Ana-Maria Staicu

Curriculum Vitae

December 28, 2023

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Education

2007-2009	Brunel Postdoctoral Research Fellow, Department of Mathematics, University of Bristol*, UK Research mentors: Ciprian M. Crainiceanu, Johns Hopkins University; Raymond J. Carroll, Texas A&M University
2002-2007	Ph.D. in **Statistics**, University of Toronto, Canada Thesis title: *On Some Aspects of Likelihood Methods with Applications in Biostatistics* Ph.D Supervisor: Nancy Reid
2001-2002	M.Sc. in **Statistics**, University of Toronto, Canada
1996-2000	B.Sc. in **Mathematics**, University of Bucharest, Romania Thesis title: *Perfect Graphs,* Thesis Supervisor: Dragos Popescu

Employment

2020-	Professor, Department of Statistics, North Carolina State University, USA
2015-2020	Associate Professor, Department of Statistics, North Carolina State University, USA
2009-2015	Assistant Professor, Department of Statistics, North Carolina State University, USA
2007-2009	Research Associate, Department of Mathematics, University of Bristol*, UK *Full time, independent research position in the Statistics Group
2001-2007	Teaching Assistant, Department of Statistics, University of Toronto, CA
2003-2004	Sessional Lecturer, Department of Statistics, University of Toronto, CA
2015-2016	Invited Associate Professor, Department of Mathematics and Computer Science, Babes-Bolyai University, Romania

Research Interests

Functional Data Analysis, Longitudinal Data Analysis, Spatial Statistics, Nonparametric regression, Statistical inference, Likelihood methods.

Honors and Awards

2023	Program Chair-Elect 2024 of the Nonparametric Section of ASA
2021	ASA Statistics in Physical Engineering Sciences (SPES) Best Paper Award for "Optimal EMG placement for a robotic prosthesis controller with sequential adaptive functional estimation" (AoAS, 2020).

2019	Cavell Brownie Mentoring Award, Department of Statistics, NCSU (2018-2019)
2017	JSM: Stat Showcase Session: "Interactive graphics for functional data analyses" (Stat 2016)
2016	University Faculty Scholar Award, NCSU
2016	JSM: Stat Showcase Session: "Longitudinal Functional Data Analysis" (Stat 2015)
2015	NSF CAREER Award
2016	Recipient of the NCSU Thank-a-Teacher recognition program (also in 2012, 2015)
2006	Department of Statistics Doctoral Award, University of Toronto, Canada
2005	NSERC Canada Graduate Scholarships
2003	NSERC Postgraduate Scholarships

Research/Training Grants

NSA (Laboratory for Analytic Sciences, NCSU): *Using Categorical Functional Data Analysis to personalize user workflow and improve technological engagement*, 2024-2025.Role/Amount: Lead-PI (Co-PI William Rand) / $100,000

NCSU Seed Grant: *Modeling Social Media Information Pathways and Mitigating the Effect of Disinformation*, 2023-2024. Role/Amount: Lead-PI (Co-PI William Rand) / $20,000

NSF (MMS, grant number: SES 2020179): *Modern Approaches for the Analysis of Social Media Data*, 2020-2024. Role/Amount: Principal Investigator (Co-PI William Rand) / $350,000

NIH NHLBI (grant number T32 HL079896): *Integrated Biostatistical Training for CVD Research* 2022-2027. Role: Program Director

Grants completed

NSF/NSA: REU Site: Directed Research for Undergraduates in Mathematics and Statistics (DRUMS) 2022. Role: Training Faculty, $125,000

NIH NHLBI (grant number T32 HL079896): *Integrated Biostatistical Training for CVD Research* 2021-2022. Role: Co-Program Director

NSF CAREER (grant number DMS: 1454942): *Next Generation Functional Methods for the Analysis of Emerging Repeated Measurements* 2015-2021. Role/Amount: PI / $400,000

NIH, NCI: (grant number 5P01 CA142538-09) *Statistical methods for Cancer Clinical Trials*, 2018-2021. Role/Amount: Co-Investigator (PI: Marie Davidian, NCSU; Michael Kosorok, UNC; Kouros Owzar, Duke)/

The Danish Council for Independent Research, Natural Sciences: *Quantile regression models for longitudinal functional data*, 2017-2020. Role/Amount: Co-PI (PI: Helle Sorensen, U Copenhagen)/ DKK 2,177,699

NIH, NIMH: (grant number 2R01MH086633-05A1) *Statistical Analysis of Biomedical Imaging Data in Curved Space*, 2014-2020. Role/Amount: Co-Investigator (PI: Hongtu Zhu, MD Anderson Cancer Center)/ $1,912,000

NIH, NINDS: (grant number 1R01NS085211-01) *Statistical methods for large and complex databases of ultra-high-dimensional imaging*, 2013-2019. Role/Amount: Co-Investigator (PI: Taki Shinohara, University of Pennsylvania)/ $1,776,000

NCSU Faculty Research and Professional Development (FRPD) grant, *Multiple Functional Linear Regression Models for Moderate and Big Data*, 2012-2013. Role/Amount: Principal Investigator / $2,000

NSF (grant number: DMS 1007466): *Statistical methods for spatially correlated hierarchical functional data*, 2010-2013. Role/Amount: Principal Investigator / $125,000

NSERC Canada Graduate Scholarships (**CGS D**), 2005-2007
Awarded to the highest-ranked PGS D applicants of Canada
Role/Amount: Principal Investigator / CAN70,000

NSERC Postgraduate Scholarships (**PGS M**), 2003-2005
Role/Amount: Principal Investigator / CAN42,000

Ontario Graduate Scholarship (**OGS**), 2002-2003
Role/Amount: Principal Investigator / CAN15,000

Professional Service

- Program Chair-Elect 2024 of the Nonparametric Section of ASA
- NIH NHLBI T32: Chair (2022-2024); Member (2022)
- NCI P01: member (2022/08, 2022/10)
- NSF ENG&ECCS: Member (2020)
- NIH BMRD: Member (2017)
- NSF DMS: Member (2015, 2016, 2023)
- Duke-NCSU Collaborative Translational Study Section: Member (2022/08)
- Ad-hoc Grant Reviewer: NSF MMS and DMS (2017, 2021, 2022), NSA Mathematical Sciences Grant Program (2012, 2014), National Foundations of Switzerland, National Foundations of Germany

Editorial Activities

- Associate Editor: *JABES* (2019-present)
- Associate Editor: *Stat* (2012-2019) , *JASA T&M* (2015-2017), *Biometrics* (2011-2017)
- Guest Associate Editor: *Statistica Sinica*
- Book reviewer for CRC Press (2012), Chapman & Hall/CRC Press (2014)

Professional Membership

American Statistical Association (ASA); Eastern North American Region (ENAR); American Association for the Advancement of Science (AAAS).

Publications (asterisk indicates PhD student under my supervision)

1. Koner*, S., Park*, S.Y., and **Staicu, A.M.** (2023) PROFIT: Projection-based test in longitudinal functional data. *Journal of Nonparametric Statistics*. To appear.

2. Battagliola*, M.L., Sørensen, H., Tolver, A., and **Staicu, A.M.** (2023) Quantile regression for longitudinal functional data with application to feed intake of lactating sows. *Journal of Agricultural, Biological, and Environmental Statistics*. To appear.

3. Sninsky, J. A., **Staicu, A.M.**, and Barnes E. L. (2023) In acute severe ulcerative colitis patients who receive rescue therapy, prior maintenance therapy and day 3 CRP after rescue therapy are associated with 12-month colectomy risk. *Inflammatory Bowel Diseases*. izad215.

4. Koner, S. and **Staicu, A.M.** (2023) Second-Generation Functional Data. *Annual Review of Statistics and Its Application* **10** 547–572.

5. Long*, A., Reich, B.J., **Staicu, A.M.**, and Meitzen, J. (2023) A Nonparametric Test of Group Distributional Differences for Hierarchically-clustered Functional Data *Biometrics*, https://doi.org/10.1111/biom.13846.

6. Weishampel*, A., **Staicu, A.M.**, and Rand, W. (2023) Classification of social media users with generalized functional data analysis. *Computational Statistics & Data Analysis*, **179** 107647.

7. Birgand, F. Chapman, K., Hazra, A., Gilmore, T., Brown, A., Etheridge, R., and **Staicu, A.M.** (2022) Field performance of the GaugeCam image-based water level measurement system. *PLoS Water 1.7* e0000032.

8. Li*, M., Wang*, K., Maity, A., and **Staicu, A.M.** (2022) Inference in functional linear quantile regression. *Journal of Multivariate Analysis*, 190: 10498

9. Battagliola*, M.L., Sørensen, H., Tolver, A., and **Staicu, A.M.** (2022) A bias-adjusted estimator in quantile regression for clustered data. *Econometrics and Statistics*, **23** 165–186.

10. Roy*, A., Reich, B.J., Guinness, J., Shinohara, R.T., and **Staicu, A.M.** (2021) Spatial shrinkage via the product independent Gaussian process prior. *Journal of Computational and Graphical Statistics*, **30** 1068–1080.

11. Cui, C., Singh*, S., **Staicu, A.M.**, and Reich, B.J. (2021) Bayesian variable selection for high-dimensional ranked microbiome data. *Environmetrics*, **32** e2682.

12. Xu, Z.*, Laber, E.B., **Staicu, A.M.**, and Lascelles, B.D. (2021) Novel approach to modeling high-frequency activity data to assess therapeutic effects of analgesics in chronic pain conditions. *Scientific Reports*, **11** 1-9. Online at www.nature.com/articles/s41598-021-87304-w

13. Stallrich, J., Islam*, M.I., **Staicu, A.M.**, Crouch, D., Pan, L., and Huang, H. (2020). Optimal EMG placement for a robotic prosthesis controller with sequential, adaptive functional estimation (SAFE). *Annals of Applied Statistics*, **14** 1164–1181.

14. **Staicu, A.M.**, Islam, M.*, Dumitru, R.A., and van Heugten, E. (2020) Longitudinal dynamic functional regression. *Journal of the Royal Statistical Society Series C*, **69** 25-46.

    - 2017 ENAR Distinguished Student Paper Award

15. Hazra*, A., Reich, B.J., **Staicu, A.M.** (2020) A multivariate spatial skew-t process for joint modeling of extreme precipitation indexes. *Environmetrics*, **31** e2602.

16. Singh*, S.P., **Staicu, A.M.**, Dunn, R.R., Fierer, N., and Reich, B.J. (2019) A nonparametric spatial test to identify factors that shape a microbiome. *Annals of Applied Statistics*, **13** 2341–2362.

17. Park*, S.Y., Li*,C., Mendoza, S.M., van Heugten, E., and **Staicu, A.M.** (2019) Conditional analysis for mixed covariates, with application to feed intake of lactating sows. *Journal of Probability and Statistics*, Special issue of *Quantile Regression and Beyond in Statistical Analysis of the Data* , **2019** 1-14.

18. Chen*, S.T., Xiao, L., and **Staicu, A.M.** (2019) A Smoothing-based goodness-of-fit test of covariance for functional data. *Biometrics*, **75** 562–571.

19. Geden, M., **Staicu, A.M.**, Feng, J. (2019) Reduced target facilitation and increased distractor suppression during mind wandering. *Experimental psychology*, **65** 345–352.

20. King*, M.C., **Staicu, A.-M.**, Davis, J.M., Reich, B.J., and Eder, B. (2018) A functional data analysis of spatiotemporal trends and variation in fine particulate matter. *Atmospheric Environment*, **184**, 233–243.

21. Kim*, J., Maity., and **Staicu, A.M.** (2018) Additive nonlinear functional concurrent model. *Statistics and its Interface*, **11**, 669–685.

22. Park*, S.Y., Xiao, L., Wilbur, J.D., **Staicu, A.M.**, and Jumbe, N.L. (2018) A joint design for functional data with application to scheduling ultrasound scans. *Computational Statistics and Data Analysis* **122**, 101-114.

    - 2016 ICSA Student Paper Award
    - 2017 ENAR Distinguished Student Paper Award

23. Kang, J., Reich, B.J., and **Staicu, A.M.** (2018) Scalar-on-image regression via the soft-thresholded Gaussian process *Biometrika*, **105**, 165-184.

24. Reich, B.J., Guinness, J., Vandekar, S., Shinohara, R., and **Staicu, A.M.** (2018) Fully-Bayesian spectral methods for imaging data. *Biometrics*, **74**, 645-652.

25. Geden, M., **Staicu, A.M.**, and Feng, J. (2018) The impacts of perceptual load and driving duration on mind wandering in driving. *Journal: Transportation Research Part F: Psychology and Behaviour*, **57** 75-83.

26. Kim*, J., **Staicu, A.M.**, Maity., A., Carroll, R.J., and Ruppert, D. (2018) Additive function-on-function regression. *Journal of Computational and Graphical Statistics*, **27**, 234–244.

27. Tekbudak*, Y.M., Cordoba, M.A., Maity, A., and **Staicu, A.M.** (2018) A comparison of testing methods in scalar-on-function regression. *Advances in Statistical Analysis*, 1–26.

28. Park*., S.Y.,**Staicu, A.M.**, Xiao, L., and Crainiceanu, C.M. (2018) Simple fixed-effects inference for complex functional models. *Biostatistics*, **19** 137-152.

29. Hazra, A*., Reich, B.J., Reich, D.S., Shinohara, R.T., and **Staicu, A.M.** (2017) A spatio-temporal model for longitudinal image-on-image regression *Statistics in Biosciences* 1–25

30. Laber, E.B. and **Staicu, A.M.** (2017) Functional feature construction for individualized treatment regimes. *Journal of the American Statistical Association*, **523**, 1219-1227.

31. Gruen, M.E., Alfaro-Córdoba*, M., Thompson, A.E., Worth, A., **Staicu, A.M.**, and Lascelles, B.D. (2017) The use of functional data analysis to evaluate activity in a spontaneous model of degenerative joint disease associated pain in cats. *PLOS ONE*, **12**, e0169576.

32. Pomann* G.-M., **Staicu, A.M.**, Lobaton, E., Mejia, A., Dewey, B., Reich, D.S., Sweeney, E., and Shinohara R. (2016) A lag functional linear model for prediction of magnetization transfer ratio in multiple sclerosis. *Annals of Applied Statistics*, **10**, 2325–48.

33. Gertheiss, J., Goldsmith, J., and **Staicu, A.M.** (2016) A note on modeling sparse exponential-family functional response curves. *Computational Statistics and Data Analysis* **105**, 46–52.

34. Kong*, D., **Staicu, A.M.** and Maity, A. (2016) Classical testing in functional linear models. *Journal of Nonparametric Statistics* **28**, 813–838.

35. Zhang*, Y., **Staicu, A.M.**, and Maity, A. (2016) Testing for additivity in nonparametric regression. *The Canadian Journal of Statistics* **44**, 445–462.

36. Wrobel, J., Park* S.Y., **Staicu, A.M.**, and Godsmith, J. (2016) Interactive graphics for functional data analyses. *Stat* **5** 108–118.

37. Usset*, J., **Staicu, A.M.**, and Maity, A. (2016) Interaction models for functional regression. *Computational Statistics & Data Analysis* **94**, 317–329.

38. Pomann*, G.-M., **Staicu, A.M.**, and Ghosh, S. (2016) A two sample distribution-free test for functional data with application to a diffusion tensor imaging study of Multiple Sclerosis. *Journal of the Royal Statistical Society Series C*, **65**, 395–414.

39. Park*, S.Y. and **Staicu, A.M.** (2015) Longitudinal functional data analysis. *Stat* **4**, 212-226.

40. Gertheiss, J. , Maier, V., Hessel, E.F., and **Staicu, A.M.** (2015) Marginal functional regression models for analyzing the feeding behavior of pigs. *Journal of Agricultural, Biological, and Environmental Statistics* **20**, 353–370.

41. Usset*, J., Maity, A., **Staicu, A.M.**, and Schwartzman, A. (2015) Glacier terminus estimation from LandSat images. *Journal of Agricultural, Biological, and Environmental Statistics* **20**, 279–298..

42. Pomann*, G.-M., Sweeney, E.M., Reich, D.S., **Staicu$^-$, A.M.**, and Shinohara$^-$, R.T. (2015) Scan stratified case-control sampling for modeling blood-brain barrier integrity in Multiple Sclerosis. *Statistics in Medicine* **34**, 2872–2880. ($^-$Equal author contribution.)

43. Li*, M., **Staicu, A.M.**, and Bondell, H. (2015) Incorporating covariates in skewed functional data models. *Biostatistics* **16**, 413-426.

44. Zhao, N., Bell, D.A., Maity, A., **Staicu, A.M.**, Joubert, B.R. London, S.J., Wu, M.C. (2015) Global analysis of methylation profiles from high resolution CpG data. *Genetic Epidemiology* **39**, 53-64.

45. Ivanescu, A.E., **Staicu, A.M.**, Scheipl, F., and Greven, S. (2015) Penalized function-on-function regression. *Computational Statistics* **30**, 539-568.

46. **Staicu, A.M.**, Lahiri, S.N. and Carroll, R.J. (2015) Significance tests for functional data with complex dependence structure. *Journal of Statistical Planning and Inference* **156**, 1-13.

47. **Staicu, A.M.** and Lu, X. (2014) Analysis of AneuRisk65 Data: Classification and curve registration. *Electronic Journal of Statistics. Special edition* **8**,1914–1919.

48. Scheipl, F., **Staicu, A.M.**, and Greven, S. (2015) Functional additive mixed models. *Journal of Computational and Graphical Statistics* **24**, 477-501.

49. McLean, M., Hooker, G., **Staicu, A.M.**, Scheipl, F., and Ruppert, D. (2014) Functional generalized additive models, *Journal of Computational and Graphical Statistics*, **23**, 249–269.

50. **Staicu, A.M.**, Li, Y., Crainiceanu C.M. and Ruppert, D. (2014) Likelihood ratio tests for dependent data with applications to longitudinal and functional data analysis. *Scandinavian Journal of Statistics*, **41**, 932–949.

51. Serban N., **Staicu, A.M.**, and Carroll, R.J. (2013) Multilevel cross-dependent binary longitudinal data. *Biometrics*, **69**, 903–913.

52. Gertheiss, J., Maity, A., and **Staicu, A.M.** (2013) Variable selection in generalized functional linear model. *Stat*, **2**, 86–101.

53. Crainiceanu, C.M., **Staicu, A.M.**, Ray, S., and Punjabi, N.M. (2012) Bootstrap-based inference on the difference in the means of two correlated functional processes, *Statistics in Medicine*, **31**, 3223–3240.

54. Crainiceanu, C.M. and **Staicu, A.M.** (2012) Comments on "Clustering random curves under spatial interdependence with application to service accessibility" by H. Jiang and N. Serban, *Technometrics*, **54**, 120–122.

55. **Staicu, A.M.**, Crainiceanu, C.M., Reich, D.S., and Ruppert, D. (2012) Modeling functional data with spatially heterogeneous shape characteristics, *Biometrics*, **68**, 331–343.

56. **Staicu, A.M.** (2010) On the equivalence of the prospective and retrospective likelihood methods in case-control studies. *Biometrika* **97**, 990–996.

57. Fraser, A.M., Fraser, D.A.S. and **Staicu, A.M.** (2010) The second order ancillary: A differential view. *Bernoulli* **16**, 1208–1223.

58. **Staicu, A.M.**, Crainiceanu C.M. and Carroll, R.J. (2010) Fast analysis of spatially correlated multilevel functional data. *Biostatistics* **11**, 177–194.

59. **Staicu, A.M.** and Fraser, D.A.S. (2010) The second order ancillary is rotation based. *Journal of Statistical Planning and Inference* **140**, 831–836.

60. Crainiceanu C.M., **Staicu, A.M.** and Di, C. (2009) Generalized multilevel functional regression. *Journal of the American Statistical Association* **104**, 1550–1561.
61. **Staicu, A.M.** (2009) Higher order approximations for interval estimation in binomial settings. *Journal of Statistical Planning and Inference* **139**, 3393–3404.
62. **Staicu, A.M.** and Reid, N. (2008) On probability matching priors. *The Canadian Journal of Statistics* **36**, 613–622.

Book chapter

1. Reich, B. J. and **Staicu, A.M.** (2021) Bayesian spatial variable selection in spatial regression models. In *Bayesian Variable Selection*, by Tadesse, M. and Vannucci, M. Chapman & Hall/CRC.
2. Xu, Z., Laber. E.B., and **Staicu, A.M.** (2019) Hierarchical continuous time hidden Markov model, with application in zero-inflated accelerometer data. In *Statistical Modeling for Biomedical Research: Contemporary Topics and Voices in the Field, Emerging Topics of Statistics and Biostatistics Book Series*, Springer.

Submitted/Under journal review

- Hazra*, A., Reich, B.J., Shaby, B.A., and **Staicu, A.M.** A semiparametric Bayesian model for spatiotemporal extremes. *Under journal review.*
- Weishampel*, A., **Staicu, A.M.**, Rand, W. Classification of social media accounts using generalized multilevel functional analysis. *Under journal review.*
- Li, X, **Staicu, A.M.**, Xu*, Z., and Laber, E.B. Optimal treatment regimes under an outcome-driven treatment change. *Work in progress.*
- Xu*, Z., Laber, E.B., and **Staicu, A.M.** Latent-state models for precision medicine. *Under journal review.*
  - 2020 ASA Health Policy Statistics Section Student Paper Award
- Long*, A., King*, M.C., and **Staicu, A.M.** Spatial functional principal component analysis for spatially-indexed curves observed on closed spatial domain. *Under journal review.*
- Champon*, X., **Staicu, A.M.**, Jayalath, C., and Rand, W. Clustering social media users using categorical valued functional data analysis. *Under journal review.*

Other publications

- **Staicu, A.M.** (2017) Interview with Nancy Reid. *International Statistical Review.*
- Tidermann-Miller*, B.A., Reich, B., and **Staicu, A.M.** (2014) Modeling multivariate mixed-response functional data. Preprint arXiv http://arxiv.org/abs/1601.02461.
- **Staicu, A.M.** (2007) *On some aspects of likelihood methods with applications in Biostatistics.* Ph.D. Dissertation. University of Toronto, Canada: 1-208.
- **Staicu, A.M.** (2005) Applications of higher order inference: case-control studies. *Proceedings, SOSGSSD Conference. http://www.math.yorku.ca/sosgssd*
- **Nicola, A.M.** (2000) *Perfect graphs.* Honours Dissertation. University of Bucharest, Romania: 1-74.

Conference Talks and Seminars

- Department of Biostatistics, UNC. *Cancer screening of histopathology images of prostate tissue with functional data dnalysis.* October 2023.
- *JSM.* Toronto CA. *Classification of social media users using functional data analysis.* August 2023.
- *JSM.* Washington DC. *Significance testing in four-period crossover designs, applied to physical activity data in cats.* August 2022.
- *WNAR. Functional data analysis-based inference in crossover designs with application to cat accelerometer Data.* June 2022.
- *Bayesian, Fiducial, & Frequentist. In honor of Professor Donald A.S. Fraser.* Toronto CA. *Significance testing for functional effect in crossover design.* May 2022.
- Department of Biostatistics, UCLA. *Projection-based testing in longitudinal functional regression.* November 2021.
- Department of Statistics, Penn State University. *Classification of social media users with functional data analysis.* October 2021.
- Department of Biostatistics, University of Utah, School of Medicine. *Significance testing in longitudinal functional regression.* September 2021.
- Department of Statistics, Penn State University. *Projection-based testing in longitudinal functional regression.* August 2021.
- *JSM. Classification of social media users with functional data analysis.* August 2021
- *ISI World Statistics Congress. Significance testing in longitudinal functional regression.* July 2021
- Institute of Mathematics, Statistics, EPFL, Lausanne, Switzerland. *Projection-based testing in longitudinal functional regression.* May 2021.
- Department of Statistics, NCSU. *Projection-based testing in longitudinal functional regression.* March 2021.
- *ENAR. Functional principal component analysis for spatially-indexed functional data in a fixed spatial domain.* March 2020.
- Département de sciences de la décision, HEC Montreal. CA, *Longitudinal functional regression: tests of significance.* January 2020.
- Department of Statistics, USC. *Longitudinal functional regression: tests of significance.* October 2019.
- *ICSA*,Raleigh, NC. *Tests of significance for time-varying covariate effect in longitudinal functional data.* June 2019.
- Department of Statistics and Operations Research, UNC. *Longitudinal dynamic functional regression: modeling and inference.* December 2018.
- *Workshop on Higher-Order Asymptotics and Post-Selection Inference*, St Louis. *Variable selection in functional linear model with varying smooth effects.* September 2018.
- *JSM*, Vancouver, BC. *Longitudinal dynamic functional regression: modeling and inference.* July, 2018.
- Department of Biostatistics, University of Washington, Seattle. *Variable selection in functional linear model with varying smooth effects.* May 2018.
- Department of Mathematics and Statistics, University of Old Dominion, Norfolk. *Variable selection in functional linear model with varying smooth effects.* April 2018.

- *ENAR*, Atlanta, GA. *Spectral methods for image regression.* March, 2018.
- *SAMSI: Astronomy Program Transition Workshop* Raleigh, NC. May 2017.
- *Third Annual Statistical Methods in Imaging conference* Pittsburgh, PA. May 2017.
- *Celebration of the 40th anniversary of the Department of Statistical Science, University of Toronto*, Toronto, ON, Canada. April 2017.
- *SAMSI* Durham NC. Tutorial on functional data analysis. April 2017.
- *ENAR*, Washington, DC. *Additive function-on-function regression.* March 2017.
- *Faculty in Action* Seminar Series. College of Science. NCSU. November 2016.
- *SMART* Structural Imaging. *A spatio-temporal regression model for MTR in relation to MS.* October 2016.
- *JSM*, Chicago, IL. *Longitudinal functional data analysis.* (invited, Highlights from the journal STAT). August 2016.
- *JSM*, Chicago, IL. *Roundtable discussion chair: Computational challenges in neuroimaging data.* August 2016.
- *IBC* Victoria VA Canada. *Scalar-on-image regression via soft-thresholded gaussianpProcesses.* July 2016.
- *IBC* Victoria VA Canada. *Inference for fixed effects in dependent functional data.* July 2016.
- Department of Mathematical Science, University of Copenhagen, Denmark. *New directions in longitudinal functional data analysis.* June 2016.
- Measurement Error and Complex Data Workshop, College Station, TX. *Longitudinal functional data analysis.* April 2016.
- Department of Biostatistics and Bioinformatics, Applied Biostatistics Core Series, Duke University School of Medicine. *Diffusion tensor imaging study of MS - an illustration of a two sample distribution-free test for functional data.* March 2016.
- *ENAR*, Austin, TX. *Modern analysis of longitudinal functional data.* March 2016.
- *CMStatistics 2015*, London, UK. *Functional quantile regression.* December 2015.
- Department of Statistics, Ohio State University, Columbus OH. *Longitudinal functional data analysis.* December 2015.
- SAMSI Undergraduate workshop on computational neuroscience. *A primer on diffusion tensor imaging study of Multiple Sclerosis.* October 2015.
- Biometrics Research department, Merck, New Jersey. *From longitudinal data analysis to longitudinal functional data analysis.* October 2015.
- Department of Biostatistics, Columbia University. *Longitudinal functional data analysis.* October 2015.
- Workshop on Recent Developments in Statistics for Complex Dependent Data, Loccum, Germany. August 2015.
- Workshop on Frontiers in Functional Data Analysis at the Banff International Research Station, CA. July 2015.
- *SSC*, Halifax CA. *Testing for additivity in nonparametric regression.* June 2015.
- Statistical Methods in Imaging, Ann Arbor MI. *Scalar-on-image regression via soft-thresholded gaussian processes.* May 2015.
- Department of Statistical Sciences and Operations Research, Virginia Commonwealth University, VA. April 2015.
- Department of Statistics, Texas A&M University. College Station, TX. October 2014.

- Department of Statistics, University of Munich. Munich, Germany. *Testing hypotheses in functional linear models using classical methods.* September 2014.
- *Statistische Woche 2014*, Hannover, Germany. *Modeling multilevel cross-dependent binary data observed longitudinally.* September 2014.
- *JSM*, Boston, MA. *Likelihood ratio tests for multiple variance components.* August 2014.
- *ENAR*, Baltimore, MD. *Testing hypotheses in functional linear models using classical methods.* March 2014.
- Department of Statistics and Operations Research, The University of North Carolina at Chapel Hill. Chapel Hill, NC, USA. October 2013.
- Department of Statistics, University of South Carolina. Columbia, SC, USA. October 2013.
- *JSM* Montreal, QC, CA. *Functional interaction model.* August 2013.
- SAMSI: Neuroimaging data analysis, NC. *Two way interaction model with functional covariates.* June 2013.
- *SRCOS* Louisville, KY. *Functional interaction model.* June 2013.
- *MBI Workshop:Statistics of Time Warpings and Phase Variation* Columbus, OH. *AneuRisk Vascular Data: joint modeling of amplitude and phase variation.* November 2012.
- *International Conference on Advances in Interdisciplinary Statistics and Combinatorics*, Greensboro, NC. *Penalized function-on-function regression.* October 2012.
- *Statistische Woche 2012: Young Researchers Mini-Symposium*, Vienna Austria. *Pseudo likelihood ratio tests for longitudinal and functional data analysis.* September 2012.
- *JSM*, San Diego, CA. *Pseudo likelihood ratio tests for dependent data with applications in longitudinal and functional data analysis.* July 2012.
- *ENAR*, Washington, DC. *Penalized function-on-function regression.* April 2012.
- Department of Electrical and Computer Engineering, NCSU, Raleigh, USA. February 2012.
- Department of Mathematics and Statistics, University of Montreal, Quebec, CA. November 2011.
- Department of Statistics, University of Georgia. Athens, GA. August 2011.
- Department of Biostatistics, University of North Carolina at Chapel Hill, Chapel Hill, NC. August 2011.
- *Statistical Methods for Very Large Datasets Conference 2011*, Baltimore, MD. *Skewed functional processes and their applications* (poster). June 2011.
- *Statistical Inverse Problems in the Biosciences*, College Station, TX. *Adjusting for covariate information in multilevel functional data.* May 2011.
- *ENAR*, Miami, FL. *Functional data with spatially varying shape parameters.* March 2011.
- Department of Biostatistics, East Carolina University, Greenville, NC. February 2011.
- *OOD: Interface Functional and Longitudinal Data Analysis*, NC. *Functional data with spatially varying shape parameters.* November 2010.
- SAMSI, Research Triangle Park, NC. November 2010.
- *JSM* Vancouver BC. *Functional data with spatially varying shape parameters.* August 2010.
- Department of Biostatistics, MD Anderson Cancer Center, The University of Texas, Houston TX. *Spatially Correlated Multilevel Functional Data.* July 2010.
- *Southern Regional Council on Statistics Summer Research Conference.* Norfolk, VA, *Generalized Multilevel Functional Regression.* June 2010.

- *Workshop on Functional Data Analysis.* Logan, UT. *Spatially correlated multilevel functional data.* May 2010.
- *Data Analysis and Statistical Foundations III.* Toronto, CA. *Spatially correlated multilevel functional data.* April 2010.
- Department of Biostatistics, Columbia University, NYC. *Spatially correlated multilevel functional data.* April 2010.
- Department of Statistical Science, Cornell University, NY. *Spatially correlated multilevel functional data.* April 2010.
- Department of Statistics and Operations Research, University of North Carolina at Chapel Hill University, NC. *Generalized multilevel functional linear models.* March 2010.
- Department of Statistical Science, Duke University, Durham NC. *Generalized multilevel functional linear models.* February 2010.
- *The 57th Session of the International Statistical Institute*, Durban, South Africa. *Generalized multilevel functional regression.* August 2009.
- MRC Biostatistics Unit, University of Cambridge, Cambridge, UK. *Generalized multilevel functional linear models.* June 2009.
- *ENAR*, San Antonio, Texas. *Generalized multilevel functional regression.* March 2009
- Department of Pure Mathematics and Mathematical Statistics, Statistical Laboratory, University of Cambridge, Cambridge, UK. *Spatially correlated multilevel functional models.* January 2009.
- Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD. *Spatially correlated multilevel functional models.* January 2009.
- Department of Mathematical Sciences, Indiana University Purdue University Indianapolis, Indianapolis, IN. *Spatially correlated multilevel functional models.* January 2009.
- Department of Mathematics and Statistics, University of Montreal, Montreal, CA. *Spatially correlated multilevel functional models.* January 2009.
- Department of Statistics, North Carolina State University, Raleigh, NC. *Spatially correlated multilevel functional models.* January 2009.
- Centre for Computational Statistics and Machine Learning, University College London, London, UK. *Spatially correlated multilevel functional models.* December 2008.
- Department of Statistics, University of Warwick, Coventry, UK. *Spatially correlated multilevel functional models.* November 2008.
- Department of Mathematics and Statistics, McGill University, Montreal, CA. *Spatially correlated multilevel functional models.* November 2008.
- *Joint Statistical Meetings*, Denver, CO. *An approach to the analysis of spatially correlated multilevel functional data.* August 2008.
- *Eleventh Meeting of New Researchers in Statistics and Probability*, Boulder, CO. *On the equivalence of the prospective and retrospective likelihood methods in case-control studies.* July 2008.
- *International Biometric Conference*, Dublin, Ireland. *An approach to the analysis of spatially correlated multilevel functional data.* July 2008.
- Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, MD. *Generalized Multilevel Functional Linear Models.* May 2008.
- Statistical Laboratory, University of Cambridge, UK. *Equivalence of prospective and retrospective likelihood methods in case-control studies.* February 2008.

- Statistics Group, University of Bristol, UK. *Multilevel functional analysis with application to colon carcinogenesis*. November 2007.
- *The 6-th Congress of Romanian Mathematicians*, Bucharest, Romania. *Small sample inference for cohort and case-control studies*. July 2007.

Invited Panels: work-life integration & NSF Career award

- NC-ASA Chapter Webinars. *Preparing a successful NSF CAREER proposal*. June 2019.
- NSF Career Workshop, NCSU, NC. *Lessons from NSF CAREER submissions*, May 2019.
- Catalyst program: CAREER Awardee Panel, University of North Carolina-Charlotte, NC. June 2017.
- NSF Career Award Panel, Proposal Development Unit, NCSU, Raleigh NC. *Guest speaker on successful strategies in preparing NSF Career proposal*. March 2016.
- Professional development workshop for the postdocs at the Statistical and Applied Mathematical Sciences Institute (SAMSI), Durham NC. *Informal discussion on what search committees are looking for in faculty applicants*. May 2015.
- Workshop, Department of Statistics. NCSU. *On NSF Career award experience. Grant*. May 2015.
- Women in Statistics Networking Meeting. Department of Statistics, NCSU. *Informal discussion on work-life integration*. October 2012.
- Preparing for faculty careers: workshop for graduate students and postdocs. NCSU. March 2012.

Academic visits (1-2 weeks)

- SAMSI, Program on Astrostatistics, Spring 2017.
- University of Copenhagen, Department of Mathematical Sciences, Denmark. June 2016.
- Johns Hopkins University, Bloomberg School of Public Health, Department of Biostatistics.February 2010; August 2007; May 2008.
- Texas A&M University, Department of Statistics. November 2008; December 2009.

Outreach activities

- Mentored a team of four undergraduates students, under the NSF-funded REU project DRUMS, Summer 2022
- Advised undergraduate student (Yutong Liu) from Zhejiang University, China through the GEARS program, NCSU. Summer 2020
- Advised NCSU undergraduate student (Anisha Gupta) on Honors Program Capstone project*
  *Winner of the outstanding presentation at the 2020 Spring Undergraduate Research & Creativity Symposium. 2019-2020
- K12 outreach: Co-organized one year long program for HS students at NCSU: *Data Scientists in Training. 2019-2020*

- K12 outreach: Collaborated with SMILE (Science and Math Interactive Learning Experiences) camp on exposing middle and high school students to statistics, Raleigh NC. (http://smilecamp.org/) April 2016 - April 2019
- Taught one-week graduate-level course at Babes-Bolyai University, Romania."Short course in Applied Functional Data Analysis". May 2016.
- K12 outreach: Presented about statistics and opportunities of pursuing a career in statistics, at the Career Fair Davis Drive Middle School, Cary NC. March 2019
- K12 outreach: I was interviewed by high-school student regarding the advancement of *female representation in STEM fields*, Summer 2017;
- Provided shadowing opportunities to several high- school students (2017-Now)
- Supervised NCSU undergraduate students on research projects: Ruixuan Song (2016-2017), Nikita Chaudhary, Zuriya Haider (Summer 2016) Divya Lakshminarayanan (Spring 2015)

Consulting Experience

2013-	Faculty Advisor for the Statistical Consulting Seminar, Department of Statistics, NCSU
2003-2004	Consultant, Consulting Program, Department of Statistics, University of Toronto

University/College/Departmental Service

- Functional Data Seminar Series, Dept Statistics, Chair (2013-Now)
- University Faculty Scholars Advisory Committee, Member (2021-2024)
- Student Excellence Award (College of Sciences) Selection Committee, Member (2023)
- College Research Advisory Committee, Member (2021-2023)
- University Outstanding Research Award Selection Committee, Member (2022)
- Departmental Search Committee, Member (2022-2023, 2009-2010, 2014-2015)
- Departmental Awards Committee, Member (2022-2023)
- Basic Exam Committee, Member (2022, 2021, 2012)
- Advancement Committee, Member (2021-2022)
- Beach Trip Committee, Chair (2019)
- Advisory Committee, Member (2018-2021)
- Search Committee (2018-2019), Co-Chair
- Search Committee, Chair (2015-2016)
- Advisory Committee, Member (2015)
- Written Prelim Committee, Member (2014, 2012)
- Departmental Seminar Committee, Member (2013-2014, 2012-2013, 2010-2011)
- Big Data Committee, Member (2012-2016)
- Department of Statistics Awards Committee, Member (2012-2016)
- Statistics Department Head Search Committee, Member (2010-2011)

Society Service

- Program Chair of the Nonparametric Section of ASA (2024)
- ENAR Nominations Committe, Member 2020-2022
- JSM Program Committee: Invited Poster Chair 2021
- Regional Advisory Board, ENAR, Member 01/2019-12/2021
- Organizing Committee of the Junior Researchers ENAR Workshop, Member (2017)
- Best paper award committee for the best Nonparametric Statistics Journal paper award, ASA Section on Nonparametric Statistics, Member 2016
- ASA Section on Nonparametric Statistics, Secretary (2014)
- ASA Section on Nonparametric Statistics, Treasurer-Elect (2013-2014)

- Best poster committee, ENAR, Member 2014
- Best paper award committee, ASA Section on Nonparametric Statistics, Member 2013
- Invited Session ENAR/JSM and Topic-Contributed Session EANR/JSM, Organizer 2010-Now
- Nonparametric and Time Series Reading Group, Department of Mathematics, University of Bristol UK, Coordinator (Winter 2008; Fall 2008-Winter 2009)
- Southern Ontario Statistics Graduate Student Seminar Days, Co-organizer (2007)

Teaching Experience

PhD (Co-)Supervisor

Xiaoxia Champon, Doctoral student (expected, 2024)
Samsul Alam, Doctoral student, Statistics (expected, 2024)
Alvin Sheng, Doctoral student (with B Reich), Statistics (expected, 2024)
Alex Long, Doctoral student, Statistics (expected, 2024)
Jake Koerner, Doctoral student, Statistics (expected, 2025)
Michael Lightfoot, Doctoral student, Statistics (expected, 2027)

PhD (Co-)Supervisor - graduated

Anthony Weishampel, PhD Statistics, 2021
First job: PepsiCo R&D Sr Scientist
Maria Laura Battagliola, PhD Statistics U Copenhagen (with Helle Sørensen), 2021
First job: Postdoc, EPFL Switzerland
Salil Koner, PhD Statistics (with J Williams), 2021
First job: Postdoc, University of Pennsylvania
Zekun Xu (Jack), PhD Statistics (with E Laber), 2020
First job: Amazon, Seattle, WA
Stephanie Chen, PhD Statistics (with L Xiao), 2019
First job: Eli Lilly and Company, Indianapolis, Indiana
Saebitna Oh, PhD Statistics (with A Maity), 2019
First job: Shinhan Bank, Korea
Meredith King, PhD Statistics, 2018
First job: Research Associate: Northrop Grumman
Arnab Hazra, PhD Statistics (with B Reich), Statistics, 2018
First job: Postdoctoral Research Associate: KAUST
Susheela Singh, PhD Statistics (with B Reich), Statistics, 2018
First job: Research Associate: Youtube
Md Islam, PhD Statistics (with J Stallings), 2018
First job: Research Associate: Data Science, Savvysherpa, MN

Arkaprava Roy, PhD Statistics (with S Ghoshal), 2018
First job: Post-doc Duke Statistics
Cai Li, PhD Statistics (with L. Xiao), 2017
First job: Post-doc NCSU Statistics
So Young Park, PhD Statistics, 2016
First job: Research Scientist, NeuroImaging, Eli Lilly and Company, Indianapolis, Indiana
Janet Kim, PhD Statistics, 2016
First job: Associate statistic manager, Astellas Pharma Inc., Northbrook, IL
Gina-Maria Pomann, PhD Statistics, 2015
First job: Senior Biostatistician, Duke Translational Medicine Institute, Durham, NC
Beth Ann Tidemann-Miller, PhD Statistics (with B. Reich), 2014
First job: Statistician, Biogen Idec, Cambridge, MA

PhD Committee Member

Lin Xiao, Department of Statistics
Julia Holter , Department of Statistics
Joonho Gong, Department of Statistics
Naomi Giertych, Department of Statistics
Matthew Austin, Department of Statistics
Kimia Vahdat, Department of Mathematics (graduated 2023)
Praachi Das , Department of Mathematics (graduated 2023)
Conor Artman, Department of Statistics (graduated 2023)
Steven Xu, Department of Statistics (graduated 2022)
Caleb Weaver , Department of Statistics (graduated 2022)
Annie Tang, Department of Statistics (graduated 2022)
Vaidehi Ulhas Dixit, Department of Statistics (graduated 2022)
Zhentao Tong, Doctoral student, Department of Statistics (graduated, 2019)
Dan Chen, Doctoral student, Department of Statistics (graduated, 2019)
Michael Geden, Doctoral student, Department of Psychology (graduated, 2018)
An-Ting Jhuang, Doctoral student, Department of Statistics (graduated, 2018)
Marcela Alfaro Cordoba, Doctoral student, Department of Statistics (graduated, 2017)
Chong Wang, Doctoral student, Department of Statistics (graduated, 2017)
Yu Xie, Doctoral student, College of Textiles (graduate, 2017)
Yingzi Xu, Doctoral student, Department of Statistics (graduated, 2016)
Zhou Li, Doctoral student, Department of Statistics (graduated, 2016)
Christopher C. Krut, Doctoral student, Statistics (graduated, 2016)
Han Na Lee, Doctoral student, Department of Statistics (graduated, 2016)
Santa Mendoza Benavides, Doctoral student, Department of Animal Science (graduated, 2016)
Kehui Wang, Doctoral student, Statistics (graduated, 2015)
Joseph Usset, Doctoral student, Statistics (graduated, 2014)
Ander Wilson, Statistics (graduated, 2014)
Clemontina Alexander, Statistics (graduated, 2014)
Xiaoshan Li, Statistics (graduated, 2014)
Laura Boehm, Statistics (graduated, 2013)
Bo Zhang, Statistics (graduated, 2013)
Matthew Avery, Statistics (graduated, 2012)

MS Committee Member (thesis option)

Varun Mohan, MSc student, Textile (graduated, 2011)

MS Chair/Co-Chair (non-thesis option)

Rui Zhu, Statistics, 2017
Yue Yang, Statistics, 2017
Wanying Ma, Statistics, 2016
Merve Y. Tekbudak, Statistics, 2015
Brian P. Naughton, Statistics, 2015
Brian Gaines, Statistics, 2014
Yang, Yue, Statistics, 2012
Janet Kim, Statistics, 2012
Joshua Katz, Statistics, 2013
John Ihrie, Statistics, 2013
Manhong Choi, Statistics, 2012
Ang Zhou, Statistics, 2012
Runchao Jiang, Statistics, 2012
Amanda Welter, Statistics, 2012
Fan Wu, Statistics, 2012
Kasturi Talapatra, Statistics, 2011
Dehan Kong, Statistics, 2010
Roy Siddharth, Statistics, 2010

Research Projects (not related to PhD thesis)

Sukanya Bhattacharyya, Doctoral student (with B Reich), Statistics (2019-2022)
Rebecca Thiem Doctoral student, Statistics (Spring2018 - Fall 2019)
Moumita Chakraborty, Doctoral student, Statistics (Summer 2015 - Winter 2016)
Marcela Alfaro Cordoba, Doctoral student, Statistics (Spring 2015 - Spring 2017)
Zhen Han, Doctoral student, Statistics (Spring 2015 - Fall 2016)
Kehui Wang, Doctoral student, Statistics (Winter 2013 - Summer 2015)
Meng Li, Doctoral student, Statistics (Fall 2012 - Summer 2015)
Yichi Zhang, Doctoral student, Statistics (Winter 2013 - Spring 2014)
Jennifer Bartsch, Doctoral student, Statistics (Winter 2013)
Jing Zhao, Doctoral student, Statistics (Winter 2013)
Wenjing Lu, Doctoral student, Statistics (Winter 2013)
Meng Li, Doctoral student, Statistics (Spring 2011-Spring 2013)
Dehan Kong, Doctoral student, Statistics (Fall 2011 - Spring 2013)
Kristin Linn, Doctoral student, Statistics (Fall 2011)

Classroom instruction

North Carolina State University

- ST437/537: Applied Multivariate and Longitudinal Data Analysis (undergrad Stat/grad other majors), S2018, S2024.
- ST793: Advanced Statistical Inference (Ph.D. core course), F2023, F2022, F2021, F2020, F2019, S2019.
- ST502: Fundamentals of Statistical Inference II (grad other majors), S2022, S2020, S2019, F2018.
- ST515: Experimental Statistics for Engineers I (grad other majors), F2016.
- ST590: Applied Multivariate and Longitudinal Data Analysis (undergrad Stat/grad other majors), S 2016.
- ST790 (ST810): Applied Functional Data Analysis (Special topic, PhD elective), F2014, F2012.

- ST372: Introduction to Statistical Inference and Regression (3rd year undergraduate level), F2020, F2015, S2014, F2013, F2012.
- ST732: Applied Longitudinal Data Analysis (PhD core elective) S2015, S2014, S2013, S2012.
- ST370: Probability and Statistics for Engineers (3rd year undergraduate level), S2012, F2011, S2011, F2010, S2010, F2009.

University of Bristol

- MATH 35610: Theory of Inference (3rd year undergraduate level), Winter 2008, Winter 2009

University of Toronto

- STA 250F: Statistical Concepts (2nd year undergraduate level), Summer 2004

Short courses

- Department of Mathematics and Computer Science, University Babes Bolyai, Applied functional data analysis (graduate level, 1 week), May 2016

Additional Information

Language skills:	English (fluent), Romanian (native), French (intermediate)
Personal information:	Citizenship: American/Canadian/Romanian
	Career breaks (maternity): May-August 2002, July-August 2005