

Jonathan W. Stallrich

(Previously named Stallings)

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Education

- 2014 **Ph.D. in Statistics**, *Virginia Tech*, Blacksburg, VA
Advisor: Dr. John P. Morgan
Dissertation Title: *General Weighted Optimality of Designed Experiments*
- 2010 **M.S. in Statistics**, *Virginia Tech*, Blacksburg, VA
- 2009 **B.S. in Mathematics**, *University of Mary Washington*, Fredericksburg, VA
Summa Cum Laude
Honors Thesis: *Improved Covariance Eigenvalue Estimates and Line Estimation*

Academic Positions

- 2022– **Associate Professor (Tenured)**, *North Carolina State University*, Raleigh, NC
- 2014–2022 **Assistant Professor (Tenure-Track)**, *North Carolina State University*, Raleigh, NC

Methodology Publications (*=Corresponding Author)

- **Stallrich, J. W.***, Allen-Moyer, K. A., and Jones, B., 2023. *D- and A-optimal screening designs*. *Technometrics* (in press).
- Holter, J. C. and **Stallrich, J. W.***, 2023. Tuning parameter selection for penalized estimation via R^2 . *Computational Statistics & Data Analysis*, 183, 107729.
- Allen-Moyer, K. A. and **Stallrich, J. W.***, 2022. Incorporating minimum variances into weighted optimality criteria. *The American Statistician*. 76(3), 262-269.
- Weese, M. L.*, **Stallrich, J. W.**, Smucker, B. J., and Edwards, D. J., 2021. Strategies for supersaturated screening: Group orthogonal and constrained $Var(s)$ designs. *Technometrics*. 63(4), 443-455.
- Winkel, M. A., **Stallrich, J. W.***, Storlie, C. B., and Reich, B. J., 2021. Sequential optimization in locally important dimensions. *Technometrics*, 63(2), 236-248.
- **Stallrich, J. W.***, Islam, M. N., Staicu, A.-M., Crouch, D. L., Pan, L., and Huang, H. H., 2020. Optimal EMG placement for a robotic prosthesis controller with sequential, adaptive functional estimation (SAFE). *Annals of Applied Statistics*, 14(3), 1164-1181. **Winner of 2021 ASA SPES Award and 1st Place in the 2018 NCSU Graduate School's Research Symposium's poster competition for the Mathematical and Physical Sciences.**
- Jones, B.*, Lekivetz, R., Majumdar, D., Nachtsheim, C., and **Stallrich, J. W.**, 2020. Construction, properties, and analysis of group-orthogonal supersaturated designs. *Technometrics*, 62(3), 403-414.
- Reich, B.*, Pacifici, K., and **Stallings, J. W.**, 2018. Integrating auxiliary data in optimal spatial design for species distribution modeling. *Methods in Ecology and Evolution*, 9(6), 1626-1637.

- Morgan, J. P.* and **Stallings, J. W.**, 2017, Optimal experimental design that targets meaningful information. *WIREs Computational Statistics*, 9(2), e1393.
- **Stallings, J. W.*** and Morgan, J. P., 2015. General weighted optimality of designed experiments. *Biometrika*, 102(4), 925-935.
- Morgan, J. P.* and **Stallings, J. W.**, 2014. On the *A*-criterion of experimental design. *Journal of Statistical Theory and Practice*, 8(3), 418-422.
- **Stallings, J. W.**, Vance, E., Yang, J., Vannier, M. W., Liang, J., Pang, L., Dai, L., Ye, I. and Wang, G.*, 2013. Determining scientific impact using a collaboration index. *Proceedings of the National Academy of Sciences*, 110(24), 9680-9685.

Methodology Preprints (*=Corresponding Author)

- **Stallrich, J. W.*** and McKibben, M., 2023. Optimal designs for two-stage inference. Submitted.
- Sengupta, S.*, Larsen, N. and **Stallrich, J. W.**, 2023. HODOR: Hold-out design for online A/B testing with lurking variables. Submitted.
- **Stallrich, J. W.***, Young, H. K., Weese, M. L., Smucker, B. J., and Edwards, D. J., 2023, Optimal supersaturated designs for lasso sign recovery. Submitted.
- Larsen, N., **Stallrich, J. W.**, Sengupta, S., Deng, A., Kohavi, R., and Stevens, N. T.*, 2022. Statistical challenges in online controlled experiments: A review of A/B testing methodology. In revision.
- Holter, J. C. and **Stallrich, J. W.***, 2022. Penalized estimation and tuning parameter selection for generalized linear models. In revision.

Magazine Articles

- **Stallings, J. W.**, 2014. Type *IV* errors: How collaborations can lead to simpler analyses. *AMSTAT News*, 440, 24-25.

Interdisciplinary Publications (*=Corresponding Author)

- Li, M., Liu, W., Si, J., **Stallrich, J. W.**, Huang, H. H., 2023. Hierarchical optimization for control of robotic knee prostheses toward improved gait symmetry. *IEEE Transactions on Biomedical Engineering*. 70(5), 1634-1642.
- Arulalan, K. S., Huayta, J., **Stallrich, J. W.**, and San-Miguel A.*, 2021. Antagonistic effects of chemical mixtures on the oxidative stress response are silenced by heat stress and reversed under dietary restriction. *Exposome*. 1(1), osab005
- Estes, B. T.*, Enomoto, M., Moutos, F. T., Carson, M. A., Toth, J. M., Eggert, P., **Stallrich, J. W.**, Willard, V. P., Veis, D. J., Little, D., Guilak, F., and Lascelles*, B. D. X., 2021. Biological resurfacing in a canine model of hip osteoarthritis. *Science Advances*, 7(38), eabi5918.
- Gajjar, C. R.*, **Stallrich, J. W.**, Pasquinella, M. A., and King, M. W., 2021. Process-property relationships for melt spun poly(lactic acid) fibers. *ACS Omega*, 6(24), 15920-15928.
- Bergh, J. C.*, Morrison, R. W., **Stallrich, J. W.**, Short, B. D., Cullum, J. P., and Leskey, T. C., 2021. Border habitat effects on captures of *Halyomorpha halys* (Hemiptera: Pentatomidae) in pheromone traps and fruit injury at harvest in apple and peach orchards in the Mid-Atlantic, USA. *Insects*, 12(5), 419.

- Webster, C. E., Marcellin-Litter, D. J.*, Koballa, E. M., **Stallrich, J. W.**, and Harrysson, O. L. A., 2019. Evaluation of the geometric accuracy of computed and micocomputed tomography of the distal radial articular surface in cats. *American Journal of Veterinary Research*, 80(10), 976-984.
- Martin, R. M., **Stallrich, J. W.**, and Bereman, M. S.*, 2019. Mixture designs to investigate adverse effects upon co-exposure to environmental cyanotoxins. *Toxicology*, 421, 74-83.
- Brandt, A., Riddick, W., **Stallrich, J. W.**, Lewek, M., and Huang, H. H.*, 2019. Effects of extended power knee prosthesis stance time via visual feedback on gait symmetry of individuals with unilateral amputation: A preliminary study. *Journal of NeuroEngineering and Rehabilitation*, 16, 122.
- Crouch, D. L.*, Pan, L., Filer, W., **Stallings, J. W.**, and Huang, H. H., 2018. Comparing surface and intramuscular electromyography for real-time control of a musculoskeletal model-based neural-machine interface: A pilot study. *Transactions of Neural Systems and Rehabilitation Engineering*, 26(9), 1735-1744.
- Terrell, J.*, Kofink, A., Middleton, J., Rainear, C., Murphy-Hill, E., Parnin, C., and **Stallings, J. W.**, 2017. Gender differences and biases in open source: pull request acceptance of women versus men. *PeerJ Computer Science*. 3:e111.
- King, J.*, **Stallings, J. W.**, Riaz, M., and Williams, L., 2017. To log, or not to log: using heuristics to identify mandatory log events - a controlled experiment. *Empirical Software Engineering*, 22, 2684-2717.
- Brandt, A., Wen, Y., Liu, M., **Stallings, J. W.**, and Huang, H. H.*, 2017. Interactions between transfemoral amputees and a powered knee prosthesis during load carriage. *Scientific Reports*, 7, 14480.
- McNamara, A., Akash, V., **Stallings, J. W.**, and Staddon, J.*, 2016. Predicting mobile app privacy preferences with psychographics. *Proceedings of the 2016 ACM on Workshop on Privacy in the Electronic Society*, 47-58.
- Riaz, M.*, **Stallings, J. W.**, Singh, M. P., Slankas, J., and Williams, L., 2016. DIGS: A framework for discovering goals for security requirements engineering. *Proceedings of the 10th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement*, 35.
- Hickey, C. C., Hatch, T. A., **Stallings, J. W.**, and Wolf, T. K.*, 2016. Under-trellis cover crop and rootstock alter growth, components of yield, and fruit composition of cabernet sauvignon. *American Journal of Enology and Viticulture*, 67(3), 281-295.
- Brown, B. M., **Stallings, J. W.**, Clay, J. S., and Rhoads, M. L.*, 2016. Periconceptional heat stress of Holstein dams is associated with differences in daughter milk production during their first lactation. *PLoS ONE*, 11(2):e0148234.
- Bergh, J. C.* and **Stallings, J. W.**, 2016. Field evaluations of the contributions of predators and the parasitoid, aphelinus mali, to biological control of woolly apple aphid, eriosoma lanigerum, in Virginia, USA. *BioControl*, 61(2), 155-165.
- Brown, B. M., **Stallings, J. W.**, Clay, J. S., and Rhoads, M. L.*, 2015. Periconceptional heat stress of Holstein dams is associated with differences in daughter milk production and composition during multiple lactations. *PLoS ONE*, 10(10):e0150049.
- Joseph, S. V.*, **Stallings, J. W.**, Leskey, T. C., Krawczyk, G., Polk, D., Butler, B., and Bergh, J. C., 2014. Spatial distribution of brown marmorated stink bug (hemiptera: pentatomidae) injury in apple orchards in mid-Atlantic states. *Journal of Economic Entomology*, 107(5), 1839-1848.

- Trumbo, B. A.*, Nislow, K. H., **Stallings, J. W.**, Hudy, M., Smith, E. P., Kim, D.-Y., Wiggins, B., and Dolloff, C. A., 2014. Ranking site vulnerability to increasing temperatures in southern Appalachian brook trout streams in Virginia: an exposure-sensitivity approach. *Transactions of the American Fisheries Society*, 143(1), 173-187.
- Neal, II, R. E.*, Rossmeisl, Jr, J. H., Robertson, J. L., Arena, C. B., Davis, E. M., Singh, R. N., **Stallings, J. W.**, and Davalos, R. V., 2013. Improved local and systemic anti-tumor efficacy for irreversible electroporation in immunocompetent versus immunodeficient mice. *PLoS ONE*, 8(5):e64559.
- Wang, H., Masters, S., Hong, Y., **Stallings, J. W.**, Falkinham, III, J. O., Edwards, M. A., and Pruden, A.*, 2012. Effect of disinfectant, water age, and pipe material on occurrence and persistence of *legionella*, *mycobacteria*, *pseudomonas aeruginosa*, and two amoebas. *Environmental Science & Technology*, 46(21), 11566-11574.

Current/Completed Funding

- 2022-2027 **Assisting Stroke Survivors with Engineering Technology - ASSET**, *NIDILRR*, \$4.6 million, Co-I
- 2021-2025 **IMAGiNE: Dissecting Neuronal and Systemic Responses to Interacting Environmental Stressors**, *NSF Integrative Organismal Systems*, \$560,000, Co-PI
- 2021-2022 **An Easy-to-use, iNtelligent, Affordable LinEr (ENABLE) System for Socket Fit Assessment**, *NIH*, \$184,625, Co-I
- 2021-2022 **Student Success in Statistical Theory: Targeted Support for First-Year Doctoral Students in Quantitative Research**, *NCSU DELTA*, \$8,000, Co-I
- 2018 **Optimal Placement of Developmental Flight Instrumentation for Large-Scale Flight Experiments**, *NASA*, \$35,416, PI
- 2016-2017 **LAS: Experimental Protocols for Evaluating Transliteration Schemes**, *LAS*, \$2,485, PI
- 2015-2018 **NRI: Novel prosthetic arm control based on a Low-dimensional Internal Musculoskeletal Biomechanical (LIMB) model**, *National Science Foundation*, \$889,387, Co-PI
- 2014-2018 **Growing the Science of Security Through Analytics**, *National Security Agency*, \$4.7 million, Statistics Project Lead

Invited Talks

- “HODOR: Hold-Out Design for Online A/B testing with Lurking Variables.” Fall Technical Conference, Q&P Section, Raleigh, NC, October 2023.
- “Optimal Supersaturated Designs for Lasso Support Recovery” International Conference on Design of Experiments, Memphis, TN, May 2023.
- “Optimal Supersaturated Designs for Lasso Support Recovery” 15th International Conference of the ERCIM WG on Computational and Methodological Statistics, Kings College, London, December 2022.
- “Tuning Parameter Selection via R^2 ” University of Waterloo, Waterloo, ON, Canada, November 2022.
- “ D - and A -optimal Screening Designs” Fall Technical Conference, SPES Invited Session, Park City, UT, October 2022.
- “Tuning Parameter Selection via R^2 ” Fall Technical Conference, Park City, UT, October 2022.

- “Optimal EMG Placement for a Robotic Prosthesis Controller with Sequential, Adaptive Functional Estimation (SAFE).” Fall Technical Conference, October 2021.
- “Strategies for Supersaturated Screening: Group Orthogonal and Constrained Var(s) Designs.” ENBIS Virtual Conference, **Invited Technometrics, QE, JQT Session**, September 2021. Co-author presenter Maria Weese.
- “How Visual Communication Led to a New EMG-Driven Robotic Prosthesis Controller.” JSM, Seattle, WA, August 2021.
- “Optimal Designs for Model Selection Under Penalized Estimation.” QPRC, Tallahassee, FL, July 2021.
- “Optimal EMG Placement for a Robotic Prosthesis Controller with Sequential, Adaptive Functional Estimation (SAFE).” SUNY at Buffalo, Department of Biostatistics, October 2020.
- “Optimal EMG Placement for a Robotic Prosthesis Controller with Sequential, Adaptive Functional Estimation (SAFE).” George Mason University, Department of Statistics, October 2019.
- “Sign-Informative Design and Analysis of Supersaturated Designs.” North Carolina State University, Department of Mathematics, September 2019.
- “Optimal EMG Placement for a Robotic Prosthesis Controller with Sequential, Adaptive Functional Estimation (SAFE).” North Carolina State University, Department of Statistics, September 2019.
- “Functional Variable Selection for a Low-Dimensional Robotic Hand Prosthetic.” SRC, Blacksburg, VA, May 2019.
- “Sign-Informative Design and Analysis of Supersaturated Designs.” ICODOE, Memphis, TN, May 2019.
- “SLS Structural Dynamics Sensor Optimization Study Part II: Academic Perspective.” DATAworks, Springfield, VA, April 2019.
- “Sequential Design and Analysis of Mixtures Based on Gaussian Processes.” AISC, Greensboro, NC, October 2018.
- “Identifying and Modeling Sources of Variation: It’s What Statisticians Do.” Sandia National Laboratories, Albuquerque, NM, May 2018.
- “Identifying and Modeling Sources of Variation: It’s What Statisticians Do.” Virginia Tech, Department of Statistics, November 2017.
- “Designing for What’s Important: A Comparison of Bayesian and General Weighted Optimality Criteria.” INFORMS, Houston, TX, May 2017.
- “Designing for What’s Important: A Comparison of Bayesian and General Weighted Optimality Criteria.” ICSA, Vancouver, Canada, September 2017.
- “Designing for What’s Important: A Comparison of Bayesian and General Weighted Optimality Criteria.” Miami University in Ohio, Department of Statistics, September 2017.
- “What My Experiment Died From: Identifying Validity Threats.” SOSL Summer Seminar, Raleigh, NC, May 2017.
- “Designing Experiments to Maximize Information: A Survey of Classical and Modern Experimental Design.” North Carolina State University, Department of Chemical and Biomolecular Engineering, April 2017.
- “Role of p-values in scientific research.” SOSL Summer Seminar, Raleigh, NC, June 2016.
- “Analysis of Split-Plot Designs with Whole-Plot and Split-Plot Measurements.” ICODOE, Memphis, TN, May 2016.

- “Carryover Designs Including Washout Periods.” DEMA, Sydney, Australia, December 2015.
- “Weighted Optimality Criteria and Design Search Algorithms.” University of Illinois at Chicago, Department of Mathematics, Statistics, and Computer Science, October 2015.
- Discussant for “Developments in Design.” QPRC, Raleigh, NC, June 2015.
- “Garbage In, Garbage Out: A Tutorial on Effective Data Collection.” SOSL Summer Seminar, Raleigh, NC, May 2015.
- “Optimal Designs Under Reduced Baseline Parameterizations.” DAE, Cary, NC, March 2015.
- “From Second-Rate Mathematician to First-Rate Scientist.” University of Mary Washington, Department of Mathematics, November 2014.

Contributed Talks

- “Tuning Parameter Selection via R^2 ” JSM, Toronto, ON, Canada, August 2023.
- “Optimal Designs for Model Selection Under Penalized Estimation.” JSM, Seattle, WA, August 2021.
- “Comparing Initial Designs for Bayesian Optimization.” JSM, Seattle, WA, August 2021. Student presenter: Kasia Dobrzycka.
- “On the Role of Minimum Variances in Weighted Optimal Designs.” JSM, Seattle, WA, August 2021. Co-author presenter: Katherine Allen-Moyer.
- “A New Confidence-Interval-Based Criterion for Screening Designs.” JSM, Seattle, WA, August 2021. Student presenter: Michael McKibben.
- “Optimal Design of Experiment for Validation of Complex Computer Models from Operational Data.” JSM, Seattle, WA, August 2021. Student presenter: Ethan Davis.
- “An R-Squared Approach to Tuning Parameter Selection in Penalized Estimation.” JSM, Seattle, WA, August 2021. Student presenter: Julia Holter.
- “On Functional Linear Regression with Smooth/Sparse Penalties.” JSM, Seattle, WA, August 2021. Student presenter: Rebecca North.
- “HODOR: Hold-Out Design for Network A/B Testing with Lurking Variables.” JSM, Seattle, WA, August 2021. Student presenter: Nicholas Larsen.
- “The A-Criterion Is Better Than the D-Criterion for Screening Designs.” JSM, Philadelphia, PA, August 2020.
- “New Methods for Optimal EMG Placement for a Robotic Prosthesis Controller.” JSM, Philadelphia, PA, August 2020. Student Presenter: Julia Holter.
- “Optimal Sensor Placement for Finite Element Model Validation.” JSM, Philadelphia, PA, August 2020. Student Presenter: Ethan Davis.
- “New Priors for Bayesian Analysis of Screening Designs.” JSM, Philadelphia, PA, August 2020. Student Presenter: Michael McKibben.
- “Stop Treating Supersaturated Designs Like Other Screening Designs.” JSM, Philadelphia, PA, August 2020. Co-author presenter: Maria Weese.
- “On the Robustness of LASSO-type Estimators to Covariance Misspecification.” JSM, Philadelphia, PA, August 2020. Student Presenter: Rebecca North.
- “Functional Variable Selection with Correlated Functional Covariates and Longitudinal Responses.” JSM, Denver, CO, August 2019. Student presenter: Rebecca North.
- “A Practical Framework for Design and Analysis of Experiments with Interference Effects.” JSM, Denver, CO, August 2019. Student presenter: Katherine Allen. **2019 Q&P Student Travel Award.**

- “Sign-Informative Design and Analysis of Supersaturated Designs.” JSM, Denver, CO, August 2019.
- “A Practical Framework for Design and Analysis of Experiments with Interference Effects.” FTC, West Palm Beach, FL, October 2018. Student presenter: Katherine Allen. **2018 FTC Student Travel Grant.**
- “Functional Variable Selection for a Low-Dimensional Robotic Hand Prosthetic.” JSM, Vancouver, Canada, August 2018.
- “What my Experiment Died From: Common Types of Sources of Variation in Designed Experiments.” FTC, Philadelphia, PA, October 2017. Student presenter: Katherine Allen. **2017 FTC Student Travel Grant.**
- “Designing for What’s Important: a Comparison of Bayesian and General Weighted Optimality Criteria.” JSM, Baltimore, MD, August 2017. **Runner-up for SPES Outstanding Presentation Award.**
- “Local Variable Selection in Experimental Designs.” JSM, Baltimore, MD, August 2017. Student presenter: Munir Winkel
- “Analysis of Split-Plot Designs with Whole-Plot and Split-Plot Measurements.” JSM, Chicago, IL, August 2016. **Runner-up for SPES Outstanding Presentation Award.**
- “Carryover Designs Including Washout Periods.” JSM, Seattle, WA, August 2015. **Runner-up for SPES Outstanding Presentation Award.**
- “Optimal Design for a Weighted Set of Estimable Functions.” JSM, Boston, MA, August 2014.

Roundtable Discussion

- “Collaboration Techniques for Identifying and Modeling Sources of Variation.” JSM, Vancouver, BC, Canada, August 2018.

Posters, Non-refereed

- “HODOR: Hold-out Design for Online Randomized Experiments.” DAE Virtual Conference, Student presenter: Nicholas Larsen. **First Place Student Poster Competition**
- “HODOR: Hold-out Design for Online Randomized Experiments.” QPRC, Tallahassee, FL, July 2021. Student presenter: Nicholas Larsen.
- “Lost in Transliteration: Making America a Place Where Everybody Knows Your Name.” LAS Symposium, Raleigh, NC, December 2017. Student presenter: Jared Stegall
- “Parsimonious Modeling for Kinematic Data.” JSM, Baltimore, MD, August 2017. Student presenter: Md Nazmul Islam.
- “NQUEST: Novel Quantitative Experimental Study on Transliteration.” LAS Symposium, Raleigh, NC, December 2016. Student presenter: Jason Day.

Panels

- Invited Panel Discussion. DAE Virtual Conference, October 2021.
- “Understanding and Improving the Client-Consultant Interaction.” Topic-contributed panel. JSM, Montreal, Canada, August 2013.

Research Advising/Mentoring

Advisor (Graduated in bold)

- **Kasia Dobrzycka** (2023) “Methods for Extrapolation Detection and Sequential Design and Analysis”
- **Kade Young** (2023) “Optimal Design and Analysis Approaches for Supersaturated Screening with the Lasso”
- **Nic Larsen** (2023, co-advisor: Dr. Srijan Sengupta) “New Approaches to Online Controlled Experiments”
- **Ethan Davis** (2022) “New Approaches to Constructing and Evaluating Data Sub-samples for Large and Dynamic Data Structures”
- **Michael McKibben** (2022) “R. On the Importance of Variance Estimation for Variable Selection in Screening Experiments”
- **Julia Holter** (2022) “New Approaches to Tuning Parameter Selection in Penalized Estimation”
- **Rebecca North** (2021) “Topics on Functional Variable Selection with Application to EMG Data Analysis”
- **Katherine Allen** (2020) “New Approaches for Crossover and Screening Optimal Design”
- **Munir Winkel** (2018, co-advisor: Dr. Brian Reich) “New Applications of Sequential Experimental Design”
- **Nazmul Islam** (2018, co-advisor: Dr. Ana-Maria Staicu) “Functional Data Analysis with Applications in Animal Science and Biomedical Engineering”

PhD Committee Member

- Peter Norwood (Statistics, ABD)
- Alexander Long (Statistics, ABD)
- Cole Manschot (Statistics, 2023)
- Qun Sui (Statistics, 2023)
- Andrew Hollis (Statistics, 2023)
- Laura Wendelberger (Statistics, 2022)
- Haoyu Wang (Statistics, 2019)
- Isaac Michaud (Statistics, 2019)
- Kazuo Kuchiishi (Civil, Construction, and Environmental Engineering, Expected 2023)
- Linfeng Wu (Industrial and Systems Engineering, Expected 2023)
- Abhijeet Krishnan (Computer Science, 2023)
- Yi-Chun Lai (Civil, Construction, and Environmental Engineering, 2022)
- Douglas Mocelin (Civil, Construction, and Environmental Engineering, Expected 2022)
- Villiappan Muthukaruppan (Electrical Engineering, 2022)
- Yan Jiang (Material Science, 2020)
- Akond Rahman (Computer Science, 2019)
- Andrea Brandt (Biomedical Engineering, 2019)
- Caroline Webster (Industrial Systems Engineer, 2018)
- Christopher Theisen (Computer Science, 2018)
- Maryam Zahabi (Industrial Systems Engineering, 2017)
- Patrick Morrison (Computer Science, 2017)
- Chirag Gajjar (Material Science, 2016)

Masters Committee Member

- Karthik Arulalan (Chemical and Biomolecular Engineering, 2020)
- Eric Ansong (Statistics, Miami University of Ohio, 2019)

Undergraduate

- Allison Brooks, Statistics
- Jason Day, Statistics
- Chris Gottberg, Statistics
- Haishuo Dun, Statistics

Other

- Varun Khemani, Industrial Systems Engineering
- Theresa Mazzoleni, Industrial Systems Engineering
- Jared Stegall, Statistics

Journals Refereed

- Biometrics
- Clinical Trials: Journal of the Society for Clinical Trials
- Computational Statistics and Data Analysis
- International Journal of Aerospace Psychology
- Journal of Agricultural, Biological, and Environmental Statistics
- Journal of the American Statistical Association: Case Studies
- Journal of the American Statistical Association: Theory and Methods
- Journal of Statistical Computing and Simulation
- Journal of Statistical Planning and Inference
- Journal of Statistical Theory and Practice
- Journal of Quality Technology
- Methods in Ecology and Evolution
- Metrika
- Quality Engineering
- Sankhyā: The Indian Journal of Statistics
- Statistica Sinica
- Statistical Methods in Medical Research
- Studia Scientiarum Mathematicarum Hungarica
- Technometrics

Research/Collaboration Experience

- 2011–2013 **Lead Statistical Collaborator**, *Virginia Tech Laboratory for Interdisciplinary Statistical Analysis (LISA)*, Blacksburg, VA
- Collaborated on over 80 projects with Virginia Tech faculty and graduate students from a variety of disciplines and improved their research with statistics
 - Developed statistical methodology, performed analysis, and reported results that has led to multiple co-authored publications
 - Researched and utilized a broad range of statistical techniques including, but not limited to, experimental design, mixed models, zero-inflated models, and Bayesian methodology
 - Held weekly walk-in consulting hours where researchers would ask specific statistics questions
 - Mentored a group of associate collaborators to refine their statistical and collaboration skills

Teaching and Instruction

- 2015 **Six Sigma Master Black Belt: Advanced Design of Experiments.**, *Zeis Textiles Extension Education for Economic Development*, Raleigh, NC.
- 2014-Present **Assistant/Associate Professor**, *North Carolina State University*, Raleigh, NC
- ST790: Advanced Design and Analysis of Experiments
 - ST711: Design of Experiments
 - ST590: Design of Experiments
 - ST531: Design of Experiments (course developed by myself)
 - ST511: Statistical Methods for Researchers I
 - ST445: Introduction to Statistical Computing and Data Management (2021: Thank-A-Teacher)
 - ST431: Introduction to Design of Experiments
 - ST422: Introduction to Mathematical Statistics II
 - ST371: Introduction to Probability and Distribution Theory (2016: Thank-A-Teacher)

Service

- Editorial Board Member for Quality Engineering, 2012-
- ASA SPES Chair-Elect, 2022-2023
- ASA SPES Program Chair, 2022
- NCSU Department of Statistics Advancement Committee, 2021-2022
- ASA SPES Program Chair-Elect 2021
- ASA SPES Student Paper Award Committee, 2021
- Associate Editor of Journal of Agricultural, Biological, and Environmental Statistics, 2019-
- Member of ASA Committee on Applied Statisticians, 2019-
- NCSU Department of Statistics Diversity and Inclusion Committee, 2020-2021
- NCSU Faculty Advisory Committee to Dean of College of Sciences, 2017-, Secretary 2020-2021
- Webmaster for ASQ Fall Technical Conference, 2017-2018
- NCSU Statistics Graduate Admissions Committee, 2017-2018
- NCSU Statistics Qualifying Committee, 2016, 2019

- Chair: NC State Seminar Series, 2015-2016
- Co-Organizer: NC State Seminar Series, 2014-2015

■ Awards

- **ASA Statistics in Physical and Engineering Sciences Award** for excellence in partnerships among statisticians, scientists, and engineers across the many disciplines encompassed by the physical and engineering sciences; 2021
- **NCSU Elva and LeRoy Martin Award** for distinguished service to the College of Science's educational mission; 2018
- **SPES Outstanding Presentation Awards Runner-up** for JSM contributed talk "Designing for What's Important: a Comparison of Bayesian and General Weighted Optimality Criteria"; 2018
- **SPES Outstanding Presentation Awards Runner-up** for JSM contributed talk "Analysis of Split-Plot Designs with Whole-Plot and Split-Plot Measurements"; 2017
- **SPES Outstanding Presentation Awards Runner-up** for JSM contributed talk "Carryover Designs Including Washout Periods"; 2016
- **LISA Collaborator of the Year Award** for excellence in statistical collaboration, voted for by clients (non-statisticians) I collaborated with; 2013
- **John Bartko '62 Prize in Statistics** for excellence in statistical collaboration, communication, and consulting; 2013
- **Rose Costain Award** for outstanding graduate service to VT Statistics Department; 2012

■ Professional Memberships

- American Statistical Association, Member
- American Society for Quality, Associate Member

■ National Honor Societies

- Pi Mu Epsilon
- Phi Beta Kappa
- Mu Sigma Rho
- Sigma Xi