networks"

Statistics Seminar Series, Colorado State University, Online, March 2021
"Spatial Confounding and Restricted Spatial Regression Methods"

Biostatistics Seminar Series, McGill University, Online, March 2021
"Spatial Confounding and Restricted Spatial Regression Methods"

Population Research Center Methodology Seminar Series, Online, April 2021
"Beyond Activity Space: Detecting Communities in Ecological Networks"

University of New South Wales-Sydney, Statistics Seminar Series, Online, June 2021
"Spatial Confounding and Restricted Spatial Regression Methods"

Statistical Inference for Network Models (SINM) Symposium, Online, June 2021
"The Geometry of Continuous Latent Space Models for Network Data"

World Meeting of the International Society for Bayesian Analysis, Online, June 2021
"Restricted Spatial Regression Methods: Implications for Bayesian Inference"

KDD PRISM Workshop, Online, August 2021
"Adolescent Activity Patterns and Ecological Networks"

Statistics Seminar Series, Texas A&M University, September 2021
"Spatial Confounding and Restricted Spatial Regression Methods"

Biostatistics Seminar Series, Johns Hopkins Bloomberg School of Public Health, March 2022
"Spatial Confounding and Restricted Spatial Regression Methods"

ENAR-International Biometric Society Meeting, Houston, TX, March 2022
"Land-Use Filtering for Nonstationary Spatial Prediction of Collective Efficacy in an Urban Environment"

World Meeting of the International Society for Bayesian Analysis, Montreal, Canada, June 2022
"The Geometry of Continuous Latent Space Models for Network Data"

Joint Statistical Meetings, Washington, DC, August 2022
"Spatial Confounding and Restricted Spatial Regression Methods"

Keynote, Texas Methods Meeting, University of Texas at Austin, Austin, TX, November 2023
"Restricted Spatial Regression Methods: A Cautionary Tale for Statistical Methodologists"

Statistics Seminar, Florida State University, Online, February 2023
"Spatial Confounding: A Cautionary Tale"

Distinguished Colloquium, Department of Math and Statistics, San Diego State University, San Diego, CA, April 2023
"Statistical and Ethical Considerations in the Analysis of Human Activity Pattern Data"

SCRAMBLE Seminar, Online, April 2023
"Statistical and Ethical Considerations in the Analysis of Mobile Phone Tracking Data"

UT Austin Public Health Coalition Seminar Series, University of Texas at Austin, Austin, TX, May 2023
"Spatial Contexts, Ecological Communities, and Wellbeing/Health"

International Indian Statistical Association Conference, Golden, CO, June 2023
"Statistical and Ethical Considerations in the Analysis of Mobile Phone Tracking Data"

NISS Writing Workshop, Online, July 2023
"NIH Funding Opportunities for Statisticians and Biostatisticians"

Funding Opportunities Panel, Joint Statistical Meetings, Toronto, Canada, August 2023
"NIH Funding Opportunities for Statisticians and Biostatisticians"

Biostatistics Seminar Series, University of California-Los Angeles, Los Angeles, CA, October 2023
"Mobile Phone Tracking Data in Scientific Research: Study Design, Missing Data, and Other Statistical Considerations"

5th Mobile Apps and Sensors in Surveys (MASS) Workshop, Washington, DC, March 2024
"Novel Sampling Designs and Activity-Space Data Collection Strategies for AHDCII"

Statistics Seminar Series, University of Illinois Urbana-Champaign, Champaign, IL, March 2024
"Statistical and Ethical Considerations in the Analysis of Mobile Phone Tracking Data"

Workshop on Statistical Methods for Complex Data and High-Dimensional Analysis, Southern Methodist University, Dallas, TX, September 2024
"Mixture of Directed Graphical Models for Discrete Spatial Random Fields"

Invited Posters

NASA Land Cover Land Use Change Program Science Team Meeting, University of Maryland, College Park, MD, October 2006
"A Comprehensive Statistical Analysis System to Associate Local Land-Cover/Land-Use Change and Regional Aerosol Composition and Concentration"
(with Darla Munroe, Department of Geography, Ohio State)

ICCA/EPA Workshop on Public Health Applications of Biomonitoring, Durham, NC, September 2007
"Arsenic Exposure Pathways in Subpopulations: Bayesian Inference from NHEXAS Data"

Contributed Talks/Posters

Ecological Society of America's Annual Meeting, Madison, WI, August 2001
"Incorporating Observation Error in Density Dependence Population Models"

6th Workshop on Case Studies in Bayesian Statistics, Carnegie Mellon University, Pittsburgh, PA, September 2001
"A Space-Time Model for Ozone Concentration Using Process Convolutions"

Joint Statistical Meetings, New York, NY, August 2002
"Assessing Sources of Uncertainty in a Dynamic Forest Model"

ISBA Valencia Conference, Tenerife, Spain, June 2002
"Assessing Sources of Uncertainty in a Dynamic Forest Model"

SAMSI/GSP Workshop on Spatio-Temporal Modeling, Boulder, CO, June 2003
"Exploring Latent Structure in Multivariate Spatial Temporal Processes Using Dynamic Process Convolutions"

Joint Statistical Meetings, San Francisco, CA, August 2003
"Exploring Latent Structure in Multivariate Spatial Temporal Processes Using Dynamic Process Convolutions"

International Workshop on Bayesian Data Analysis, University of California at Santa Cruz, Santa Cruz, CA, August 2003
"Exploring Latent Structure in Multivariate Spatial Temporal Processes Using Dynamic Process Convolutions"

7th Workshop on Case Studies in Bayesian Statistics, Carnegie Mellon University, Pittsburgh, PA, September 2003
"A Bayesian Dynamic Process Convolution Approach to Modeling the Joint Distribution of $PM_{2.5}$ and PM_{10}"

ENAR-International Biometric Society Meeting, Pittsburgh, PA, March 2004
"Relating $PM_{2.5}$ Exposure to Mortality Using an Exposure Simulator"

Joint Statistical Meetings, Toronto, Canada, August 2004
"A Spatio-Temporal Framework for Modeling Ambient Particulate Matter Concentration Levels"

Joint Statistical Meetings, Minneapolis, MN, August 2005
"Bayesian Modeling of Multicategory Spatial Data"

Joint Statistical Meetings, Washington, DC, August 2009
"Kernel-Based Models for Space-Time Data"

Ninth Valencia International Meeting on Bayesian Statistics/2010 ISBA World Meeting, Benidorm, Spain, June 2010
"Bayesian Inference for Incomplete Marked Spatial Point Patterns"

Funding

External

EPA/ACC Award #2866 (Role: Co-PI)
"Sources to Biomarkers: A Hierarchical Bayesian Approach for Human Exposure Modeling"
Award Period: 09/28/04 - 03/31/09, Total Award: $526,986

NSF SES-0528232 (Role: Co-PI)
"Segregation and Local Crime: An Integrated Spatial Analysis"
Award Period: 09/15/05 - 08/31/08, Total Award: $280,000

NASA NNG06GD31G (Role: Co-PI)
"A Comprehensive Statistical Analysis System to Associate Local-Land Cover/Land-Use Change and Regional Aerosol Composition and Concentration"

Award Period: 01/01/06 - 12/31/09, Total Award: $611,305

NSF BCS-0729466 (Role: Co-PI)
"Dynamics of Space and Time Use: Patterns, Causes, and Consequences for Crime and Problem Behaviors"
Award Period: 01/01/08 - 12/31/10, Total Award: $700,000

NIH R01DA025415 (Role: Co-PI)
"(ARRA) Spatial Patterns of Social Isolation, Youthful Marijuana Use, and Sexual/HIV Risk"
Award Period: 08/01/09 - 07/31/11, Total Award: $697,849

NIH R01HD057945 (Role: Co-PI)
"Neighborhood Context and Adolescent Psychological and Behavioral Health"
Award Period: 08/15/09 - 06/30/13, Total Award: $986,144

NSF DMS-0934595 (Role: co-PI, PI of the OSU subcontract)
"CMG: Multivariate Nonstationary Spatial Extremes in Climate and Atmospherics"
Award Period: 10/01/09-09/30/10, Total Award: $325,000 (OSU subcontract: $38,120)

NIH R01DA032371 (Role: Co-PI)
"Adolescent Health and Development in Context"
Award Period: 09/15/11-07/31/16, Total Award: $2,317,320

NSF DMS-1107046 (Role: Director of the OSU Node, Senior Personnel)
"Research Network in the Mathematical Sciences: Statistical Methods for Atmospheric and Oceanic Sciences"
Award Period: 10/01/11-09/31/16, Total Award: $2,833,525

WT Grant Foundation (Role: Co-PI)
"Activity Space, Social Network, and Community Influences on Adolescent Risk"
Award Period: 01/01/12-12/31/17, Total Award: $757,074

NSF DMS-1209161 (Role: PI)
"Bayesian Methods for Socio-Spatial Point Patterns and Networks"
Award Period: 09/15/12 - 08/31/16, Total Award: $180,000

NSF DMS-1461163 (Role: PI 1/2018-7/2019; previously Co-PI)
"REU Site: Distributed REU in the Mathematical Biosciences"
Award Period: 05/01/15-04/30/18, Total Award: $389,998

NSF DMS-1440386 (Role: PI 1/2018-7/2019; previously co-PI)
"Mathematical Biosciences Institute"
Award Period: 09/01/15-08/31/19, Total Award: $6,550,000

NIH NICHD R01-HD086227 (Role: Co-I, until 7/2019)
"Verbal Autopsy: Reimagining Data & Automated Cause Assignment (using ALPHA Network data)"
Award Period: 09/20/16-6/30/21, Total Award: $2,438,216

NIH NICHD R01-HD088545 (Role: PI)
Adolescent Health in an Urban Environment
Award Period: 04/01/17-01/31/24, Total Award: $1,553,888
(Originally titled "Statistical Methods for Co-location Networks: Adolescent Socio-Spatial Exposures and Health in an Urban Environment")

NSF 1757423 (Role: PI, until 7/2019)

"REU Site: A Distributed REU in the Mathematical Biosciences"
Award Period: 05/01/18-04/30/20, Total Award: $348,093

NIH NICHD R03-HD096182 (Role: Co-I, until 7/2019)
"Documenting and Archiving the Adolescent Health and Development in Context Study"
Award Period: 08/31/18-07/31/00 , Total Award: $150,000

NSF 1839356 (Role: Senior Personnel, until 7/2019)
"TRIPODS+X:EDU: An MBI TGDA+Neuro Program for Undergraduates"
Award Period: 10/01/18-09/31/21, Total Award: $199,983

NSF 1839810 (Role: Co-PI until 7/2019)
"RoL:FELS: A Summit on New Interdisciplinary Research Directions on the Rules of Life"
Award Period: 09/01/18-08/31/19, Total Award: $99,741

NSF 2029106 (Role: UT-PI)
"Collaborative Research: RAPID: Socioeconomic Determinants of Social Distancing Behaviors in Response to the COVID-19 Pandemic"
Award Period: 05/14/2020-05/13/2022, Total Award: $200,000 ($13,243 to UT)

NIH NICHD 1R01HD113259-01 (Role: MPI)
"Activity Space Adversity and Racial Disparities in Adolescent Health"
Award Period: 09/15/2023-6/30/2028, Total Award: $3,324,339

NIH NICHD P2CHD042849-21 (Role: PI)
"Scientific & Technical Core"*
Award Period: 09/01/2024-06/30/2029, Total Award: $631,905
* 1 of 3 Cores that comprise the Population Research Center (PRC; PI: Gershoff)

Internal (The Ohio State University)

Grant from the College of Mathematical and Physical Sciences, The Ohio State University (Role: PI)
"Hierarchical Bayesian Modeling of Regional Alpine Treeline Patterns"
Award Period: 06/01/04 - 09/30/05, Total Award: approximately $16,000

Grant from the Population and Health Targeted Investment in Excellence Initiative, The Ohio State University (Role: Co-PI)
"The Neigborhood Context of Early Adolescent Mental and Physical Health"
Award Period: 05/02/07 - 12/01/08, Award Total: $21,006

Grant from Climate, Water, and Carbon Targeted Investment in Excellence Initiative, The Ohio State University (Role: Co-PI)
"Atmospheric Chemistry: The Ohio River Basin"
Award Period: 09/05/07 - 09/01/08, Total Award: $34,520

Grant from the Institute for Population Research, The Ohio State University (Role: Co-PI)
"The Sociospatial Context of Health Disparities"
Award Period: 07/01/08 - 06/30/09, Award Period: $33,494

Grant from the Criminal Justice Research Center, The Ohio State University (Role: Co-PI)
"Sociospatial Exposure to Crime and Violence and Chronic Physiologic Stress among Urban Adolescents"
Award Period: 01/01/15 - 12/31/15, Award Period: $10,000

Grant from the Institute for Population Research, The Ohio State University (Role: PI)
"Respondent Driven Sampling for Co-location Networks"

Award Period: 05/15/15 - 05/14/17, Total Award: $39,091

Grant from the Institute for Population Research, The Ohio State University (Role: Co-PI)
"Characterizing Communities Vulnerable to Opioid Addiction"
Award Period: 06/01/17 - 05/14/18, Total Award: $41,234

Teaching

Department of Statistics & Data Sciences, University of Texas at Austin

Co-Instructor (with Purna Sarkar) for DSC 383 - Advanced Predictive Models for Complex Data: Spring 2022, Summer 2022, Spring 2023, Summer 2023, Summer 2024

Co-Instructor (with Layla Parast) for SDS 190C - Readings in Statistics: Spring 2024

Department of Statistics, The Ohio State University

Lecturer for Statistics 145 - Introduction to the Practice of Statistics: Summer 2003

Instructor for Statistics 420 - Introduction to Mathematical Statistics I: Winter 2010

Instructor for Statistics 528 - Data Analysis I: Autumn 2003, Winter 2004

Instructor for Statistics 625 - Applied Bayesian Analysis: Winter 2008, Winter 2009, Winter 2010, Winter 2011, Winter 2012

Instructor for Statistics 656 - Applied Multivariate Analysis: Spring 2005, Spring 2007, Spring 2009, Spring 2011, Spring 2012

Instructor for Statistics 662 - Environmental Statistics: Spring 2006, Spring 2008, Spring 2010

Instructor for Statistics 694 - Group Studies (Applied Bayesian Analysis): Winter 2006, Winter 2007

Co-Instructor (with Ningchuan Xiao, Geography) for Statistics 881/Geography 983 - Advanced Topics in Statistics/Special Topics in Quantitative Geography: Winter 2004
Topic: Visualization of Uncertainty in Spatial Information

Instructor for Statistics 3303 - Bayesian Analysis and Statistical Decision Theory: Spring 2017, Spring 2018, Spring 2019

Instructor for Statistics 5301 - Intermediate Data Analysis: Autumn 2012

Co-Instructor for Statistics - Statistical Consulting Support from the SCS: Autumn 2017, Spring 2018

Instructor for Statistics 6530 - Introduction to Spatial Statistics: Spring 2013, Spring 2015

Instructor for Statistics 6570 - Applied Bayesian Analysis: Spring 2013, Spring 2014, Spring 2015, Spring 2016

Instructor for Statistics 8410 - Capstone Applications: Autumn 2013 (with Mark Berliner and Tao Shi), Autumn 2014 (sole instructor)

Instructor for 8530 - Spatial and Spatio-Temporal Statistics: Spring 2014, Autumn 2016

ISDS, Duke University

Head Teaching Assistant, Fall 2002

Instructor for Statistics 101 - Probability and Statistical Inference: Summer 2001

Teaching Assistant for Statistics 113 - Statistics for Engineers: Fall 1999, Spring 2000

Advising

Former Advisees

David Wheeler (co-advisor with Morton O'Kelly, Geography)
PhD in Geography, The Ohio State University, August 2006
Thesis Title: Diagnostic Tools and Remedial Methods for Collinearity in Linear Regression Models with Spatially Varying Coefficients
First Position: Postdoctoral Fellow, Department of Biostatistics and Bioinformatics, Emory University
Current Position: Associate Professor of Biostatistics (with tenure), Virginia Commonwealth University

Hongfei Li (co-advisor with Noel Cressie, Statistics)
PhD in Statistics, The Ohio State University, December 2007
Thesis Title: Approximate Profile Likelihood Estimation of Spatial Dependence Parameters
Former Position: Head of Data Science and Principal Data Scientist, IBM Analytics
Current Position: Head of Modeling, Point 72

Bethann Mangel Pflugeisen
MS in Statistics (Thesis Track), The Ohio State University, June 2010
Thesis Title: Analysis of Otolith Microchemistry Using Bayesian Hierarchical Mixture Models
Current Position: Research Associate, MultiCare Institute for Research & Innovation

Candace Berrett
PhD in Statistics, The Ohio State University, December 2010
Thesis Title: Bayesian Probit Regression Models for Spatially-Dependent Categorical Data
Current Position: Professor of Statistics (with tenure) and Associate Chair, Brigham Young University

Daisuke Tatsumi (unofficial MS advisor)
MS in Statistics (Exam Track), The Ohio State University, Spring 2013
Topic: Bayesian Hierarchical Modeling for Tsunami Wave Height Forecasting
Current Position: Deputy-Director of Engineering, Administrative Office of Ports and Harbours Bureau,Ministry of Land, Infrastructure, Transport and Tourism, Japan

Mark Risser
PhD in Statistics, The Ohio State University, July 2015
Thesis Title: Spatially-Varying Covariance Functions for Nonstationary Spatial Process Modeling
Current Position: Career Research Scientist, Lawrence Berkeley National Lab and Visiting Scholar, UC Berkeley Department of Statistics

Yanan Jia
PhD in Statistics, The Ohio State University, July 2016
Thesis Title: Generalized Bilinear Mixed-Effects Models for Multi-Indexed Multivariate Data
Current Position: Machine Learning Engineering/Statistician, Businessolver

Anna Smith
PhD in Statistics, The Ohio State University, May 2017

Thesis Title: Statistical Methodology for Multiple Networks
First Position: Postdoctoral Fellow, Department of Statistics, Columbia University
Current Position: Assistant Professor, Department of Statistics,
University of Kentucky

Wenna Xi
PhD in Biostatistics, The Ohio State University, August 2019
Thesis Title: Community Structure in Co-Location Networks
First Position: Postdoctoral Fellow, Weill College of Medicine, Cornell University
Current Position: Instructor, Department of Population Sciences,
Weill College of Medicine, Cornell University

Kori Khan
PhD in Statistics, The Ohio State University, August 2020
Thesis Title: Restricted Spatial Regression: Methods & Implications
First Position: Assistant Professor, Department of Statistics, Iowa State University

Jake Terrance
Postdoctoral Fellow, University of Texas at Austin (2022)
Current Position: Health Equity Research Analyst, Oregon Health Authority, Portland, OR

Marcin Jurek (co-advisor with Cory Zigler)
Postdoctoral Fellow, University of Texas at Austin (2020-2023)
Current Position: Assistant Professor, Department of Statistics and Data Science,
Southern Methodist University

Brandon Carter
PhD in Statistics, University of Texas at Austin, December 2024
Thesis Title: Bayesian Spatial Models for Discrete Data: Methodological Advances with Applications in Urban Sociology

Current Advisees

Yiwei Gong (co-advisor with Sinead Williamson)
PhD in Statistics, University of Texas at Austin (expected Summer 2025)
Topic: Non-Euclidean Latent Space Models for Network Data

Member, Candidacy Exam Committee

University of Texas, Austin

Preston Biro, Statistics, February 2021
Travis Lilly, Statistics, May 2021
Brandon Carter (advisor), Statistics, April 2022
Yiwei Gong (co-advisor), Statistics, April 2023

The Ohio State University

Xiaobai Li, Statistics, April 2005
David Wheeler, Geography, August 2005
Jue Wang, Civil and Environmental Engineering and Geodetic Science, October 2005
Hongfei Li (co-advisor), Statistics, March 2006
Yonggang Yao, Statistics, June 2006
Hu Wei, Geography, July 2006

Clint Roberts, Statistics, February 2007
Joshua Ash, Electrical Engineering, March 2007
Christopher Beekman, Environmental Science Graduate Program, May 2007
Li Zhang, Civil and Environmental Engineering and Geodetic Science, June 2007
Shari Modur, Statistics, November 2007
Nuo Xi, Psychology, June 2009
Candace Berrett (advisor), Statistics, July 2009
William Darnieder, Statistics, September 2010
Yun Tang, Psychology, February 2011
Jesse Plasack, Epidemiology, October 2011
Wenjun Zhang, Statistics, July 2012
Tayler Blake, Statistics, January 2013
Haixia Liu, Geography, March 2013
Jingjing Yan, Statistics, November 2013
Linchao Chen, Statistics, November 2013
Casey Davis, Statistics, December 2013
Xining Yang, Geography, December 2013
Mark Risser (advisor), Statistics, March 2014
Zachary Thomas, Statistics, April 2014
Yanan Jia (advisor), Statistics, July 2014
Elizabeth Petraglia, Statistics, July 2014
Hui Yang, Statistics, December 2014
Jake Carr, Geography, September 2015
Han Zhang, Statistics, October 2015
Anna (Mohr) Smith (advisor), Statistics, November 2015
Zhiyue Chen, Statistics, November 2015
Kirk Brouwer, Mechanical and Aerospace Engineering, May 2016
Shreyan Ganguly, Statistics, November 2017
Abihjoy Saha, Statistics, January 2018
Wenna Xi (advisor), Biostatistics, May 2018
Matthew Wascher, Statistics, May 2019

Member, Dissertation Committee

University of Texas, Austin

Preston Biro, Statistics, November 2022
Brandon Carter, Statistics, December 2024

The Ohio State University

Xiaobai Li, Statistics, March 2006
David Wheeler (co-advisor), Geography, August 2006
Hongfei Li (co-advisor), Statistics, August 2007
Clint Roberts, Statistics, May 2008
Lijia Wei, Geography, September 2008
Christopher Beekman, Environmental Science Graduate Program, March 2010
Candace Berrett (advisor), Statistics, September 2010
William Darnieder, Statistics, June 2011
Li Zhang, Civil and Environmental Engineering, December 2012
Jesse Plascak, Epidemiology, July 2013
Wenjun Zheng, Statistics, July 2014
Jingjing Yan, Statistics, July 2014
Linchao Chen, Statistics, April 2015

Zachary Thomas, Statistics, June 2015
Mark Risser (advisor), Statistics, July 2015
Elizabeth Petraglia, Statistics, August 2015
Hui Yang, Statistics, August 2015
Yanan Jia (advisor), Statistics, July 2016
Ran Wei, Statistics, July 2016
Anna Smith (advisor), Statistics, April 2017
Rachel Shirley, Nuclear Engineering, May 2017
Ziyue Chen, Statistics, July 2017
Tayler Blake, Statistics, April 2018
Abhijoy Saha, Statistics, May 2019
Wenna Xi (advisor), Biostatistics, July 2019
Kori Khan (advisor), Statistics, June 2020

Mentoring

Claude Davila (with Noel Cressie, Department of Statistics), MBI Research Experience for Undergraduates (REU)
Summer 2006

John Christensen, MBI Research Experience for Undergraduates (REU)
Summer 2007

Erinne Kennedy, MBI Research Experience for Undergraduates (REU)
Summer 2009; RUMBA Program: Winter 2010-Winter 2011

Xinru Cai, MBI Research Experience for Undergraduates (REU)
Summer 2010

Elizabeth Gilbert, Undergraduate Research Office Undergraduate Research Fellowship
Summer 2017

Reese Martin (with Punit Gandhi), MBI Research Experience for Undergraduates (REU)
Summer 2017

University Service

The University of Texas at Austin

Member, Population Research Center Director Search Committee, 2024-2025

Member, UGS Review Committee, 2019-2020

Member, Faculty Search Committee (Data Science), Oden Institute, 2019-2020

Member, Faculty Search Committee, Statistics Group, IROM, McCombs School of Business, 2019-2020

Chair, College of Natural Science Dean Search Consultative Committee, 2021

Member, Steering Committee, Center for Health & Environment: Education & Research, 2021-2022

The Ohio State University

Departmental - Exam Committees

Member, Master of Applied Statistics (MAS) Exam Committee: Spring 2004, Autumn 2004, Autumn 2005, Spring 2009, Spring 2010 (Chair), Autumn 2010, Spring 2011, Autumn 2011, Spring 2012, Autumn 2012, Spring 2013 (Chair), May 2013, Spring 2014, May 2014, Spring 2015, May 2015, Spring 2016, May 2016, SP 2017, SP 2018, May 2018, SP 2019, May 2019

Member, Statistics PhD Qualifier Exam I Committee: Autumn 2006, Winter 2007, Autumn 2007, Winter 2008

Member, Biostatistics PhD Qualifier Exam II Committee: Summer 2017

Departmental - Curriculum

Member, Curriculum Committee: AY 2005-2006, AY 2006-2007, AY 2007-2008, AY 2008-2009

Member, Online Course Development Committee: AY 2013-2014, AY 2014-2015

Member, Semester Conversion Subcommittee on Graduate Interdisciplinary Specializations, Graduate Minors, and Other Graduate Service Courses: AY 2009-2010

Member, *Ad hoc* Committee on MAS Redesign and Online Initiatives: AY 2012-2013, AY 2013-2014

Chair, Subcommittee on MAS and Online Education Subcommittee, Curriculum Committee: AY 2014-2015

Departmental - Other

Member, Graduate Admissions Committee: AY 2009-2010, AY 2010-2011, AY 2011-2012, AY 2012-2013, AY 2013-2014, AY 2015-2016, AY 2016-2017

Member, Statistics Colloquium Committee: Spring 2009, Spring 2010, Autumn 2013

Member, Department Communications Committee: AY 2010-2011, AY 2011-2012, AY 2012-2013 (Chair), AY 2013-2014 (Chair), AY 2014-2015 (Chair), AY 2015-2016 (Chair), AY 2016-2017 (Chair), AY 2017-2018 (Chair)

Member, Faculty Hiring Committee: AY 2012-2013

Member, Department Executive Committee: AY 2014-2015, AY 2015-2016

Co-Director, Statistical Consulting Service: AY 2017-2018

Advisor, Program in Spatial Statistics and Environmental Statistics: 2014-2015

Mentor for Assistant Professor Dena Asta: 2015-2019

Mentor for Associate Professor Jonathan Baker: 2015-2019

Mentor for Associate Professor Asuman Turkmen: 2012-2019

Mentor for Assistant Professor David Sivakoff: 2015-2019

University - General

Elected member, University Senate and Faculty Council: 2016 - 2019

Member (appointed), Graduate Council: 2016 - 2019 (Chair in 2018-2019)

Member, Joint CAA/Graduate Council Curriculum Committee: AY 2016-2017, AY 2017-2018

Member, University Rules Committee: AY 2017-2018, AY 2018-2019

Member, Energy Academic Collaboration Council: AY 2017-2018, AY 2018-2019

Member, Director Search Committee, Translational Data Analytics Institute, 2018-2019

Member, Advisory Board, Data Science for Women Summer Camp, Translational Data Analytics Institute, 2018-2019

University - College of Arts & Sciences

Elected member, Dean's Faculty Advisory Council: 2016-2019

Member, Promotion and Tenure Committee, Natural and Mathematical Sciences: AY 2016-2017, AY 2017-2018, AY 2018-2019

Member, Salary Appeals Committee, AY 2016-2017, AY 2017-2018

University - Mathematical Biosciences Institute

Co-Director (Associate Director), Mathematical Biosciences Institute, 2018-present (2015 - 2017)

Member, Organizing Committee, Mathematical Biosciences Institute (MBI) Workshop on Uncertainty in Ecological Analysis: April 2006

Program Leader, Mathematical Biosciences Institute, Summer Program in Mathematical Biology for Undergraduates: Summer 2006, Summer 2007, Summer 2009, Summer 2010, Summer 2016

Program Leader (with Yuan Lou, Department of Mathematics), Mathematical Biosciences Institute (MBI) 2006 Summer Educational Program

University - Graduate Studies

Graduate Studies Chair, Graduate Interdisciplinary Specialization (GIS) in Geospatial Data and Analysis (GSDA): August 2008 - July 2018

Member, University Fellowship Committee: 2012-2014

Member, SROP Panel on "Choosing the Right Graduate School": July 2014

University - Research Forums and Panels

Judge, Denman Undergraduate Research Forum: May 2007, May 2008, May 2012

Member, Panel on Collaborative Science, Office of Research's Responsible Conduct of Research Program: January 2009

Judge, Division of Natural, Mathematical and Physical Sciences' Undergraduate Research Forum: April 2010

University - Seminars and Conferences

Member, Organizing Committee, Environmental Exposure and Health Data Seminar Series: Winter 2007

Member, Organizing Committee, Conference on the Dynamics of Space-Time Use: Measurement, Patterns and Consequences, The Ohio State University, Columbus, OH: October 2009

Invited Session Chair, Conference on Nonparametric Statistics and Statistical Learning, The Ohio State University, Columbus, OH: May 2010

Professional Service

American Statistical Association

General

Member, Committee on Funded Research: 2018-present (Vice Chair, 2022; Chair, 2023)

* ***Member, Board of Directors and Member of the Council on Sections Governing Board: 2021-2023 (Elected Position)***

Organized and chaired multiple Joint Statistical Meetings sessions (2002-present)

Nominated or wrote in support of nominations for ASA Fellow (2016-present)

Caucus of Academic Representatives: Chair Elect 2024-2025, Chair 2025-2026, Past Chair 2026-2027

Section on Statistics and the Environment

Member, Student Paper Competition Committee: 2006-2008 (Committee Chair, 2008)

Member, Presentation Award Committee: 2009-2011 (Committee Chair, 2011)

Organizing Committee Member and Session Chair, ENVR Workshop on Environmetrics, NCAR, Boulder, CO: October 2010

Publications Chair Elect: 2012, Publications Chair: 2013-2014 (Elected Position)

Section Chair Elect: 2014; Section Chair: 2015; Past Chair 2016 (Elected Position)

Chair, Organizing Committee, ENVR/EnviBayes Workshop on Bayesian Environmetrics, The Ohio State University: April/May 2016

Section on Bayesian Statistical Science

Member, Student Paper Competition Committee: 2010-2012, 2014 (Committee Chair, 2014), 2017

Program Chair Elect: 2014; Program Chair: 2015 (Elected Position)

Section Chair Elect 2020; Chair 2021; Past Chair: 2022 (Elected Position)

Section on Statistical Computing

Section Chair Elect: 2016; Section Chair: 2017; Past Section Chair: 2018 (Elected Position)

International Society for Bayesian Analysis

* ***Applications Editor, International Society for Bayesian Analysis Bulletin: December 2004 - June 2007***

Member, Nominating Committee: 2008

* ***Member, Board of Directors: 2012-2014 (Elected Position)***

Member, ISBA Continuing Education Committee: 2012-2013 (Committee Chair, 2012)

ISBA-SBSS Continuing Education Liaison: 2012-2013

Chair, EnviBayes Section: 2017 (Chair-Elect in 2016) (Elected Position)

* ***Wed Editor: 2016-2019***
Undertook a full redesign of the website with an integrated content management system

Member, Editorial Search Committee: 2018

Member, Blackwell-Rosenbluth Award Committee: 2022

Other Professional

Organized and chaired sessions at a variety of conferences (2002-present)

Member, Organizing Committee, Conference on Spatial Statistics: June 2013

Member, Steering Committee, Spatial Statistics Society: 2013-2019

Member, COPSS Awards Committee: 2018-2020

* ***Inaugural Chair, COPSS Leadership Academy Selection Committee, 2020-2021***

External Evaluator for Promotion and Tenure Cases: 2009(1x), 2012(1x), 2013 (2x), 2016 (5x), 2017 (5x), 2018 (3x), 2019 (3x), 2020 (3x), 2021 (4x), 2022 (4x), 2023 (5x), 2024 (5x)

Editorial/Grant Review

* ***Associate Editor,* Bayesian Analysis*: August 2009 - December 2022***

* ***Associate Editor/Area Editor,* Annals of Applied Statistics*: June 2010 - December 2024 / January 2025 - present***

* ***Associate Editor,* Environmetrics*: January 2009 - December 2013***

* ***Associate Editor,* Biometrics*: July 2010 - July 2014***

Journals Article Reviewer: *Advances in Statistical Climatology, Meteorology and Oceanography*; *The American Statistician*; *Annals of Applied Statistics*; *Annals of the Association of American Geographers*; *Annals of Epidemiology*; *Atmospheric Environment*; *Bayesian Analysis*; *Biometrics*; *Computational Statistics & Data Analysis*; *Ecological Applications*; *Ecological Modelling*; *Ecology*; *Environmental and Ecological Statistics*; *Environmental Health Perspectives*; *Environmental Science and Technology*; *Geographical Analysis*; *Journal of Computational and Graphical Statistics*; *Journal of Multivariate Analysis*; *Journal of Statistical Planning and Inference*; *Journal of Statistics Education*; *Journal of the American Statistical Association*; *Journal of the Royal Statistical Society, Series B*;*Journal of the Royal Statistical Society, Series C*; *Regional Science*; *Social Forces*; *Spatial Statistics*; *Statistica Sinica*; *Statistical Science*; *Survey Methodology*; *Water Resources Research*

Reviewed multiple book proposals for the Taylor and Francis Group and Springer (2007-present)

Proposal Reviewer (13x), National Science Foundation (NSF)

Reviewer, LA TEACH Study Final Report, Mickey Leland National Urban Air Toxics Research Center: February 2005

Proposal Reviewer, Environmental and Human Health Programme, National Environmental Research Council (NERC) (UK): February 2007

Member, National Science Foundation (NSF) Review Panel: April 2006, June 2008, April 2010, January 2015, February 2016

Member, Development of Environmental Health Outcome Indicators Panel, Environmental Protection Agency (EPA): March 2007

Ad hoc Member, NIH Study Section on Infectious, Reproductive, Asthma and Pulmonary Conditions (IRAP): September 2014

Ad hoc Member, NIH Study Section – Children's Environmental Health & Disease Prevention Research Centers: May 2015

Ad hoc Member, NIH Study Section – Biostatistical Methods and Research Design (BMRD): October 2015, October 2017, June 2020

Ad hoc Member, NIH Study Section – Methodology and Measurement in the Behavioral and Social Science: October 2018

* ***Standing Member, NIH Study Section – Biostatistical Methods and Research Design (BMRD): 2021-2022***

* ***Standing Member, NIH Study Section – Analytics and Statistics for Population Sciences B (ASPB): 2022-present (chair starting fall 2023)***

* denotes a major professional service appointment