

College of Science

RÉSUMÉ - D. Andrew Brown

PERSONAL DATA

Associate Professor

School of Mathematical and Statistical Sciences
Clemson University
Clemson, SC 29634-0975
(864) 656-1716

EDUCATION

Ph.D., University of Georgia, 2013, Statistics
M.S., University of Georgia, 2010, Statistics
B.S., Georgia Institute of Technology, 2006, Applied Mathematics

PROFESSIONAL EXPERIENCE

Clemson University, 2019 - Current, Associate Professor (with tenure)
Los Alamos National Laboratory, 2023, Visiting Scholar
Georgia Institute of Technology, 2023, Visiting Scholar
Clemson University, 2013 - 2019, Assistant Professor
Statistical and Applied Mathematical Sciences Institute, 2016, Visiting Research Fellow
University of Georgia, 2011 - 2013, Graduate Teaching Assistant
University of Georgia, 2008 - 2013, Teaching Assistant
Vistakon, Johnson & Johnson Vision Care, 2011, Biostatistics Intern
Porsche Cars North America, 2007 - 2008, Information Technology Intern
School of Mathematics, Georgia Institute of Technology, 2005 - 2006, Undergraduate
Research Assistant

MEMBERSHIPS

Member, Society for Industrial and Applied Mathematics, SIAM (2013 - Current)
Member, International Society for Bayesian Analysis, ISBA (2013 - Current)
Member, American Statistical Association, ASA (2008 - Current)
Member, Eastern North American Region of the International Biometric Society,
ENAR (2013 - 2022)
Member, Institute of Mathematical Statistics, IMS (2010 - 2018)

PROFESSIONAL ACTIVITIES

Referee for the following journals:

ACM Transactions on Mathematical Software
Annals of Applied Statistics
Applied Stochastic Models in Business and Industry
Bayesian Analysis
Biometrics
Computational and Mathematical Methods in Medicine
Computer Methods in Applied Mechanics and Engineering
Environmental and Ecological Statistics
IISE Transactions
INFORMS Journal on Computing
Journal of the American Statistical Association
Journal of the Royal Statistical Society, Series B
Journal of Statistical Planning and Inference
Metrika
NeuroImage
PLoS ONE
SIAM/ASA Journal on Uncertainty Quantification
SIAM Journal on Matrix Analysis and Applications
Statistical Analysis and Data Mining
Statistics in Medicine
Technometrics
The American Statistician

Clemson University Primary Liaison to the National Institute of Statistical Sciences
(2017 - Current)

South Carolina Chapter of the American Statistical Association

President (2021 - 2022)
Vice President (2020 - 2021)
Secretary (2019 - 2020)
Treasurer (2017 - 2019)

Reviewer for Statistical Methods in Imaging (SMI) Workshop student paper
competition, ASA Section on Statistics in Imaging (2023)

National Science Foundation, Panelist (2022)

American Statistical Association, Uncertainty Quantification Interest Group
Secretary (2020 - 2021)

International Society for Bayesian Analysis, Industrial Statistics Section Treasurer
(2018 - 2019)

Educational Testing Service Advanced Placement Statistics Exam, Reader (2013, 2014,
2016, 2017, 2019)

Session Organizer for the ASA/IMS SPES Spring Research Conference (2019)

Session Chair at the following conferences:

Workshop on Statistical Methods in Imaging (2022)

Joint Statistical Meetings (2015, 2017, 2019, 2022)
SC-ASA Palmetto Symposium (2022)
Workshop on Statistical Perspectives of Uncertainty Quantification (2017)
Eastern North American Region of the International Biometric Society (ENAR)
Spring Meeting (2017)

Organizer of the Fall Meeting of the South Carolina Chapter of the ASA / South
Carolina Statistics Consortium (2018)

Clemson University Partial Differential Equations Graduate Student Seminar,
Participant (2016 - 2018)

SAMSI Optimization program working group on Inverse Problems, Member (2016
- 2017)

SAMSI Statistical, Mathematical, and Computational Methods for Astronomy working
group on Uncertainty Quantification and Astrophysical Emulation, Member (2016
- 2017)

Invited Book Reviewer for *Biometrics* (2017)

SAMSI Challenges in Computational Neuroscience working group on Computational
Approaches to Large-Scale Inverse Problems with Applications to Neuroscience,
Member (2015 - 2016)

SAMSI Challenges in Computational Neuroscience working group on Clinical Brain
Imaging, Member (2015 - 2016)

SAMSI Challenges in Computational Neuroscience working group on Functional
Imaging and Functional Connectivity, Member (2015 - 2016)

University of Georgia fMRI Statistics Research Group, Member (2009 - 2013)

University of Georgia Statistics Club, Member (2008 - 2013)

University of Georgia Statistics Club, Secretary (2009 - 2010)

PUBLICATIONS

Refereed Journal Publications¹

PUBLISHED

1. **Brown, D. A.**, McMahan, C. S., Shinohara, R. T., and Linn, K. L. (2022), “Bayesian spatial binary regression for label fusion in structural neuroimaging,” *Journal of the American Statistical Association*, 117, 547-560.
2. Mokalled, S.*, McMahan, C., Tebbs, J., **Brown, D. A.**, and Bilder, C., (2021) “Incorporating the dilution effect into group testing regression,” *Statistics in Medicine*, 40, 2540-2555.
3. Ehrett, C.*, **Brown, D. A.**, Kitchens, C., Xu, X., Platz, R., and Atamturktur, S. (2021), “Simultaneous Bayesian calibration and engineering design with application to a vibration isolation system,” *ASME Journal of Verification, Validation, and Uncertainty Quantification*, 6:011007.

¹ * indicates student author (advisory committee or advisor)

4. **Brown, D. A.**, McMahan, C. S., and Self, S. W.* (2021), “Sampling strategies for fast updating of Gaussian Markov random fields,” *The American Statistician*, 75, 52-65.
5. Ehrett, C.*, **Brown, D. A.**, Chodora, E.*, Kitchens, C., and Atamturktur, S. (2021), “Multi-objective engineering design via computer model calibration,” *ASME Journal of Mechanical Design*, 143:051702.
6. Gettings, J. R., Self, S. W., McMahan, C. S., **Brown, D. A.**, Nordone, S. K., and Yabsley, M. J. (2020), “Regional and local temporal trends of *Borrelia burgdorferi* and *Anaplasma* spp. seroprevalence in domestic dogs: contiguous United States 2013-2019,” *Frontiers in Veterinary Science*, 7:561592.
7. Gettings, J., Self, S. C. W., McMahan, C. S., **Brown, D. A.**, Nordone, S. K., and Yabsley, M. J. (2020), “Local and regional temporal trends (2013-2019) of canine *Ehrlichia* spp. seroprevalence in the United States,” *Parasites and Vectors*, 13:153.
8. Prabhu, S., Ehrett, C.*, Javanbarg, M., **Brown, D. A.**, Lehmann, M., and Atamturktur, S. (2020), “Uncertainty quantification in fault tree analysis: Estimating business interruption due to seismic hazard,” *Natural Hazards Review*, 21:04020015.
9. Flynn, G. S.*, Chodora, E.*, Atamturktur, S., and **Brown, D. A.** (2019), “A Bayesian inference-based approach to empirical training of strongly coupled constituent models,” *ASME Journal on Verification, Validation, and Uncertainty Quantification*, 4:021005.
10. Saibaba, A. K., Bardsley, J., **Brown, D. A.**, and Alexanderian, A. (2019), “Efficient marginalization-based MCMC methods for hierarchical Bayesian inverse problems,” *SIAM/ASA Journal on Uncertainty Quantification*, 7, 1105-1131.
11. Self, S. W.*, Pulaski, C. N., McMahan, C. S., **Brown, D. A.**, Yabsley, M. J., and Gettings, J. R. (2019), “Regional and local trends in the prevalence of canine heartworm infection: 2012-2018,” *Parasites and Vectors*, 12:380.
12. Self, S. W.*, McMahan, C. S., **Brown, D. A.**, Lund, R., Gettings, J., and Yabsley, M. (2018), “A large scale spatio-temporal binomial regression model for estimating seroprevalence trends,” *Environmetrics*, 29:e2538.
13. **Brown, D. A.**, Saibaba, A., and Vallélian, S. (2018), “Low rank independence samplers in hierarchical Bayesian inverse problems,” *SIAM/ASA Journal on Uncertainty Quantification*, 6, 1076-1100.
14. Stevens, G. N.*, Atamturktur, S., **Brown, D. A.**, Williams, B. J., and Unal, C. (2018), “Statistical inference of empirical constituents in partitioned analysis from integral-effect experiments: An application in thermo-mechanical coupling,” *Engineering Computations*, 35, 672-691.
15. **Brown, D. A.** and Atamturktur, S. (2018), “Nonparametric functional calibration of computer models,” *Statistica Sinica*, 28, 721-742.

16. **Brown, D. A.**, Datta, G. S., and Lazar, N. A. (2017), “A Bayesian generalized CAR model for correlated signal detection,” *Statistica Sinica*, 27, 1125-1153.
17. **Brown, D. A.**, Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E. (2014), “Incorporating spatial dependence into Bayesian multiple testing of statistical parametric maps in functional neuroimaging,” *NeuroImage*, 84, 97-112.

SUBMITTED

18. Arp, C.* , Nicholson, J.* , Geddes, J., **Brown, D. A.**, Atamturktur, S., and Kitchens, C., “Inferring effective interphase properties in composites by inverse analysis,” submitted.
19. Sakitis, C*, **Brown, A.** and Rowe, D., “Increased accuracy in statistical analysis of task activation with a formal Bayesian approach to SENSE image reconstruction,” under revision.
20. Nicholson, J.* , Kiessler, P., and **Brown, D. A.**, “A kernel-based approach for Gaussian process modeling with functional information,” under revision, [arXiv:2201.11023](https://arxiv.org/abs/2201.11023).
21. Niu, J.* , Hur, B.* , Absher, J., and **Brown, D. A.**, “Bayesian regularization for functional graphical models,” under revision, [arXiv:2110.05575](https://arxiv.org/abs/2110.05575).

Conference Proceedings (Reviewed)

22. Gallagher, E. Vagnozzi, A. M., Lanning, R., **Brown, D.**, Brown, C., Frady, K., Brisbane, J., Matthews, M., Murphy, J., Patel, K., Pfirman, A., Rabb, R., Roberts, R., Welch, R. and Gramopadhye, A. (2020), “Poverty and guidance: Challenges and opportunities in mathematics preparation for engineering,” *Proceedings of the 2020 American Society of Engineering Education Annual Conference and Exhibition*, June 21 - 24, Montreal, Canada.
23. Marcanikova, M., Gallagher, E., Brown, C., Brisbane, J., **Brown, A.**, Dunwoody, L. A., Frady, K., Hines, A., Murphy, J., Patel, K., Pfirman, A., Roberson, S., and Gramopadhye, A. (2019), “High school technology as a NON-predictor of first college math course,” *Proceedings of the 2019 American Society of Engineering Education Southeast Section Conference*, March 10-12, Raleigh, NC.
24. Gallagher, E., Brown, C. J., **Brown, D. A.**, Frady, K., Marcanikova, M., Atamturktur, S., Ihekweazu, S., Matthews, M., Rabb, R., Solan, I., Welch, R., and Gramopadhye, A. (2018), “Statewide coalition: Supporting underrepresented populations in precalculus through organizational redesign toward engineering diversity (SC:SUPPORTED) year 1,” *Proceedings of the 2018 American Society of Engineering Education Annual Conference and Exhibition*, June 24-27, Salt Lake City, UT.

25. Gallagher, E., **Brown, D. A.**, Brown, C. J., Frady, K., Bass, P., Matthews, M., Peters, T., Rabb, R., Solan, I., Welch, R., and Gramopadhye, A. K. (2018), “Identifying mathematical pathways to engineering in South Carolina,” *Proceedings of the 2018 American Society of Engineering Education Annual Conference and Exhibition*, June 24-27, Salt Lake City, UT.
26. Atamturktur, S. and **Brown, D. A.** (2015), “State-aware calibration for inferring systematic bias in computer models of complex systems,” *NAFEMS World Congress 2015*, June 21-24, San Diego, CA, ISBN 978-1-910643-24-2.

Letters and Discussions

27. **Brown, D. A.** (2022), Discussion of “Deep Gaussian processes for calibration of computer models,” by S. Marmin and M. Filippone, *Bayesian Analysis*, 17, 1307-1308.
28. **Brown, D. A.** and Lazar, N. A. (2018), Discussion of “Bayesian spatiotemporal modeling using hierarchical spatial priors, with applications to functional magnetic resonance imaging data,” by M. Bezener, J. Hughes, and G. Jones, *Bayesian Analysis*, 13, 1307-1308.

Book Chapters

29. Atamturktur, S., Stevens, G. N.*, and **Brown, D. A.** (2017), “Empirically improving model adequacy in scientific computing,” in *Model Validation and Uncertainty Quantification, Volume 3: Proceedings of the 35th IMAC, A Conference and Exposition of Structural Dynamics 2017*, eds. Barthorpe, R., Platz, R., Lopez, I., Moaveni, B., and Papadimitriou, C., pp. 363-370.

Book Reviews

30. **Brown, D. A.** (2017), Review of *Analysis of Neural Data*, by R. E. Kass, U. T. Eden, and E. N. Brown, *Biometrics*, 73, 710-713.

Conference Proceedings (Unreviewed)

31. Sakitis, C., Rowe, D. B., and **Brown, D. A.** (2022), “A full Bayesian approach to SENSE image reconstruction increases brain tissue contrast and reduces noise for more accurate statistical analysis,” in *Proceedings of the 2022 Joint Statistical Meetings*, Section on Statistics in Imaging, to appear.

32. Sakitis, C., Rowe, D. B., and **Brown, D. A.** (2021), “A formal Bayesian approach to SENSE image reconstruction,” in *Proceedings of the 2021 Joint Statistical Meetings*, Section on Statistics in Imaging, pp. 1332 - 1358.
33. Stevens, G. N.*, Atamturktur, S., and **Brown, D. A.** (2017), “Empirical training of constituent models: Defining meso-scale behavior in a multi-scale plasticity model,” *IMAC XXXV*, Society for Experimental Mechanics, Jan. 30 - Feb. 2, Garden Grove, CA.
34. **Brown, D. A.**, Lazar, N. A., and Datta, G. S. (2011), “Bayesian multiple testing under dependence with application to functional magnetic resonance imaging,” in *Proceedings of the 2011 Joint Statistical Meetings*, Bayesian Statistical Science Section, pp. 4708 - 4722.
35. Jaeger, A., **Brown, D. A.**, Seymour, L., and Beuckert, R. (2010), “Response of Canadian crop yields to climate change,” in *Proceedings of the 2010 Joint Statistical Meetings*, Statistics and the Environment Section, pp. 4395 - 4405.

PRESENTATIONS

INVITED TALKS

1. “Bayesian Regularization of Functional Graphical Models with Application to Neuroimaging,” Joint Statistical Meetings, Toronto, Ontario, Canada (August 2023).
2. “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” 8th Workshop on Biostatistics and Bioinformatics, Georgia State University, Atlanta, GA (May 2023).
3. “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, Atlanta, GA (April 2023).
4. “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” Department of Statistics, University of Georgia, Athens, GA (February 2023).
5. “Some Statistical Problems in Uncertainty Quantification,” Los Alamos National Laboratory, Los Alamos, NM (November 2022).
6. “Efficient Marginalization-Based MCMC Methods for Hierarchical Bayesian Inverse Problems,” Langenhop Lecture and Probability & Statistics Conference, Southern Illinois University, Carbondale, IL (October 2022).
7. “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” AI Summit, Medical University of South Carolina, Charleston, SC (September 2022).
8. “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” Joint Statistical Meetings, Washington, DC (August 2022).

9. "Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging," Watt AI Symposium, Clemson University, Clemson, SC (April 2022).
10. "Efficient marginalization-based MCMC methods for hierarchical Bayesian inverse problems," SIAM Conference on Uncertainty Quantification, Atlanta, GA (April 2022).
11. "Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging," 10th World Congress in Probability and Statistics, Seoul National University, Seoul, Korea (virtual talk) (July 2021).
12. "Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging," International Chinese Statistical Association Applied Statistics Symposium, Raleigh, NC (June 2019).
13. "Low-Rank Independence Samplers in Hierarchical Bayesian Inverse Problems," 2019 IMS/ASA Spring Research Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA (May 2019).
14. "Low Rank Independence Samplers in Hierarchical Bayesian Inverse Problems," H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, Atlanta, GA (April 2019).
15. "Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging," Department of Mathematics, Statistics, and Computer Science, Marquette University, Milwaukee, WI (December 2018).
16. "Some Statistical Problems in Uncertainty Quantification," Department of Statistics, Indiana University, Bloomington, IN (October 2018).
17. (Untitled), Clemson University Genetics Symposium, Clemson University, Clemson, SC (September 2018).
18. "Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging," Statistical Methods in Imaging Workshop, Philadelphia, PA (June 2018).
19. "Nonparametric Functional Calibration of Computer Models," Joint Statistical Meetings, Baltimore, MD (August 2017).
20. "Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging," Eastern North American Region of the International Biometric Society (ENAR) Spring Meeting, Washington, D. C. (March 2017).
21. "Computationally Efficient Markov Chain Monte Carlo Methods for Hierarchical Bayesian Inverse Problems," Statistical Inverse Problems Workshop, Statistical and Applied Mathematical Sciences Institute (January 2017).
22. "A Bayesian Generalized CAR Model for Correlated Signal Detection," Georgia Statistics Day, Georgia Institute of Technology, Atlanta, GA (October 2016).

23. "A Bayesian Generalized CAR Model for Correlated Signal Detection," Joint Statistical Meetings, Chicago, IL (August 2016).
24. "Efficient Markov Chain Monte Carlo Methods for Hierarchical Bayesian Inverse Problems," Challenges in Computational Neuroscience Transition Workshop, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC (May 2016).
25. "Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging," Joint Statistical Meetings, Seattle, WA (August 2015).
26. "A Bayesian Multiple Testing Model for Correlated Signal Detection," South Carolina Statistics Consortium Meeting, Clemson University, Clemson, SC (November 2014).
27. "Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging," Network of Greater Georgia Institutes of Neuroimaging and Statistics (NOGGINS) Workshop, University of Georgia, Athens, GA (April 2014).
28. "Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging," Department of Statistics, University of South Carolina, Columbia, SC (November 2013).
29. "Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging," Department of Biostatistics, The University of Texas M. D. Anderson Cancer Center, Houston, TX (February 2013).
30. "Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging," Department of Mathematical Sciences, Clemson University, Clemson, SC (January 2013).
31. "Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging," Department of Statistics, University of Missouri, Columbia, MO (December 2012). (Webinar)
32. "Bayesian Multiple Testing under Dependence with Application to Functional Magnetic Resonance Imaging," Student seminar in Research, Evaluation, Measurement, and Statistics, Department of Educational Psychology, University of Georgia, Athens, GA (February 2012).

CONTRIBUTED TALKS

33. "Functional Calibration of Computer Models," Uncertainty Quantification Working Group Meeting, Jet Propulsion Laboratory (virtual) (October 2022)
34. "Functional Calibration of Computer Models," Clemson University Research Symposium, Clemson, SC (May 2022).

35. “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” Joint Statistical Meeting, Denver, CO (August 2019).
36. “Functional Calibration of Computer Models,” Clemson University Research Symposium, Clemson, SC (May 2019).
37. “Nonparametric Functional Calibration of Computer Models,” SIAM Conference on Uncertainty Quantification, Garden Grove, CA (April 2018).
38. “Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging,” Eastern North American Region of the International Biometric Society (ENAR) Spring Meeting, Baltimore, MD (March 2014).
39. “Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging,” International Conference on Advances in Interdisciplinary Statistics and Combinatorics, University of North Carolina at Greensboro, Greensboro, NC (October 2012).
40. “Bayesian Multiple Testing under Dependence with Application to Functional Magnetic Resonance Imaging,” Network of Greater Georgia Institutes of Neuroimaging and Statistics (NOGGINS) Workshop, University of Georgia, Athens, GA (April 2012).
41. “Bayesian Multiple Testing under Dependence with Application to Functional Magnetic Resonance Imaging”, Joint Statistical Meeting, Miami, FL (August 2011).

CONTRIBUTED POSTERS

42. “Nonparametric functional calibration of computer models,” Statistical Perspectives of Uncertainty Quantification Conference, Atlanta, GA (May 2017).
43. “Nonparametric functional calibration of computer models,” Institute of Mathematical Statistics New Researchers Conference, Madison, WI (July 2016).
44. “A Bayesian Multiple Testing Model for Correlated Signal Detection”, Southern Regional Council on Statistics (SRCOS) Summer Research Conference, Wilmington, NC (June 2015).
45. “Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging,” International Society for Bayesian Analysis (ISBA) Objective Bayes Meeting, Duke University, Durham, NC (December 2013).
46. “Bayesian Multiple Testing under Spatial Dependence with Application to fMRI,” Southern Regional Council on Statistics (SRCOS) Summer Research Conference, Jekyll Island, GA (June 2012).
47. “Bayesian Multiple Testing under Dependence with Application to fMRI,” High Dimensional Approximation for Uncertainty Quantification Workshop, Statistical and Applied Mathematical Sciences Institute (SAMSI), Raleigh, NC (November 2011).

OTHER PRESENTATIONS

48. “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” Clemson University SMSS Graduate Student Recruitment Presentation, Clemson, SC (April 2023).
49. “Some Statistical Problems in Uncertainty Quantification,” presented in Mathematical and Statistical Sciences Special Topics Course, Clemson University, Clemson, SC (December 2019).
50. “Label fusion: Automated structure detection in neuroimaging,” Clemson University College of Science Donor Appreciation Reception, Clemson SC (April 2018).
51. “Computationally Efficient Markov chain Monte Carlo Methods for Hierarchical Bayesian Inverse Problems,” Clemson University PDE Seminar, Clemson, SC (September 2016).
52. “Bayesian Spatial Binary Regression for Tumor Segmentation,” Johns Hopkins University/University of Pennsylvania Biostatistics Clinical Imaging Research Group (webinar) (May 2016).
53. “Basic Markov Chain Monte Carlo,” Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC (February 2016).
54. “Bayesian Correlated Signal Detection,” Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC (January 2016).
55. “Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging,” fMRI Research Group, Department of Psychology, University of Georgia, Athens, GA (April 2013).
56. “Bayesian Multiple Testing in the Presence of Dependence,” fMRI Research Group, University of Georgia, Athens, GA (January 2012).
57. “Time-Optimal Control of Bioterror Response Logistics: The Case of Anthrax,” Research Experience for Undergraduates (REU) Mini-Conference, School of Mathematics, Georgia Institute of Technology, Atlanta, GA (August 2006).

HONORS AND AWARDS

IMS New Researchers Travel Award, Institute of Mathematical Statistics (2016)
SAMSI Visiting Research Fellow, Statistical and Applied Mathematical Sciences Institute (2016)
Jeffreys Excellence Prize for Best Applied Poster, International Society for Bayesian Analysis (2013)
Best Senior Student, Department of Statistics, University of Georgia (2013)
Boyd Harshbarger Student Travel Award, Southern Regional Council on Statistics (2012)

Paul D. Coverdell Franklin Foundation for Neuroimaging Travel Award, University of Georgia Franklin Foundation Neuroimaging Program (2011)
Outstanding Teaching Assistant, University of Georgia (2010)
Mu Sigma Rho National Statistics Honor Society, Department of Statistics, University of Georgia (2010)
Graduate with Highest Honor, Georgia Institute of Technology (2006)
Golden Key International Honour Society, Georgia Institute of Technology (2006)
Research Experience for Undergraduates (REU) Research Fellowship, National Science Foundation (2006)

SPONSORED RESEARCH

“Exploring and Solidifying Functional Calibration of Computer Models,” National Science Foundation grant DMS 2210686, Sole Principal Investigator, \$150,000 (2022 - 2025).

“RII Track-2 FEC: A Multiscale, Multiphysics Modeling Framework for Genome-to-Phenome Mapping via Intermediate Phenotypes,” National Science Foundation grant OIA 1826715, Senior Personnel, \$2,100,630 (\$105,032) (2018-2023).

“NRT-DESE: Preparing Resilient and Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE),” National Science Foundation grant DGE 1633608, Senior Personnel, \$2,989,899 (\$239,192), (2016 - 2022).

“Simulation-Based Design of Polymer Nanocomposites for Structural Applications,” National Science Foundation grants CMMI 1563435 & CMMI 1934438, Co-Principal Investigator, \$427,724 (\$85,545) (2016 - 2022).

Transformative Initiative for Generating Extramural Research (TIGER):

“Accelerating the Data Collection and Analysis Timeline for a Funded NSF INCLUDES Launch Pilot to be Competitive for a Full NSF INCLUDES ALLIANCE Proposal Deadline,” Clemson University, Co-Principal Investigator, \$14,631 (2018).

“Statewide Consortium: Supporting Underrepresented Populations in Precalculus by Organizational Redesign toward Engineering Diversity (SC:SUPPORTED),” National Science Foundation grant EEC 1744497, Co-Principal Investigator, \$299,994 (\$30,000) (2017 - 2020).

“GAANN: Model Validation Analytics in Support of High-Consequence Decision Making,” Department of Education grant P200A12022, Co-Principal Investigator, \$1,291,841 (\$77,510) (2015 - 2019).

OTHER SPONSORED ACTIVITY

Visiting Scholar Support, Los Alamos National Laboratory, \$5000 (2023).

Travel Grant, Statistical and Applied Mathematical Sciences Institute, \$450 (2017).
Travel Grant, Institute of Mathematical Statistics, \$1000 (2016).
Visiting Research Fellowship, Statistical and Applied Mathematical Sciences Institute, \$12,000 (2016)
Travel Grant, Statistical and Applied Mathematical Sciences Institute, \$1700 (2015).
Travel Grant, Southern Regional Council on Statistics, \$350 (2015).
Travel Grant, International Society for Bayesian Analysis, \$680 (2013).
Travel Grant, The Graduate School, University of Georgia, \$400 (2012).
Travel Grant, Department of Statistics, University of Georgia, \$200 (2012).
Travel Award, Statistical and Applied Mathematical Sciences Institute, \$300 (2011).
Research Experience for Undergraduates (REU) Fellowship, National Science Foundation, \$2500 (2006).

GRADUATE STUDENT ADVISING

Doctoral Graduates

ADVISOR / CO-ADVISOR

Niu, J., “Learning graphical models of multivariate functional data with applications to neuroimaging,” December 2022.
Nicholson, J., “Advancements in Gaussian process learning for uncertainty quantification,” May 2022 (Co-advisor with Dr. Peter Kiessler).
Ehrett, C., “A Bayesian approach to computer model calibration and model-assisted design,” December 2020.

COMMITTEE MEMBER

Hess, J., “The influence of allostery governing the changes in protein dynamics upon substitution,” May 2023.
Chan, F. C. J., “Convergence rate for stochastically order Markov chain,” May 2022.
Cubre, P. “Groundwork for the development of GPU enabled group testing regression models,” May 2022.
Tan, X., “Penalized estimation of autocorrelation,” May 2022.
Gong, R., “Bayesian Poisson mortality projections with incomplete data,” August 2021.
Liu, Z., “Bayesian Poisson log-normal model with regularized time structure and spatial framework for mortality projection of multi-population,” August 2021.
Mokalled, S., “Statistical models for the analysis of complex data,” December 2020.
Joyner, C., “High dimensional regression techniques for complex data,” December 2019.
Ahmad, S. U., “Analytical and iterative regularization methods for nonlinear ill-posed inverse problems: Applications to diffuse optical and electrical impedance tomography,” August 2019.

- Self, S. C. W., “Bayesian spatio-temporal modeling for forecasting, trend assessment, and spatial trend filtering,” August 2019.
- Stevens, G. N., “Experiment-based validation and uncertainty quantification of partitioned models: Improving predictive capability of multi-scale plasticity models,” August 2016.
- Tu, S., “Objective Bayesian analysis on the quantile regression,” December 2015.

Master’s Graduates

ADVISOR / CO-ADVISOR

- Wierzbicki, M., “Examining three non-parametric classification methods,” July 2022.
- Gao, F., “A case study of modern simultaneous estimation and variable selection techniques: From both frequentist and Bayesian point of view,” December 2021.
- Moose, A., “Modeling match results in the English Premier League using a hierarchical Bayesian Poisson model,” December 2018.
- Yuan, J., “Bayesian calibration of computer models using the Gaussian process prior,” December 2018.
- Niu, J., “Identification of differences in cortical thickness in multiple sclerosis patients based on race,” August 2018.
- Ehrett, C., “Subset simulation with multivariate draw,” May 2017.
- Lamoreux, M., “Empirical null estimation via central matching with application to functional magnetic resonance imaging,” May 2016.
- Kwiasowski, J., “Thresholding of statistical maps in functional neuroimaging via independent filtering,” August 2015.
- Nystrom, E., “Comparing error structures for statistical analysis of functional magnetic resonance imaging time series data,” May 2014 (Co-advisor with Dr. Julia Sharp).

COMMITTEE MEMBER

- Taylor, J., “Predicting pitch location in major league baseball using regression techniques,” November 2022.
- Wang, J., “Generalized mixed-effects binary regression,” June 2022.
- Fisher, W., “A NURBS fitting approach for quality assessment of 3D printing,” May 2022.
- Kreuser, K., “Time Series Models with Covariates in Modeling a Short Squeeze,” May 2022.
- Scruggs, S. “Image segmentation applied to electrical impedance tomography,” August 2021.
- Zhang, T., “On the interface between nested designs and the multi-step interpolator,” December 2020.
- Zhao, S., “Loan default prediction in LendingClub,” August 2020.

Lumsden, B., “Ensemble-based Genomics,” December 2019
 Driscoll, M., “Comparing models for predicting the at-large bids for the 2019 NCAA Basketball Tournament,” May 2019.
 Rollins, H., “High-dimensional methods for statistical genomics,” May 2019
 Tan, X., “Autocorrelation function estimation via penalized least squares method,” December 2018 .
 Sun, L., “Maximizing Airbnb hosts’ revenue in New York City: A case study of model selection methodologies using an Airbnb data set,” August 2018.
 Li, J., “Data analysis of diverse learning environment survey data,” May 2017.
 Watson, S., “A comparison of the point process and predictive process Gaussian spatial models with an application to land parcel data,” August 2016.
 Mokalled, S., “Estimating biomarker distributions via pooled assessments,” May 2016.
 Bao, Y., “Analysis of peach gene expression data,” August 2015.
 Justus, I., “Quantifying information loss and time series predictions of housing utility data,” May 2015.
 McDonald, J., “An exact test for binary data using weights and empirical Bayes estimates for cluster level success probabilities,” May 2015.
 Norton, P., “Adjustments for treatment by block interaction in a genetics study,” May 2015.
 Stevens, G., “Stochastic wavenumber estimation: Damage detection through simulated guided lamb waves,” December 2014.

Current Graduate Advising

ADVISOR / CO-ADVISOR

Wang, Z. (PhD, Co-advisor with Dr. Xinyi Li), May 2024
 Gao, F. (PhD), May 2024
 Hur, B. (PhD), May 2024

COMMITTEE MEMBER

Kanny, S. (PhD), May 2025
 Das, A. (PhD, Pennsylvania State University), May 2024
 Sakitis, C. (PhD, Marquette University), May 2024
 Murphy, E. (PhD), August 2023

TEACHING

Courses Taught (at Clemson University)

MATH 8050, Data Analysis, SU22, SU21 (online), SU20 (online), F16, F15, S15, F14, S14

MATH 8020, General Linear Hypothesis II, S18, S17
MATH 8010, General Linear Hypothesis I, F22, F19, F18, F17, F16
MATH 4/6000, Theory of Probability, F18, F14
MATH 4910, Independent Study, F17, F16
MATH 4090, Design of Experiments for Science and Engineering, S21, S22
MATH 4020, Statistics for Science and Engineering II, F22, F21, F20, F19
MATH 3020, Statistics for Science and Engineering, F17, F15, S14, F13
STAT 8110, Special Problems in Experimental Statistics, S22
STAT 8120, Introduction to Machine Learning, SU21 (online)

UNIVERSITY AND PUBLIC SERVICE

Committees

University: Lead Senator, College of Science (2022)
Faculty Senator (2020 - 2022)
Member, Faculty Senate Advisory Committee (2022)
Member, Faculty Senate Executive Committee (2021 - 2022)
Member, Faculty Senate Policy Committee (2020 - 2021, 2022)
Chair, Faculty Senate Finance Committee (2021 - 2022)
Member, Steering Committee for NSF National Research Traineeship
Program on Resilient Infrastructure in Environmental Systems
Engineering and Science (2017 - 2022)
Chair, Distinguished Speaker Series Committee for NSF National Research
Traineeship Program on Resilient Infrastructure in Environmental
Systems Engineering and Science (2017 - 2022)
Clemson University Awards Committee (2022)

College: Member, Faculty Advisory Committee (2020 - 2022)
Member, Bylaws Committee (2020 - 2022)

Department: Member, Tenure, Promotion, and Reappointment Committee (Statistics
& Operations Research Division) (2019 - Current)
Member, SMSS Council (2022)
Member, Graduate Affairs Committee (2021 - 2022)
Member, Curriculum Committee (2019 - 2022)
Probability/Statistics Hiring Committee:
Chair (2019)
Member (2022, 2020, 2018)
Member, Analysis Hiring Committee (2021)
Member, School Director Two-Year Review Committee (2021)
Member, Inclusive Excellence and Climate Committee (2020 - 2021)

Member, Undergraduate Affairs Committee (2014 - 2015, 2018 - 2021)
Member, Probability/Statistics Seminar Committee (2013 - 2019)
Member, Research Committee (2013 - 2019)

Other Service

Graduate Student Curriculum Advisor (2014 - Current)
Undergraduate Student Curriculum Advisor (2014 - Current)
Mentor for the College of Science Faculty Mentoring program (2020, 2021, 2022)
Faculty Officer, American Statistical Association Student Chapter, (2017 - 2019)
Reader/Question Leader for Clemson University Advanced Placement Statistics Practice Exam (2014, 2015, 2016, 2017, 2018, 2019)
Lead Organizer of the Joint Clemson/University of Georgia Statistics Colloquium (2015, 2017, 2019)
Clemson University Representative to the Annual Business Meeting of the Southern Regional Council on Statistics (2014)

MISCELLANEOUS

Professional Development

264 Professional Development Hours, Educational Testing Service
How to be a Good Mentor, Affiliate Webinar, National Institute of Statistical Sciences (February 2022)
Equitable Faculty Evaluation, Workshop, Clemson University (October 2021)
Effective Interviewing and the Hiring Process, Training Session (September 2021)
Participant in the Clemson University College of Science Associate Professor Mentoring program (Spring 2021)
TIGERS Advocates, Training Session, Clemson University (March 2021)
Banning Bad Team Building: Current Innovations from the Science of Team Science, Seminar, Clemson University (February 2021)
Effective Online Teaching for Student Engagement, Short Course, Clemson University (May 2020)
Clemson Online Certification (CONCERT), Short Course, Clemson University (April 2020)
Inclusive Excellence 201, Training Session, Clemson University (February 2020)
Implicit Bias 101, Training Session, Clemson University (January 2020)
Inclusive Excellence 101, Training Session, Clemson University (January 2020)
Civil Treatment for Leaders, Training Session, Clemson University (November 2019)
Civil Treatment for Employees, Training Session, Clemson University (October 2019)
Data Visualization using R, Training Session, Clemson University (February 2018)
Version Control with Git/Github, Training Session, Clemson University (October 2017)

Computational Challenges in Neuroimaging Data, Roundtable, Joint Statistical Meetings (August 2016)

SAMSI Challenges in Functional Connectivity Workshop, Statistical and Applied Mathematical Sciences Institute (April 2016)

SAMSI Computational Neuroscience Opening Workshop, Statistical and Applied Mathematical Sciences Institute (August 2015)

SAMSI Computational Neuroscience Summer School, Statistical and Applied Mathematical Sciences Institute (July 2015)

Emerging Trends with National Foundations, Clemson University ADGRS Seminar (March 2015)

Introduction to Advanced Computing and the Palmetto Cluster, Training Session, Clemson University (August 2014)

The Design and Analysis of Experiments that Use Computer Simulators, Continuing Education Course, American Statistical Association (August 2014)

An Introduction to High-Performance Computing with R, Tutorial, International Biometric Society (March 2014)

Nonparametric Bayesian Data Analysis, Tutorial, International Biometric Society (March 2014)

May 19, 2023