# Zhengwu Zhang (last update: 02/05/2026)

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| **Contact Information** | 356 Hanes Hall<br>Statistics and Operations Research<br>Chapel Hill, NC 27516 | *Phone:* 919-962-7998<br>*E-mail:* zhengwu_zhang@unc.edu<br>*website:* https://zhengwu.github.io/ |

**Education**

**Florida State University**, Tallahassee, FL USA

Ph.D. in Statistics, May 2015. Advisor: Prof. Anuj Srivastava
Thesis: Geometric Approaches for Analysis of Images, Densities and Trajectories on Manifolds

**Sun Yat-Sen University**, Guangzhou, China

M.S. in Pattern Recognition and Intelligent Systems, June 2010

**South China University of Technology**, Guangzhou, China

B.E. in Electronic Engineering (Talented Student Program), June 2008

**Research Interests**

Machine Learning, Deep Learning, Brain Connectomics, Imaging Genetics, Medical Imaging, Shape and Functional Data Analysis, Computational Neuroscience, Bayesian Statistics

**Professional Experience**

**University of North Carolina at Chapel Hill**, Chapel Hill, NC

*Associate Professor (with tenure) in*  ........  01/2025 - Present
- Department of Statistics and Operations Research (primary)
- Department of Biostatistics (adjunct)
- Department of Psychology and Neuroscience (adjunct)
- Computational Medicine (member)
- Biomedical Research Imaging Center (BRIC) (member)

*Assistant Professor in*  ........  01/2021 - 12/2024
- Department of Statistics and Operations Research

**Stanford University**, Stanford, California

*Visiting Scholar*  ........  01/2026 - 04/2026

**University of Rochester**, Rochester, NY

*Adjunct Professor*  ........  12/2021 - 1/2025

*Assistant Professor (tenure-track) in*  ........  10/2017 - 12/2020
- Department of Biostatistics and Computational Biology (primary)
- Department of Neuroscience (secondary)
- Goergen Institute for Data Science (affiliated)

**Duke University**, Durham, NC

*Postdoctoral Fellow in the Department of Statistical Science*  ........  07/2016 - 09/2017

**Statistical and Applied Mathematical Sciences Institute (SAMSI)**, NC

*Postdoctoral Fellow*  ........  08/2015 - 07/2016
- Affiliated with the program of Challenges in Computational Neuroscience (CCNS)

**Florida State University (FSU)**, Tallahassee, FL

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| *Graduate Teaching/Research Assistant* | 08/2010 - 05/2015 |
| *Graduate Instructor*<br>Fundamental Business Statistics (STA2023) | 06/2014 - 08/2014 |
| **Chinese Academy of Science**, Shenzhen, China | |
| *Research Intern* | 12/2009 - 07/2010 |

**Honors and Awards**

- UNC Chapel Hill Junior Faculty Development Award, 2022
- Oak Ridge Associated Universities Ralph E. Powe Junior Faculty Enhancement Award, 2022
- Discussion paper in *Journal of the American Statistical Association (Applications & Case Studies)*, 2022
- Supervised paper won the runner-up award in the paper competition sponsored by the ASA Statistical Methods in Imaging Section. Paper title "Optimized Diffusion Imaging for Brain Structural Connectome Analysis", 2022
- R.A. Bradley Award, for *best Ph.D dissertation* in the Department of Statistics, Florida State University, 2015
- Graduate Student Research and Creativity Award. *Only two awardees selected from STEM areas per year*, Florida State University, 2015
- CVPR 2015 Doctoral Consortium Travel Award, Boston, 2015
- Yongyuan and Anna Li Award, for *best graduate student presentation* in the Department of Statistics, Florida State University, 2015
- Brumback Award *for best student presentation* at Florida Chapter ASA Meeting, 2012
- Best First Year Student in Theoretical Statistics, Florida State University, 2011
- Talented Student Program, South China University of Technology (Top 5%), 2005

**Publications**

Ph.D. student and Post-doc coauthors are underlined

**Peer-Reviewed Journals**

**2026**

59. W. Consagra, Z. Gu, **Z. Zhang**. (2026). NeuroPMD: Neural Fields for Density Estimation on Product Manifolds. *Journal of Computational and Graphical Statistics*, 1–23.

**2025**

58. M. Wu, S. Jing, P.-T. Yap, **Z. Zhang**, M. Liu. (2025). Unpaired Volumetric Harmonization of Brain MRI with Conditional Latent Diffusion. *Medical Image Analysis*, 103849.
57. R. Yuan, M. Cole, J. Gewandter, J. Markman, **Z. Zhang**, P. Geha. (2025). Clinical Phenotype Matters: Structural and Functional Thalamic Changes in Neuropathic Low-Back Pain. *PAIN*.
56. **Z. Zhang**, A. Venkataraman, M. Cole, T. Ye, D. Qiu, F. V. Lin, B. B. Risk. (2025). The Impact of Multiband and In-Plane Acceleration on White Matter Microstructure Analysis. *Human Brain Mapping*, 46(14):e70353.
55. L. Wang, D. Li, **Z. Zhang**. (2025). Riemannian Diffusion Kernel-Smoothed Continuous Structural Connectivity on Cortical Surface. *Imaging Neuroscience*, 3:IMAG.a.912.
54. A. Ackerman, **Z. Zhang**, J. Hannig, J. Prothero, J. S. Marron. (2025). Multifaceted Neuroimaging Data Integration via Analysis of Subspaces. *Psychometrika*.
53. R. Liu, **Z. Zhang**, H. Won, J. S. Marron. (2025). Significance in Scale Space for Hi-C Data. *Bioinformatics*, 41(3):btaf026.
52. R. Norel, J. Gewandter, **Z. Zhang**, A. Tahsin, C. G. Abdallah, J. Markman, et al. (2025). Turning Patients' Open-Ended Narratives of Chronic Pain Into Quantitative Measures: A Natural Language Processing Study. *JMIR Human Factors*, 12(1):e80269.

**2024**

51. M. Mišić, N. Lee, F. Zidda, K. Sohn, K. Usai, M. Löffler, M. N. Uddin, A. Farooqi, G. Schifitto, **Z. Zhang**, F. Nees, P. Geha, H. Flor. (2024). *eLife*, 13:RP96312.
50. A. Turnbull, F. Lin, **Z. Zhang**. (2024). Issues of Parcellation in the Calculation of Structure-Function Coupling. *Nature Reviews Neuroscience*, 26, 60.

49. W. Dai, **Z. Zhang**, P. Song, H. Zhang, Y. Zhao. (2024). Heritability and Genetic Contribution Analysis of Structural-Functional Coupling in Human Brain. *Imaging Neuroscience.* 2: 1–19.

48. Y. Zhang, M. Liu, **Z. Zhang**, D. Dunson. (2024). Motion-Invariant Variational Auto-Encoding of Brain Structural Connectomes. *Imaging Neuroscience*, 2, 1-27.
**This paper won the 2023 student paper competition in Statistical Methods in Imaging (SMI) Conference**.

47. A. Roy, Z. Lan, **Z. Zhang**. (2024). Nonparametric Modeling of Diffusion MRI Signal in Q-Space. Data Science in Science.

46. A. Allen, **Z. Zhang**, A. Nobel. (2024). CoCoNest: A Continuous Structural Connectivity-based Nested Parcellation of the Human Cerebral Cortex. *Network Neuroscience*, just accepted

45. W. Consagra, M. Cole, X. Qiu, **Z. Zhang**. (2024). Continuous and Atlas-free Analysis of Brain Structural Connectivity. *Annals of Applied Statistics*, 18(3), 1815-1839.

**2023**

44. L. L. Duan, Z. Yuwen, G. Michailidis, **Z. Zhang**. (2023) Low Tree-Rank Bayesian Vector Autoregression Models. *Journal of Machine Learning Research*, 24(286), 1-35.

43. D. Li, P. Nguyen, **Z. Zhang**, D. Dunson. (2023). Tree Representations of Brain Structural Connectivity via Persistent Homology. *Frontiers in Neuroscience, Brain Imaging Methods*, 17, 1200373.

42. Y. Zhao, C. Chang, J. Zhang, **Z. Zhang**. (2023). Genetic Underpinnings of Brain Structural Connectome for Young Adults. *Journal of the American Statistical Association*, 118(543),1473-1487.

41. **Z. Zhang**, Y. Wu, D. Xiong, J. G. Ibrahim, A. Srivastava, H. Zhu. (2023). LESA: Longitudinal Elastic Shape Analysis of Brain Subcortical Structures. *Journal of the American Statistical Association*, 118(541), 3-17
**This paper is accepted as a discussion paper\* in JASA.**
*Very few papers in JASA are selected as discussion papers each year.

**2022**

40. Y. Li, G. Mateos, **Z. Zhang**. (2022). Learning to Model the Relationship Between Brain Structural and Functional Connectomes. *IEEE Transactions on Signal and Information Processing over Network*, 8, 830-843.

39. P. Dey, **Z. Zhang**, D. Dunson. (2022). Outlier Detection for Multi-Network Data. *Bioinformatics*, 38(16), 4011–4018

38. S. Acharyya, **Z. Zhang**, A. Bhattacharya, D. Pati. (2022). Bayesian Hierarchical Modeling on Covariance Valued Data. *STAT*, e534.

37. R. J. Murden, **Z. Zhang**, Y. Guo, B. Risk. (2022). Interpretive JIVE: Connections with CCA and an Application to Brain Connectivity. *Frontiers in Neuroscience*, 16, 969510

36. **Z. Zhang**, B. Saparbayeva. (2022). Amplitude Mean of Functional Data on $\mathbb{S}^2$ and its Accurate Computation. *Journal of Mathematical Imaging and Vision*, 64(9), 1010-1028

35. Q. Chen, A. Turnbull, M. Cole, **Z. Zhang**, F. V. Lin. (2022). Enhancing Cortical Network-level Participation Coefficient as a Potential Mechanism for Transfer in Cognitive Training in aMCI. *NeuroImage*, 254, 119124

34. W. Consagra, A. Venkataramana, **Z. Zhang**. (2022). Optimized Diffusion Imaging for Brain Structural Connectome Analysis. *IEEE Transactions on Medical Imaging*, 41(8), 2118-2129
**This paper won the 2022 student paper competition (runner-up award)** sponsored by the ASA Statistical Methods in Imaging Section of the American Statistical Association.

**2021**

33. **Z. Zhang**, J Gewandter, P. Geha. (2021). Brain Imaging Biomarkers for Chronic Pain. *Frontiers in Neurology*, 12.

32. **Z. Zhang**, X. Wang, L. Kong, H. Zhu. (2021). High-Dimensional Spatial Quantile Function-on-Scalar Regression. *Journal of the American Statistical Association*, 117(539),1563-1578

31. M. Cole, K. Murray, E. St-Onge, B. Risk, J. Zhong, G. Schifitto, M. Descoteaux, **Z. Zhang**. (2021). Surface-Based Connectivity Integration: An Atlas-Free Approach to Jointly Study Functional and Structural Connectivity. *Human Brain Mapping*, 42, 3481– 3499

30. L. Wang, F. Lin, M. Cole, and **Z. Zhang**. (2021). Learning Clique Subgraphs in Structural Brain Network Classification with Application to Crystallized Cognition. *NeuroImage*, 225, 117493

29. L. Wang, **Z. Zhang**. (2021) Classification of Longitudinal Brain Networks with an Application to Understanding Superior Aging. *STAT*, 10(1), e402

28. M. Liu, **Z. Zhang**, D. Dunson. (2021) Auto-encoding Graph-valued Data with Applications to Brain Connectomes, *Neuroimage*, 245, 118750

27. G. Papadogeorgou, **Z. Zhang**, D. Dunson. (2021) Soft Tensor Regression. *Journal of Machine Learning Research*, 22, 1-53

26. F. Lin, K. Heffner, R. Gevirtz, **Z. Zhang**, D. Tadin, A. Porsteinsson. (2021) Targeting Autonomic Flexibility to Enhance Cognitive Training Outcomes in Older Adults with Mild Cognitive Impairment: Study Protocol for a Randomized Controlled Trial. *Trials*, 22(1), 1-15

25. Q. Chen, T. Baran, A. Turnbull, **Z. Zhang**, G. Rebok, F. Lin. (2021) Increased Segregation of Structural Brain Networks Underpins Enhanced Broad Cognitive Abilities of Cognitive Training. *Human Brain Mapping*, 42, 3202-3215

24. B. Risk, R. Murden, J. Wu, M. Nebel, A. Venkataraman, **Z. Zhang**, D. Qiu. (2021) Which Multiband Factor Should You Choose for Your Resting-State fMRI Study? *NeuroImage*, 234, 117965

23. Y. Zhuang, **Z. Zhang**, M. Tivarus, X. Qiu, J. Zhong, G. Schifitto. (2021). Whole-brain Computational Modeling Reveals Disruption of Microscale Brain Dynamics in HIV Infected Individuals. *Human Brain Mapping*, 42(1), 95-109

**2020**

22. X. Wang, G. Zhu, J. Rhen, J. Pang, **Z. Zhang**. (2020). Vessel Tech: A High-accuracy Pipeline for Comprehensive Mouse Retinal Vasculature Characterization. *Angiogenesis*, 24(1), 7-11

21. X. Ding, D. Yu, **Z. Zhang**, D. Kong. (2020). Multivariate Functional Responses Low-rank Regression with an Application to Brain Imaging Data. *The Canadian Journal of Statistics*, 49.1, 150-181

20. Q. Chen, H. Yang, B. Rooks, M. Anthony, **Z. Zhang**, D. Tadin, K. L. Heffner, and F. V. Lin. (2020). Autonomic Flexibility Reflects Learning and Associated Neuroplasticity in Old Age. *Human Brain Mapping*, 41(13), 3608-3619

19. Q. Chen, T. Baran, B. Rooks, M. K. O'Banion, M. Mapstone, **Z. Zhang**, F. Lin, and Alzheimer's Disease Neuroimaging Initiative. (2020). Cognitively Supernormal Older Adults Maintain a Unique Structural Connectome that is Resistant to Alzheimer's Pathology. *NeuroImage: Clinical*, 28, 102413.

18. B. Rooks, M. Anthony, Q. Chen, Y. Lin, T. Baran, **Z Zhang**, P. A. Lichtenberg, F. Lin. (2020). A Generic Brain Connectome Map Linked to Different Types of Everyday Decision-making in Old Age. *Brain Structure and Function*, 225(4), 1389-1400

17. F. Lin, Y. Tao, Q. Chen, M. Anthony, **Z. Zhang**, D. Tadin, K.L. Heffner. (2020) Processing Speed and Attention Training Modifies Autonomic Flexibility: A Mechanistic Intervention Study. *Neuroimage*, 213, 116730

**2019**

16. A. Anderson, P. Ren, T. M. Baran, **Z. Zhang**, F. Lin. (2019). Insula and Putamen Centered Functional Connectivity Networks Reflect Healthy Agers' Subjective Experience of Cognitive Fatigue in Multiple Tasks. *Cortex*, 119, 428-440

15. T. Baran, **Z. Zhang**, A. Anderson, K. McDermott, F. Lin. (2019). Brain Structural Connectomes Indicate Shared Neural Circuitry Involved in Subjective Experience of Cognitive and Physical Fatigue in Oder Adults. *Brain Imaging and Behavior*, 14(6), 2488-2499

14. M. Dai, **Z. Zhang**, A. Srivastava. (2019). Analyzing Dynamical Brain Functional Connectivity As Trajectories on Space of Covariance Matrices. *IEEE Transactions on Medical Imaging*, 39(3), 611-620

13. M. Dai, **Z. Zhang**, A. Srivastava. (2019). Discovering Common Change-Point Patterns in Functional Connectivity Across Population. *Medical Imaging Analysis*, 58, 101532

12. **Z. Zhang**, G. Allen, H. Zhu, D. Dunson. (2019). Tensor Network Factorizations: Relationships Between Brain Structural Connectomes and Traits. *NeuroImage*, 197, 330-343

11. L. Wang, **Z. Zhang**, D. Dunson. (2019). Symmetric Bilinear Regression for Signal Subgraph Estimation. *IEEE Transactions on Signal Processing*, 67(7), 1929-1940

10. L. Wang, **Z. Zhang**, D. Dunson. (2019). Common and Individual Structure of Brain Networks. *Annals of Applied Statistics*, 13.1, 85-112

9. **Z. Zhang**, E. Klassen, A. Srivastava. (2019). Robust Comparison of Kernel Densities on Spherical Domains. *Sankhya A*, 81(1),144-171

8. **Z. Zhang**, M. Descoteaux, David Dunson. (2019). Nonparametric Bayes Models of Fiber Curves Connecting Brain Regions. *Journal of the American Statistical Association*, 114(528), 1505-1517

**2018**

7. P. Ren, B. Chapman, **Z. Zhang**, G. Schifitto, F. Lin. (2018). Functional and Structural Connectivity of the Amygdala Underpins Locus of Control in Mild Cognitive Impairment. *NeuroImage: Clinical*, 20, 297-304

6. **Z. Zhang**, J. Su, H. Le, E. Klassen, A. Srivastava. (2018). Rate-Invariant Analysis of Covariance Trajectories. *Journal of Mathematical Imaging and Vision*, 60, 1306-1323

5. **Z. Zhang**, M. Descoteaux, J. Zhang, D. Dunson, A. Srivastava, H. Zhu. (2018). Mapping Population-based Structural Connectome. *NeuroImage*, 172, 130-145

4. **Z. Zhang**, E. Klassen, A. Srivastava. (2018). Phase-Amplitude Separation and Modeling of Spherical Trajectories. *Journal of Computational and Graphical Statistics*, 27(1), 85-97

**2017 and earlier**

3. X. Dong, **Z. Zhang**, A. Srivastava. (2017). Bayesian Tractography Using Geometric Shape Priors. *Frontiers in Neuroscience*, 11, 483

2. **Z. Zhang**, D. Pati, A. Srivastava. (2015). Bayesian Clustering of Shapes of Curves. *Journal of Statistical Planning and Inference*, 166, 171-186

1. **Z. Zhang**, E. Klassen, A. Srivastava. (2013). Gaussian Blurring-Invariant Comparison of Signals and Images. *IEEE Transactions on Image Processing*, 22(8), 3145-3157

### Peer-Reviewed Conference Proceedings with Low Acceptance Rates

7. W. Consagra, M. Cole, **Z. Zhang**. Analyzing Brain Structural Connectivity as Continuous Random Functions. *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2022

6. L. Yang, R. Shafipour, G. Mateos, **Z. Zhang**. Mapping brain structural connectivities to functional networks via graph encoder-decoder with interpretable latent embeddings. *IEEE Global Conference on Signal and Information Processing (GlobalSIP)*, 2019

5. H. Ren, X. Wang, S. Wang, **Z. Zhang**. Predict Fluid Intelligence of Adolescent Using Ensemble Learning. *MICCAI Workshop*, 2019

4. M. Dai, **Z. Zhang**, A.Srivastava. Discovering Change-Point Patterns in Dynamic Functional Brain Connectivity of a Population. *Information Processing in Medical Imaging (IPMI)*, 2017

3. M. Dai, **Z. Zhang**, A. Srivastava. Testing Stationarity of Brain Functional Connectivity Using Change-Point Detection in fMRI Data. (Oral Presentation, one of four selected papers), *The IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR), DiffCVML*, 2016

2. **Z. Zhang**, E. Klassen, A. Srivastava, P.K. Turaga, R. Chellappa. Blurring-Invariant Riemannian Metrics for Comparing Signals and Images, *International Conference on Computer Vision (ICCV)*, Barcelona, Spain, 2011

1. C. Xu, **Z. Zhang**, J. Liu, X. Tang. 3D Object Search Through Semantic Component. *ACM Multimedia*, 2010

### Peer-Reviewed Abstracts (Selected)

2. A. Venkataraman, B. Risk, D. Qiu, J. Zhong and **Z. Zhang**. Multi-band in Diffusion MRI: Can we go too fast? *International Society for Magnetic Resonance in Medicine (ISMRM)*, 2021

1. A. Venkataraman, B. Risk, D. Qiu, J. Zhong F. Lin, and **Z. Zhang**. Quantitative Evaluation of Multi-band Diffusion MRI Data. *ISMRM*, 2021

### Book Chapters

4. S. Joshi, J. Su, **Z. Zhang**, B. Amor. Elastic Shape Analysis of Functions, Curves and Trajectories. *Riemannian Computing in Computer Vision*, Springer, Cham, 2016. 211-231

3. A. Duncan, **Z. Zhang**, A. Srivastava. An Elastic Riemannian Framework for Shape Analysis of Curves and Tree-Like Structures. *Algorithmic Advances in Riemannian Geometry and Applications*, Springer, Cham, 2016. 187-205

2. **Z. Zhang**, A. Srivastava, Q. Xie. Elastic Registration and Shape Analysis of Functional Objects. *Geometry Driven Statistics* , Chapter 11, 2015

1. **Z. Zhang**, D. Pati, A. Srivastava. Bayesian Shape Clustering. *Nonparametric Bayesian Inference in Biostatistics*, pp 57-75, 2015

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| **Teaching** | **University of North Carolina at Chapel Hill** |

- Lecturer for STOR 765 - Statistical and Data Science Consulting
  - Enrollment: 7          08/2024 - 12/2024
- Lecturer for STOR 674 - Statistical and Computational Tools for Reproducible Data Science
  - Enrollment: 8          08/2024 - 12/2024
  - Enrollment: 11          08/2025 - 12/2025
- Organizer and Lecturer for EPIC Summer Camp
  - Enrollment: 25          05/2024
- Lecturer for STOR 701 - *Introduction to Brain Network Data Analysis*
  - Enrollment: 21          01/2024 - 05/2024
- Lecturer for STOR 565 - *Machine Learning*

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| • Enrollment: 84 | 01/2024 - 05/2024 |
| • Enrollment: 67 | 01/2023 - 05/2023 |
| • Enrollment: 64 | 01/2022 - 05/2022 |

- Lecturer for STOR 320/520 - *Introduction to Data Science*

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|---|---|
| • STOR 320 enrollment: 59 | 08/2022 - 12/2022 |
| • STOR 520 enrollment: 19 | 08/2022 - 12/2022 |
| • STOR 520 enrollment: 18 | 08/2021 - 12/2021 |
| • STOR 320 enrollment: 60 | 08/2021 - 12/2021 |

- Lecturer for STOR 893 - *Statistical Computation*

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|---|---|
| • Enrollment: 18 | 01/2021 - 05/2021 |

**University of Rochester**
- Lecturer for BST 430 - *Introduction to Statistical Computing*

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|---|---|
| • Enrollment: 10 | 08/2018 - 12/2018 |
| • Enrollment: 6 | 08/2019 - 12/2019 |
| • Enrollment: 9 | 08/2020 - 12/2020 |

**Florida State University**
- Lecturer for STA 2023 - *Fundamental Business Statistics*      08/2014 - 12/2014

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**Advising**

**Current Students and Postdocs**

1. Yang Xiang, Ph.D. in Statistics (joint with Prof. Andrew Nobel at UNC Chapel Hill)
   Thesis title: TBD
2. Gabriel Sargent, Ph.D. in Statistics (joint with Prof. Yufeng Liu at UNC Chapel Hill)
   Thesis title: TBD
3. Yu Chen, Master's student at UNC Chapel Hill
   Thesis title: TBD

**Former Students and Postdocs**

11. Adrian Allen. Ph.D. in Statistics (joint with Prof. Andrew Nobel at UNC Chapel Hill)
    Thesis title: Exploratory and Comparative Statistical Tools for Connectome Research
10. Andrew Ackerman. Ph.D. in Statistics (joint with Profs. J. S. Marron and Jan Hannig at UNC Chapel Hill)
    Thesis title: Multi-faceted Brain Imaging Data Integration via Analysis of Subspaces
9. Yifei Zhang. Master's student at UNC Chapel Hill.
   Thesis title: Connectome Data Integration
8. Martin Cole (2023), Ph.D. in Statistics (joint with Prof. Xing Qiu at University of Rochester)
   Thesis title: Scratching the Surface: Surface-based cortical registration and analysis of connectivity functions.
7. Kyungjin Sohn (2023), master's student in Statistics (UNC Chapel Hill).
   Thesis title: "Brain Network Analysis"
6. Jimin Choi (2022), master's student in Statistics (UNC Chapel Hill).
   Thesis title: "Human Trait Prediction Using Brain Connectome Data"
5. Dr. Bayan Saparbayeva (2019-2021), postdoc (joint with Prof. Giovanni Schifitto)
4. Dr. Brian Rook (2018-2020), postdoc (joint with Prof. Feng Vankee Lin)
3. Xuelin Wang (2020), master's student in Biostatistics (University of Rochester)
2. Huijing Ren (2020), master's student in Biostatistics (University of Rochester)
1. Sheng Wang (2019), master's student in Biostatistics (University of Rochester)

**Member, Ph.D. Examination Committee**

19. Junjie Zhao, Computer Science, 2025 (UNC Chapel Hill)
18. Andrew Ackerman, Statistics, 2025 (UNC Chapel Hill)
17. Adrian Allen, Statistics, 2025 (UNC Chapel Hill)
16. Emma Mitchell, Statistics, 2025 (UNC Chapel Hill)
15. Michael Nisenzon, Statistics, 2025 (UNC Chapel Hill)
14. Qiuyi Wu, Statistics, 2024 (University of Rochester)

13. Rui Liu, Statistics, 2024 (UNC Chapel Hill)
12. Jie Chen, Biostatistics, 2024 (UNC Chapel Hill)
11. Taylor Petty, Statistics, 2023 (UNC Chapel Hill)
10. Siqi Xiang, Statistics, 2023 (UNC Chapel Hill)
9. Martin Cole, Statistics, 2023 (University of Rochester)
8. Qiuyi Wu, Statistics, 2023 (University of Rochester)
7. Hui Shen, Statistics, 2023 (UNC Chapel Hill)
6. Dhruv Patel, Statistics, 2023 (UNC Chapel Hill)
5. Yang Li, Electronics and Communication Engineering, 2022 (University of Rochester)
4. William Consagra, Statistics, 2022 (University of Rochester)
3. Haodong Wang, Statistics, 2022 (UNC Chapel Hill)
2. Arun Venkataraman, Physics, 2021 (University of Rochester)
1. Jiatong Sui, Statistics, 2021 (University of Rochester)

**Grants**

**Ongoing**

5. NIH/NIA R21/R33, 2021-2026: "Develop an ANS-based Personalized Cognitive Training for Mild Cognitive Impairment". Role: MPI (with MPIs Drs. Feng Lin from Stanford and Cristiano Tapparello from the University of Rochester). Total amount (include indirect cost): $2,280,148.
4. NIH R25, 2023-2026: "Promoting Collaborative Research on Human Connectome Analysis for Substance Use Disorders". Role: MPI (with MPIs Guorong Wu and Minjeong Kim). Total amount (including indirect cost): $432,185.
3. NIH R01, 2023-2028: "Brain Mechanisms of Chronic Low-Back Pain: Specificity and Effects of Aging and Sex". Role: Co-I (PI is Dr. Paul Geha). Total amount (including indirect cost): $2,910,734.
2. NIH R01, 2022-2027: "Quantitative Language and Facial Expression Phenotyping of Chronic Pain". Role: Co-I (PI is Dr. Paul Geha from the University of Rochester). Total amount (including indirect cost): $3,590,922.
1. NIH R01, 2022-2027: "Brain Structural Biomarkers of Risk and Resilience to Pain Chronification". Role: Co-I (PI is Dr. Paul Geha from the University of Rochester). Total amount (including indirect cost): $3,122,147.

**Complete**

10. NIH/NIDCR R34, 2023-2024. "PUFA metabolism for prevention and treatment of TMD pain: an interdisciplinary, translational approach". Role: Co-I. Total amount: $314,704.
9. Junior Faculty Development Award UNC Chapel Hill, 2022 - 2023. Role: PI. Total amount: $10,000.
8. ORAU Junior Faculty Enhancement Award, 2022-2023: "Improving Representations and Statistical Analysis of Brain Connectomics". Role: PI. Total amount: $5,000.
7. NIH/NIA R21, 2020-2023: "Advancing Methods for Structural Connectome Acquisition and Estimation in Older Adults". Role: Contact PI (with MPI Dr. Benjamin Risk from the Emory University). Total amount (including indirect cost): $438,449.
6. NIH/NIMH R01 2018-2023: "Brain Structural and Functional Connections in HIV-Associated Neuroinflammation". Role: Co-I (PI is Dr. Giovanni Schifitto from the University of Rochester). Total amount (including indirect cost): $3,223,096.
5. NIH/NIMH R01, 2018-2022. "CRCNS: Geometry-based Brain Connectome Analysis". Role: MPI (with MPI Dr. David Dunson). Total amount: $977,308.
4. Health Sciences Center for Computational Innovation Pilot Award, 2019-2020. "Understanding Effects of Substance Use on Brain Structural Connectome and Cognition Development during Adolescence". Role: PI. Total amount: $25,000.
3. Roberta K. Courtman Revocable Trust & Rochester Center for Alzheimer's Disease, 2018-2019: "Supernormal Structural Connectomes: Lessons for Alzheimer's Disease". Role: MPI (with MPI Dr. Timothy Baran). Total amount: $50,000.
2. The NDA Computational Credits Pilot Program, 2018-2019. Role: PI. Total amount: $5,000.
1. UR-CTSI Pilot Grant, 2017-2018. "Personalized Medical Image Analysis Based on Partial Differential Equations". Role: Co-PI (with PI Dr. Xing Qiu). Total amount: $35,000.

**Professional Services**

*Committee Services & Officers in Professional Organizations*
- Associate Editor for Reproducibility for Journal of the American Statistical Association, 2024 to present.
- STOR Faculty Promotion Committee, 2025-2026
- Committee member for "Triangle Statistics Symposium", 2024 to 2025

- STOR and SDSS Joint Position Hiring Committee (UNC Chapel Hill), 2023.
- STOR Department's Colloquium Committee (UNC Chapel Hill), 2022 to 2024.
- MS Admissions Committee (UNC Chapel Hill), 2022 to present.
- Publication officer for the ASA Statistics in Imaging Section, 2022 to present.
- Neuroscience Executive Advisory Committee (UNC Chapel Hill), 2022 to present.
- Data Science Master Student Selection Committee (University of Rochester), 2018 and 2019
- ASA Statistics in Imaging Section student paper award committee, 2017, 2018, 2019 and 2022.
- SMI paper competition committee, 2020 and 2022

*Proposal Reviewer*
- Reviewer for Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant
- Reviewer for Goergen Institute for Data Science (GIDS) seed funding proposal
- Reviewer for NSF: Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science (SCH)
- Reviewer for NSF-DMS
- Reviewer for Chilean National Commission for Scientific and Technological Research
- Reviewer for Clinical and Translational Science Awards (CTSA) pilot grant

*Journal Reviewer*
- *Annals of Applied Statistics; Bioinformatics; Biosystems Engineering; Computers & Graphics; Computer Vision and Image Understanding; Electronic Journal of Statistics; Human Brain Mapping; Journal of Computational and Graphical Statistics; Journal of Mathematical Imaging and Vision; Journal of Statistical Computation and Simulation; Journal of the American Statistical Association; Journal of the Royal Statistical Society: Series B; Nature Neuroscience; SIAM Journal on Mathematics of Data Science; Statistica Sinica; etc.*

*Conference Reviewer*
- ICML, WACV, ICPR, Cosyne, CVPR and so on.

*Workshop & Session Organizer*
- Organizer for the "NeuroConnect 2025: Advancing Brain Network Research Workshop", Blowing Rock, 2025
- Organizer for the "NeuroConnect 2024: Advancing Brain Network Research Workshop", Blowing Rock, 2024
- Organizer of Invited Session "Recent Advancements in Statistical Methods for Brain Connectome Analysis", Statistical Methods in Imaging (SMI) 2023
- Organizer of Invited Session "Non-parametric methods for biomedical data", ICSA-Canada Symposium 2022.
- Organizer of Invited Session "Statistical methods for complex objects", Statistical Methods in Imaging (SMI) 2022.
- Organizer of Invited Session "New Advances in Nonparametric Statistics for Big Data", ICSA-Canada Symposium 2019
- Organizer of Imaging Analysis Workshop at University of Rochester, Sept. 2018
- Session Chair at BIRS Workshop - *Mathematical and Statistical Challenges in Neuroimaging Data Analysis*
- Session Chair at SAMSI Workshop - *CCNS Transition Workshop*
- Organizer of Invited Session "Geometric Approaches in Functional Data Analysis", ICSA 2016

**Computer Skills**   Python, MATLAB, R, C/C++, SAS, SQL, MySQL, VTK library, OpenCV library

**Professional**   *Memberships*
**Memberships**
- The American Statistical Association
- International Chinese Statistical Association
- International Biometric Society
- Medical Image Computing and Computer Assisted Intervention Society

*Others*
- President of Badminton Club at FSU, May 2013 - May 2014