Derek S. Young, PStat®

Updated September 9, 2025

CONTACT INFORMATION

Dr. Bing Zhang Department of Statistics
University of Kentucky
323 Multidisciplinary Science Building
Lexington, KY 40536

Phone: (859) 218-3408
Fax: (859) 323-1973
E-mail: derek.young@uky.edu
Web: http://young.as.uky.edu

RESEARCH INTERESTS

Primary: (finite) mixture models; tolerance regions; zero-inflated models; statistical computing; non/semiparametric methods

Secondary: applied survey methodology; data depth; data visualization; count models; regression methods

Tertiary: astrostatistics; biomedical statistics; fiducial inference; statistical process control; statistics education

EDUCATION

The Pennsylvania State University, University Park, PA

Ph.D. in Statistics, August 2007

M.S. in Statistics, August 2005

University of Michigan, Ann Arbor, MI

B.S. in Mathematics, April 2002

- Pure Mathematics (major); Statistics (minor)

PROFESSIONAL EXPERIENCE

University of Kentucky, Lexington, KY
Dr. Bing Zhang Department of Statistics
Professor of Statistics **Summer 2024 - Present**
Dr. Bing and Mrs. Rachel Zhang Endowed Professor of Statistics **Summer 2023 - Present**
Associate Professor of Statistics (With Tenure) **Summer 2019 - Spring 2024**
Assistant Professor of Statistics **Fall 2014 - Spring 2019**
Director of Graduate Studies **Summer 2024 - Present**
Quantitative and Psychometric Methods (QPM) Program
Faculty Affiliate **Fall 2021 - Present**

U.S. Bureau of the Census, Washington, DC
Center for Statistical Research and Methodology
Research Mathematical Statistician **Fall 2011 - Summer 2014**

Bettis Atomic Power Laboratory, West Mifflin, PA
Irradiations & Statistics Division
Senior Statistician **Spring 2008 - Fall 2011**

The Pennsylvania State University, University Park, PA
Department of Statistics
Lecturer of Statistics **Spring 2008 - Fall 2013**
Research Assistant **Summer 2005, Summer 2006 - Summer 2007**
Conference Assistant **Summer (2005, 2006, 2007)**
Instructor **Summer (2003, 2004), Spring 2005 - Spring 2006**
Teaching Assistant **Fall 2002 - Fall 2004**

Ford Motor Company/Visteon, Shelby Township, MI
Utica Trim Plant
Industrial Engineer Intern **Summer (2000, 2001, 2002)**

PROFESSIONAL APPOINTMENTS AND CREDENTIALS
◇ NISS Affiliate Primary Liaison Contact (Fall 2018 - Present)
◇ Accredited Professional Statistician™ (October 4$^{\text{th}}$, 2013 – Present)
◇ U.S. Census Bureau Special Sworn Status (Fall 2011 - Summer 2014, Spring 2021 – Present)
◇ Department of Energy L Clearance (Spring 2008 - Fall 2011)

BOOK
D. S. Young (2017). *Handbook of Regression Methods*. Chapman and Hall/CRC Press, Boca Raton, FL, xvi + 637 pages.

BOOK CHAPTERS
D. Musgrove, **D. S. Young**, J. Hughes, and L. E. Eberly (2019). "A Sparse Areal Mixed Model for Multivariate Outcomes, with an Application to Zero-Inflated Census Data." In N. Diawara, editor, *Modern Statistical Methods for Spatial and Multivariate Data*, 51–74. Springer: Cham, Switzerland.

D. S. Young (2014). "Computing Tolerance Intervals and Regions Using `R`." In M. B. Rao and C. R. Rao, editors, *Handbook of Statistics, Volume 32: Computational Statistics with `R`*, 309–338. North-Holland: Amsterdam, Netherlands.

PEER-REVIEWED PUBLICATIONS
A. Nakamura and **D. S. Young** (2025). "Simultaneous Tolerance Intervals for Response Surface Designs." *Quality Engineering (in press)*.

P. Yeh and **D. S. Young** (2025). "Some Estimation and Inference Considerations for the Zero-Inflated Discrete Weibull Distribution." *Communications in Statistics - Simulation and Computation (in press)*.

Y. Li, **D. S. Young**, J. Gori, and O. Rioul (2025). "A Novel Mixture Model for Characterizing Human Aiming Performance Data." *Statistical Modelling*, **25**(3), 236–254.

X. Fang, A. W. Chen, and **D. S. Young** (2024). "Mixtures of Linear Regressions with Measurement Error in the Response, with an Application to Gamma-Ray Burst Data." *Statistics and Applications*, **22**(3), 285–309.

A. Nakamura and **D. S. Young** (2024). "Simultaneous Tolerance Intervals for Linear Regression Models Using an Adjusted Product Set Method." *Communications in Statistics - Simulation and Computation*, **53**(12), 6096–6119.

C. E. Lamarche, X. Shi, and **D. S. Young** (2024). "Conditional Quantile Functions for Zero-Inflated Longitudinal Count Data." *Econometrics and Statistics*, **31**, 49–65.

D. Zhan and **D. S. Young** (2024). "Finite Mixtures of Mean-Parameterized Conway-Maxwell-Poisson Models." *Statistical Papers*, **65**(3), 1469–1492.

C. King, P. Parker, and **D. S. Young** (2024). "An Empirical Semiparametric One-Sided Confidence Bound for Lower Quantiles of Distributions with Positive Support." *Quality and Reliability Engineering International*, **40**(4), 1618–1635.

Y. Guo and **D. S. Young** (2024). "Approximate Tolerance Intervals for Nonparametric Regression Models." *Journal of Nonparametric Statistics*, **36**(1), 212–239.

Y. Zou and **D. S. Young** (2024). "Fiducial-Based Statistical Intervals for Zero-Inflated Gamma Data." *Journal of Statistical Theory and Practice*, **18**(12), 1–20.

D. Zhan and **D. S. Young** (2024). "Finite Mixtures of Mean-Parameterized Conway-Maxwell-Poisson Regressions." *Journal of Statistical Theory and Practice*, **18**(8), 1–23.

K. Cheng and **D. S. Young** (2023). "An Approach for Specifying Trimming and Winsorization Cutoffs." *Journal of Agricultural, Biological and Environmental Statistics*, **28**(2), 299–323.

M. D. Lucagbo, T. Mathew, and **D. S. Young** (2023). "Rectangular Multivariate Normal Prediction Regions for Setting Reference Regions in Laboratory Medicine." *Journal of Biopharmaceutical Statistics*, **33**(2), 191–209.

X. Fang, A. W. Chen, and **D. S. Young** (2023). "Predictors with Measurement Error in Mixtures of Polynomial Regressions." *Computational Statistics*, **38**(1), 373–401.

D. S. Young, E. S. Roemmele, and X. Shi (2022). "Zero-Inflated Modeling Part II: Zero-Inflated Models for Complex Data Structures." *WIREs Computational Statistics*, **14**(2), 1–16.

H. Konşuk Ünlü, **D. S. Young**, A. Yiğiter, and L. H. Özcebe (2022). "A Mixture Model with Poisson and Zero-Truncated Poisson Components to Analyze Road Traffic Accidents in Turkey." *Journal of Applied Statistics*, **49**(4), 1003–1017.

D. S. Young, E. S. Roemmele, and P. Yeh (2022). "Zero-Inflated Modeling Part I: Traditional Zero-Inflated Count Regression Models, Their Applications, and Computational Tools." *WIREs Computational Statistics*, **14**(1), 1–21.

Y. Zou, J. Hannig, and **D. S. Young** (2021). "Generalized Fiducial Inference on the Mean of Zero-Inflated Poisson and Poisson Hurdle Models." *Journal of Statistical Distributions and Applications*, **8**(5), 1–15.

D. S. Young and T. Mathew (2020). "Nonparametric Hyperrectangular Tolerance and Prediction Regions for Setting Multivariate Reference Regions in Laboratory Medicine." *Statistical Methods in Medical Research*, **29**(12), 3569–3585.

Y. Zou and **D. S. Young** (2020). "Improving Coverage Probabilities for Parametric Tolerance Intervals via Bootstrap Calibration." *Statistics in Medicine*, **39**(16), 2152–2166.

K. Cheng and **D. S. Young** (2020). "Tolerance Intervals for Autoregressive Models, with an Application to Hospital Waiting Lists." *Applied Stochastic Models in Business and Industry*, **36**(2), 268–282.

D. S. Young, X. Chen, D. C. Hewage, and R. Nilo-Poyanco (2019). "Finite Mixture-of-Gamma Distributions: Estimation, Inference, and Model-Based Clustering." *Advances in Data Analysis and Classification*, **13**(4), 1053–1082.

K. F. Sellers and **D. S. Young** (2019). "Zero-Inflated Sum of Conway-Maxwell-Poissons (ZIS-CMP) Regression." *Journal of Statistical Computation and Simulation*, **89**(9), 1649–1673.

D. S. Young, M. Naghizadeh Qomi, and A. Kiapour (2019). "Approximate Confidence and Tolerance Limits for the Discrete Pareto Distribution for Characterizing Extremes in Count Data." *Statistica Neerlandica*, **73**(1), 4–21.

S. A. Mitelman, M. S. Buchsbaum, **D. S. Young**, M. Mehmet Haznedar, E. Hollander, L. Shihabuddin, E. A. Hazlett, and M.-C. Bralet (2018). "Increased White Matter Metabolic Rates in Autism Spectrum Disorder and Schizophrenia." *Brain Imaging and Behavior*, **12**(5), 1290–1305.

D. S. Young, C. Ke, and X. Zeng (2018). "The Mixturegram: A Visualization Tool for Assessing the Number of Components in Finite Mixture Models." *Journal of Computational and Graphical Statistics*, **27**(3), 565–575.

J. Weng and **D. S. Young** (2017). "Some Dimension Reduction Strategies for the Analysis of Survey Data." *Journal of Big Data*, **4**(43), 1–19.

D. S. Young, A. M. Raim, and N. R. Johnson (2017). "Zero-Inflated Modelling for Characterizing Coverage Errors of Extracts from the U.S. Census Bureau's Master Address File." *Journal of the Royal Statistical Society, Series A*, **180**(1), 73–97.

D. S. Young (2016). "Normal Tolerance Interval Procedures in the `tolerance` Package." *The R Journal*, **8**(2), 200–212.

D. S. Young, C. M. Gordon, S. Zhu, and B. D. Olin (2016). "Sample Size Determination Strategies for Normal Tolerance Intervals Using Historical Data." *Quality Engineering*, **28**(3), 337–351.

M. Naghizadeh Qomi, A. Kiapour, and **D. S. Young** (2016). "Approximate Tolerance Intervals for the Discrete Poisson-Lindley Distribution." *Journal of Statistical Computation and Simulation*, **86**(4), 841–854.

D. S. Young, G. F. Johnson, M. Chow, and J. L. Rosenberger (2015). "The Challenges in Developing an Online Applied Statistics Program: Lessons Learned at Penn State University." *The American Statistician*, **69**(3), 213–220.

D. S. Young (2015). "Tolerance Intervals for Hypergeometric and Negative Hypergeometric Variables." *Sankhyā: The Indian Journal of Statistics, Series B*, **77**(1), 114–140.

D. S. Young and D. R. Hunter (2015). "Random Effects Regression Mixtures for Analyzing Infant Habituation." *Journal of Applied Statistics*, **42**(7), 1421–1441.

D. S. Young and T. Mathew (2015). "Ratio Edits Based on Statistical Tolerance Intervals." *Journal of Official Statistics*, **31**(1), 77–100.

D. S. Young and T. M. Mills (2014). "Choosing a Coverage Probability for Forecasting the Incidence of Cancer." *Statistics in Medicine*, **33**(23), 4104–4115.

D. S. Young and T. Mathew (2014). "Improved Nonparametric Tolerance Intervals Based on Interpolated and Extrapolated Order Statistics." *Journal of Nonparametric Statistics*, **26**(3), 415–432.

D. S. Young (2014). "*Bond. James Bond.* A Statistical Look at Cinema's Most Famous Spy." *CHANCE*, **27**(2), 21–27. (*This article was reprinted in *The Best of CHANCE Issue* (2019), **32**(1), 27–35.)

D. S. Young (2014). "Mixtures of Regressions with Changepoints." *Statistics and Computing*, **24**(2), 265–281.

D. S. Young (2014). "A Procedure for Approximate Negative Binomial Tolerance Intervals." *Journal of Statistical Computation and Simulation*, **84**(2), 438–450.

D. S. Young (2013). "Regression Tolerance Intervals." *Communications in Statistics - Simulation and Computation*, **42**(9), 2040–2055.

T. Mathew and **D. S. Young** (2013). "Fiducial-Based Tolerance Intervals for Some Discrete Distributions." *Computational Statistics and Data Analysis*, **61**, 38–49.

D. S. Young (2013). "Approximate Tolerance Limits for Zipf-Mandelbrot Distributions." *Physica A: Statistical Mechanics and its Applications*, **392**(7), 1702–1711.

D. R. Hunter and **D. S. Young** (2012). "Semiparametric Mixtures of Regressions." *Journal of Nonparametric Statistics*, **24**(1), 19–38.

D. S. Young (2010). "`tolerance`: An R Package for Estimating Tolerance Intervals." *Journal of Statistical Software*, **36**(5), 1–39.

D. S. Young and D. R. Hunter (2010). "Mixtures of Regressions with Predictor-Dependent Mixing Proportions." *Computational Statistics and Data Analysis*, **54**(10), 2253–2266.

T. Benaglia, D. Chauveau, D. R. Hunter, and **D. S. Young** (2009). "`mixtools`: An R Package for Analyzing Mixture Models." *Journal of Statistical Software*, **32**(6), 1–29.

Invited Editorial

D. S. Young, L. Feng, and R. J. Charnigo (2015). "Some Flexible Modeling Paradigms for Analyzing Big Data." *Journal of Biometrics and Biostatistics*, S12-e001, 1–4.

Manuscripts Under Revision or Submitted

T. Mathew and **D. S. Young** (2025). "A Review of Statistical Reference Regions in Laboratory Medicine: Theory and Computation." Submitted.

P. Chen and **D. S. Young** (2025). "Some Uses of Classic Dimension Reduction Methods for Circular Regression Modeling." Submitted.

S. Kabir, R. J. Charnigo, **D. S. Young**, and J. A. Neyra (2025). "Nonparametric D-Test for Homogeneity with Flexible Null and Alternative Hypotheses." Submitted.

X. Fang, A. W. Chen, and **D. S. Young** (2025). "An Analysis of Clandestine Methamphetamine Laboratories Using a Mixture-of-Poisson-Regressions Model with Measurement Error." Submitted.

D. Tuyisenge and **D. S. Young** (2025). "Statistical Tolerance Intervals for Randomized Response Designs." Submitted.

Manuscripts in Preparation

Y. Guo, **D. S. Young**, and S. H. Holan (2024+). "Bayesian Tolerance Regions for Spatial Linear Mixed Models, with an Application to Community Resilience Estimates."

D. S. Young (2024+). "Bayesian Credible Regions Using Data Depth."

E. S. Roemmele and **D. S. Young** (2024+). "A Flexible Zero-Inflated Poisson Regression Model."

S. Chakraborti, K. Cheng, and **D. S. Young** (2024+). "Utility of Tolerance Intervals in Statistical Process Control."

Y. Li and **D. S. Young** (2024+). "Generalized Exponentially-Modified Gaussian (EMG) Regression and Parametric Conditional Quantile Curve Estimation."

A. Nakamura and **D. S. Young** (2024+). "Tolerance Intervals for Mixture Designs."

P. Yeh and **D. S. Young** (2024+). "`ZIDW`: An R Package for Analyzing Zero-Inflated Discrete Weibull Models."

Book Reviews

D. S. Young (2012). *Optimal Experimental Design with R* by D. Rasch, J. Pilz, R. Verdooren, and A. Gebhardt. *Journal of Applied Statistics*, **39**(8), 1848–1849.

D. S. Young (2010). *Statistical Tolerance Regions: Theory, Applications, and Computation* by K. Krishnamoorthy and T. Mathew. *Technometrics*, **52**(1), 143–144.

Research Reports

E. Lammers-Staats, **D. S. Young**, and K. R. Agent (2024). "2024 Safety Belt Usage Survey in Kentucky." *Kentucky Transportation Center Research Report*, KTC-25-09.

E. Lammers-Staats, **D. S. Young**, K. R. Agent, and A. Elias (2023). "2023 Safety Belt Usage Survey in Kentucky." *Kentucky Transportation Center Research Report*, KTC-23-03/PT-2023-00-00-75.

E. Lammers-Staats, **D. S. Young**, E. Green, and K. R. Agent (2022). "2022 Safety Belt Usage Survey in Kentucky." *Kentucky Transportation Center Research Report*, KTC-23-03/PT-2022-00-00-88.

Non-Peer-Reviewed Works

D. S. Young (2008). "An Overview of Mixture Models." arxiv:0808.0383.

D. S. Young (2007). "A Study of Mixtures of Regressions." Ph.D. Thesis, The Pennsylvania State University.

D. S. Young (2005). "k-Component Mixtures of Regressions." M.S. Thesis, The Pennsylvania State University.

Obituary

Xiangrong Yin (1966-2020).
- *IMS Bulletin*, **49**(7), 11.
- *AMSTAT News*, **521**, 39–40.
- *ICSA Bulletin*, **32**(2), 82–84.

R Packages

(See respective CRAN webpage for archive of previous sources.)

D. S. Young (2017). `HoRM`*: Supplemental Functions and Datasets for "Handbook of Regression Methods"*. R Package, Version 0.1.0.
- Current Version: **D. S. Young** (2025). `HoRM`*: Supplemental Functions and Datasets for "Handbook of Regression Methods"*. R Package, Version 0.1.4. [CRAN] [`GitHub`]

D. S. Young (2009). `tolerance`*: Statistical Tolerance Intervals and Regions*. R Package, Version 0.1.0.
- Current Version: **D. S. Young** and K. Cheng (2024). `tolerance`*: Statistical Tolerance Intervals and Regions*. R Package, Version 3.0.0. [CRAN] [GitHub]

D. S. Young, R. T. Elmore, T. P. Hettmansperger, D. R. Hunter, H. Thomas, and F. Xuan (2006). `mixtools`*: Tools for Analyzing Finite Mixture Models*. R Package, Version 0.1.0.
- Current Version: **D. S. Young**, T. Benaglia, D. Chauveau, D. R. Hunter, K. Cheng, R. T. Elmore, F. Xuan, T. P. Hettmansperger, and H. Thomas (2025). `mixtools`*: Tools for Analyzing Finite Mixture Models*. R Package, Version 2.0.0.1. [CRAN] [GitHub]

Shiny Apps

K. Cheng and **D. S. Young** (2023). *mixtools*. https://mixtools.as.uky.edu.

K. Cheng and **D. S. Young** (2021). *tolerance*. https://tolerance.as.uky.edu.

K. Cheng, J. Lambert, Y. Cui, and **D. S. Young** (2017). *Handbook of Regression Methods*. https://horm.as.uky.edu.

Short Courses and Tutorials Delivered

**Presented by Coauthor*

Methods and Applications of Finite Mixture Models, with Computing Demonstrations Using the R Package ***mixtools***. 2022 Conference on Statistical Practice, Virtual. February 3rd, 2022 (With K. Cheng).

State-of-the-Art with Statistical Tolerance Regions: Methods and Applications, with Computing Demonstrations Using the R Package ***tolerance***. 2022 Conference on Statistical Practice, Virtual. February 3rd, 2022 (With K. Cheng*).

A Brief Tutorial on the ***mixtools*** *and* ***tolerance*** *Packages for R*. Quality and Productivity Research Conference (QPRC) 2021, Tallahassee, FL. July 28th, 2021.

Astrostatistics R Tutorials. 2016 Summer School in Statistics for Astronomers XII, University Park, PA. May 31st - June 4th, 2016.

How to Obtain and Use Census, Panel Study of Income Dynamics, and National Longitudinal Survey Data. Quantitative Initiative for Policy and Social Research (QIPSR), University of Kentucky, Lexington, KY. September 25th, 2015 (With T. Janoski).

Astrostatistics R Tutorials. 2015 Summer School in Statistics for Astronomers XI, University Park, PA. June 1st - 5th, 2015.

Astrostatistics R Tutorials. 2014 Summer School in Statistics for Astronomers X, University Park, PA. June 2nd - 6th, 2014.

Introduction to Regression Using NCSS. Knolls Atomic Power Laboratory, Schenectady, NY. February 22nd - 24th, 2010.

Introduction to Regression Using NCSS. Bettis Atomic Power Laboratory, West Mifflin, PA. March 18th, 25th, and April 1st, 2009.

Introduction to Regression Using NCSS. Bettis Atomic Power Laboratory, West Mifflin, PA. October 1st, 8th, and 15th, 2008.

Astrostatistics R Tutorials. 2008 Summer School in Statistics for Astronomers IV, University Park, PA. June 9$^{\text{th}}$ - 14$^{\text{th}}$, 2008 (Written by D. R. Hunter; Revised and Presented by D. S. Young).

Seminars and Colloquia

Approximate Tolerance Intervals for Nonparametric Regression Models. Michigan State University - Department of Statistics and Probability, East Lansing, MI. March 7$^{\text{th}}$, 2024.

Conditional Quantile Functions for Zero-Inflated Longitudinal Count Data. Purdue University - Department of Statistics, West Lafayette, IN. November 18$^{\text{th}}$, 2022.

Hyperrectangular Tolerance and Prediction Regions for Setting Multivariate Reference Regions in Laboratory Medicine. University of Southampton - Southampton Statistical Sciences Research Institute (S3RI), Southampton, England. December 16$^{\text{th}}$, 2021.

Conditional Quantile Functions for Zero-Inflated Longitudinal Count Data. University of Missouri - Department of Statistics, Columbia, MO. October 25$^{\text{th}}$, 2021.

Some Topics in Finite Mixture Models, Tolerance Regions, and Zero-Inflated Models. University of Kentucky - Department of Statistics, Lexington, KY. March 5$^{\text{th}}$, 2021.

Hyperrectangular Tolerance and Prediction Regions for Setting Multivariate Reference Regions in Laboratory Medicine. The University of Alabama - Department of Information Systems, Statistics, and Management Science, Tuscaloosa, AL. February 7$^{\text{th}}$, 2020.

Hyperrectangular Tolerance and Prediction Regions for Setting Multivariate Reference Regions in Laboratory Medicine. University of Louisville - Department of Bioinformatics and Biostatistics, Louisville, KY. October 19$^{\text{th}}$, 2018.

Hyperrectangular Tolerance and Prediction Regions for Setting Multivariate Reference Regions in Laboratory Medicine. University of Kentucky - Department of Statistics, Lexington, KY. March 1$^{\text{st}}$, 2018.

Hyperrectangular Tolerance and Prediction Regions for Setting Multivariate Reference Regions in Laboratory Medicine. University of Louisiana at Lafayette - Department of Mathematics, Lafayette, LA. November 2$^{\text{nd}}$, 2017.

Hyperrectangular Tolerance and Prediction Regions for Setting Multivariate Reference Regions in Laboratory Medicine. University of Maryland, Baltimore County - Department of Mathematics and Statistics, Baltimore County, MD. October 20$^{\text{th}}$, 2017.

Parametric and Semiparametric Mixtures of Regressions. University of Kentucky - Department of Statistics, Lexington, KY. February 18$^{\text{th}}$, 2013.

Parametric and Semiparametric Mixtures of Regressions. Clemson University - Department of Mathematical Sciences, Clemson, SC. February 15$^{\text{th}}$, 2013.

Parametric and Semiparametric Mixtures of Regressions. University of Florida - Department of Statistics, Gainesville, FL. January 31$^{\text{st}}$, 2013.

Parametric and Semiparametric Mixtures of Regressions. Western Michigan University - Department of Statistics, Kalamazoo, MI. December 3$^{\text{rd}}$, 2012.

Semiparametric Mixtures of Regressions and the `mixtools` *Package.* U.S. Census Bureau - Center for Statistical Research and Methodology, Washington, DC. June 24th, 2011.

Semiparametric Mixtures of Regressions. Mississippi State University - Department of Mathematics and Statistics, Mississippi State, MS. February 11th, 2011.

Semiparametric Mixtures of Regressions. University of Wyoming - Department of Statistics, Laramie, WY. February 4th, 2011.

A Study of Mixtures of Regressions. U.S. Census Bureau - Statistical Research Division, Washington, DC. August 21st, 2007.

Invited Presentations

** Presented by Coauthor*

Dr. Bing Zhang Department of Statistics Graduate Programs in Statistics. NISS "Undergraduate Student Guide to Grad School: PhD & MS Programs in Statistical Sciences" Virtual Grad School Fair. October 11th, 2024 (With K. L. Thompson*).

Some Topics in Finite Mixture Models, Tolerance Regions, and Applied Survey Methodology. University of Kentucky - Statistics Graduate Student Association Professional Development Series, Lexington, KY. April 8th, 2024.

Towards Generalized Fiducial Inference for Finite Mixtures. The 29th Summer Working Group on Model-Based Clustering, Pittsburgh, PA. July 20th, 2023 (With J. Hannig).

A Model-Aware Approach to Quantile Regression for Cross-Sectional Data with Zero-Inflated Counts. The 7th African International Conference on Statistics, Marrakesh, Morocco. June 13th, 2023 (With C. Lamarche and X. Shi).

Some Modelling Considerations Involving the Exponentially-Modified Gaussian. 2023 ICSA Applied Statistics Symposium, Ann Arbor, MI. June 13th, 2023 (With Y. Li*).

Approximate Tolerance Intervals for Semiparametric Regression Models. 2023 ICSA Applied Statistics Symposium, Ann Arbor, MI. June 13th, 2023 (With Y. Guo*).

Some Topics in Finite Mixture Models, Tolerance Regions, and Zero-Inflated Models. University of Kentucky - Statistics Graduate Student Association Professional Development Series, Lexington, KY. January 26th, 2023.

Confidence Interval for the Mean and Upper Tolerance Limit of Zero-Inflated Gamma Data. The 4th International Conference on Statistical Distributions and Applications, ICOSDA 2022, Huntington, WV. October 15th, 2022 (With Y. Zou).

Finite Mixtures of Mean-Parameterized Conway-Maxwell-Poisson Models. The 4th International Conference on Statistical Distributions and Applications, ICOSDA 2022, Huntington, WV. October 14th, 2022 (With D. Zhan*).

Computing Statistical Tolerance Regions Using the R Package `tolerance`. Defense and Aerospace Test and Analysis Workshop (DATAWorks) 2022, Alexandria, VA. April 27th, 2022 (With K. Cheng).

A Model-Aware Approach to Quantile Regression for Cross-Sectional Data with Zero-Inflated Counts. 15th International Conference on Computational and Financial Econometrics, London, United Kingdom. December 18th, 2021 (With C. Lamarche and X. Shi).

"Bond. James Bond." A Statistical Look at Cinema's Most Famous Spy. JSM 2021, Virtual Conference. August 12$^{\text{th}}$, 2021.

Approximate Tolerance Regions for Simultaneous Autoregressive Models. Quality and Productivity Research Conference (QPRC) 2021, Tallahassee, FL. July 29$^{\text{th}}$, 2021 (With Y. Guo).

Simultaneous Tolerance Intervals for Linear Models. Quality and Productivity Research Conference (QPRC) 2021, Tallahassee, FL. July 29$^{\text{th}}$, 2021 (With A. Nakamura*).

Enhancing Usability of `mixtools` *and* `tolerance` *for the Biomedical Community.* Chan Zuckerberg Initiative Essential Open Source Software for Science Meeting (Virtual). December 9$^{\text{th}}$, 2020.

Multivariate Reference Regions in Laboratory Medicine. The 6$^{\text{th}}$ African International Conference on Statistics, Adama, Ethiopia. May 28$^{\text{th}}$, 2019 (With T. Mathew*).

Some Depth-Based Approaches to Statistical Regions. The 6$^{\text{th}}$ African International Conference on Statistics, Adama, Ethiopia. May 28$^{\text{th}}$, 2019 (With T. Mathew and K. Cheng).

Multivariate Reference Regions in Laboratory Medicine. International Conference on Trends and Perspectives in Linear Statistical Inference (LinStat'2018), Będlewo, Poland. August 23$^{\text{rd}}$, 2018 (With T. Mathew*).

Multivariate Nonparametric Tolerance Regions for Determining Reference Regions in Laboratory Medicine. 2018 ICSA China Conference with the Focus on Data Science, Qingdao, China. July 3$^{\text{rd}}$, 2018 (With T. Mathew).

Some Dimension Reduction Strategies for the Analysis of Survey Data. 2018 ICSA Applied Statistics Symposium, New Brunswick, NJ. June 16$^{\text{th}}$, 2018 (With J. Weng).

Multivariate Reference Regions in Laboratory Medicine. International Conference on Statistics and Its Applications (ICSA) with an Emphasis on Clinical and Official Statistics, Pala, Kerala, India. January 4$^{\text{th}}$, 2018 (With T. Mathew*).

Zero-Inflated Count Regression Models. Workshop on Estimation of Count Models, University of Kentucky Department of Statistics and Department of Economics, Lexington, KY. February 27$^{\text{th}}$, 2017 (Workshop Organized with C. Lamarche).

Multivariate Hyperrectangular Tolerance Regions Based on Data Depth. 3$^{\text{rd}}$ Conference of the International Society for Nonparametric Statistics, Avignon, France. June 12$^{\text{th}}$, 2016 (With T. Mathew).

Modeling Coverage Errors of the Master Address File. U.S. Census Bureau - Center for Statistical Research and Methodology, Washington, DC. March 26$^{\text{th}}$, 2013.

Semiparametric Mixtures of Regressions. International Workshop on Mixture Models and Their Applications, Pau, France. June 23$^{\text{rd}}$, 2008 (With D. R. Hunter*, D. Chauveau, P. Vandekerkhove, and L. Bordes).

Mixtures of Regressions. 2007 C. R. & Bhargavi Rao Prize Award Ceremony, University Park, PA. May 24$^{\text{th}}$, 2007.

Building R Packages. Department of Statistics Student Organized Seminar - The Pennsylvania State University, University Park, PA. April 13th, 2007.

PRESENTATIONS

**Presented by Coauthor*

Construction of Tolerance Intervals for Randomized Response Designs. JSM 2025, Nashville, TN. August 7th, 2025 (With D. Tuyisenge*).

Tolerance Intervals for Randomized Response Techniques. Kentucky Chapter of ASA Spring Meeting - Student Research Symposium, Lexington, KY. April 18th, 2025 (With D. Tuyisenge*).

Nonparametric Tests and Multiple Comparisons for Circular Data. Kentucky Chapter of ASA Spring Meeting - Student Research Symposium, Lexington, KY. April 18th, 2025 (With P. Chen*).

Circular (Directional) Regression. JSM 2024, Portland, OR. August 8th, 2024 (With P. Chen*).

Circular Regression. Kentucky Chapter of ASA Spring Meeting - Student Research Symposium, Lexington, KY. March 22nd, 2024 (With P. Chen*).

Simultaneous Tolerance Intervals for Response Surface and Mixture Designs Using the Adjusted Product Set Method. International Conference on Design of Experiments (ICODOE 2022), Memphis, TN. May 11th, 2023 (With A. Nakamura*).

An Empirically-Calibrated Nonparametric One-Sided Confidence Bound for Lower Quantiles of Distributions with Positive Support. Defense and Aerospace Test and Analysis Workshop (DATAWorks) 2023, Alexandria, VA. April 26th, 2023 (With C. King* and P. Parker).

A Data-Driven Strategy for Specifying Cutoffs in Trimming and Winsorizing. International Symposium on Nonparametric Statistics (ISNPS 2022), Paphos, Cyprus. June 21st, 2022 (With K. Cheng).

Embedded Experimental Designs in Sample Surveys: Concepts and Applications. 34th Annual Eastern Kentucky University Symposium in Mathematics and Statistics. Eastern Kentucky University, Richmond, KY. April 22nd, 2022 (With Z. Steckler*). Third Place: Best Student Presentation.

Student Surveys in the Age of COVID-19. Kentucky Chapter of ASA Spring Meeting - Student Research Symposium, Lexington, KY. April 8th, 2022 (With Z. Steckler*).

Modeling Strategies for Quantile Regression with Zero-Inflated Discrete Responses. JSM 2020, Virtual Conference. August 5th, 2020 (With X. Shi* and C. Lamarche).

Some Depth-Based Approaches to Statistical Regions. JSM 2019, Denver, CO. July 28th, 2019.

Pointwise Tolerance Intervals for Autoregressive Models, with an Application to Hospital Waiting Lists. Kentucky Chapter of ASA Spring Meeting - Student Research Symposium, Louisville, KY. April 5th, 2019 (With K. Cheng*).

Q & A with Dr. Young. University of Kentucky - Department of Statistics, Lexington, KY. November 14th, 2018.

A Flexible Zero-Inflated Regression Model. JSM 2018, Vancouver, British Columbia, Canada. August 2nd, 2018 (With E. S. Roemmele*).

Applications of the Mixturegram for Determining the Number of Components in Finite Mixture Models. JSM 2018, Vancouver, British Columbia, Canada. August 1st, 2018 (With C. Ke* and X. Zeng).

Approximate Pointwise Tolerance Intervals for Semiparametric Regression Models. JSM 2018, Vancouver, British Columbia, Canada. August 1st, 2018 (With K. Cheng*).

Mixtures of Poisson Regressions with Measurement Errors. JSM 2018, Vancouver, British Columbia, Canada. August 1st, 2018 (With X. Fang*).

Finite Mixture-of-Gamma Distributions: Estimation, Inference, and Model-Based Clustering. JSM 2018, Vancouver, British Columbia, Canada. July 29th, 2018 (With X. Chen, D. Hewage, and R. Nilo-Poyanco).

Pointwise Tolerance Intervals for Autoregressive Models, with an Application to Hospital Waiting Lists. Joint Research Conference on Statistics in Quality, Industry and Technology, Santa Fe, NM. June 14th, 2018 (With K. Cheng*).

The Mixturegram: A Visualization Tool for Determining the Number of Components in Finite Mixture Models. Kentucky Chapter of ASA Spring Meeting - Student Research Symposium, Louisville, KY. March 2nd, 2018 (With C. Ke* and X. Zeng).

Approximate Pointwise Tolerance Intervals for Semiparametric Regression Models. Kentucky Chapter of ASA Spring Meeting - Student Research Symposium, Louisville, KY. March 2nd, 2018 (With K. Cheng*).

Estimators for Mixtures of Poisson Regression Models with Measurement Errors. Kentucky Chapter of ASA Spring Meeting - Student Research Symposium, Louisville, KY. March 2nd, 2018 (With X. Fang*).

Multivariate Hyperrectangular Tolerance Regions for Determining Reference Regions in Laboratory Medicine. JSM 2017, Baltimore, MD. August 3rd, 2017 (With T. Mathew).

A Flexible Zero-Inflated Count Regression Model. 30th Annual Eastern Kentucky University Symposium in the Mathematical, Statistical, and Computer Sciences. Eastern Kentucky University, Richmond, KY. April 21st, 2017 (With E. S. Roemmele*). Winner: Best Student Presentation.

Operating Characteristic Curves for k-Factors of Normal Tolerance Intervals. JSM 2016, Chicago, IL. August 2nd, 2016.

A Visualization Tool for Assessing the Number of Components in Finite Mixture Models. JSM 2015, Seattle, WA. August 10th, 2015.

Pointwise Tolerance Intervals for Non-Stationary Generalized Extreme Value Regression Models. 9th International Extreme Value Analysis Conference. University of Michigan, Ann Arbor, MI. June 19th, 2015.

Zero-Inflated Regression Modeling for Coverage Errors of the Master Address File. JSM 2014, Boston, MA. August 7th, 2014 (With A. M. Raim*).

Ratio Edits Based on Tolerance Intervals. JSM 2013, Montréal, Québec, Canada. August 7th, 2013 (With T. Mathew).

Semiparametric Mixtures of Regressions. JSM 2012, San Diego, CA. August 2nd, 2012 (With D. R. Hunter*).

Statistical Data Analysis Using Excel's Analysis ToolPak. Bettis Atomic Power Laboratory, West Mifflin, PA. June 4th, 2008.

Mixtures of Regressions and Covariate-Dependent Mixing Proportions. JSM 2006, Seattle, WA. August 7th, 2006 (With D. R. Hunter).

Poster Presentations

**Presented by Coauthor*

Circular Regression. 59th Summer Research Conference of the Southern Regional Conference on Statistics, Clemson, SC. June 3rd, 2024 (With P. Chen*).

Methodologies and Computational Tools for Zero-Inflated Discrete Weibull Models. 58th Summer Research Conference of the Southern Regional Conference on Statistics, Waco, TX. June 12th, 2023 (With P. Yeh*).

An Effective Statistical Framework for Establishing Multivariate Reference Regions to Aid in the Diagnosis of Cancer. Markey Cancer Center Research Day 2023, Lexington, KY. May 12th, 2023 (With T. Mathew).

Informative Contrasts for Embedded Experiments in Sample Surveys. 2021 SRCOS Summer Research Conference, Jekyll Island, GA. October 5th, 2021 (With Z. Steckler*).

Confidence Interval of the Mean and Upper Tolerance Limit for Zero-Inflated Gamma Data. ENAR 2020, Nashville, TN. March 22nd, 2020 (With Y. Zou*).

Bootstrap Calibration for Parametric Tolerance Intervals to Improve Coverage Probabilities. JSM 2019, Denver, CO. July 30th, 2019 (With Y. Zou*).

Tolerance Intervals for Autoregressive Models, with an Application to Hospital Waiting Lists. JSM 2019 SPEED Session, Denver, CO. July 30th, 2019 (With K. Cheng*).

Computational Aspects of Model-Based Quantile Regression with Discrete Responses. JSM 2019, Denver, CO. July 29th, 2019 (With X. Shi* and C. Lamarche).

Some Dimension Reduction Strategies for the Analysis of Survey Data. Symposium on Data Science and Statistics, Reston, VA. May 18th, 2018 (With J. Weng*).

Pointwise Tolerance Intervals for Autoregressive Models, with an Application to Hospital Waiting Lists. ENAR 2018, Atlanta, GA. March 25th, 2018 (With K. Cheng*).

Some Dimension Reduction Strategies for the Analysis of Survey Data. Conference on Statistical Practice 2018, Portland, OR. February 15th, 2018 (With J. Weng*).

A Mixture-of-Regressions Model with Measurement Error in the Response. JSM 2017 SPEED Session, Baltimore, MD. August 1st, 2017 (With X. Fang*).

Invited Conferences and Workshops

Geospatial Methods for Federal Surveys. Bureau of Labor Statistics, Washington, DC. September 16th - 17th, 2013 (Invited Attendee).

7^{th} Annual Probability & Statistics Day at UMBC. University of Maryland, Baltimore County, Baltimore, MD. April 26^{th} - 27^{th}, 2013 (Invited Attendee and Poster Judge).

Conferences, Workshops, and Short Courses Attended

(Conferences listed are those for which I was only an attendee and did not hold any other active role. Presenters for short courses given in parentheses.)

Using R Markdown & the Tidyverse to Create Reproducible Research. Institute for Defense Analyses, Alexandria, VA. April 26^{th}, 2022 (Justin Post).

NIH R15 AREA Grant Writing Workshop. University of Louisville Medical School, Louisville, KY. November 7^{th}, 2015.

Satellite Workshop on Statistical Computing for Extremes. University of Michigan, Ann Arbor, MI. June 14^{th}, 2015 (Eric Gilleland and Mathieu Ribatet).

8^{th} Annual Probability & Statistics Day at UMBC. University of Maryland, Baltimore County, Baltimore, MD. April 18^{th} - 19^{th}, 2014.

Analysis of Overdispersed Data Using SAS. University of Maryland, Baltimore County, Baltimore, MD. April 18^{th}, 2014 (Jorge Morel and Nagaraj Neerchal).

2013 FCSM Research Conference. Federal Committee on Statistical Methodology, Washington, DC. November 4^{th} - 6^{th}, 2013.

Multiple Imputation: Theory and Practice. University of Maryland, Baltimore County, Baltimore, MD. April 26^{th}, 2013 (Jerry Reiter).

Statistics for Spatio-Temporal Data. U.S. Census Bureau, Washington, DC. April 17^{th}, 2013 (Noel Cressie).

2012 FCSM Statistical Policy Seminar - Collaborating to Achieve Innovation and Efficiencies: Advances and Opportunities. Federal Committee on Statistical Methodology, Washington, DC. December 4^{th} - 5^{th}, 2012.

Record Linkage Error Estimation. U.S. Census Bureau, Washington, DC. October 4^{th}, 2012 (William Winkler).

Editing and Imputation. U.S. Census Bureau, Washington, DC. May 17^{th}, 2012 (William Winkler).

2012 FCSM Research Conference. Federal Committee on Statistical Methodology, Washington, DC. January 10^{th} - 12^{th}, 2012.

Future of Nuclear Power. JSM 2009, Washington, DC. August 5^{th}, 2009 (Bernard Harris).

Monte Carlo and Bayesian Computation with R. JSM 2009, Washington, DC. August 4^{th}, 2009 (Maria Rizzo and Jim Albert).

Tolerance Intervals: Theory, Applications, and Computation. JSM 2009, Washington, DC. August 2^{nd}, 2009 (Kalimuthu Krishnamoorthy and Thomas Mathew).

Longitudinal Data Analysis: Semiparametric and Nonparametric Approaches. JSM 2009, Washington, DC. August 1st, 2009 (Annie Qu and Peter Song).

FUNDING ACTIVITY

ACTIVE

PI: Berron — 09/23/24 - 12/31/25, $187,000
Co-Is: Chwatko, Martin, Schafrik, **Young**
Beam Suntory Incorporated
Project: *JBBI 2024 002: Warehouse, Malt, Stats, Membrane*

PI: Lammers — 10/01/24 - 09/30/25, $109,801
Co-PI: **Young**
Kentucky Transportation Cabinet
Project: *OHS, Seatbelt Usage Survey, FY25*

PENDING

PI: Lammers — 10/01/25 - 09/30/26, $144,929
Co-PI: **Young**
Kentucky Transportation Cabinet
Project: *OHS, Seatbelt Usage Survey, FY26*

COMPLETED

PI: Lammers — 10/01/23 - 09/30/24, $101,902
Co-PIs: Green, **Young**
Kentucky Transportation Cabinet
Project: *OHS, Seatbelt Usage Survey, FY24*

PI: Lammers — 10/01/22 - 09/30/23, $101,500
Co-PIs: Green, **Young**
Kentucky Transportation Cabinet
Project: *OHS, Seatbelt Usage Survey, FY23*

PI: Lammers — 10/01/21 - 09/30/22, $114,350
Co-PIs: Green, **Young**
Kentucky Transportation Cabinet
Project: *OHS, Seatbelt Usage Survey, FY22*

PI: **Young** — 01/01/21 - 12/31/21, $98,000
Collaborator: Cheng
Chan Zuckerberg Initiative (2020-225193)
Project: *Enhancing Usability of* `mixtools` *and* `tolerance` *for the Biomedical Community*

PI: Lammers — 10/15/20 - 09/30/21, $80,450
Co-PIs: Green, **Young**
Kentucky Transportation Cabinet
Project: *OHS, Seatbelt Usage Survey, FY21*

PI: Lammers — 10/07/19 - 09/30/20, $80,450*
Co-PIs: Green, **Young**
Kentucky Transportation Cabinet
Project: *OHS, Seatbelt Usage Survey, FY20*
**Original award amount. Grant was re-contracted and terminated on 06/30/20 due to COVID-19 implications.*

PIs: Lamarche, **Young** 05/01/19 - 04/30/20, $5,000
Research Excellence Team Support Program - Office of the Vice President of Research and the Gatton College
Project: *Quantile Regression Models for Zero-Inflated Count Data*

PI: Ziliak 07/01/16 - 06/30/19, $299,999
Co-PIs: Bollinger, Mays, Toma, **Young**
NSF - SES (SES - 1562503)
Project: *Research Data Centers: Kentucky Research Data Center*

PI: **Young** 09/09/15 - 12/31/15, $6,200
Kentucky Justice Cabinet (UKRF 201507061822)
Project: *State Justice Statistics Grant Program*

PI: **Young** 01/01/15 - 05/15/15, $10,000
Cyberonics, Inc. (UKRF 201502111631)
Project: *Using Historical Data for Sample Size Determination for Normal Tolerance Intervals*

NOT FUNDED
PI: **Young** 8/15/22 - 8/14/23, $51,777
Department of Commerce
Project: *U.S. Census Dissertation Fellowship Program (for Zachary Steckler): Expanded Methodologies for Embedded Experiments in Sample Surveys*

PI: **Young** 06/01/19 - 05/31/24, $427,241
NSF - DMS
Project: *CAREER: Zero-Inflated Count Regression Models: Flexible Settings, Multivariate Extensions, and Computational Considerations*

PI: **Young** 06/01/18 - 05/31/21, $341,029
Co-PI: Lamarche
Collaborator: Sellers
NSF - DMS
Project: *Collaborative Research: Zero-Inflated Count Regression Models: Flexible Approaches and Multivariate Extensions*

PI: **Young** 06/01/18 - 05/31/21, $164,241
NSF - SES
Project: *Establishing Data-Driven Limits via Novel Tolerance Regions Procedures for Complex Data Problems*

PI: **Young** 06/01/17 - 05/31/20, $169,794
NSF - ACI
Project: *SI2-SSE: Shiny App for "Handbook of Regression Methods"*

PI: Stromberg 08/15/17 - 05/16/18, $91,290
Co-PIs: Harrar, Thompson, Yin, **Young**
Kentucky Cabinet for Health and Family Services
Project: *Mitigate Opioid Overuse and Overdose in Kentucky Medicaid Patients by Analyzing Existing Claims Data to Identify Significant Combinations of Risk Factors for Opioid Use Disorder (OUD)*

PI: **Young** 07/03/17 - 12/31/17, $27,226
Co-PI: Lamarche
University of Kentucky Igniting Research Collaboration (IRC) Pilot Program
Project: *Zero-Inflated Quantile Regression Models for Panel Count Data*

PI: **Young** 05/01/17 - 04/30/18, $10,000
University of Kentucky Vice President for Research - Research Support Grant
Project: *Estimation Strategies and Computational Tools for Semiparametric Zero-Inflated Count Regression Models*

PI: **Young** 07/01/17 - 06/30/20, $157,965
NSF - DMS
Project: *Tolerance Regions in Complex Data Problems: Methods, Algorithms, and Computation*

PI: **Young** 09/01/17 - 08/30/22, $409,909
NSF - DMS
Project: *CAREER: Zero-Inflated Count Regression Models: Semiparametric Approaches and Multivariate Extensions*

PI: **Young** 02/01/17 - 01/31/19, $40,000
NSA - MSP Young Investigator Grant
Project: *Tolerance Sets: Nonparametric and Semiparametric Extensions*

PI: **Young** 01/01/17 - 06/30/18, $22,000
Kentucky Justice Cabinet
Project: *State Justice Statistics Grant Program FY16-17*

PI: **Young** 06/01/16 - 05/30/19, $208,990
NSF - DMS
Project: *Tolerance Sets: Nonparametric and Semiparametric Extensions*

PI: **Young** 06/01/15 - 05/30/18, $184,881
NSF - DMS
Project: *Tolerance Sets: Nonparametric and Semiparametric Extensions*

PI: **Young** 01/01/15 - 12/31/15, $3,440
University of Kentucky Vice President for Research - Research Support Grant
Project: *A Visualization Tool for Assessing the Number of Components in Finite Mixture Models*

NOT INVITED FOR FULL PROPOSAL

PI: **Young** 2022
Collaborator: Cheng
Department of Energy
Project: *Novel and Effective Statistically-Driven Data Visualization Methods for Complex Data Structures*

PI: **Young** 2017
Co-PI: Yin
NSF - CISE
Project: *BD Spokes: Sufficient Dimension Reduction for Strengthening Big Data Analytics Involving Complex Survey Data: Methods and Computational Tools*

PI: **Young** 2014
NSF - DMS
Project: *RAPID: Pointwise Tolerance Intervals for Non-Stationary Generalized Extreme Value Regression Models*

PI: **Young** 2014
ORAU Ralph E. Powe Junior Faculty Enhancement Award
Project: *Pointwise Tolerance Intervals for Non-Stationary Generalized Extreme Value Regression Models*

TRAVEL GRANTS

The 7th African International Conference on Statistics, Marrakesh, Morocco June 2023, $900
Joint ASA and UMBC Travel Grant

The 6th African International Conference on Statistics, Arsi, Ethiopia May 2019, $900
Joint ASA and UMBC Travel Grant

2006 JSM, Seattle, WA August 2006, $950
William Harkness Graduate Student Travel Award

COURSES TAUGHT
†*Multiple Sections*

(Final enrollment numbers given in parentheses. The course numbers and titles stated were those used when I was the instructor of record.)

University of Kentucky

STA 281: Probability and Statistics Using Interactive Computer Techniques 3.0 Credits
Spring 2018 (24)

STA 621: Nonparametric Inference 3.0 Credits
Spring 2019 (15)
Fall 2016 (10)

STA 643: Advanced Experimental Design 3.0 Credits
Fall 2015 (11), 2017 (14), 2018 (10), 2019 (15), 2020 (11), 2021 (6), 2022 (9), 2023 (6)

STA 648: Regression Methods 4.0 Credits
Spring 2017 (5)

STA 649: Design of Experiments 4.0 Credits
Spring 2018 (5)
Fall 2018 (6), 2025 (8)

STA 695: Special Topics in Statistical Theory 1.0 Credit
Topic: Applied Mixture Modeling and Model-Based Clustering
Fall 2017 (1)

STA 705: Advanced Computational Inference 3.0 Credits
Fall 2019 (5), 2020 (8), 2021 (6), 2022 (3), 2023 (4), 2024 (4), 2025 (6)

STA 707: Advanced Data Analysis 3.0 Credits
Spring 2020 (6), 2021 (8), 2022 (6), 2023 (3), 2024 (4), 2025 (4)

STA 715: Readings in Statistics & Probability 3.0 Credits
Topic: Circular Regression Methods
Spring 2023 (1)
Topic: Novel Models for Analyzing Biomedical Data
Fall 2021 (1)
Topic: Computational Tools for Finite Mixture Modeling
Fall 2021 (1)
Topic: Nonparametric and Semiparametric Topics in Finite Mixture Modeling
Spring 2020 (1)
Fall 2021 (1)
Topic: Statistical Regions for Advanced Modeling Paradigms
Spring 2019 (2)
Topic: Data-Driven Tools for Analyzing Process Data
Spring 2019 (2)
Topic: Mixture Experiments
Fall 2018 (1)
Topic: Computational Approaches to Coverage Studies
Fall 2018 (2)
Topic: Basics of Statistical Tolerance Intervals
Spring 2024: (1)
Fall 2018 (2)
Topic: Novel Tools for the Analysis of Time Series Data
Spring 2018 (1)
Topic: Flexible Modeling of Zero-Inflated Data
Fall 2017 (1)
Topic: Algorithms for Estimating Mixture Models and Measurement Error Models
Spring 2017 (1)
Topic: Zero-Inflated Poisson Regression Models
Spring 2017 (1)
Topic: Mixture Models and Measurement Error
Fall 2016 (1)
Topic: Semiparametric Approaches to Statistical Inference
Fall 2015 (1), 2018 (1)

The Pennsylvania State University

STAT 200: Elementary Statistics 4.0 Credits
Summer 2004 (46)

MATH/STAT 318: Elementary Probability 3.0 Credits
Fall 2005 (31)

MATH/STAT 319: Applied Statistics in Science 3.0 Credits
Spring 2006 (32)

MATH/STAT 418: Probability 3.0 Credits
Spring 2005 (25)

STAT 480: Introduction to Statistical Programming Packages 1.0 Credit
Summer 2003 (12), 2004 (10), 2005 (11)

STAT 501: Regression Methods 3.0 Credits
Spring 2008 (27), 2009 (27†), 2010 (57†), 2011 (31), 2012 (31), 2013 (31)
Summer 2008 (23), 2009 (24), 2012 (27)
Fall 2008 (46†), 2009 (71†), 2010 (25), 2011 (44†), 2013 (28)

COURSE DEVELOPMENT

University of Kentucky

STA 648: Regression Methods 4.0 Credits
- (First offering in Spring 2017.) This course, which I developed for the online Master of Applied Statistics program, covers topics such as simple and multiple linear regression, residual diagnostics, model selection, nonparametric regression, and regression models with categorical responses. I recorded about 25 hours of material consisting of lightboard presentations, annotated whiteboard screencasts, and computing labs demonstrating R using RStudio.

STA 649: Design of Experiments 4.0 Credits
- (First offering in Spring 2018.) This course, which I developed for the online Master of Applied Statistics program, covers topics such as common experimental designs, ANOVA, ANCOVA, multiple comparisons, and response surface methodology. I recorded about 22 hours of material consisting of lightboard presentations and computing labs demonstrating R using RStudio.

STA 651: Advanced Programming with R 1.0 Credit
- (First offering in Summer 2017.) This course, which I developed for the online Master of Applied Statistics program, covers programming topics in R, such as handling various facets of data structures, producing simple and advanced graphics, control structures, memory allocation, and components of simulation studies. I recorded about 10 hours of material consisting of computing labs demonstrating R using RStudio.

ADVISING, SUPERVISION, AND MENTORING

Doctoral Students Advised
- Adrianne Caudill
- Yang Li
- Daniel Tuyisenge
- Pengyuan Chen
  - ◇ Recipient of a 2024 NSF Travel Grant for the 59th Summer Research Conference of the Southern Regional Conference on Statistics
- Dongying Zhan (Defended: November 2023)
  - ◇ Dissertation Title: *Finite Mixtures of Mean-Parameterized Conway-Maxwell-Poisson Models*
  - ◇ First Position: Biomedical Data Scientist at University of Kentucky
  - ◇ Recipient of a 2022 International Conference on Statistical Distributions and Applications (ICOSDA) Travel Grant
- Peng Yeh (Defended: November 2023)
  - ◇ Dissertation Title: *Methodologies and Computational Tools for Zero-Inflated Discrete Weibull Models*
  - ◇ First Position: Senior Scientist, Biostatistics, at Merck
  - ◇ Recipient of a 2023 NSF/Harshberger Travel Grant for the 58th Summer Research Conference of the Southern Regional Conference on Statistics
  - ◇ Winner of the 2022 R. L. Anderson Teaching Award (Department of Statistics)
- Xitong Zhou (Defended: July 2023)
  - ◇ Dissertation Title: *Tolerance Intervals for Various Regression Models*
  - ◇ First Position: Biostatistician at Medpace
- Yanxi Li (Defended: April 2023)

  - ◇ Dissertation Title: *Novel Modelling and Inference Considerations Involving the Exponentially-Modified Gaussian Distribution*
  - ◇ First Position: Assistant Professor of Mathematics and Statistics at Metropolitan State University of Denver
  - ◇ Winner of the 2023 R. L. Anderson Research Award (Department of Statistics)
- Yafan Guo (Defended: April 2023)
  - ◇ Dissertation Title: *Statistical Tolerance Regions for Flexible Modeling Paradigms*
  - ◇ First Position: Machine Learning Scientist at Expedia Group
- Xuan Shi (Defended: April 2021)
  - ◇ Dissertation Title: *Novel Methods for Characterizing Conditional Quantiles in Zero-Inflated Count Regression Models*
  - ◇ First Position: Statistician II / Manager I at Zoetis Inc.
- Aisaku Nakamura (Defended: November 2020)
  - ◇ Dissertation Title: *Simultaneous Tolerance Intervals for Response Surface and Mixture Designs Using the Adjusted Product Set Method*
  - ◇ First Position: Biomedical Data Scientist at University of Kentucky
- Kedai Cheng (Defended: May 2020)
  - ◇ Dissertation Title: *Tolerance Intervals for Time Series Models and Specifying Winsorizing/Trimming Cutoffs*
  - ◇ First Position: Assistant Professor of Mathematics at University of North Carolina Asheville
  - ◇ Recipient of a 2018 Joint Research Conference Student Support Award (American Statistical Association Section on Physical and Engineering Sciences)
- Yixuan Zou (Defended: April 2020)
  - ◇ Dissertation Title: *Statistical Intervals for Various Distributions Based on Different Inference Methods*
  - ◇ First Position: Statistical Scientist at Genentech
- Eric Roemmele (Defended: April 2019)
  - ◇ Dissertation Title: *A Flexible Zero-Inflated Poisson Regression Model*
  - ◇ First Position: Senior Data Analyst at Travelers Insurance
  - ◇ Winner of the 2018 Vasant P. Bhapkar Graduate Award for Excellence in Research (Department of Statistics)
  - ◇ Winner of the 2018 Dr. Zakkula Govindarajulu Statistics Student Travel Award (Department of Statistics)
- Xiaoqiong Fang (Defended: November 2018)
  - ◇ Dissertation Title: *Mixtures-of-Regressions with Measurement Error*
  - ◇ First Position: Associate Quantitative Analyst at J.P. Morgan & Co.

Doctoral Committee Member

- Hong Li (Quantitative and Psychometric Methods)
- Ruiyi Jiang (Statistics)
- Shouyi Liang (Statistics)
- Naren Ezhilmaran (Mathematics)
- Jieyun Wang (Statistics)
- Tori Stanton (Statistics)
- Tianyi Wang (Statistics)
- Petya Karkelanova (Quantitative and Psychometric Methods)
- Hirotaka Kato (Quantitative and Psychometric Methods)
- Cameron Bushling (Epidemiology and Biostatistics, Defended: April 2025)
- Swetalina Maity (Statistics, Defended: July 2024)
- Kun Liu (Statistics, Defended: May 2024)
- Leiyue Li (Statistics, Defended: May 2024)
- Lewis Dominguez (Mathematics, Defended: April 2024)
- Jiyeon Park (Statistics, Defended: April 2024)

- Lee Park (Statistics, Defended: January 2024)
- Ralph Reese, Jr. (Mathematics, Defended: May 2023)
- Lei Fang (Statistics, Defended: May 2023)
- Sheng Yuan (Statistics, Defended: May 2023)
- Menghan Wang (Statistics, Defended: April 2023)
- Jing Zhang (Quantitative and Psychometric Methods, Defended: April 2023)
- Ya Qi (Statistics, Defended: July 2022)
- Tiantian Zeng (Statistics, Defended: May 2022)
- Shaowli Kabir (Epidemiology and Biostatistics, Defended: April 2022)
- Leon Su (Statistics, Defended: April 2022)
- Zi Ye (Statistics, Defended: July 2021)
- Ting Zeng (Statistics, Defended: June 2021)
- Jing Wei (Statistics, Defended: June 2021)
- Matthew Rutledge (Statistics, Defended: October 2020)
- Aric Schadler (Statistics, Defended: July 2020)
- Yue Cui (Statistics, Defended: July 2020)
- Weihang Ren (Statistics, Defended: April 2020)
- Xu Zhang (Statistics, Defended: March 2020)
- Hao Zhou (Quantitative and Psychometric Methods, Defended: May 2019)
- Jiaying Weng (Statistics, Defended: May 2019)
- Chenlu Ke (Statistics, Defended: May 2019)
- Liangdong Fan (Statistics, Defended: March 2018)
- Sisheng Liu (Statistics, Defended: July 2017)
- Meng Qi (Statistics, Defended: May 2016)

Dissertation Outside Examiner
- Girish Lingadahalli (Physics, Defended: April 2024)
- Abdulhakim Alnuqaydan (Physics, Defended: November 2023)
- Ahmed Khalifa (Physics, Defended: July 2023)
- Cole Pospisil (Mathematics, Defended: April 2023)
- William Gustafson (Mathematics, Defended: April 2023)
- Jade Singleton (Epidemiology and Biostatistics, Defended: December 2021)
- Danielle Schaper (Physics, Defended: September 2021)
- Andrés Vindas Meléndez (Mathematics, Defended: May 2021)
- Karthik Chandrasekhar (Mathematics, Defended: April 2019)
- Stephen Deterding (Mathematics, Defended: April 2018)
- Robert Hartley (Economics, Defended: July 2017)

Master of Applied Statistics Capstone Examiner
- 2025 (1): Elizabeth Moran
- 2024 (2): Kenneth Fletcher; Andrew Freeman
- 2023 (4): Vincent Jodoin; Stevie Roszkowski; Lindsay Simon; Hua Tao
- 2022 (1): Matthew Farr
- 2021 (3): Joseph Ashcroft; Yihong Liu; Wiley Turner
- 2020 (3): Gulinigaer Aizezijiang; Sarah Kellogg; Daniel Weber
- 2019 (2): Nick Guenther; John Minturn
- 2018 (2): Florence Lima; Eric Rannenberg

Supervision of Research Assistants
- Peng Yeh (Ph.D. Student, Statistics); Supported by: Department of Statistics (Summer 2023)
- Yanxi Li (Ph.D. Student, Statistics); Supported by: Dr. Bing Zhang Family Gift (Summer 2022)

- Dongying Zhan (Ph.D. Student, Statistics); Supported by: Dr. Bing Zhang Family Gift (Summer 2022)
- Xuan Shi (Ph.D. Student, Statistics); Supported by: Research Excellence Team Support Program Grant (Summer 2019)
- Kedai Cheng (Ph.D. Student, Statistics); Supported by: Department of Statistics (Fall 2017)
- Yue Cui (Ph.D. Student, Statistics); Supported by: Department of Statistics (Summer 2016)
- Jiaying Weng (Ph.D. Student, Statistics); Supported by: Department of Statistics (Summer 2016), SES - 1562503 (Fall 2016 - Spring 2017)
- Chenlu Ke (Ph.D. Student, Statistics); Supported by: Department of Statistics (Summer 2015)
- Xiaoxue Zeng (M.S. Student, Statistics); Supported by: Department of Statistics (Summer 2015)
- Teng Huang (M.S. Student, Statistics); Supported by: Department of Statistics (Summer 2015)
- Dainan Sang (M.S. Student, Statistics); Supported by: Department of Statistics (Summer 2015)
- Liangdong Fan (Ph.D. Student, Statistics); Supported by: Department of Statistics (Summer 2015)
- Shihong Zhu (Ph.D. Student, Statistics); Supported by: UKRF 201502111631 (Spring 2015)

Faculty Mentoring

- Dr. Anna Smith (Assistant Professor of Statistics; 2024 - 2025)
- Dr. Yin Tang (Assistant Professor of Statistics; 2025 - Present)
- Dr. Jiawei Zhang (Assistant Professor of Statistics; 2023 - Present)

Professional Activities

(Years listed for activities involving a review correspond to when I was first contacted to perform the requested review. Multiple rounds of reviews for the same book or manuscript are not indicated.)

Editorial Service

- Associate Editor
  - ◇ Communications in Statistics - Case Studies, Data Analysis and Applications (2025 - Present)
  - ◇ Communications in Statistics - Simulation and Computation (2025 - Present)
  - ◇ Communications in Statistics - Theory and Methods (2025 - Present)

Reviewer for Funding Agencies

- French National Research Agency (ANR)
  - ◇ Proposal Reviewer: Generic Call for Proposals (2023)
- National Science Foundation (NSF)
  - ◇ Proposal Reviewer: Methodology, Measurement, and Statistics (MMS) Program (2020)
  - ◇ Panel Reviewer: Division of Mathematical Sciences (DMS) Program (2025)
- Science Foundation Ireland (SFI)
  - ◇ Stage 1 Panel Reviewer: Investigators Programme (2015)
  - ◇ Stage 1 Panel Reviewer: Frontiers for the Future Programme (2019, 2020)
  - ◇ Stage 1 Panel Reviewer: Pathway Programme (2024)

Book Proposal Reviewer

- Cambridge University Press (2024)
- Chapman & Hall/CRC Press (2015, 2024)
- Wiley (2018)

Journal Referee

- *Advances in Data Analysis and Classification* (2018)
- *Advances in Research* (2016)
- *Advances in Statistical Analysis* (2010, 2021)
- *Aging Clinical and Experimental Research* (2022)
- *Algorithms* (2018)
- *The American Statistician* (2010, 2016 (2))
- *The Annals of Applied Statistics* (2014, 2019, 2024 (2))
- *Annals of the Institute of Statistical Mathematics* (2018, 2022)
- *Applied Artificial Intelligence* (2023)
- *Applied Mathematical Modelling* (2017)
- *Applied Mathematics - A Journal of Chinese Universities* (2021)
- *Applied Stochastic Models in Business and Industry* (2020, 2021)
- *Asian Research Journal of Mathematics* (2017)
- *Austrian Journal of Statistics* (2020)
- *Biometrical Journal* (2016, 2019, 2020, 2021, 2025)
- *Biometrics* (2013, 2015, 2016, 2021)
- *BMC Medical Research Methodology* (2022, 2023 (3), 2025)
- *BMJ Open* (2020, 2022)
- *Briefings in Bioinformatics* (2021)
- *The Canadian Journal of Statistics* (2018)
- *Colombian Journal of Statistics* (2016)
- *Communications in Statistics - Case Studies and Data Analysis* (2025)
- *Communications in Statistics - Simulation and Computation* (2013, 2014, 2015, 2021, 2023, 2024 (2))
- *Communications in Statistics - Theory and Methods* (2009, 2014 (2), 2015, 2017, 2018 (3), 2023)
- *Computation* (2021)
- *Computational Statistics* (2017, 2020, 2024)
- *Computational Statistics and Data Analysis* (2014, 2015 (2), 2021, 2022 (3), 2023, 2024)
- *Computer Modeling in Engineering and Sciences* (2022)
- *Econometrics* (2022)
- *Econometrics and Statistics* (2020)
- *Electronic Journal of Statistics* (2013 (2))
- *Entropy* (2011, 2015, 2016, 2020, 2024)
- *Environmetrics* (2024)
- *Far East Journal of Applied Mathematics* (2013)
- *Frontiers in Immunology* (2019)
- *Hacettepe Journal of Mathematics and Statistics* (2021)
- *Heliyon* (2020)
- *IBM Journal of Research and Development* (2015)
- *IEEE Transactions on Knowledge and Data Engineering* (2014)
- *Infectious Disease Modelling* (2024)
- *International Conference on Physics, Mathematics and Statistics 2018* (2018)
- *International Journal of Biostatistics* (2021)
- *International Journal of Disaster Risk Reduction* (2020)
- *International Statistical Review* (2023)
- *ISPRS International Journal of Geo-Information* (2016)
- *Journal of Advances in Mathematics and Computer Science* (2017 (2))
- *Journal of Agricultural, Biological and Environmental Statistics* (2017 (2))
- *Journal of Algorithms and Optimization* (2015)
- *Journal of the American Statistical Association* (2021)
- *Journal of Applied Statistics* (2012, 2013, 2015 (2), 2019, 2023)

- *Journal of Big Data* (2017, 2018 (2), 2019, 2020, 2021)
- *Journal of Biology and Nature* (2017)
- *Journal of Biometrics and Biostatistics* (2015)
- *Journal of Business and Economic Statistics* (2013)
- *Journal of Chemometrics* (2019)
- *Journal of Computational and Graphical Statistics* (2015, 2016, 2017, 2021, 2023)
- *Journal of Computational Methods in Sciences and Engineering* (2016)
- *Journal of Educational and Behavioral Statistics* (2013)
- *Journal of Forensic Sciences* (2023)
- *Journal of Hydrology* (2013)
- *Journal of the Korean Statistical Society* (2024)
- *Journal of Multivariate Analysis* (2024 (2))
- *Journal of Nonparametric Statistics* (2012)
- *Journal of Quality Technology* (2021)
- *Journal of Quantitative Analysis of Sports* (2016)
- *Journal of the Royal Statistical Society, Series B* (2025)
- *Journal of Statistical Computation and Simulation* (2012, 2015 (2), 2016, 2017, 2019 (2), 2020, 2021, 2023)
- *Journal of Statistical Distributions and Applications* (2021)
- *Journal of Statistical Software* (2017)
- *Lithuanian Mathematical Journal* (2019)
- *Materials* (2016)
- *Mathematical and Computational Applications* (2016, 2020)
- *Mathematics* (2021)
- *Modern Stochastics: Theory and Applications* (2017)
- *Neural Computation* (2012)
- *Neurocomputing* (2020)
- *The New England Journal of Statistics in Data Science* (2022)
- *PeerJ* (2021)
- *Pharmaceutical Statistics* (2025)
- *Physica A: Statistical Mechanics and its Applications* (2018)
- *PLOS ONE* (2020, 2021)
- *Quality Engineering* (2016)
- *The R Journal* (2015, 2017)
- *REVSTAT - Statistical Journal* (2022)
- *Risks* (2020)
- *Road Safety & Simulation Conference 2024* (2024)
- *Scandinavian Journal of Statistics* (2015, 2016, 2017)
- *Science Journal of University of Zakho* (2018)
- *Scientific Reports* (2021, 2022)
- *Spatial Statistics* (2025)
- *Statistica Neerlandica* (2019)
- *Statistica Sinica* (2014, 2015)
- *Statistical Papers* (2018, 2021, 2022, 2025)
- *Statistical Methods in Medical Research* (2020 (2), 2021, 2022, 2023)
- *Stat* (2019)
- *Statistics* (2021)
- *Statistics and Computing* (2011, 2019, 2022, 2024 (2), 2025)
- *Statistics & Probability Letters* (2014, 2024)
- *Statistics in Medicine* (2019, 2022 (3), 2023 (2))
- *Studies in Educational Evaluation* (2024)
- *Sustainability* (2020 (2))
- *Symmetry* (2018)

- *Technometrics* (2023)
- *TEST* (2025)
- *Wiley Interdisciplinary Reviews: Computational Statistics* (2012, 2022)

External Evaluator for Promotion/Appointment and Tenure
*(*Associate Professor, †Full Professor, §Tenure)*
- Bentley University (2025§)
- University of Louisiana at Lafayette (2024†)
- University of Maryland Baltimore County (2024*§)
- The University of New Orleans (2023*§)
- Qassim University (2023*§)
- The University of Alabama (2021*§, 2025*§)

Ad Hoc Reviewer
- Reviewer for 2014-2015 ASA/NSF/Census Research Fellowship Proposal
- Statistical Reviewer for Finalists of 2012 U.S. Census Return Rate Challenge on Kaggle

Committee Membership
- University of Kentucky College of Arts & Sciences
  - ◇ Distribution of Effort (DOE) Task Force - Research, Creative Works, and Scholarship Committee (2024 - 2025)
  - ◇ Dr. Bing Zhang Donation Advisory Board Committee (2020 - Present)
  - ◇ Graduate Professional Development Programming Committee (2020)
  - ◇ Department of Statistics Chair Search Committee (2019)
  - ◇ IT-Enabled Research/Scholarship Committee (2015 - 2018)
- University of Kentucky Dr. Bing Zhang Department of Statistics
  - ◇ Executive Committee (2024 - Present)
  - ◇ FMER Committee (2023 - Present)
  - ◇ Seminar Chair (2020 - Present)
  - ◇ Interim Director of Admissions (2020)
  - ◇ Recruitment Committee (2021 - 2024, 2025 - 2026); Chair (2024 - 2025)
  - ◇ Mentoring Committee (2025 - Present)
  - ◇ Applied Statistics Lab Committee Chair (2019 - 2023)
  - ◇ Predictive Analytics and Data Science Hub Committee (2023 - 2025)
  - ◇ Inclusive Excellence Committee Chair (2023 - 2024)
  - ◇ Graduate Studies Committee (2019 - 2024); Chair (2024 - Present)
  - ◇ Textbook Committee Co-Chair (2018 - 2019)
  - ◇ Self-Study Internal Committee Member (2018)
  - ◇ Ph.D. Examination in Probability Committee (2020, 2021, 2022, 2023, 2024, 2025)
  - ◇ M.S. Examination in Linear Models and Data Analysis Committee (2018, 2019)
  - ◇ M.S. Examination in Probability and Inference Committee (2016, 2022)
  - ◇ Computations and Technology Committee (2015 - 2019, 2020 - 2023); Chair (2023 - 2024)
  - ◇ Minutes Recorder (2014 - 2018)
  - ◇ Online Master of Applied Statistics Program Committee (2014 - 2020, 2025 - Present); Chair (2024 - 2025)
- Other Committees
  - ◇ Kentucky Research Data Center (KRDC) Advisory Board Member (2016 - Present)
  - ◇ Bechtel Bettis, Inc.: Technical Outreach Committee (2008 - 2010)
  - ◇ Penn State Statistics Department: Peer Advisor (2004 - 2006)
  - ◇ Penn State Statistics Department: Student Organized Seminars Chair (2004 - 2006)

Roundtables, Panels, and Workshops

- *Safety Performance Function Development Workshop*. Road Safety and Simulation Conference, Lexington, KY. October 28$^{\text{th}}$, 2024. (Workshop Committee Member).
- *Advancing the State-of-the-Art for Statistical Tolerance Regions: Addressing Methods and Computing for Researchers and Practitioners*. JSM 2019, Denver, CO. July 29$^{\text{th}}$, 2019. (Organizer and Lead Discussant).
- *Panel Discussion on Topics Related to Census*. The 6$^{\text{th}}$ African International Conference on Statistics, Adama, Ethiopia. May 30$^{\text{th}}$, 2019. (Invited Discussant).

Conference Chair

- Session Chair for "Recent Advances in Covariance Estimation and Functional Data Analysis," ISNPS 2022, Paphos, Cyprus. June 20$^{\text{th}}$, 2022.
- Session Chair for "New Challenges and Opportunities in Nonparametric Statistics," JSM 2019, Denver, CO. July 29$^{\text{th}}$, 2019.
- Session Chair for "SPEED: Advances in Nonparametric Statistics," JSM 2016, Chicago, IL. August 1$^{\text{st}}$, 2016.

Affiliations and Professional Memberships

- International Society for Nonparametric Statistics (2016 - Present)
- American Statistical Association (2005 - Present)
  - ◇ Kentucky Chapter (2018 - Present)
- Institute of Mathematical Statistics (2005 - Present)
- University of Michigan Mathematical Society (2001 - 2002)

Other

- Served as a statistics judge for the Dr. Bing Zhang Department of Statistics Data Science Competition. (2023)
- Authored or co-authored nine CONFIDENTIAL reports for the Naval Nuclear Propulsion Program using the following statistical methods: acceptance sampling plans, ANOVA, extreme value analysis, gauge R & R studies, multiple comparisons, nonparametric smoothing, regression modeling, statistical process controls, and tolerance intervals. (2008-2011)
- Wrote solutions to 100 problems in the solutions manual for: J. M. Utts and R. F. Heckard (2006). *Mind on Statistics, 3rd edition*. California: Duxbury. (Uncredited)

Academic Awards and Honors

Professional Level

- Wethington Award: University of Kentucky College of Arts & Sciences (2015, 2016, 2021)

Graduate Level

- Research Assistantship (Summer 2005, Summer 2006 – Summer 2007)
- Eberly College of Science Graduate Fellowship (Fall 2002 – Spring 2003, Fall 2006)
- Teaching Assistantship (Fall 2002 – Spring 2006)

Undergraduate Level

- Ford Citizens Scholarship Fund of America (Fall 1998 – Spring 2002)
- Regents Scholarship (Fall 1998 – Spring 1999)
- Kiwanis Club Academic Scholarship (Fall 1998 – Spring 1999)

Computer and Language Skills

◇ Very proficient with LaTeX, Microsoft Office, Minitab, NCSS/PASS, and R/S-PLUS.
◇ Proficient with SAS, SPSS, and WinBUGS.
◇ Familiarity with @RISK, C/C++, JMP, Maple, Mathcad, Mathematica, and MATLAB.
◇ Proficient with Macintosh, UNIX/Linux, and Windows operating systems.
◇ Minor understanding of conversational/written German and Greek.

REFERENCES Available upon request.