

## 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)

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, International Society for Bayesian Analysis, ISBA (2013 - Current)

Member, Eastern North American Region of the International Biometric Society,  
ENAR (2013 - Current)

Member, American Statistical Association, ASA (2008 - Current)

Member, Institute of Mathematical Statistics, IMS (2010 - 2018)

## PROFESSIONAL ACTIVITIES

Referee for the following journals:

*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*

Invited Book Reviewer for *Biometrics*

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

South Carolina Chapter of the American Statistical Association

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

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

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:

Joint Statistical Meetings (2015, 2017, 2019)  
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)

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 Publications<sup>1</sup>

#### PUBLISHED

1. **Brown, D. A.**, McMahan, C. S., Shinohara, R. T., and Linn, K. L. (2021+), “Bayesian spatial binary regression for label fusion in structural neuroimaging,” *Journal of the American Statistical Association*, accepted. [arXiv:1710.10351](https://arxiv.org/abs/1710.10351).
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.
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.

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<sup>1</sup> \* indicates student author (advisory committee or advisor)

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. 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).
19. Nicholson, J., Kiessler, P., and **Brown, D. A.**, “A kernel-based approach for Gaussian process modeling with functional information,” submitted.
20. Brown, C. J., Gallagher, E., **Brown, D. A.**, Frady, K., Markanikova, M., Gerdes, J., Matthews, M. A., Rabb, R. J., Rivers, H. E., Roberts, R., Welch, R., and Gramopadhye, A., “The association between school poverty index on first college math course placement for students in engineering and engineering-related fields,” submitted.
21. Arp, C.\*, Nicholson, J.\*, Geddes, J., **Brown, D. A.**, Atamturktur, S., and Kitchens, C., “Inferring effective interphase properties in composites by inverse analysis,” submitted.

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.** 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

28. 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

29. **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)

30. 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.
31. 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.
32. **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.

33. 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. Brown, D. A., McMahan, C. S., Shinohara, R. T., and Linn, K. L., “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” Joint Statistical Meetings, Washington, D. C. (August 2022).
2. Saibaba, A. K., Bardsley, J., Brown, D. A., and Alexanderian, A., “Efficient marginalization-based MCMC methods for hierarchical Bayesian inverse problems,” SIAM Conference on Uncertainty Quantification, Atlanta, GA (April 2022).
3. Brown, D. A., McMahan, C. S., Shinohara, R. T., and Linn, K. L., “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” 10<sup>th</sup> World Congress in Probability and Statistics, Seoul National University, Seoul, Korea (virtual talk) (July 2021).
4. Brown, D. A., McMahan, C. S., Shinohara, R. T., and Linn, K. L., “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” International Chinese Statistical Association Applied Statistics Symposium, Raleigh, NC (June 2019).
5. Brown, D. A., Saibaba, A. K., and Vallélian, S., “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).
6. Brown, D. A., Saibaba, A. K., Vallélian, S., Bardsley, J., and Alexanderian, A., “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).
7. Brown, D. A., McMahan, C. S., Shinohara, R. T., and Linn, K. L., “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” Department of Mathematics, Statistics, and Computer Science, Marquette University, Milwaukee, WI (December 2018).
8. Brown, D. A., “Some Statistical Problems in Uncertainty Quantification,” Department of Statistics, Indiana University, Bloomington, IN (October 2018).
9. Brown, D. A., Clemson University Genetics Symposium, Clemson University, Clemson, SC (September 2018).
10. Brown, D. A., McMahan, C. S., Shinohara, R. T., and Linn, K. L., “Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging,” Statistical Methods in Imaging Workshop, Philadelphia, PA (June 2018).

11. Brown, D. A. and Atamturktur, S., “Nonparametric Functional Calibration of Computer Models,” Joint Statistical Meetings, Baltimore, MD (August 2017).
12. Brown, D. A., McMahan, C. S., Linn, K. L., and Shinohara, R., “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).
13. Brown, D. A., Saibaba, A. K., and Vallélian, S., “Computationally Efficient Markov Chain Monte Carlo Methods for Hierarchical Bayesian Inverse Problems,” Statistical Inverse Problems Workshop, Statistical and Applied Mathematical Sciences Institute (January 2017).
14. Brown, D. A., Datta, G. S., and Lazar, N. A., “A Bayesian Generalized CAR Model for Correlated Signal Detection,” Georgia Statistics Day, Georgia Institute of Technology, Atlanta, GA (October 2016).
15. Brown, D. A., Datta, G. S., and Lazar, N. A., “A Bayesian Generalized CAR Model for Correlated Signal Detection,” Joint Statistical Meetings, Chicago, IL (August 2016).
16. Brown, D. A., Saibaba, A., and Vallélian, S., “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).
17. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., “Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging,” Joint Statistical Meetings, Seattle, WA (August 2015).
18. Brown, D. A., Datta, G. S., and Lazar, N. A., “A Bayesian Multiple Testing Model for Correlated Signal Detection,” South Carolina Statistics Consortium Meeting, Clemson University, Clemson, SC (November 2014).
19. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., “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).
20. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., “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).
21. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., “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).



22. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., "Incorporating Spatial Dependence into Bayesian Multiple Testing of Statistical Parametric Maps in Functional Neuroimaging," Department of Mathematical Sciences, Clemson University, Clemson, SC (January 2013).
23. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., "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)
24. Brown, D. A., Lazar, N. A., and Datta, G. S., "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

25. Brown, D. A., McMahan, C. S., Shinohara, R. T., and Linn, K. L., "Bayesian Spatial Binary Regression for Label Fusion in Structural Neuroimaging," Joint Statistical Meeting, Denver, CO (August 2019).
26. Brown, D. A., "Functional Calibration of Computer Models," Clemson University Research Symposium, Clemson, SC (May 2019).
27. Brown, D. A. and Atamturktur, S., "Nonparametric Functional Calibration of Computer Models," SIAM Conference on Uncertainty Quantification, Garden Grove, CA (April 2018).
28. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., "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).
29. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., "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).
30. Brown, D. A., Lazar, N. A., and Datta, G. S., "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).
31. Brown, D. A., Lazar, N. A., and Datta, G. S., "Bayesian Multiple Testing under Dependence with Application to Functional Magnetic Resonance Imaging," Joint Statistical Meeting, Miami, FL (August 2011).

### CONTRIBUTED POSTERS

32. Brown, D. A. and Atamturktur, S., “Nonparametric functional calibration of computer models,” Statistical Perspectives of Uncertainty Quantification Conference, Atlanta, GA (May 2017).
33. Brown, D. A. and Atamturktur, S., “Nonparametric functional calibration of computer models,” Institute of Mathematical Statistics New Researchers Conference, Madison, WI (July 2016).
34. Brown, D. A., Datta, G. S., and Lazar, N. A., “A Bayesian Multiple Testing Model for Correlated Signal Detection”, Southern Regional Council on Statistics (SRCOS) Summer Research Conference, Wilmington, NC (June 2015).
35. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., “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).
36. Brown, D. A., Lazar, N. A., and Datta, G. S., “Bayesian Multiple Testing under Spatial Dependence with Application to fMRI,” Southern Regional Council on Statistics (SRCOS) Summer Research Conference, Jekyll Island, GA (June 2012).
37. Brown, D. A., Lazar, N. A., and Datta, G. S., “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

38. Brown, D. A., “Some Statistical Problems in Uncertainty Quantification,” presented in Mathematical and Statistical Sciences Special Topics Course, Clemson University, Clemson, SC (December 2019).
39. Brown, D. A., McMahan, C. S., Shinohara, R. T., and Linn, K. L., “Label fusion: Automated structure detection in neuroimaging,” Clemson University College of Science Donor Appreciation Reception, Clemson SC (April 2018).
40. Brown, D. A., Saibaba, A. K., and Vallélian, S., “Computationally Efficient Markov chain Monte Carlo Methods for Hierarchical Bayesian Inverse Problems,” Clemson University PDE Seminar, Clemson, SC (September 2016).
41. Brown, D. A., McMahan, C. S., and Linn, K. L., “Bayesian Spatial Binary Regression for Tumor Segmentation,” Johns Hopkins University/University of Pennsylvania Biostatistics Clinical Imaging Research Group (webinar) (May 2016).
42. Brown, D. A., “Basic Markov Chain Monte Carlo,” Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC (February 2016).

43. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., “Bayesian Correlated Signal Detection,” Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC (January 2016).
44. Brown, D. A., Lazar, N. A., Datta, G. S., Jang, W., and McDowell, J. E., “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).
45. Brown, D. A., Lazar, N. A., and Datta, G. S., “Bayesian Multiple Testing in the Presence of Dependence,” fMRI Research Group, University of Georgia, Athens, GA (January 2012).
46. Brown, D. A., Chow, S.-N., and Hui, Q., “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

“A Multiscale, Multiphysics Modeling Framework for Genome-to Phenome Mapping via Intermediate Phenotypes,” National Science Foundation, Senior Personnel, \$2,100,630 (\$105,032) (2018-2022).

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

“Simulation-Based Design of Polymer Nanocomposites for Structural Applications,” National Science Foundation, 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, Co-Principal Investigator, \$299,994 (\$30,000), (2017 - 2020).

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

## **OTHER SPONSORED ACTIVITY**

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**

Ehrett, C., “A Bayesian approach to computer model calibration and model-assisted design,” December 2020.

#### COMMITTEE MEMBER

- 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

- 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

- 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), May 2024

Gao, F. (PhD), May 2024

Hur, B. (PhD), May 2023

Nicholson, J. (PhD), May 2022 (Co-advisor with Dr. Peter Kiessler)

Wierzbicki, M. (MS), May 2022

Niu, J. (PhD), December 2021

### COMMITTEE MEMBER

Das, A. (PhD, Pennsylvania State University), May 2024

Murphy, E. (PhD), May 2024

Sakitis, C. (PhD, Marquette University), May 2024

Zhao, S. (MS, PhD), May 2024

Hess, J. (PhD), May 2023

Sichani, S. (PhD, Pennsylvania State University), May 2023

Zhao, S. (PhD), May 2023

Chan, F. C. J. (MS, PhD), May 2022

Fisher, W. (MS), May 2022

Kreuser, K. (MS), May 2022

Scruggs, S. (MS), May 2022  
Tan, X. (PhD), May 2022  
Gong, R. (PhD), August 2021  
Liu, Z. (PhD), August 2021

## TEACHING

### Courses Taught (at Clemson University)

MATH 8050, Data Analysis, SU21 (online), SU20 (online), F16, F15, S15, F14, S14  
MATH 8020, General Linear Hypothesis II, S18, S17  
MATH 8010, General Linear Hypothesis I, 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, 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: Faculty Senator (2020 - Current)  
Chair, Faculty Senate Finance Committee (2021 - Current)  
Member, Faculty Senate Executive Committee (2021 - Current)  
Member, Steering Committee for NSF National Research Traineeship  
Program on Resilient Infrastructure in Environmental Systems  
Engineering and Science (2017 - Current)  
Chair, Distinguished Speaker Series Committee for NSF National Research  
Traineeship Program on Resilient Infrastructure in Environmental  
Systems Engineering and Science (2017 - Current)  
Member, Faculty Senate Policy Committee (2020 - 2021)

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

Department: Member, Graduate Affairs Committee (2021 - Current)  
Member, Curriculum Committee (2019 - Current)  
Member, Tenure, Promotion, and Reappointment Committee (Statistics  
& Operations Research Division) (2019 - Current)

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)  
Probability/Statistics Hiring Committee:  
    Chair (2019)  
    Member (2020, 2018)  
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)  
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  
*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)

**January 16, 2022**