Thomas J. Fisher

Curriculum Vitæ

July 30, 2025

Contact Information

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Miami University
Department of Statistics
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Citizenship: United States

Education

Ph.D. in Mathematical Sciences, Clemson University ***December 2009***
Dissertation: On the Testing and Estimation of High-Dimensional Covariance Matrices
Principal Advisor: Xiaoqian Sun (University of Missouri-Columbia)

M.S. in Mathematical Sciences, Clemson University ***May 2006***
MS Project: Simulation Study for Single-Index Models
Principal Advisor: K.B. Kulasekera (University of Nebraska-Lincoln)

B.S. in Computer Science, University of Maryland Baltimore County ***December 2003***
Senior Project: Simulating the Pick-up Stones Game: A Dynamic Approach

A.S. in Computer Science, Anne Arundel Community College ***May 2001***

Employment

Miami University
Oxford, OH 45056 ***Department of Statistics***
Professor *July 2022 to present*
Associate Professor *July 2017 to June 2022*
Assistant Professor *August 2013 to June 2017*

University of Missouri-Kansas City
Kansas City, MO 64110 ***Department of Mathematics and Statistics***
Assistant Professor *August 2010 to August 2013*

Clemson University
Clemson, SC 29631 ***Department of Mathematical Sciences***
Visiting Assistant Professor *January 2010 to May 2010*
Graduate Assistant *August 2004 to December 2009*

COACT, Inc.
Columbia, MD 21046
CMVP Lab Manager, COACT, Inc. *December 2003 to August 2004*
Security Technician, COACT, Inc. *November 2001 to December 2003*

Scholarship

Reviewed Published/Accepted Contributions

34. Knoll, Lesley, **Fisher, T.J.**, Vanni, Michael J., Youngblade, Evan, "Long-term deep-water dissolved oxygen dynamics in a hypereutrophic reservoir following shifts in watershed management and lake warming." *Ecosystems* accepted July 2025.
33. Berry, N., Bunnell, D., Overholt, E., Schumacher, J.A., Almeda, J.A., Schoenebeck, C.W., Jacobson, P.C., Dey, K., Smith, J.B., Tucker, A., **Fisher, T.J.**, Mette, E.M., Carlson, B.N., Hansen, G.J.A., Ahrenstorff, T.D., Bahr, D.L., Keeler, K.M., Weidel, B.C., Lynch, A.J., Williamson, C.E., "Exposure to ultraviolet radiation induces escape hatching of Cisco (Coregonus artedi) eggs." *Freshwater Biology* accepted March 2025. (10.1111/fwb.70031)
32. Lund, Robert, **Fisher, T.J.**, Diawara, Norou, Wehner, Michael, "Multiple Changepoint Detection for Non-Gaussian Time Series," *Journal of Time Series Analysis*, accepted March 2025. (10.1111/jtsa.12833)
31. Farthing, Tessa, Rintsch, Eileen, Larson, Owen, Grudzinski, Bartosz P., **Fisher, T.J.**, and McCarty, Jessica L., "Effects of a Forested State Park on Stream Nutrient Concentrations in an Agriculturally Dominated Watershed in the U.S. Midwest," *Journal of the American Water Resources Association*, 60 (4), 851–864 2024. (10.1111/1752-1688.13207)
30. Spahr, Rachel E., Lazar, Jeffrey A., Grudzinski, Bartosz P., and **Fisher, T.J.**, "Land cover, stream discharge, and wastewater effluent impacts on baseflow sediment and nutrient concentrations in SW Ohio streams," *River Research and Applications*, 40 (4), 497–507, May 2024. (10.1002/rra.4248)
29. Tuiyott, Alison, Garrett, Robert C., Carter, Lydia, Schweitzer, Benjamin, Maurer, Karsten, and **Fisher, T.J.**, "Immigrant residency and happiness in New York City," *Computational Statistics* 38 (4), 1657-–1668, Dec. 2023. (https://doi.org/10.1007/s00180-023-01392-y)
28. Schweitzer, Benjamin, Garrett, Robert C., Carter, Lydia, Tuiyott, Alison, Maurer, Karsten, and **Fisher, T.J.**, "An analysis of the impact of rent control on New York City housing," *Computational Statistics* 38, 1643—1656, Dec. 2023. (https://doi.org/10.1007/s00180-023-01397-7)
27. Schweitzer, Benjamin, Garrett, Robert C., Rook, Nichole and **Fisher, T.J.**. "A spatial extension of weather forecasts," *Computational Statistics* 38 (3), 1157–1171 Sept. 2023. (10.1007/s00180-023-01336-6)
26. Mahdi, Esam, and **Fisher, T.J.**, "Bootstrapping a Powerful Mixed Portmanteau Test for Time Series." *Journal of Applied Statistics*, 51:2, 230–255, 2024. (10.1080/02664763.2022.2121384)
25. **Fisher, T.J.**, Zhang, Jing, Colegate, Stephen P. and Vanni, Michael J., "Detecting and modeling changes in a time series of proportions," *Annals of Applied Statistics*, 16 (1), 477–494, March 2022. (10.1214/21-AOAS1509)
24. Cirkovic, Daniel and **Fisher, T.J.**, "On Testing for the Equality of Autocovariance in Time Series," *Environmetrics*, 32 (7), e2680, 2021. (10.1002/env.2680)
23. Philips, Cody, Garrett, Robert C., Tatro, A.J. and **Fisher, T.J.**, "Crash-Safety Ratings and the True Assessment of Injuries by Vehicle" *Computational Statistics*, 36 (3), 1639-–1660, 2021. (10.1007/s00180-021-01072-9)
22. Rasnick, Erika, Ryan, P.H., Bailer, A.J., **Fisher, T.J.**, Parsons, P.J., Yolton, K., Newman, N.C., Lanpear, B.P., and Brokamp, C., "Identifying Sensitive Windows of Airborne Lead Exposure Associated with Behavioral Outcomes at Age 12." *Environmental Epidemiology*, April 2021 - Volume 5 - Issue 2 - p e144. (10.1097/EE9.0000000000000144)
21. **Fisher, T.J.**, Lund, Robert, and Robbins, Michael W., "A Statistical Analysis of North Atlantic Tropical

Cyclone Changes," in Lyubchich, et al. *Evaluating Climate Change Impacts*, CRC press, 25–43, October 2020. (10.1201/9781351190831)

20. Berry, Nichole L., Overholt, Erin P., **Fisher, T.J.**, and Williamson, Craig E., "Dissolved organic matter protects mosquito larvae from damaging solar UV radiation," *PLOS ONE*, 15 (10): e0240261. Oct. 2020. (10.1371/journal.pone.0240261)
19. Sun, Zequn, and **Fisher, T.J.**, "Testing for correlation between two time series using a parametric bootstrap", *Journal of Applied Statistics* 48:11, 2042–2063, 2021. (10.1080/02664763.2020.1783519)
18. **Fisher, T.J.** and Robbins, Michael W., "A Cheap Trick to Improve the Power of a Conservative Hypothesis Test," *The American Statistician*, 73 (3) 232–242, July 2019. (10.1080/00031305.2017.1395364)
17. Ortiz, Shelby N., Forrest, Lauren N., **Fisher, T.J.**, Hughes, Michael S., and Smith, April R., "Changes in Internet Suicide Search Volumes Following Celebrity Suicides", *Cyberpsychology, Behavior, and Social Networking*, 22 (6), April 2019. (10.1089/cyber.2018.0488)
16. Lazar, Jeffrey A., Spahr, Rachel, Grudzinski, Bartosz P., and **Fisher, T.J.**, "Land Cover Impacts on Storm Flow Suspended Solid and Nutrient Concentrations in Southwest Ohio Streams,", *Water Environment Research*, 91 (6) 510–522, January 2019. (10.1002/wer.1054)
15. Garrett, Robert C., Nar, Austin, **Fisher, T.J.** and Maurer, Karsten T., "ggvoronoi: Voronoi Diagrams and Heatmaps with ggplot2", Journal of Open Source Software, 3 (32), 1096, December 2018. (10.21105/joss.01096)
14. Renwick, William, Vanni, Michael, **Fisher, T.J.**, and Morris, Emily, "Stream nitrogen, phosphorus and sediment concentrations show contrasting long-term trends associated with agricultural change", *Journal of Environmental Quality*, 47 (6) 1513–1521, September 2018. (10.2134/jeq2018.04.0162)
13. Pilla, Rachel, Williamson, Craig E., Zhang, Jing, Smyth, Robyn, Lenters, John, Brentrup, Jennifer, Knoll, Lesley and **Fisher, T.J.**, "Browning-related decreases in water transparency lead to long-term increases in surface water temperature and thermal stratification in two small lakes", *Journal of Geophysical Research - Biogeosciences*, 123 (5) 1651–1665, April 2018. (10.1029/2017JG004321)
12. Knoll, Lesley B., Williamson, Craig E., Warner, Theresa M., Pilla, Rachel M., Leach, Taylor H., Brentrup, Jennifer A., and **Fisher, T.J.**, "Browning-related oxygen depletion in an oligotrophic lake", *Inland Waters*, 8 (3) 255–263, March 2018. (10.1080/20442041.2018.1452355)
11. **Fisher, T.J.** and Robbins, Michael W., "An improved measure for lack of fit in time series models," *Statistica Sinica*, 28, 1285–1305, July 2018. (10.5705/ss.202016.0286)
10. **Fisher, T.J.** and Bailer, A. John, "Who, What, When and How: Changing the Undergraduate Statistics Curriculum; A Discussion of 'Mere Renovation is Too Little Too Late' by George Cobb. *The American Statistician*, 69 (4), November 2015. (10.1080/00031305.2015.1093029)
9. Robbins, Michael W. and **Fisher, T.J.**, "Cross-Correlation Matrices for Tests of Independence and Causality between Two Multivariate Time Series," *Journal of Business & Economic Statistics*, 33 (4), 459–473, October 2015. (doi:10.1080/07350015.2014.962699)
8. Gallagher, Colin M., **Fisher, T.J.** and Shen, Jie, "A Cauchy Estimator Test for Autocorrelation," *Journal of Statistical Computation and Simulation*, 85 (6), 1264–1276, April 2015. (10.1080/00949655.2013.874424)
7. Gallagher, Colin M. and **Fisher, T.J.**, "On Weighted Portmanteau Tests for Times Series Goodness-of-fit," *Journal of Time Series Analysis*, 36 (1), 67–83, January 2015. (10.1111/jtsa.12093)
6. Cui, Yunwei, **Fisher, T.J.** and Wu, Rongning, "Diagnostic Tests for Non-causal Time Series with Infinite

Variance," *Journal of Statistical Planning and Inference* 147, 117–131, April 2014. (10.1016/j.jspi.2013.10.010)

5. **Fisher, T.J.** and Gallagher, Colin M., "New Weighted Portmanteau Statistics for Time Series Goodness-of-Fit Testing," *Journal of the American Statistical Association* 107 (498), 777–787, June 2012. (10.1080/01621459.2012.688465)
4. **Fisher, T.J.**, "On Testing for an Identity Covariance Matrix when the Dimensionality Equals or Exceeds the Sample Size," *Journal of Statistical Planning and Inference* 142 (1), 312–326, January 2012. (10.1016/j.jspi.2011.07.019)
3. Piccirillo, Sarah, Wang, Hsiao-Lin, **Fisher, T.J.** and Honigberg, Saul M., "GAL1-SceI directed site-specific genomic (gsSSG) mutagenesis: a method for precisely targeting point mutations in S. cerevisiae," *BMC Biotechnology* 11:120, 5 December 2011. (10.1186/1472-6750-11-120)
2. **Fisher, T.J.** and Sun, Xiaoqian, "Improved Stein-Type Shrinkage Estimators for the High-dimensional Multivariate Normal Covariance Matrix," *Computational Statistics & Data Analysis* 55 (5), 1909–1918, May 2011. (10.1016/j.csda.2010.12.006)
1. **Fisher, T.J.**, Sun, Xiaoqian, and Gallagher, Colin M., "A New Test for Sphericity of the Covariance Matrix for High Dimensional Data," *Journal of Multivariate Analysis* 101 (10), 2554–2570, November 2010. (10.1016/j.jmva.2010.07.004)

Reviews & Discussions

1. **Fisher, T.J.**, A Review of: "Practical Multivariate Analysis, Fifth Edition, by A. Afifi, S. May, and V. A. Clark," *Journal of Biopharmaceutical Statistics* 22 (6), 1280–1283, October 2012. (doi:10.1080/10543406.2012.713289)

Technical Reports and Others

6. Cirkovic, Daniel and **Fisher, T.J.**, "autocovarianceTesting: Test for Equality of Autocovariance Functions in Time Series." R package version 1.0, January 2021. (https://github.com/cirkovd/autocovarianceTesting)
5. Garrett, Robert, Nar, Austin, **Fisher, T.J.**, and Maurer, K., "ggvoronoi: Voronoi Diagrams and Heatmaps with 'ggplot2'." R package version 0.8.3, February 2019. (https://cran.r-project.org/web/packages/ggvoronoi/index.html)
4. Gallagher, Colin M. and **Fisher, T. J.**, "A comparison of Various Weighted Portmanteau Tests for Time Series Goodness-of-fit," *Clemson University Technical Report*, 2013. (http://www.clemson.edu/ces/math/technical_reports/gallagher.TR2013.pdf)
3. **Fisher, T. J.** and Gallagher, Colin M. "WeightedPortTest: Weighted Portmanteau Tests for Time Series Goodness-of-fit," R package version 1.0, 2012. (http://CRAN.R-project.org/package=WeightedPortTest)
2. **Fisher, T. J.** "Weighted Portmanteau Tests Revisited: Detecting Heteroscedasticity, Fitting Nonlinear and Multivariate Time Series," *Invited Paper to the 2012 SAS Global Forum*. (http://support.sas.com/resources/papers/proceedings12/338-2012.pdf)
1. **Fisher, T. J.** "Testing the Adequacy of ARMA Models using a Weighted Portmanteau Test on Residual Autocorrelations," *Contributed Paper to the 2011 SAS Global Forum*. (http://support.sas.com/resources/papers/proceedings11/327-2011.pdf)

Working papers - in review and/or in revision

- Berry, N., Bunnell, D., **Fisher, T.J.**, Overholt, E., Mette, E.; Howell, T.; Williamson, C., "Decreased spatial and temporal water transparency of the nearshore Canadian waters of the Laurentian Great Lakes is driven by increased dissolved organic carbon." In revision for the *Canadian Journal of Fisheries and*

Aquatic Sciences, since March 2025.

- Waldrep, Cassidy L., Parlin, A.F., **Fisher, T.J.**, Hughes, M., Rypstra, A., Schaeffer, P.J., "Biologging reveals repeatable and consistent physiological parameters in free-living turtles." In review at *Herpetological Conservation and Biology* since November 2024.
- Rintsch, Eileen, Farthing, Tessa, Larson, Owen, Grudzinski, B., McCarty, J., Megahed, F., **Fisher, T.J.**, "Effects of a forested state park on stream total suspended solid and dissolved organic carbon concentrations in an agriculturally impacted watershed in U.S. Midwest.", In revision since March 2025.

* underline denotes current/former Miami statistics student

Grant Activity

Awarded

- **PI:** "New Multivariate Techniques in Time Series Analysis and Forecasting," *University of Missouri Research Board*, **$13,000**, 1 June 2011 to 31 May 2012.
- **PI:** "Adaptive Estimation in Time Series," *Miami University Faculty Research Grants*, **$6,500**, 19 May 2014 to 1 Aug 2014.
- **PI:** "Adaptive Estimation in Time Series," *Miami University College of Arts & Science Faculty Funding*, **$5,000**, Summer 2015.
- **Co-PI:** "Industry-Sponsored GA in Statistics," *Proctor and Gamble*, Summer 2015 to Spring 2016.
- **Co-PI:** "Bayesian Variable Selection for Predictive Modeling," *Center for Analytics and Data Science Summer Fellowship*, **$8,623.86**, Summer 2017.
- **Co-PI:** "Will increases in dissolved organic matter accelerate a shift in trophic status through anoxia-driven positive feedbacks in an oligotrophic lake?", *National Science Foundation Long Term Research in Environmental Biology*, **$126,391**, 1 June 2018 to 31 May 2023.
- **Co-PI:** "MTD Forecasting Project," *Center for Analytics and Data Science* Project, **$10,137**, 15 Aug 2018 to 31 Oct 2018.
- **Co-PI:** "LTREB Renewal: Response of a reservoir ecosystem to changing subsidies of nutrients and detritus," *National Science Foundation Long Term Research in Environmental Biology*, **$639,999**, 1 September 2024 to 31 August 2029.
- **Co-PI:** "Collaborative Research: LTREB Renewal: Will increases in dissolved organic matter accelerate a shift in trophic status through anoxia-driven feedbacks in an oligotrophic lake?" *National Science Foundation Long Term Research in Environmental Biology*, **$257,112**, 15 January 2025 to 31 December 2029.

Research Advising

Undergraduate Projects

- Emily Morris, 2014-2015, "Modeling and Detecting Changes in Water Quality of a Midwest Watershed."
- Alec Feeman, 2015-2016, First Year Research Experience: "Investing using Short Term Econometric Predictors."
- Cody Phillips, Robert Garrett, AJ Tatro, spring 2016-spring 2017, "Analysis of National Automotive Sampling System." Part of the 2016 JSM GSS Data Challenge.
- AJ Tatro, 2016-2017, "Bayesian Variable Selection in Time Series Models."
- Robert Garrett, Ritu Narahari, spring 2017-fall 2017, "Analysis of the Consumer Expenditure Survey." Part of the 2017 JSM GSS Data Challenge.

- Robert Garrett, Benjamin Schweitzer, Nichole Rook, Ryan Estep, spring 2018-spring 2019, "An analysis of Weather Forecast in the Continental United States." Part of the 2018 JSM GSS-SCG DataExpo.
- Robert Garrett, Benjamin Schweitzer, Alison Tuiyott, Lydia Carter, spring 2019-spring 2020, "Analysis of New York City housing history." Part of the 2019 JSM GSS-SCG DataExpo.
- Benjamin Schweitzer, Alison Tuiyott, Lydia Carter, Phuong Ho, Matthew Snyder, spring 2020-present, "A statistical analysis of climate change impacts." Part of the 2020 JSM GSS-SCG DataExpo.
- Coby Warkentin, Lydia Carter, Hank Giffin, spring 2021-fall 2021, "An Analysis of the 2019 American Community Survey." Part of the 2021 JSM GSS-SCG DataExpo.
- Alyson Everett, spring 2022-spring 2023, "An analysis on the impact of socioeconomic status on success in school." Part of the 2022 JSM-GSS-SCG DataExpo.

Masters Advising

- Bo Wang, 2014, *M.S. Thesis, Dept. of Economics*, "Detecting Shift in Mean and Variance for Both Uncorrelated and Correlated Series Using Several Popular Tests."
- Veena Vezhapparambu, 2012, *M.S. Project*, "Modeling Daily Rainfall and Detecting Changepoints."
- Mehee Cho, 2014-2015, *M.S. Project*, "The Bass Model and Marketing Prediction."
- Adam Barnhard, 2015, co-advised with Doug Noe, *M.S. Project*, "Utilizing Unsupervised Maching Learning Models to Predict User Activity from Wearable Technology Sensor Data."
- Zequn Sun, 2016, *M.S. Project*, "Testing for Causality in Variance for Two Stationary Time Series."
- Mitch Beebe, 2016, *M.S. Project*, "Exploring and Modeling the Zooplankton Food Web in Acton Lake."
- Stephen Colegate, 2016, co-advised with Jing Zhang, *M.S. Project*, Analyzing Changes in the Proportions of Phytoplankton of a Freshwater Lake."
- Qi He, 2017-2018, co-advised with Jing Zhang, *M.S. Project*, "Bayesian Variable Selection in Big Data."
- Jie Wang, 2017-2019, co-advised with Jing Zhang, *M.S. Project*, "Bayesian Variable Selection in Time Series Models."
- Chengjun Shi, 2017-2018, co-advised with Michael Hughes, *M.S. Project*, "A times series analysis of the metabolic rate of Shrews."
- Kyle Linville, 2018, co-advised with A. John Bailer, *M.S. Project*, "An analysis of Point Spread Accuracy in Professional Football."
- Xuyi Pei, 2018-2019, co-advised with Jing Zhang, *M.S. Project*, "Variable Split and Merge applications for predictive modeling."
- Xinqi Liu, 2018-2019, co-advised with Jing Zhang, *M.S. Project*, "Divide and conquer techniques in generalized linear modeling."
- Erika Rasnick, 2019, co-advised with A. John Bailer, *M.S. Project*, "Modeling lagged toxicity."
- Daniel Cirkovic, 2019-2020, *M.S. Project*, "Estimation and testing of the autocovariance matrix for multivariate time series."
- Joey Davis, 2019-2020, co-advised with Seonjin Kim, *M.S. Project*, "Clustering based models for estimating and predicting customer energy usage."
- Gabe DiGiovanni, 2023-2024, co-advised with Robert Davis, *M.S. Project*, "Exploring Predictive Models for NHL Team Scoring."
- Hannah Waler, 2023-2024, *M.S. Project*, "Modeling Nutrient and Sediment Concentrations in Upper Four Mile Creek Watershed through Multiple Change Point Detection."
- Lam Vo, 2024-2025, *M.S. Project*, Quantile regression methods in time series.

- Smith, Colin, 2024-2025, *M.S. Project*, Changepoint methods for right skewed autocorrelated time series.

Masters Committees

- Alexander Martishius (2014), Steve Kiplagat (2014), Michael Tekavec (2014), Jefei Zhang (2014), Michael LaTour (2014), Lin Dai (2014), Claire Gilbert (2015), Diana Eid (2016), Baini Li (2017), Michael Creutzinger (2018), Nathaniel Coffin (2018), Nicole Berry (BIO) (2018), Gongmei Li (2018), Bunyod Tusmatov (2019), Sally Dufek (2020), Heather Luken (BIO) (2020), Tessa Farthing (GEO) (2021), Michelle Little (BIO) (2021), Addie Zeisler (BIO) (2023), Alison Everett (2024), Ryan McCollum (2025), Owen Larson (GEO) (2025), Ethan Chapman (2025), Reece Fannon (2025), Badrun Nessa (GEO) (Ongoing), Alexandra Bros (BIO) (Ongoing), Madison Miller (BIO) (Ongoing).

PhD Committees

- Jake Godfrey (BIO) (ongoing), Nikki Berry (BIO) (2024), Lauren Knose (BIO) (2023), Rachel Pilla (BIO) (2021).
- Jianfeng Meng, Wei Wu, Karen Richard at UMKC.

Seminar Talks

6. "Detecting and Modeling Changepoints in a Time Series of Proportions," *Department of Statistics, University of Akron*, 25 October 2023.
5. "Weighting the Portmanteau Test," *Department of Statistics, University of Missouri-Columbia, Department Colloquium*, 28 November 2012.
4. "Time Series Modeling and Diagnostic Testing," *Department of Mathematics and Statistics, University of Missouri-Kansas City, Graduate Seminar*, 18 November 2011.
3. "The Stein Paradox and Estimation of the Covariance Matrix," *Department of Mathematics and Statistics, University of Missouri-Kansas City, Graduate Seminar*, 24 September 2010.
2. "Improved Stein-type Estimators for the Covariance Matrix under Normality," *Department of Mathematical Sciences, Clemson University, Graduate Student Seminar*, 9 November 2009.
1. "Introduction to the R Project for Statistical Computing," *Department of Mathematical Sciences, Clemson University, Graduate Student Seminar*, 8 October 2007.

Conference, Panels and Workshop Presentations

21. "Detecting and Modeling Changes in Stream Nutrient Dynamics," *Contributed Talk to 2024 Joint Statistics Meetings Section on Statistics and the Environment*, Portland, OR, 05 August 2024.
20. "Detecting and Modeling Changes in a Time Series of Continuous Proportions," *Invited talk to the 2023 World Statistics Congress*, Ottawa, ON (delivered virtually), 18 July 2023.
19. "Analytics for the Masses: Teaching Data Science Driving vs. Data Science Engineering," *Contributed talk to the 2022 Joint Statistical Meetings, Section on Statistics and Data Science Education*, Washington, DC, 07 August 2022.
18. "On Testing for the Equality of Autocovariance Between Time Series," *Contributed talk to the 2021 Joint Statistical Meetings, Section on Statistics and the Environment*, virtual conference, 12 August 2021.
17. "A second course in statistics: Bridging data science and statistical modeling," *Breakout Session at the 2021 US Conference on Teaching Statistics*, co-presented with Michael R. Hughes and Xin Wang at virtual conference, 28 June 2021.
16. "A Cheap Trick to Improve the Power of a Conservative Hypothesis Test," *Invited talk to the 2020 Joint Statistical Meetings, sponsored by the American Statistician*, virtual conference, 6 August 2020.
15. "A split and merge strategy to variable selection," *Topic Invited talk to the 2019 International Conference on Statistical Distributions and Applications*, Grand Rapids, MI, 12 October 2019.

14. "ggvoronoi: Voronoi tesselations in R," *Contributed talk to the 2019 Joint Statistical Meetings, Section on Statistical Graphics*, Denver, CO, 31 July 2019.
13. "Scaling a Data Science Curriculum to the Masses: Success and Failures in the Undergraduate Classroom," *Invited talk to the 2018 Joint Statistical Meetings, Section on Statistical Education*, Vancouver, BC, 29 July 2018.
12. "Detecting and Modeling Changes in a Time Series of Proportions: An Application to Phytoplankton Taxa in a Freshwater Lake," *Invited talk to the Third Annual Kliakhandler Conference: Bayesian Inference in Statistics and Statistical Genetics*, Houghton, MI, 17 August 2017.
11. "Testing for Causality Between Two Time Series Using a Parametric Bootstrap," *Contributed talk to the 2017 Joint Statistical Meetings, Business and Economic Statistics Section*, Baltimore, MD, 1 August 2017.
10. *Invited Panelist to the 2017 Joint Statistical Meetings Student Chapter Workshop*, Baltimore, MD, 31 July 2017.
9. "Improving the Measure of Correlation in Time Series Goodness-of-Fit Testing," *Contributed SPEED session to the 2016 Joint Statistical Meetings, Business and Economic Statistics Section*, Chicago, IL, 2 August 2016.
8. "Detecting Changes in the Quality and Ecology of a Freshwater Lake," *Contributed talk to the 2015 Joint Statistical Meetings, Section on Statistics and the Environment*, Seattle, WA, 12 August 2015.
7. "An Application of Stochastic Optimization to Time Series Modeling," *Presentation at 42nd Annual Mathematics Conference "Optimization"*, Oxford, OH, 19 September 2014.
6. "Weighting the Times Series Portmanteau Test," *Poster Presentation at Southern Regional Council on Statistics Summer Conference 2013*, Nashville, TN, 4 June 2013.
5. "New Weighted Portmanteau Statistics for Time Series Goodness-of-Fit Testing," *Poster Presentation at NBER-NSF Time Series Conference*, College Station, TX, 27 October 2012.
4. "Time Series Goodness-of-Fit Testing using a Weighted Portmanteau Statistic," *Contributed talk to the 2012 Joint Statistical Meetings, Business and Economic Statistics Section*, San Diego, CA, 31 July 2012.
3. "Weighted Portmanteau Tests Revisited: Detecting Heteroscedasticity, Fitting Nonlinear and Multivariate Time Series," *Invited Paper to the 2012 SAS Global Forum*, Orlando, FL, 24 April 2012.
2. "Testing on the Multivariate Normal Covariance Matrix in High-Dimensions," *Contributed Talk to the 2011 Joint Statistical Meetings, Section on Statistics in Epidemiology*, Miami, FL, 2 August 2011.
1. "Testing the Adequacy of ARMA Models using a Weighted Portmanteau Test on Residual Autocorrelations," *Contributed Paper to the 2011 SAS Global Forum*, Las Vegas, NV, 5 April 2011.

Teaching Experience

Miami University, *Department of Statistics:*

Course	Title	Semester	Students	Rating*
Sta 402/502	Statistical Programming	Spring 2025	29	3.43
Sta 462	Inferential Statistics	Spring 2025	19	4.00
Sta 652	Advanced Methods: Statistical Ethics	Spring 2025	13	—
Sta 483/583	Analysis of Forecasting Systems	Fall 2024	12	3.90
Sta 672	Modeling and Study Design	Fall 2024	22	3.69
Sta 462	Inferential Statistics	Spring 2024	20	3.50
Sta 463/563	Regression Analysis	Spring 2024	15	3.78
Sta 308	Programming for Data Analytics	Fall 2023	24	3.45

Sta 308	Programming for Data Analytics	Fall 2023	24	3.65
Sta 651	Advanced Methods: Generalized Linear Models	Fall 2023	11	4.00
Sta 309	Managing and Exploring Data in Analytics	Spring 2023	24	3.71
Sta 404/504	Advanced Data Visualization	Spring 2023	26	3.28
Sta 652	Advanced Methods: Stochastics	Spring 2023	9	3.80
Sta 308	Programming for Data Analytics	Fall 2022	22	3.56
Sta 309	Managing and Exploring Data in Analytics	Fall 2022	13	3.88
Sta 308	Programming for Data Analytics	Spring 2022	25	3.75
Sta 309	Managing and Exploring Data in Analytics	Spring 2022	14	3.08
Sta 308	Programming for Data Analytics	Fall 2021	19	3.65
Sta 404/504	Advanced Data Visualization	Fall 2021	24	3.69
Sta 261	Statistics	Spring 2021	58	2.99
Sta 363	Intro to Statistical Modeling	Spring 2021	30	3.53
Sta 261	Statistics	Fall 2020	58	3.30
Sta 363	Intro to Statistical Modeling	Fall 2020	30	3.40
Sta 363	Intro to Statistical Modeling	Spring 2020	53	3.61
Sta 404/504	Advanced Data Visualization	Spring 2020	23	3.54
Sta 650	Topics in Statistics: Stochastic Processes	Spring 2020	19	3.37
Sta 404/404	Advanced Data Visualization	Fall 2019	22	3.67
Sta 404	Advanced Data Visualization	Fall 2019	22	3.93
Sta 402/502	Statistical Programming	Spring 2019	24	3.75
Sta 467/567	Statistical Learning	Spring 2019	32	3.00
Sta 363	Intro to Statistical Modeling	Fall 2018	46	3.47
Sta 483/583	Analysis of Forecasting Systems	Fall 2018	30	3.29
Sta 363	Intro to Statistical Modeling	Spring 2018	25	3.50
Sta 402	Statistical Programming	Spring 2018	22	3.81
Sta 402	Statistical Programming	Fall 2017	24	3.35
Sta 463	Regression Analysis	Fall 2017	27	3.48
Sta 402/502	Statistical Programming	Spring 2017	25	3.45
Sta 483/583	Analysis of Forecasting Systems	Spring 2017	21	3.74
Sta 665	Theory of Statistics	Spring 2017	17	3.44
Sta 483/583	Analysis of Forecasting Systems	Fall 2016	16	3.50
Sta 664	Theory of Statistics	Fall 2016	19	3.38
Sta 402/502	Statistical Programming	Spring 2016	20	3.55
Sta 483/583	Analysis of Forecasting Systems	Spring 2016	20	3.53
Sta 301	Applied Statistics	Spring 2015	82	3.54
Sta 483/583	Analysis of Forecasting Systems	Spring 2015	22	3.50
Sta 401/501	Probability	Fall 2014	13	3.67
Sta 462/562	Inferential Statistics	Fall 2014	25	3.70
Sta 261	Statistics	Spring 2014	80	3.17
Sta 483/583	Analysis of Forecasting Systems	Spring 2014	42	3.57
Sta 301	Applied Statistics	Winter 2014	15	3.67
Sta 462/562	Inferential Statistics	Fall 2013	27	3.64
Sta 667	Multivariate Statistical Analysis	Fall 2013	8	3.50

* The average score on question #5 on student course evaluations. The question asks for an overall evaluation of the effectiveness of the instructor on a 4 points scale, 4 being the best, 0 the worst.

University of Missouri-Kansas City, *Department of Mathematics & Statistics:*

Course	Title	Semester	Students	Rating**
Stat 235	Elementary Statistics	Spring 2013	72	4.505
Stat 5572	Multivariate Analysis	Spring 2013	4	4.963
Stat 436	Mathematical Statistics I	Fall 2012	15	4.316
Stat 5551	Applied Statistical Analysis	Fall 2012	9	4.741
Stat 235	Elementary Statistics	Spring 2012	71	4.554
Stat 5572	Multivariate Analysis	Spring 2012	10	4.789
Math 300	Linear Algebra I	Fall 2011	28	4.483
Stat 5551	Applied Statistical Analysis	Fall 2011	6	4.852
Stat 235	Elementary Statistics	Spring 2011	69	4.341
Stat 5572	Multivariate Analysis	Spring 2011	8	4.778
Stat 235	Elementary Statistics	Fall 2010	40	4.520

** The weighted average of questions #1 to #9 on student course evaluations. The weighted average provides an overall teaching evaluation on a 5 point scale, 5 being the best, 1 the worst.

Clemson University, *Department of Mathematical Sciences:*

Course	Title	Semester	Students	Rating***
MthSc 106	Calculus of One Variable	Spring 2010	37	4.15
MthSc 302	Engineering Statistics	Spring 2010	35	4.09
MthSc 309	Introductory Business Statistics	Fall 2009	37	4.11
MthSc 302	Engineering Statistics	Spring 2009	24	4.54
MthSc 302	Engineering Statistics	Fall 2008	45	4.42
MthSc 302	Engineering Statistics	Spring 2008	18	3.88
MthSc 309	Introductory Business Statistics	Fall 2007	29	4.11
MthSc 207	Multivariable Calculus	Spring 2007	19	4.05
MthSc 102	Intro. to Mathematical Analysis	Spring 2006	19	3.94
MthSc 102	Intro. to Mathematical Analysis	Fall 2005	38	4.18

*** The average score on question #10 on student course evaluations. The question asks the student for an overall teaching evaluation on a 5 points scale, 5 being the best, 1 the worst.

Service

Professional

- Associate Editor, *Journal of Applied Statistics* (08/17-present) – 22 articles
- Reviewer for Journals:
    - *Journal of Business & Economic Statistics* (01/14-09/14, 11/16-02/17, 01/18-05/18, 01/19-06/19, 04/23-08/23, 06/24-08/24, 09/24-10/24, 08/24-11/24, 02/25-present), *Journal of Multivariate Analysis* (06/13-02/14, 07/13-12/13, 03/16-05/16, 04/25-present), *Journal of Time Series Analysis* (11/24-01/25), *Advances in Statistical Analysis* (10/24-01/25), *Journal of Official Statistics* (12/23-01/24), *TEST* (05/22-10/22), *Journal of Nonparametric Statistics* (02/21-05/22), *Statistics in Medicine* (08/19-09/19, 08/20-09/20, 05/21-07/21), *Environmetrics* (05/14-06/14, 01/20-05/20), *Earth and Space Science* (02/19-08/19), *Journal of Statistical Computation and Simulation* (08/16-12/16), *Statistics: A Journal of Theoretical and Applied Statistics* (11/16-09/17), *The American Statistician* (07/17-08/17, 09/14-11/14), *Communications in Statistics: Theory and Methods* (01/17-05/17), *Journal of the American Statistical Association* (09/16-11/16), *Computational Statistics & Data Analysis* (01/15-04/15, 07/15-09/15, 08/16-10/16), *Journal of Multivariate Analysis* (06/13-02/14, 07/13-12/13, 03/16-05/16), *The Annals of Statistics* (02/16-04/16), *Environmental Toxicology & Chemistry* (01/16-02/16), *Scandinavian Journal of Statistics* (08/15-10/15), *International Journal of Undergraduate Research and Creative Activities* (02/15-03/15, with Stephen Colegate), *Hacettepe Journal of Mathematics and Statistics* (09/14-11/14), *Metrika* (06/14-07/14, 05/13-06/13), *Far East Journal of Theoretical Statistics* (02/14-05/14), *Bernoulli Journal* (01/12-08/13), *Portuguese Statistical Society* (12/11-02/12).
- Grant Review:
    - Ohio Water Resources *State Water Resources Research Institute 104(b) Grant Program* (12/14)
- Other:
    - Session Chair at 2015 Joint Statistics Meetings - Section on Statistics and the Environment
    - October-November 2017 - Judge for ASA Police Data Challenge
    - External Program Reviewer - Department of Mathematics and Statistics, Eastern Kentucky University, March-April 2021.
    - ISI Short Course Instructor, with A. John Bailer, 4 June 2021.

Miami University, Departmental Level Service

- Lead Departmental Adviser, June 2017 to December 2023.
- Undergraduate Curriculum Committee, August 2013 to Present.
- Ad-hoc Committee to create Actuarial Science co-major, Jan 2014 to May 2015.
- Statistical Consulting Center, August 2013 to Present.
- Analytics Graduate Certificate Development Committee, December 2013 to April 2014.
- Hiring Committee and Chair (8-positions)
    - Member: September 2014 to January 2015, September 2016 to April 2017, August 2023 to December 2023.
    - Chair: June 2017-December 2017, September 2018-December 2018, January 2019-April 2019, September 2019-February 2020, May 2024-present.

Miami University, Student-Oriented Service

- Advisor for Statistical Methods Minor, August 2023 to Present.
- Advisor for Co-Major in Analytics, August 2014 to Present.
- Advisor for ASA Student Chapter, August 2015 to Present.
- Divisional Coordinator, University Academic Scholars Program in Mathematics & Statistics, November 2014 to July 2022.
- Advisor for Mathematics & Statistics, August 2013 to June 2017.
- First-year advisor for Math & Statistics, August 2015 to June 2017.
- Co-Advisor (with Byran Smucker) for Actuarial Science Club, January 2014 to July 2018.

Miami University, College & University Level Service

- College of Arts and Science Promotion and Tenure Committee, Fall 2023 to Fall 2024.
- College of Arts and Science Committee for the Review of Chairs and Program Directors, Fall 2022.
- College of Arts and Science Distinguished Educator Awards Committee, Spring 2022 to Spring 2023.
- College of Arts and Science Governance Committee – Member, Spring 2019 to Fall 2020.
- Hiring Committee for Systems Administrator II or III - Architect (Cloud/ITSM) position – IT Services, March 2018.
- Make it Miami - Recruitment at UASP and Honors breakfast and Louis Place events.
- CAS representative at commencement & volunteer, 2015, 2016, 2017.
- Discover the Sciences recruitment event volunteer, September 2013, September 2014, September 2017 & September 2018.
- Volunteer for Careers Involving Quantitative Skills (CIQS) day, January 2015, January 2016, January 2017 & January 2018, luncheon speaker in October 2022.

Center for Analytics and Data Science

- Faculty Fellow, summer 2021 - 2024.
- *DataFest* Organizing Committee, Chair October 2015 to May 2016 and January 2022 to May 2022; Member May 2016 to April 2023.
- CADS Associate Director Search Committee, December 2019 to January 2020.
- Faculty Mentor on CADS projects
  - Forecasting calls into a call center, Spring 2018.
  - Forecasting sales of mechanical parts, Fall 2018.
  - Analysis of merchandise sales for a professional sports team, Fall 2019.

UMKC Service

- Hiring Committee (3-positions), September 2012 to April 2013.
- Graduate Teaching Assistant Supervisor, August 2012 to May 2013.
- Graduate Assessment Coordinator, January 2011 to May 2013.
- Statistics Curriculum Committee, August 2010 to May 2013.
- Salary Committee, May 2011 to August 2011.
- Committee to revise IPhD Requirements, October 2010 to January 2011.

Awards and Honors

- Office of the Dean of Students Culture of Care Award winner, 2024.
- College of Arts & Sciences Distinguished Educator, 2021.
- Nominee for Associated Student Government Outstanding Professor Award, 2021.
- Top Ten finalist Associated Student Government Outstanding Professor Award, 2017.
- SAS Global Forum Faculty Scholarship, 2011.
- Outstanding Citizenship Award, Department of Mathematical Sciences, Clemson University, 2007-2008 Academic Year.
- Outstanding Graduate Teaching Assistant Award, Department of Mathematical Sciences, Clemson University, 2005-2006 Academic Year.

Professional Memberships and Interest

Professional Affiliations

- American Statistical Association (ASA).
- Elected Member of the International Statistical Institute (ISI).

Professional Development/Activities

- ASA short course on "Causal Inference with R," University of Cincinnati, 12 September 2023.
- Institute for Mathematical and Statistical Innovation (IMSI) Confronting Climate Change Workshop, 1-5 March 2021.
- Intermediate Shiny short course at RStudio conference, 15-16 January 2019.
- ASA short course on "Design and Analysis of Research Studies Using Generalized Linear Mixed Models," University of Cincinnati, 16 November 2015.
- "Presenting Data and Information" Workshop by Edward Tufte, 10 November 2015.
- "Visualizing Data: A Truthful Art" Workhop by Alberto Cairo, 23 January 2015.
- ASA short course on "Structural Equation Modeling," Proctor & Gamble, 13 September 2013.
- NSF Day, University of Kansas, 5 October 2010.
- CAEFF NSF Site Visit, Clemson University, 23 September 2008.

Professional Interest

- Multivariate Analysis and its application to modern science: genetics and economics.
- Time-Series Analysis and Forecasting.
- Stochastic Processes, Probability and Kernel Smoothing.