

# Xi (Rossi) Luo

## Curriculum Vita

### Information

Associate Professor  
The University of Texas Health Science Center at Houston  
School of Public Health, Department of Biostatistics and Data Science

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Web: [BigComplexData.com](http://BigComplexData.com) or [BrainDataScience.com](http://BrainDataScience.com)

GitHub: <https://github.com/rluo> (public repos)

Bitbucket: <https://bitbucket.org/sabd/> (private repos)

### Education

2009, PhD in Statistics, Yale University, USA.

2006, MA in Statistics, Yale University, USA.

2003, BSc in Geophysics, Peking University, CHINA.

### Academic Positions

- 2019–pres, Associate Professor (with tenure), Department of Biostatistics and Data Science, School of Public Health, The University of Texas Health Science Center at Houston.
- 2011–2018, Assistant Professor, Department of Biostatistics, School of Public Health, Brown University.
- 2009–2011, Visiting Lecturer, Department of Statistics, The Wharton School, University of Pennsylvania.
- 2008–2010, Statistical Consultant, Department of Psychiatry, Yale University.

### Publications

My publications have received **4649** citations on Google Scholar (<http://bit.ly/xluopub>), as of October 14, 2024. My h-index is **29**. and my i10-index is **50**. I have published in several prestigious journals, with their 2021 impact factors, listed as follows: *JAMA* (**157.34**), *Nature* (**69.50**), *Nature Genetics* (**41.31**), *Diabetes Care* (**17.15**), *Brain* (**15.26**), *PNAS* (**12.78**), *Neurology* (**11.80**), *Annals of Neurology* (**11.27**), *Obesity* (**9.30**), *NeuroImage* (**7.40**), *Epilepsia* (**6.74**), *Journal of Neuroscience* (**6.71**), *Medicine & Science in Sports & Exercise* (**6.29**), *PLOS Genetics* (**6.02**), *Scientific Reports* (**5.00**), *Drug and Alcohol Dependence* (**4.85**), *BMC Cancer* (**4.64**), *Preventive Medicine* (**4.64**), *Social Cognitive And Affective Neuroscience* (**4.24**), *Addiction Biology* (**4.09**), *Biostatistics* (**5.28**), *Frontiers in Neuroscience* (**5.15**), *Annals of Statistics* (**4.90**), *Journal of the American Statistical Association* (**4.37**), *BMC Bioinformatics* (**3.31**), *Statistics in Medicine* (**2.50**), *Computational Statistics and Data Analysis* (**2.04**), *Biometrics* (**1.70**).

### Full Publications

Student authors for whom I served or am serving as the primary research advisor (excluding those I served as the primary statistical advisor) are shown as \*red. Authorships may be listed in the *alphabetic* order, following the tradition for papers on mathematics.

- 60 E Yu, J Du, Y Xiang, X Hu, J Feng, **X Luo**, J Schneider, D Zhi, K Fujimoto, C Tao (In Press). Explainable Artificial Intelligence and Domain Adaptation for Predicting HIV Infection with Graph Neural Networks. *Annals of Medicine* (impact factor: 5.35). DOI link: <https://doi.org/10.1080/07853890.2024.2407063>
- 59 BC Musall, RE Gabr, Y Yang, A Kamali, JA Lincoln, MA Jacobs, \*V Ly, **X Luo**, FD. Lublin, JS Wolinsky, PA Narayana, KM Hasan (2024). Detection of Diffusely Abnormal White Matter in Multiple Sclerosis on Multiparametric Brain MRI using Semi-supervised Deep Learning. *Scientific Reports* (impact factor: 5), 14, 17157. DOI link: <https://doi.org/10.1038/s41598-024-67722-2>
- 58 Y Zhao, B Caffo, **X Luo** (2024). Longitudinal Regression of Covariance Matrix Outcomes. *Biostatistics* (impact factor: 5.28), 25(2):385-401. DOI link: <https://doi.org/10.1093/biostatistics/kxac045>
- 57 YS Vakilna, X Li, JS Hampson, Y Huang, JC Mosher, Y Dabaghian, **X Luo**, B Talavera, S Pati, T Mase, R Hays, CA Szabo GQ Zhang, SD Lhatoo (2024). Reliable Detection of Generalized Convulsive Seizures using an Off-the-shelf Digital Watch: a Multi-site Phase 2 Study. *Epilepsia* (impact factor: 6.74), 65(7), 2054-2068. DOI link: <https://doi.org/10.1111/epi.17974>
- 56 K Suzuki, ..., **X Luo**, ..., E Zeggini (2024). Genetic Drivers of Heterogeneity in Type 2 Diabetes Pathophysiology. *Nature* (impact factor: 69.5), 627, 347–357. DOI link: <https://doi.org/10.1038/s41586-024-07019-6>
- 55 N Lacuey B Talavera, O Magana-Tellez, O Mancera-Páez, N Hupp, **X Luo**, JP Hampson, J Hampson, RS Rani, M Ochoa-Urrea, OA Alamoudi, S Pati, J Gavvala, N Tandon, JC Mosher, SD Lhatoo (2024). Ictal Central Apnea is Predictive of Mesial Temporal Seizure Onsets: an Intracranial Investigation. *Annals of Neurology* (impact factor: 11.27), 95(5), 998-1008. DOI link: <https://doi.org/10.1002/ana.26888>
- 54 T Alkis, **X Luo**, \*K Wall, J Brody, T Bartz, PP Chang, FL Norby, RC Hoogeveen, AC Morrison, CM Ballantyne, J Coresh, E Boerwinkle, BM Psaty, AM Shah, B Yu (2024). A Polygenic Risk Score of Atrial Fibrillation Improves Prediction of Lifetime Risk for Heart Failure. *ESC Heart Failure* (impact factor: 3.61), 11(2), 1086-1096. DOI link: <https://doi.org/10.1002/ehf2.14665>
- 53 \*B Zhao, S Huepenbecker, G Zhu, SS Rajan, K Fujimoto, **X Luo** (2023). Comorbidity Network Analysis using Graphical Models for Electronic Health Records. *Frontiers in Big Data* (impact factor: 2.4), 6, 846202. DOI link: <https://doi.org/10.3389/fdata.2023.846202>
- 52 B Talavera, C Ganne, N Hupp, S Pati, J Hampson, **X Luo**, J Hampson, Y Vakilna, MR S Rani, R Noor, J Mosher, N Tandon, SD Lhatoo, N Lacuey (2023). Stimulation-induced Respiratory Enhancement in Cortico-thalamic Regions. *Epilepsia* (impact factor: 6.74), 64(7), 1925-1938.

DOI link: <https://doi.org/10.1111/epi.17635>

- 51 \*[V Ly](#), \*[L Liu](#), C Cardenas, S Maroongroge, B De, DE Basha, L Court, **X Luo** (2023). Parametric Delineation Uncertainties Contouring (PDUC) Modelling on CT Scans of Prostate Cancer Patients. *Journal of Applied Clinical Medical Physics* (impact factor: 2.24), 24(7), e13970. DOI link: <https://doi.org/10.1002/acm2.13970>
- 50 Y Zhao, B Wang, CF Liu, A Faria, M Miller, B Caffo, **X Luo** (2023). Identifying Brain Hierarchical Structures Associated with Alzheimer's Disease using a Regularized Regression Method with Tree Predictors. *Biometrics* (impact factor: 1.7), 79(3), 2333-2345. DOI link: <https://doi.org/10.1111/biom.13775>
- 49 \*[Y Zhao](#), **X Luo** (2023). Multilevel Mediation Analysis with Structured Unmeasured Confounding. *Computational Statistics & Data Analysis* (impact factor: 2.04), 179, 107623. DOI link: <https://doi.org/10.1016/j.csda.2022.107623>
- 2015 ENAR Distinguished Student Paper Award.**
- CRAN R pkg **macc** (<https://cran.r-project.org/web/packages/macc/>):
- 48 **X Luo**, J Yang, A Buu, E Trucco, CS Li (2022). Alcohol and Cannabis Co-use and Longitudinal Gray Matter Volumetric Changes in Early and Late Adolescence. *Addiction Biology* (impact factor: 4.09), 27(5), e13208. DOI link: <https://doi.org/10.1111/adb.13208>
- 47 A Mahajan, ..., **X Luo**, ..., A Morris (2022). Multi-ancestry Genetic Study of Type 2 Diabetes Highlights the Power of Diverse Populations for Discovery and Translation. *Nature Genetics* (impact factor: 41.31), 54, 560-572. DOI link: <https://doi.org/10.1038/s41588-022-01058-3>
- 46 J Rubinstein, N Robbins, K Evans, G Foster, K Mcconeghy T Onadeko, J Bunke, M Parent, **X Luo**, J Joseph, WC Wu (2022). Repurposing Probenecid for the Treatment of Heart Failure (Re-Prosper-HF): a Study Protocol for a Randomized Placebo-controlled Clinical Trial. *Trials* (impact factor: 2.73), 23, 266. DOI link: <https://doi.org/10.1186/s13063-022-06214-y>
- 45 B Wang, B Caffo, **X Luo**, CF Liu, A Faria, M Miller, Y Zhao (2022). Regularized Regression on Compositional Trees with application to MRI Analysis. *Journal of The Royal Statistical Society Series C-Applied Statistics* (impact factor: 1.68), 71(3), 541-561. DOI link: <https://doi.org/10.1111/rssc.12545>
- 44 J Yang, **X Luo**, EM Trucco A Buu (2022). Polygenic Risk Predictions Based on Singular Value Decomposition with Applications to Alcohol Use Disorder. *BMC Bioinformatics* (impact factor: 3.31), 23, 28. DOI link: <https://doi.org/10.1186/s12859-022-04566-5>
- 43 \*[Y Zhao](#), **X Luo**(2022). Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators. *Statistics and Its interface* (impact factor: 0.72), 5(1), 39-50. DOI link: <https://doi.org/10.4310/21-SII673>

**Student Paper Award** for the 2nd Annual Conference on Statistical Methods in Imaging, American Statistical Association, 2016.

**Travel Award** for the conference on Challenges and Advances on Big Data in Neuroimaging, Cleveland Clinic, 2016.

**Travel Award** for the Women in Machine Learning Workshop, Barcelona, Spain, 2016.

- 42 Y Zhao, B Caffo, **X Luo** (2021). Principal regression for high dimensional covariance matrices. *Electronic Journal of Statistics* (impact factor: 1.23), 15(2): 4192-4235. DOI link: <https://doi.org/10.1214/21-EJS1887>
- 41 Y Zhao, B Wang, S Mostofsky, B Caffo, **X Luo** (2021). Covariate Assisted Principal Regression for Covariance Matrix Outcomes. *Biostatistics* (impact factor: 5.28), 2(3): 629-645. DOI link: <https://doi.org/10.1093/biostatistics/kxz057>
- 40 Y Zhao, B Caffo, B Wang, CR Li, **X Luo** (2021). A Whole-Brain Regression Method to Identify Individual and Group Variations in Functional Connectivity. *Brain and Behavior* (impact factor: 3.4), 2021;11:e01942. DOI link: <https://doi.org/10.1002/brb3.1942>
- 39 B Wang, **X Luo**, Y Zhao, B Caffo (2020). Semiparametric Partial Common Principal Component Analysis for Covariance Matrices. *Biometrics* (impact factor: 1.7), 2(3): 629-645. DOI link: <https://doi.org/10.1111/biom.13369>
- 38 H Miao, Q Gao, H Feng, C Zhong, P Zhu, L Wu, MD Swartz, **X Luo**, SM DeSantis, D Lai, C Bauer, et al (2020). Mathematical Modeling of Business Reopening When Facing SARS-CoV-2 Pandemic: Protection, Cost, and Risk. *Frontiers in Applied Mathematics and Statistics* (impact factor: 1.3), 6. DOI link: <https://doi.org/10.3389/fams.2020.00035> .
- 37 F Bunea, C Giraud, **X Luo** [alphabetic order], M Royer, N Verzelen (2020). Model Assisted Variable Clustering: Minimax-optimal Recovery and Algorithms. *Annals of Statistics* (impact factor: 4.9), 48(1), 111-137. DOI link: <https://doi.org/10.1214/18-AOS1794> .

CRAN R pkg **cord** (<https://cran.r-project.org/web/packages/cord/>):

- 36 T Wray, **X Luo**, **\*J Ke**, C Kahler, A Perez, D Carr, P Monti (2019). Using Smartphone Survey Data and Machine Learning to Identify Situational and Contextual Risk Factors for HIV Risk Behavior Among Men Who Have Sex with Men Who Are Not on PrEP. *Preventive Medicine* (impact factor: 4.64), 20, 904-913. DOI link: <https://doi.org/10.1007/s11121-019-01019-z>
- 35 **\*Y Zhao**, **X Luo** (2019). Granger Mediation Analysis of Functional Magnetic Resonance Imaging Time Series. *Biometrics* (impact factor: 1.7), DOI link: <https://doi.org/10.1111/biom.13056> .

**Student Paper Award** from the Mental Health Section of the American Statistical Association (ASA), 2017.

**Student Paper Award (declined)** following ASA's one award policy) from the Statistics in Imaging Section of the American Statistical Association, 2017.

CRAN R pkg **gma** (<https://cran.r-project.org/web/packages/gma/>):

- 34 \*[X Cao](#), B Sandstede, **X Luo** (2019). A Functional Data Method for Causal Dynamic Network Modeling of Task-related fMRI. *Frontiers in Neuroscience* (impact factor: 5.15), 13, 127. DOI link: <https://doi.org/10.3389/fnins.2019.00127>
- Honorable Mention** for the student paper competition from the Mental Health Section of the American Statistical Association (ASA), 2018.  
PyPI pkg **cdn-fmri** (<https://pypi.org/project/cdn-fmri/>):
- 33 X Lin, KK Chan, YT Huang, **X Luo**, L Liang, J Wilson, A Correa, D Levy, S Liu (2018). Genetic Determinants for Leisure-Time Physical Activity. *Medicine & Science in Sports & Exercise* (impact factor: 6.29), 50(8), 1620. DOI link: <https://doi.org/10.1249/MSS.0000000000001607>
- 32 L Shu, KH Chan, T Huan, Z Kurt, Y Zhao, V Codoni, DA Tregouet, Cardiogenics Consortium, JG Wilson, **X Luo**, D Levy, AJ Lusic, S Liu, X Yang (2017). Shared Genetic Regulatory Networks for Cardiovascular Disease and Type 2 Diabetes in Multiple Populations of Diverse Ethnicities in the United States. *PLOS Genetics* (impact factor: 6.02), 13(9), e1007040. DOI link: <https://doi.org/10.1371/journal.pgen.1007040>
- 31 ME Lacy, GA Wellenius, AE Sumner, A Correa, MR Carnethon, RI Liem, DR Jacobs, **X Luo**, JG Wilson, A Gjelsvik, AP Carson, AP Reiner, RP Naik, SK Musani, CB Eaton, WC Wu (2017). Association of Sickle Cell Trait With Hemoglobin A1c in African Americans. *JAMA-Journal of The American Medical Association* (impact factor: 157.34), 17(5), 507-15. DOI link: <https://doi.org/10.1001/jama.2016.21035>
- 30 ME Lacy, G Wellenius, MR Carnethon, EB Loucks, AP Carson, **X Luo**, CI Kiefe, A Gjelsvik, EP Gunderson, CB Eaton, WC Wu (2016). Racial Differences in the performance of existing risk prediction models for incident type 2 diabetes: The CARDIA study. *Diabetes Care* (impact factor: 17.15), 39(2), 285-291. DOI link: <https://doi.org/10.2337/dc15-0509>
- 29 **X Luo**, S Gee, V Sohal, D Small (2016). A Point-process Response Model for Optogenetics Experiments on Neural Circuits. *Statistics in Medicine* (impact factor: 2.5), 35(3), 455-474. DOI link: <https://doi.org/10.1002/sim.6742>
- CRAN R pkg **pro** (<https://cran.r-project.org/web/packages/pro/>):
- 28 A Huang, JW Hogan, **X Luo**, A DeLong, S Saravanan, Y Wu, S Sirivichayakul, N Kumarasamy, F Zhang, P Phanuphak, L Diero, N Buziba, SC Istrail, DA Katzenstein, R Kantor (2015). Global Comparison of Drug Resistance Mutations Following First Line Antiretroviral Therapy across HIV-1 Subtypes. *Open Forum Infectious Diseases* (impact factor: 4.42), ofv158. DOI link: <https://doi.org/10.1093/ofid/ofv158>
- 27 LE Salminen, P Schofield, K Pierce, \*[Y Zhao](#), **X Luo**, Y Wang, D Laidlaw, R Cabeen, T Conturo, D Tate, E Akbudak, E Lane, J Heaps, J Bolzenius, L Baker, L Cagle, R Paul (2015). Neuromarkers of the Common Angiotensinogen Polymorphism in Healthy Older Adults: A Comprehensive Assessment of White Matter Integrity and Cognition. *Behavioural Brain Research* (impact factor: 3.35), 296, 85-93. DOI link: <https://doi.org/10.1016/j.bbr.2015.08.028>
- 26 LE Salminen, PR Schofield, KD Pierce, **X Luo**, \*[Y Zhao](#), DH Laidlaw, RP Cabeen, T.E Conturo,

- EM Lane, JM Heaps, JD Bolzenius, LM Baker, SA Cooley, S Scott, LM Cagle, RH Paul RH (2015). Genetic Markers of Cholesterol Transport and Gray Matter Diffusion: A Preliminary Study of the CETP I405V Polymorphism. *Journal of Neural Transmission* (impact factor: 3.85), 122(11), 1581-92. DOI link: <https://doi.org/10.1007/s00702-015-1434-0>
- 25 AM Behrman, C Usher, TE Conturo, S Correia, D.H Laidlaw, EM Lane, J Bolzenius, JM Heaps, LE Salminen, LM Baker, R Cabeen, **X Luo**, P Yan, RH Paul (2015). Fiber Bundle Lengths and Cognition: A Length-based Tractography MRI Study. *Brain Imaging and Behavior* (impact factor: 3.22), 9(4), 765-75. DOI link: <https://doi.org/10.1007/s11682-014-9334-8>
- 24 W Liu, and **X Luo** (2015). Fast and Adaptive Sparse Precision Matrix Estimation in High Dimensions. *Journal of Multivariate Analysis* (impact factor: 1.39), 135, 153-162. DOI link: <https://doi.org/10.1016/j.jmva.2014.11.005>
- CRAN R pkg **scio** (<https://cran.r-project.org/web/packages/scio/>):
- 23 LM Baker, DH Laidlaw, TE Conturo, J Hogan, **Y Zhao**, **X Luo**, S Correia, R Cabeen, EM Lane, JM Heaps, J Bolzenius, LE Salminen, E Akbudak, AR McMichael, RH Paul (2014). White Matter Changes with Age Utilizing Quantitative Diffusion MRI. *Neurology* (impact factor: 11.8), 83(3), 247-252. DOI link: <https://doi.org/10.1212/WNL.0000000000000597>
- 22 TR Seider, **X Luo**, A Gongvatana, KN Devlin, SM de la Monte, JD Chasman, P Yan, KT Tashima, B Navia, RA Cohen (2014). Verbal Memory Declines More Rapidly with Age in HIV Infected versus Uninfected Adults. *Journal of Clinical and Experimental Neuropsychology* (impact factor: 2.28), 36(4), 356-367. DOI link: <https://doi.org/10.1080/13803395.2014.892061>
- 21 LE Salminen, PR Schofield, KD Pierce, EM Lane, JM Heaps, JD Bolzenius, LM Baker, **X Luo**, RH Paul (2014). Triallelic Relationships between Serotonin Transporter Expression and Cognition among Healthy Older Adults. *International Journal of Neuroscience* (impact factor: 2.59), 124(5), 331-338. DOI link: <https://doi.org/10.3109/00207454.2013.845822>
- 20 D Matuskey, **X Luo**, S Zhang, P Morgan, O Abdelghany, R Malison, CS Li (2013). Methylphenidate Remediate Error-preceding Activation of the Default Mode Brain Regions in Cocaine-addicted Individuals. *Psychiatry Research Neuroimaging* (impact factor: 2.49), 214(2), 116-121. DOI link: <https://doi.org/10.1016/j.psychresns.2013.06.009>
- 19 S Zhang, S Hu, HH Chao, JS Ide, **X Luo**, OM Farr, CR Li (2013) . Ventromedial Prefrontal Cortex and the Regulation of Physiological Arousal. *Social Cognitive and Affective Neuroscience* (impact factor: 4.24), 9(7), 900-908. DOI link: <https://doi.org/10.1093/scan/nst064>
- 18 C Dunn, **X Luo**, Z Wu (2013). Phylogenetic Analysis of Gene Expression. *Integrative and Comparative Biology* (impact factor: 3.39), 53(5), 847-856. DOI link: <https://doi.org/10.1093/icb/ict068>
- 17 **X Luo**, S Zhang, S Hu, SR Bednarski, E Erdman, OM Farr, K Hong, R Sinha, CM Mazure, CR Li (2013). Error Processing and Gender-shared and-specific Neural Predictors of Relapse in Cocaine Dependence. *Brain* (impact factor: 15.26), 136(Pt 4), 1231-1244. DOI link: <https://doi.org/10.1093/brain/awt040>

- 16 **X Luo**, D Small, C Li, and P Rosenbaum (2012). Inference with Interference between Units in an fMRI Experiment of Motor Inhibition. *Journal of The American Statistical Association* (impact factor: 4.37), 107(498), 530-541. DOI link: <https://doi.org/10.1080/01621459.2012.655954>

CRAN R pkg **cin** (<https://cran.r-project.org/web/packages/cin/>):

- 15 HH Chao, E Uchio, S Zhang, S Hu, S Bednarski, **X Luo**, M Rose, J Concato, CS Li (2012). Effects of Androgen Deprivation on Brain Function in Prostate Cancer Patients — a Prospective Observational Cohort Analysis. *BMC Cancer* (impact factor: 4.64), 12(371). DOI link: <https://doi.org/10.1186/1471-2407-12-371>

- 14 S Zhang, S Hu, HH Chao, **X Luo**, CR Li (2012). Cerebral Correlates of Skin Conductance Responses in a Cognitive Task. *Neuroimage* (impact factor: 7.4), 62, 1489-1498. DOI link: <https://doi.org/10.1016/j.neuroimage.2012.05.036>

- 13 S Bednarski, E Erdman, **X Luo**, S Zhang, S Hu, C Li (2012). Neural Processes of an Indirect Analog of Risk Taking in Young Non-dependent Adult Alcohol Drinkers - an fMRI Study of the Stop Signal Task. *Alcoholism: Clinical and Experimental Research* (impact factor: 3.93), 36(5), 768-779. DOI link: <https://doi.org/10.1111/j.1530-0277.2011.01672.x>

- 12 O Hendrick, **X Luo**, S Zhang, C Li (2012). Saliency Processing and Obesity: a Preliminary Imaging Study of the Stop Signal Task. *Obesity* (impact factor: 9.3), 20(9), 1796-1802. DOI link: <https://doi.org/10.1038/oby.2011.180>

- 11 TT Cai, W Liu, and **X Luo** (2011). A Constrained  $\ell_1$  Minimization Approach to Sparse Precision Matrix Estimation. *Journal of The American Statistical Association* (impact factor: 4.37), 106(494), 594-607. DOI link: <https://doi.org/10.1198/jasa.2011.tm10155>

CRAN R pkg **clime** (<https://cran.r-project.org/web/packages/clime/>):

- 10 C-S R Li, P Morgan, D Matuskey, O Abdelghany, **X Luo**, J Chang, B Rounsaville, YS Ding, and R Malison (2010). Biological Markers of the Effects of Intravenous Methylphenidate on Improving Inhibitory Control in Cocaine Dependent Patients. *PNAS-Proceedings of The National Academy of Sciences of The United States of America* (impact factor: 12.78), 107, 14455-14459. DOI link: <https://doi.org/10.1073/pnas.1002467107>

- 9 O Hendrick, J Ide, **X Luo**, and C Li (2010). Dissociable Processes of Cognitive Control during Error and Non-error Conflicts: a Study of the Stop Signal Task (2010). *PLOS One* (impact factor: 3.75), 5(10), e13155. DOI link: <https://doi.org/10.1371/journal.pone.0013155>

- 8 CR Li, **X Luo**, R Sinha, BJ Rounsaville, KM Carroll, RT Malison, Y Ding, S Zhang, and JS Ide (2009). Increased Error-related Thalamic Activity During Early Compared to Late Cocaine Abstinence. *Drug and Alcohol Dependence* (impact factor: 4.85), 109, 181-189. DOI link: <https://doi.org/10.1016/j.drugalcdep.2010.01.008>

- 7 CR Li, **X Luo**, P Yan, K Bergquist, and R Sinha (2009). Altered Impulse Control in Alcohol Dependence: Neural Measures of Stop Signal Performance. *Alcoholism: Clinical and Experimental Research* (impact factor: 3.93), 33(4), 745-750. DOI link: <https://doi.org/10.1111/j.1530-0277.>

2008.00891.x

- 6 JR Duann, JS Ide, **X Luo**, and CR Li (2009). Functional Connectivity Delineates Distinct Roles of the Inferior Frontal Cortex and Presupplementary Motor Area in Stop Signal Inhibition. *Journal of Neuroscience* (impact factor: 6.71), 29(32), 10171-10179. DOI link: <https://doi.org/10.1523/JNEUROSCI.1300-09.2009>
- 5 HA Chao, **X Luo**, J Chang, and CR Li (2009). Activation of the Pre-Supplementary Motor Area but not Inferior Prefrontal Cortex in Association with Short Stop Signal Reaction Time—An Intra-subject Analysis. *BMC Neuroscience* (impact factor: 3.26), 10: 75. DOI link: <https://doi.org/10.1186/1471-2202-10-75>
- 4 AR Barron and **X Luo** (2008). MDL Procedures with  $\ell_1$  Penalty and their Statistical Risk. *Proceedings Workshop on Information Theoretic Methods in Science and Engineering, Tampere University of Technology, Tampere, Finland, August 18-20*. [Conference Proceedings] [http://sp.cs.tut.fi/WITMSE08/Proceedings/PlenaryPapers/plenary\\_Barron.pdf](http://sp.cs.tut.fi/WITMSE08/Proceedings/PlenaryPapers/plenary_Barron.pdf)
- 3 AR Barron, C Huang, JQ Li and **X Luo** (2008). MDL, Penalized Likelihood and Statistical Risk. *Proceedings IEEE Information Theory Workshop, Porto, Portugal, May 4-9*. [Conference Proceedings] <http://www.academia.edu/download/44552946/MDLpenalizedLikelihoodStatisticalRiskITW.pdf>
- 2 AR Barron, C Huang, JQ Li, and **X Luo** (2008). MDL Principle, Penalized Likelihood, and Statistical Risk. *Festschrift in Honor of Jorma Rissanen on the Occasion of his 75th Birthday. Edited by Peter Grunwald, Petri Myllymaki, Ioan Tabus, Marcelo Weinberger and Bin Yu. Tampere International Center for Signal Processing*. 33-62. [Conference Proceedings] <https://pdfs.semanticscholar.org/f60a/53719dbb41f4eda61303c23e25e491c60ce8.pdf>
- 1 AR Barron and **X Luo** (2007). Adaptive Annealing. *Proceedings 45th Annual Allerton Conference on Communication, Control and Computing. Allerton House, UIUC, Illinois, September 26-28*. 665-673. [Conference Proceedings] <http://toc.proceedings.com/02590webtoc.pdf> from <http://www.proceedings.com/02590.html>

### Book

- 1 D Yu, A Yaseen, **X Luo** (2020). Deep Learning Applications in EHR, chapter in *Statistics and Machine Learning Methods for EHR Data: From Data Extraction to Data Analytics*, ed. by H Wu, JM Yamal, A Yaseen, V Maroufy. Taylor and Francis Group.

### Abstracts/Posters

- 41 K Fujimoto, **\*L Liu**, J Kou, B Gao, R Sealy, **X Luo**, J Bahl. Explainable AI for COVID-19 prediction: A Multi-layer Graph Attention Fusion Network. The 13th International Conference on Complex



Networks and their Applications. Istanbul, Turkey, December 10 – 12, 2024.

- 40 K Fujimoto, [\\*L Liu](#), J Kou, B Gao, A Brown, **X Luo**, J Bahl. Advancing COVID-19 Predictive Model in Social Networks with Multilayer Graph Attention Network Fusion. The 12th International Conference on Complex Networks and their Applications. Menton Riviera, France, November 28 – 30, 2023.
- 39 YS Vakilna, X Li, JS Hampson, Y Huang, JC Mosher, Y Dabaghian, **X Luo**, GQ Zhang, SD Lhatoo Reliable detection of generalized convulsive seizures using an off-the-shelf digital watch. The 1st International Conference on Artificial Intelligence in Epilepsy and Neurological Disorders, Breckenridge, Colorado, USA, March 7 – 10, 2023
- 38 BC Musall, Y Yang, A Kamali, JA Lincoln, V Ly, **X Luo**, PA Narayana, RE Gabr, KM Hasan Quantitative T2 Measurements of Diffusely-abnormal White Matter in Relapsing-remitting MS Patients at Baseline. The International Society for Magnetic Resonance in Medicine Annual Meeting. Poster, Toronto. June 3 – 8, 2023.
- 37 (peer-reviewed) V Ly, L Liu, S Maroongroge, C Cardenas, L Court, **X Luo**. Smoothed Delineation Uncertainties Contouring (SDUC) Model. The American Association of Physicists in Medicine (AAPM), The 63rd Annual Meeting and Exhibition, July 25 – 29, 2021.
- 36 (peer-reviewed) Yi Zhao, Bingkai Wang, Stewart Mostofsky, Brian Caffo, **X Luo**. Novel Matrix Regression for Discovering Covariate-related Functional Connectivity Variations. The Organization of the Human Brain Mapping, June 9 – 14, 2019.
- 35 (peer-reviewed) [\\*X Cao](#), **X Luo**, B Sandstede. Large-scale Causal Dynamic Network Modeling of fMRI. The Organization of the Human Brain Mapping, June 17 – 21, 2018.  
Poster available from [bit.ly/2018ohbm](https://bit.ly/2018ohbm).
- 34 [\\*Y Zhao](#), **X Luo**, Martin Lindquist, Brian Caffo. Causal Mediation Analysis in Neuroimaging. ENAR, Atlanta, Georgia, March 25 – 28, 2018.
- 33 [\\*Y Zhao](#), **X Luo**. Granger Mediation Analysis of Functional Magnetic Resonance Imaging Time Series. The Joint Statistical Meetings, Baltimore, Maryland, USA, July 29 – August 3, 2017.
- 32 [\\*Y Zhao](#), **X Luo**, E Upfal, P Bedard, J Sanes. Identifying “Hot” Local Brain Subnetworks during Motor Sequence Learning. The Organization for Human Brain Mapping, Vancouver Convention Centre, California, Vancouver, CANADA, June 25 – 29, 2017.
- 31 (Oral) [\\*Y Zhao](#), **X Luo**. Granger Mediation Analysis of Functional Magnetic Resonance Imaging Time Series. Time and Causality in the Sciences, Hoboken, New Jersey, June 7 – 9, 2017.
- 30 [\\*Y Zhao](#), **X Luo**. Granger Mediation Analysis of Functional Magnetic Resonance Imaging Time Series. Brown-NUWC Research Exchange. Providence, Rhode Island, USA, March 31, 2017.
- 29 [\\*Y Zhao](#), **X Luo**. Granger Mediation Analysis of Functional Magnetic Resonance Imaging Time Series. The 4rd Annual Mind Brain Research Day, Brown University, Providence, Rhode Island,

USA, March 25, 2017.

- 28 (Oral) [\\*Y Zhao, X Luo](#). Granger Mediation Analysis of Functional Magnetic Resonance Imaging Time Series. ENAR, Washington DC, March 12 – 15, 2017.
- 27 ME Lacy, GA Wellenius, A Correa, MR Carnethon, RI Leim, **X Luo**, JG Wilson, A Gjelsvik, AP Carson, DR Jacobs, CB Eaton, WC Wu. Diabetes Risk Prediction and Sickle Cell Trait in African Americans From CARDIA and the Jackson Heart Study. *Circulation* 135 (Suppl 1), AP053-AP053, 2017.
- 26 **X Luo**, B Caffo, CS Li. Big Networks: Inferring Large-scale Brain Networks and Pathways. The Third Annual BRAIN Initiative Investigators Meeting, Washington DC, December 11 – 14, 2016.
- 25 [\\*Y Zhao, X Luo](#). Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators. The Women in Machine Learning workshop, December 5, Barcelona, Spain, 2016.  
**Travel Award** for the Women in Machine Learning workshop, Barcelona, Spain, 2016.
- 24 [\\*Y Zhao, X Luo](#), E Upfal, P Bedard, J Sanes. Identifying “Hot” Local Brain Subnetworks during Motor Sequence Learning. Society for Neuroscience, San Diego, California, November 12 – 16, 2016.
- 23 [\\*Y Zhao, X Luo](#). Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators, Challenges and Advances on Big Data in Neuroimaging, Cleveland, Ohio, USA, August 25 - 26, 2016.  
**Travel Award** for the conference on Challenges and Advances on Big Data in Neuroimaging, Cleveland Clinic, 2016.
- 22 (Oral) [\\*Y Zhao, X Luo](#). Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators, The XXVIIIth International Biometric Conference, Victoria, CANADA, July 10 - 15, 2016.
- 21 (Oral) [\\*Y Zhao, X Luo](#). Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators, Joint Statistical Meetings, Chicago, Illinois, USA, July 30 - August 4, 2016.
- 20 [\\*Y Zhao, X Luo](#), E Upfal, J Sanes. Identifying “Hot” Brain Subnetworks using Task-related fMRI. The NIH Sixth Biennial National IDEa Symposium, Washington DC, June 26-28, 2016.
- 19 KH Chan, H Xu, **X Luo**, S Liu. Assessment of the Genetic Role of Potential Metabolic Therapeutic Targets Along Insulin Signaling and Adipogenesis Pathways. *Circulation*. The American Heart Association. 2016.
- 18 [\\*Y Zhao, X Luo](#). Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators, Conference on Statistical Learning and Data Science, University of North Carolina at Chapel Hill, North Carolina, USA, June 6 - 8, 2016.

- 17 (Oral) \*Y Zhao, X Luo. Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators, The 2nd Annual Conference on Statistical Methods in Imaging, American Statistical Association, Denver, Colorado, USA, June 1-3, 2016.  
**Student Paper Award** for the 2nd Annual Conference on Statistical Methods in Imaging, American Statistical Association, 2016.
- 16 (Oral) \*Y Zhao, X Luo. Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators, The 2016 Atlantic Causal Inference Conference, New York, New York, USA, May 26 - 27, 2016.
- 15 D McCarthy, J Moher, P Yan, **X Luo**, J-H Song Decoding Changes of Mind in Perceptual Decision-making. RI NIH IDeA Symposium, Providence, Rhode Island, USA, March 17, 2016.
- 14 \*Y Zhao, X Luo. Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators, The 3rd Annual Mind Brain Research Day, Brown University, Providence, Rhode Island, USA, March 30, 2016.
- 13 (Oral) \*Y Zhao, X Luo. Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators, ENAR, Austin, Texas, USA, March 6 - 9, 2016.
- 12 (Invited) **X Luo. Big Data and Neuroimaging: Large-scale Models for Brain Networks**, ENAR, Austin, Texas, USA, March 6 - 9, 2016.
- 11 **X Luo. Big Networks: Large-scale Graphical Models for Understanding the Mechanisms**, National Institute of Health, Big Data to Knowledge (BD2K) All Hands Down Meeting, Bethesda, Maryland, USA, November 12 - 13, 2015.
- 10 ME Lacy, GA Wellenius, A Correa, AE Sumner, S Liu, **X Luo**, JG Wilson, A Gjelsvik, CB Eaton, MR Carnethon, WC Wu. The Influence of Sickle Cell Trait on the Relationship between A1c and Fasting Glucose: The Jackson Heart Study. DIABETES, American Diabetes Association, June 1, 2015.
- 9 \*Y Zhao, X Luo. Estimating Causal Mediation Effect in Big fMRI Data, Public Health Research Day, School of Public Health, Brown University, Providence, Rhode Island, USA, April 16, 2015.  
**Runner-up for Best Research Poster Award** among PhDs, postdoctorals, and trainees.
- 8 \*Y Zhao, X Luo. Estimating Causal Mediation Effect of preSMA on PMC in an fMRI Experiment. RI NIH IDeA Symposium, Providence, Rhode Island, USA, April 2, 2015.
- 7 \*Y Zhao, X Luo. Estimating Causal Mediation Effect of preSMA on PMC in an fMRI Experiment. Mind Brain Research Day, Department of Psychiatry and Human Behavior, Brown University, Providence, Rhode Island, USA, March 24, 2015.
- 6 (Invited, Oral) \*Y Zhao, X Luo. Estimating Mediation Effects under Correlated Errors with An Application to fMRI, ENAR, Miami, Florida, USA, March 15 - 18, 2015.  
**2015 ENAR Distinguished Student Paper Award.**

- 5 ME Lacy, GA Wellenius, A Correa, A Summer, S Liu, **X Luo**, JG Wilson, A Gjelsvik, CB Eaton, MR Carnethon, W-C Wu. The Influence of Sickle Cell Trait on the Relationship between A1C and Fasting Glucose: The Jackson Heart Study. American Diabetes Association 75th Anniversary Scientific Sessions. Boston, Massachusetts, USA, June 5 - 9, 2015.
- 4 \***X Cheng**, **X Luo**, J Sanes. Network Based Discriminant Analysis with Applications to fMRI. Mind Brain Research Day, Department of Psychiatry and Human Behavior, Brown University, Providence, Rhode Island, USA, March 25, 2014.
- 3 BN Navia, **X Luo**, PY Yan, JH Harezlak, GS Schifitto, MJ Taylor, ES Daar, TC Campbell, ES Singer, CT Yiannoutsos, RC Cohen (2014). Plasma IP-10 and CSF MIP 1beta Contribute to Progressive Brain Injury in Chronic HIV Infection. Conference on Retroviruses and Opportunistic Infections. Boston, Massachusetts, USA, March 3 - 6, 2014.
- 2 D Matuskey, **X Luo**, S Zhang, P Morgana, O Abdelghany, RT Malisona, CS Li (2013). Methylphenidate remediates error-preceding activation of the default mode brain regions in cocaine addicted individuals. Emotional, All Too Emotional: Neuroscientific Views on Affect and its Regulation in Humans, March 19-21, 2013, Tel Aviv University, Isreal.
- 1 **X Luo**, AR Barron (2009).  $\ell_1$  Penalized Likelihood: Fast Algorithms and Risk Bounds. Innovation and Inventiveness in Statistics Methodologies, in honor of John Hartigan, Yale University, May 15-17, New Haven, CT, USA.

### Software Publications

These software publications intend to supplement my method publications for the goals of reproducible research and method dissemination.

Student authors of my primary advisees are shown in **red**.

Software download counts reflect only the period between October 2012 and October 15, 2024. These numbers are likely to reflect only small fractions of the actual downloads worldwide, because the counts from only **one** software distribution server (<http://cran-logs.rstudio.com/>) are available and reported here. Downloads from hundreds of other distribution servers in the Comprehensive R Archive Network (CRAN) are not included.

- 12 **tabletree** Analyzing multiple (big) SQL-like tables. PyPI package.

Web: <https://pypi.org/project/tabletree>

Web: <https://github.com/rluo/tabletree>

Programming language: Python

Author: **X Luo**

Creator and Maintainer: **X Luo**

Download counts:

downloads 12k

<http://pepy.tech/badge/tabletree>

Most recent update on June 29, 2019.

First public release on June 29, 2019.


- 11 **cap** Covariate Assisted Principal regression. CRAN R package.

Web: <https://CRAN.R-project.org/package=cap>  
Programming language: R  
Author: [\\*Y Zhao](#), Bingkai Wang, Stewart Mostofsky, Brian Caffo, **X Luo**  
Creator and Maintainer: [\\*Y Zhao](#)  
Download counts (from one server only, out of hundreds):   
<https://cranlogs.r-pkg.org/badges/grand-total/cap>  
Most recent update on October 1, 2018.  
First public release on October 1, 2018.


10 **cdn-fmri** Causal Dynamic Network modeling of fMRI. PyPI package.

Web: <https://pypi.org/project/cdn-fmri>  
Web: <https://github.com/xuefeicao/CDN.git>  
Programming language: Python  
Author: [\\*X Cao](#), **X Luo**, Bjorn Sandstede  
Creator and Maintainer: [\\*X Cao](#)  
Download counts:   
<http://pepy.tech/badge/cdn-fmri>  
Most recent update on June 13, 2018.  
First public release on June 13, 2018.

9 **cfma** Causal Functional Mediation Analysis. CRAN R package.

Web: <https://CRAN.R-project.org/package=cfma>  
Programming language: R  
Author: [\\*Y Zhao](#), **X Luo**, Martin Lindquist, Brian Caffo  
Creator and Maintainer: [\\*Y Zhao](#)  
Download counts (from one server only, out of hundreds):   
<https://cranlogs.r-pkg.org/badges/grand-total/cfma>  
Most recent update on May 24, 2018.  
First public release on May 24, 2018.

8 **gma** Granger Mediation Analysis. CRAN R package.

Web: <https://CRAN.R-project.org/package=gma>  
Programming language: R  
Author: [\\*Y Zhao](#), **X Luo**  
Creator and Maintainer: [\\*Y Zhao](#)  
Download counts (from one server only, out of hundreds):   
<https://cranlogs.r-pkg.org/badges/grand-total/gma>  
Most recent update on September 19, 2017.  
First public release on September 19, 2017.

7 **macc** Mediation Analysis of Causality under Confounding. CRAN R package.

Web: <https://CRAN.R-project.org/package=macc>  
Programming language: R  
Author: [\\*Y Zhao](#), **X Luo**  
Creator and Maintainer: [\\*Y Zhao](#)  
Download counts (from one server only, out of hundreds):  
<https://cranlogs.r-pkg.org/badges/grand-total/macc>  
Most recent update on November 3, 2016.  
First public release on November 3, 2016.

downloads 27K

6 **cord**: Community Estimation in G-Models via CORD. CRAN R package.

Web: <https://CRAN.R-project.org/package=cord>  
Programming languages: R, C++  
Author: **X Luo**, F Bunea, C Giraud  
Creator and Maintainer: **X Luo**  
Download counts (from one server only, out of hundreds):  
<https://cranlogs.r-pkg.org/badges/grand-total/cord>  
Most recent update on September 20, 2015.  
First public release on September 20, 2015.

downloads 32K

5 **pro**: Point-process Response model for Optogenetics. CRAN R package.

Web: <https://CRAN.R-project.org/package=pro>  
Programming language: R  
Author: **X Luo**  
Contributor: D Small, V Sohal  
Creator and Maintainer: **X Luo**  
Download counts (from one server only, out of hundreds):  
<https://cranlogs.r-pkg.org/badges/grand-total/pro>  
Most recent update on September 17, 2015.  
First public release on September 17, 2015.

downloads 39K

4 **scio**: Sparse Columnwise Inverse Operator for precision matrix estimation. CRAN R package.

Web: <https://CRAN.R-project.org/package=scio>  
Programming languages: R, Fortran  
Author: **X Luo**, W Liu  
Creator and Maintainer: **X Luo**  
Download counts (from one server only, out of hundreds):  
<https://cranlogs.r-pkg.org/badges/grand-total/scio>  
Most recent update on April 15, 2014.  
First public release on May 6, 2012.

downloads 27K

3 **cin**: Causal Inference for Neuroscience. CRAN R package.

Web: <https://CRAN.R-project.org/package=cin>

Programming language: R

Author: **X Luo**

Contributor: D Small, CS Li, P Rosenbaum

Creator and Maintainer: **X Luo**

Download counts (from one server only, out of hundreds):

downloads 40K

<https://cranlogs.r-pkg.org/badges/grand-total/cin>

Most recent update on December 28, 2011.

First public release on December 28, 2011.

- 2 **lore**: LOW Rank and sparseE Covariance matrix estimation. CRAN R package.

Web: <https://CRAN.R-project.org/package=lore>

Programming languages: R, Fortran

Author: **X Luo**

Creator and Maintainer: **X Luo**

Download counts (from one server only, out of hundreds):

downloads 37K

<https://cranlogs.r-pkg.org/badges/grand-total/lore>

Most recent update on February 20, 2014 .

First public release on November 7, 2011.

- 1 **clime**: Constrained  $\ell_1$ -minimization for Inverse (covariance) Matrix Estimation. CRAN R package.

Web: <https://CRAN.R-project.org/package=clime>

Programming language: R

Author: TT Cai, W Liu, **X Luo** (alphabetic order)

Creator and Maintainer: **X Luo**

Download counts (from one server only, out of hundreds):

downloads 56K

<https://cranlogs.r-pkg.org/badges/grand-total/clime>

Most recent update on May 6, 2012.

First public release on February 1, 2011.

## Talks

### Conference Presentations

- 78 **(Invited speaker)** Some Challenges in Causal Mediation from fMRI. 2024 IMSI Workshop on Challenges in Neuroimaging Data Analysis, University of Chicago, August 28, 2024.  
Slides available at <https://bit.ly/imsi24>
- 77 **(Invited speaker)** Causal Mediation Analysis for Functional Data. The 7th International Conference on Econometrics and Statistics 2024, Beijing, CHINA, July 18, 2024.  
Slides available at <https://bit.ly/fmecosta>
- 76 **(Invited speaker)** Causal Mediation Analysis for Functional Data. The 2nd Joint Conference on Statistics and Data Science in China, Kunming, CHINA, July 12, 2024.  
Slides available at <https://bit.ly/fmjcsds>
- 75 **(Invited speaker)** Causal Mediation Analysis for Functional Data. ICSA, Wuhan, CHINA, June 29,

2024.

Slides available at <https://bit.ly/fmicsa24>

74 **(Invited speaker)** Covariance Outcome Modeling via Covariate Assisted Principal (CAP) Regression. The 6th International Conference on Econometrics and Statistics, Waseda University, Tokyo, JAPAN, August 1, 2023.

Slides available at <https://bit.ly/ecosta23>

73 **(Invited speaker)** Covariate Assisted Principal (CAP) Regression for Matrix Outcomes. The Statistical Methods in Imaging Conference, Atlanta, USA, May 19, 2021.

Slides available at <https://bit.ly/smicap21>

72 **(Invited speaker)** Covariate Assisted Principal (CAP) Regression for Matrix Outcomes. ENAR, USA, March 15, 2021.

Slides available at <https://bit.ly/ehrnnet20>

71 **(Invited speaker)** Binary Autoregressive Network Modeling of Comorbidity Networks from Electronic Health Records. ICSA, Houston, USA, December 15, 2020.

Slides available at <https://bit.ly/ehrnnet20>

70 **(Invited speaker)** Granger Mediation Analysis for Multiple Time Series. JSM , Philadelphia, USA, August 1 - 6, 2020.

Slides available at <https://bit.ly/mediationjsm20>

69 **(Invited speaker)** Covariate Assisted Principal (CAP) Regression for Matrix Outcomes. ICSA, Hangzhou, CHINA, December 20 - 22, 2019.

Slides available at <http://bit.ly/icsahz19>

68 **(Invited speaker)** Covariate Assisted Principal (CAP) Regression for Matrix Outcomes. CM Statistics, London, UK, December 14 - 16, 2019.

Slides available at <http://bit.ly/cmstat19>

67 **(Invited speaker)** Covariate Assisted Principal (CAP) Regression for Matrix Outcomes. The ICSA China Conference, Tianjin, CHINA, July 1 - 4, 2019.

Slides available at <http://bit.ly/icsa2019>

66 **(Invited speaker)** Mediation Analysis for Large and Multilevel Data. The 2019 Conference on Lifetime Data Science, Pittsburgh, Pennsylvania, USA, May 29 - 31, 2019.

Slides available at <http://bit.ly/medLiDS>

65 **(Invited speaker)** Covariate Assisted Principal (CAP) Regression for Matrix Outcomes. The ICSA Conference on Data Science, XishuangBanNan, Yunan, CHINA, January 11 - 13, 2019.

Slides available at <http://bit.ly/icsa19>

64 **(Invited speaker)** Covariate Assisted Principal (CAP) Regression for Matrix Outcomes. The 4th International Conference on Big Data and Information Analytics, Houston, Texas, USA, December 17 - 19, 2018.



Slides available at <http://bit.ly/bigdia18>

- 63 **(Invited speaker)** Causal Dynamic Networks: : ODE Network Modeling of fMRI. The 11th International Conference of Computational and Methodological Statistics, Pisa, Italy, December 14 - 16, 2018.  
Slides available at <http://bit.ly/cmstat18>
- 62 **(Invited panel speaker)** Modern Statistical Developments in Big Data. NextGen: Data Science Day, New England Statistical Society, Yale University, New Haven, USA, October 27, 2018.
- 61 **(Invited)** Pathway Lasso: Estimate and Select Multiple Mediation Pathways. The XXIX International Biometric Conference, Barcelona, Spain, July 8 - 13, 2018.  
Slides available at <http://bit.ly/ibc1807>
- 60 **(Invited)** Granger Mediation Analysis for Multiple Time Series. The 2018 ICSA China Conference with the Focus on Data Science, Qingdao, China, July 2 - 5, 2018.  
Slides available at <http://bit.ly/icsa18>
- 59 **(Invited)** Inferring Big Graphs using "Network of Networks" with an Application to fMRI. Conference on Frontiers of Big Data and Statistical Sciences, Vancouver, British Columbia, CANADA, August 18 - 20, 2017.  
Slides available at <http://bit.ly/canadabd>
- 58 **(Invited)** Estimating Brain Pathways Using Large-scale Multilevel Models. The 2017 ICSA Applied Statistics Symposium, Chicago, Illinois, USA, June 25 - 28, 2017.  
Slides available at <http://bit.ly/icsa17>
- 57 **(Invited)** Network Clustering with an Application to fMRI. The 1st International Conference on Econometrics and Statistics, Hong Kong University of Science and Technology, Hong Kong, June 15 - 17, 2017.  
Slides available at <http://bit.ly/ecosta17>
- 56 **(Invited)** Multilevel Causal Mediation Analysis for Big Functional MRI Data. The Mathematics and Statistics in Medical Imaging Applications and Big Data Integration Workshop, Sanya, CHINA, December 26 - 30, 2016.  
Slides available at <http://bit.ly/sanya16>
- 55 **(Invited)** Variable Clustering via G-Models of Large Covariance Matrices. The 10th ICSA International Conference, Shanghai, CHINA, December 19 - 22, 2016.  
Slides available at <http://bit.ly/ICSA2016>
- 54 **(Invited)** Estimating Information Flow in Large Brain Networks via Pathway Lasso. The 9th International Conference of the ERCIM WG on Computational and Methodological Statistics, Seville, Spain, December 9 - 11, 2016.  
Slides available at <http://bit.ly/CMStat16>
- 53 **(Invited)** Community Detection and Clustering via G-models with an Application to fMRI. The

International Chinese Statistical Association, Atlanta, Georgia, USA, June 12 - 15, 2016.

Slides available at <http://bit.ly/XLICSA16>

- 52 **(Invited)** Network Communities and Variable Clustering: A Covariance Matrix Approach. The 2016 Conference on Statistical Learning and Data Science, Chapel Hill, North Carolina, USA, June 6 - 8, 2016.  
Slides available at <http://bit.ly/SLDS16>
- 51 **(Invited)** Estimating Brain Pathway Effects Using Large-scale Multilevel Models. SAMSI CCNS Transition Workshop, Research Triangle Park, North Carolina, USA, May 4 - 6, 2016.  
Slides available at <http://bit.ly/xISAMSI16>
- 50 **(Invited)** Pathway Lasso: Estimate Brain Information Flow Pathways. New England Statistics Symposium, New Haven, Connecticut, USA, April 22, 2016.  
Slides available at <http://bit.ly/xINESS16>
- 49 **(Invited)** Estimating Information Flow in Large Brain Networks via Convex Optimization. ENAR, Austin, Texas, USA, March 6 - 9, 2016.  
Slides available at <http://bit.ly/xIENAR16>
- 48 **(Invited)** Estimation of Information Flow in Brain Networks. Joint Statistical Meetings, Seattle, Washington, USA, August 8 - 13, 2015.
- 47 **(Invited)** Variable Partitioning via Large Covariance Matrix Fusion. European Meeting of Statisticians, Amsterdam, Netherland, July 6 - 10, 2015.
- 46 **(Invited)** Covariance Matrix Estimation in Big Data: Approaches Based on Algebraic Properties. The 29th New England Statistical Symposium, University of Connecticut, April 24 - 25 , 2015.
- 45 **(Invited Topic-contributed)** Algebraic Methods and Brain Networks. Joint Statistical Meetings, Boston, Massachusetts, USA, August 3 - 6, 2014.
- 44 **(Invited)** Network Based Discriminant Analysis with Applications to fMRI. The International Society for Business and Industrial Statistics 2014 and Statistical Learning and Data Mining Joint Meeting, Duke University, Durham, North Carolina, USA. June 9 - 11, 2014.
- 43 **(Invited)** Algebraic Properties and Fast Large Covariance Estimation. ENAR, Baltimore, Maryland, USA, March 16 - 19, 2014.
- 42 **(Invited)** A Simple Probabilistic Model for Predicting Every Spike in Optogenetics Data. The Annual Meeting of the Statistical Society of Canada, Edmonton, Alberta, CANADA, May 26 -29, 2013.
- 41 **(Invited)** Inference with interference in an fMRI experiment. ENAR, Orlando, Florida, USA, March 10 - 13, 2013.
- 40 **(Invited Topic-contributed)** Inference with interference between units in an fMRI experiment of motor inhibition. Joint Statistical Meetings, San Diego, California, USA, July 28 - August 2, 2012.

- 39 **(Invited)** Sparse Inverse Covariance Estimation with Applications in Recovering Brain Networks. Conference on Statistical Learning and Data Mining, University of Michigan, Ann Arbor, Michigan, USA, June 5-7, 2012.
- 38 **(Conference travel award)** A Simple Probabilistic Model for Predicting Every Spike in Optogenetics Data. Sixth International Workshop Statistical Analysis of Neuronal Data (SAND6), University of Pittsburgh and Carnegie Mellon University, Pittsburgh, Pennsylvania, USA, May 31 - June 2, 2012.
- 37 High Dimensional Sparse and Low Rank Covariance Matrix Estimation via Convex Optimization. Joint Statistical Meetings, Miami, Florida, USA, August 3, 2011.
- 36 CLIME: A Constrained  $\ell_1$  Minimization Approach to Sparse Precision Matrix Estimation. The Eighth International Chinese Statistical Association Conference, Guangzhou, China, December 19-22, 2010.
- 35 Average Case Analysis of Sparse Multivariate Regression under Noise. Joint Statistical Meetings, Vancouver, British Columbia, Canada, July 31-August 5, 2010.
- 34 Average Case Analysis of Sparse Multivariate Regression under Noise. International Conference on Statistics and Society, Beijing, China, July 10-12, 2010.
- 33  $\ell_1$  Penalized Likelihood: Fast Algorithms and Risk Bounds. Workshop on Innovation and Inventiveness in Statistical Methodologies in Honor of John Hartigan, Yale University, New Haven, Connecticut, May 15–17, 2009.
- 32 Relaxed Greedy Pursuit. IMS-China International Conference on Statistics and Probability, Hangzhou, China, June 11–13, 2008.
- 31 Penalized Squared Error and Likelihood: Risk Bounds and Fast Algorithms. Workshop on Sparsity in High Dimensional Statistics and Learning Theory. Georgia Institute of Technology, Atlanta, Georgia, March 22–24, 2008.
- Seminars*
- 30 Covariance/Network Outcome Modeling via CAP. Department of Mathematics, University of Houston, Houston, Texas, April 24, 2023.  
Slides available at <http://bit.ly/capuh23>
- 29 Statistical Methods for Unraveling Large-scale Brain Dynamics. Department of Biostatistics and Data Science, University of Texas Health Science Center, Houston, Texas, June 7, 2018.
- 28 A Covariance Matrix Approach to Variable Clustering. Center for Statistical Research, Southwestern University of Finance and Economics, Chengdu, CHINA, June 20, 2017.
- 27 Complex Modeling of Brain Dynamics. RI NIH IDeA Symposium, Providence, Rhode Island, USA, June 2, 2017.
- 26 "Network Modeling" of Big Data: Promises and Challenges. Brown Data Science Initiative Retreat,

Providence, Rhode Island, USA, January 20, 2017.

- 25 Inferring Brain networks via Big Covariance Matrix Estimation. Department of Biostatistics, Columbia University, New York, NY, USA, April 14, 2016.
- 24 Graphical Models for Brain Connectivity: Algebraic (Non-likelihood) Methods. Webinar: Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC, USA, February 23, 2016.  
Slides available at <http://bit.ly/rtSAMS11602>
- 23 Large-scale Methods for Brain Networks: Connectivity and Information Flow. Department of Biostatistics and Bioinformatics, Emory University, Atlanta, GA, USA, February 9, 2016.
- 22 Clustering “Far-Apart” Data Points Together: A Covariance Matrix Approach. Department of Mathematical Sciences, Worcester Polytechnic Institute, Worcester, Massachusetts, USA, November 9, 2015.
- 21 Understand the Brain: Causal Inference and Machine Learning. Department of Human Development, College of Human Ecology, Cornell University, Ithaca, NY, USA, May 7, 2015.
- 20 Estimating Networks from Big Neuroimaging Data. School of Public Health, Yale University, New Haven, Connecticut, USA, February 18, 2014.
- 19 Algebraic Properties and Large Covariance Estimation. Department of Statistical Sciences, Cornell University, Ithaca, New York, USA, February 13, 2013.
- 18 Inference with Interference in fMRI. Department of Public Health, Weill Medical College, Cornell University, New York, USA, December 14, 2012.
- 17 Recovering Large Networks via Optimizing Non-likelihood Functions. Division of Applied Mathematics, Brown University, Rhode Island, USA, October 3, 2012.
- 16 Causality 101. Alcohol Research Center on HIV (ARCH), Brown University, Rhode Island, USA, July 13, 2012.
- 15 Graphical Models for Gene Networks and Their Use in Classification. Center for Computational and Molecular Biology, Brown University, Rhode Island, USA, February 22, 2012.
- 14 Understanding the Brain Statistics. Brown Institute of Brain Sciences, Brown University, Rhode Island, USA, December 8, 2011.
- 13 LOREC: Low Rank and Sparse Covariance Matrix Estimation. Department of Mathematics, Georgia Institute of Technology, Atlanta, Georgia, USA, October 27, 2011.
- 12 Connectivity, Causal Inference and Graphical Models. Brown Institute of Brain Sciences, Providence, Rhode Island, USA, September 12, 2011.
- 11 Covariance Matrix Estimation via Convex Optimization: Theory, Methods, Algorithms and Applications.

Department of Biostatistics, Brown University, Providence, Rhode Island, USA, April 7, 2011.

- 10 Covariance Matrix Estimation via Convex Optimization: Theory, Methods, Algorithms and Applications. Schools of Management, Fordham University, New York, New York, USA, March 24, 2011.
- 9 Covariance Matrix Estimation via Convex Optimization: Theory, Methods, Algorithms and Applications. Department of Statistical Sciences and Operations Research, Virginia Commonwealth University, Richmond, Virginia, USA, March 21, 2011.
- 8 Covariance Matrix Estimation via Convex Optimization: Theory, Methods, Algorithms and Applications. Department of Mathematics and Computer Sciences, Saint Louis University, Saint Louis, Missouri, USA, March 14, 2011.
- 7 Covariance Matrix Estimation via Convex Optimization: Theory, Methods, Algorithms and Applications. Department of Statistics and Applied Probability, National University of Singapore, Singapore, March 10, 2011.
- 6 Covariance Matrix Estimation via Convex Optimization: Theory, Methods, Algorithms and Applications. Department of Statistics, University of Pittsburgh, Pittsburgh, Pennsylvania, USA, March 1, 2011.
- 5 Covariance Matrix Estimation via Convex Optimization: Theory, Methods, Algorithms and Applications. Department of Biostatistics, Johns Hopkins University, Baltimore, Maryland, USA, February 16, 2011.
- 4 Covariance Matrix Estimation via Convex Optimization: Theory, Methods, Algorithms and Applications. Bell Labs, Murray Hill, New Jersey, USA, February 4, 2011.
- 3  $\ell_1$  Penalized Least Likelihood: Fast Algorithms and Risk Bounds. Department of Statistics and Actuarial Science, University of Waterloo, Canada, March 30, 2009.
- 2  $\ell_1$  Penalized Least Likelihood: Fast Algorithms and Risk Bounds. Department of Statistics, University of California at Riverside, March 19, 2009.
- 1  $\ell_1$  Penalized Least Likelihood: Fast Algorithms and Risk Bounds. Division of Statistics, Northern Illinois University, February 26, 2009.

## Grants

### *Funded Grants (Active)*

- 30 NIH R01NS133743 BreatheS PI: N Lacuey Lecumberri  
<https://reporter.nih.gov/project-details/10719638>  
Period: 7/15/2023 – 6/30/2028  
Role: Biostatistician (8% FTE)
- 29 NIH RF1AG079324 Biomarkers in Vascular Cog PI: E Marsh, J Mosher  
<https://reporter.nih.gov/project-details/10525918>  
Period: 09/15/2022 – 06/30/2027

Role: Co-I (10% FTE)

- 28 NIH R01MH126970 Stat Method for Multiview Data PI: Y Zhao  
<https://reporter.nih.gov/project-details/10445698>  
Period: 09/01/2022 – 06/30/2027  
Role: Subcontract PI, co-I (39.11% FTE)  
Subcontract total cost: \$551,490
- 27 NIH P30AI161943 D-CFAR PI: T Giordano  
<https://reporter.nih.gov/project-details/10397168>  
Period: 04/23/2021 – 03/31/2026  
Role: Co-I (8.69% FTE)
- 26 NIH RF1AG074204 Bio-AD PIs: J Mosher, M Funke  
<https://reporter.nih.gov/project-details/10301875>  
Period: 09/01/2021 – 08/31/2025  
Role: Biostatistician (5% FTE)
- 25 VA Mg Trial PI: Rubinstein, Wu, Joseph  
<https://clinicaltrials.gov/ct2/show/NCT04551222?term=NCT04551222&draw=2&rank=1>  
Period: 04/01/2020 – 03/31/2025  
Role: Subcontract PI, Co-I (9.35% FTE)

*Funded Grants (Completed)*

- 24 NIH R01MH110449 OCD PI: S Rasmussen  
[https://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=9157002](https://projectreporter.nih.gov/project_info_description.cfm?aid=9157002)  
Period: 09/15/2016 – 06/30/2023  
Role: Co-I
- 23 NIH U01NS090407 Imaging Biomarkers PI: S Lhatoo, B Diehl, R Harper  
Title: Autonomic and Imaging Biomarkers of SUDEP  
Period: 07/11/2019 – 07/31/2022  
Role: Biostatistician
- 22 NIH R01EB022911 Big Brain Networks PI: X Luo  
Title: Large-scale Network Modeling for Brain Dynamics: Statistical Learning and Optimization  
[https://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=9170649](https://projectreporter.nih.gov/project_info_description.cfm?aid=9170649)  
Period: 09/31/2016 – 06/30/2021  
Role: PI  
Total direct cost: \$887,774  
Total cost: \$1,212,178
- 21 AHA/17UNPG33750001 Uncovering New Patterns PI: Liu  
Title: Uncovering Patterns of Gene-diet Interaction for Cardiometabolic Health  
Period: 4/2/2018 – 3/31/2020

Role: Co-I

- 20 NIH P20 GM103645 COBRE PI: J Sanes  
Title: COBRE Center for Central Nervous System Function  
[http://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=8914005](http://projectreporter.nih.gov/project_info_description.cfm?aid=8914005)  
Period: 8/12/2013 – 7/31/2023  
Role: Co-I
- 19 NIH S10 OD016366 BIBS Cluster Instrument PI: J Donohue  
Title: Brain Science Computer Cluster  
[http://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=8447697](http://projectreporter.nih.gov/project_info_description.cfm?aid=8447697)  
Role: Major User Core (Statistical Neuroimaging) and Advisory Board
- 18 NIH P01 AA019072 Alcohol Research Center on HIV PI: P Monti  
Title: Alcohol and HIV Biobehavioral Interactions and Interventions  
[http://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=8838915](http://projectreporter.nih.gov/project_info_description.cfm?aid=8838915)  
Period: 09/01/2011 – 05/31/2020  
Role: Co-I
- 17 AHA/17IFUNP33730001 Gene/Physical Activity PI: Lin  
Title: Genetic Architecture of Physical Activity and Its Relation with Cardio-metabolic Health in Multiethnic Populations  
Period: 4/2/2018 - 7/13/2019  
Role: Co-I
- 16 NSF DMS 1557467 Methods for Big Biomedical Data: CVD/T2D PI: X Luo  
Title: QuBBD: Large Scale Modeling of Big Multi-cohort Data for Cardiovascular Diseases and Type 2 Diabetes  
[http://www.nsf.gov/awardsearch/showAward?AWD\\_ID=1557467](http://www.nsf.gov/awardsearch/showAward?AWD_ID=1557467)  
Period: 09/15/2015 – 08/31/2017  
Role: PI  
Total award: \$93,653
- 15 Brown/SPH Gene-Environment Networks PI: X Luo  
Title: Systematic Methods for Discovering Gene-Environment Networks from Big Biomedical Data  
Period: 07/01/2014 – 06/31/2017  
Role: PI  
Total award: \$50,000.
- 14 NIH P30 AI042853 Center for AIDS Research PI: S Cu-Uvn  
Title: Lifespan/Tufts/Brown Center for AIDS Research  
[http://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=8977058](http://projectreporter.nih.gov/project_info_description.cfm?aid=8977058)  
Period: 07/01/2012 – 06/30/2017  
Role: Co-I
- 13 CFAR Dev HIV-Metabolic PI: Ingalls  
Title: Role of Complement Activation in the Development of HIV-associated Metabolic Syndrome

Period: 07/01/2016 – 06/30/2017

Role: Co-I

- 12 AHA 15CVGPS23670000 Networks in T2D/CVD PI: Liu  
Title: Integrative Genomics of Gene-Diet Interactions in Vascular Outcomes across Ethnicities  
Period: 02/01/2015 – 01/31/2017  
Role: Co-I
- 11 BIBS Brain Networks PI: J Sanes, **X Luo**, E Upfal  
Title: Advanced Neuroimaging of Functional Connectivity and Networks  
<http://www.brown.edu/academics/brain-science/news/2015-10/bibs-awards-five-innovation-grants>  
Period: 07/01/2015 – 06/31/2016  
Role: CO-PI  
Total award: \$100,000
- 10 CFAR Integrated Imaging Method PI: **X Luo**  
Title: Integrated Analytics to Unravel the Complex Effects of HIV and Alcoholism on the Brain  
Period: 07/01/2014 – 06/30/2016  
Role: PI  
Total award: \$40,000.
- 9 Brown seed Covariance Estimation for Phylogenetics PIs: C Dunn, **X Luo**, J Wu  
Title: Making Sense of the Data Windfall: New Statistical Approaches to Evolutionary Analyses of Gene Expression  
Period: 09/01/2013 – 08/31/2015  
Role: Co-PI  
Total award: \$80,000.
- 8 NIH R01 NS05247 Neuromarkers for Aging PI: R Paul  
Title: Neuromarkers of Age-related Cognitive Decline  
[http://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=7658686](http://projectreporter.nih.gov/project_info_description.cfm?aid=7658686)  
Period: 09/01/2012 – 08/31/2014  
Role: Faculty statistician
- 7 Lifespan Colorectal Cancer PI: K Perez  
Title: Colorectal Cancer Study using MALDI-IMS Imaging Data  
Period: 04/01/2013 – 03/31/2014  
Role: Consultant
- 6 BIBS Pilot Imaging Pharmacogenetics PI: White, McGeary, Leite-Morris, **X Luo**  
Title: Collaboration on Imaging Pharmacogenetics and Monoamines  
Period: 05/01/2013 – 04/30/2014  
Role: Co-PI  
Total award: \$29,976.



### Funded Grants on Training and Mentoring (Completed)

- 5 NIH D43TW010050 HIV Fogarty Training PI: J Hogan  
Title: Brown Moi Partnership for Biostatistics Training in HIV  
[https://projectreporter.nih.gov/project\\_info\\_description.cfm?aid=8897807](https://projectreporter.nih.gov/project_info_description.cfm?aid=8897807)  
Period: 06/24/2015 – 05/31/2020  
Role: Trainer
- 4 NSF SBE 1514246 Computational Neuroscience Trainee: Dan McCarthy  
Title: Changes-of mind in target selection for action  
[http://www.nsf.gov/awardsearch/showAward?AWD\\_ID=1514246](http://www.nsf.gov/awardsearch/showAward?AWD_ID=1514246)  
Period: 07/01/2015 – 06/30/2017  
Role: Faculty co-sponsor
- 3 NIH F31 Predictive Models for CVD Trainee: Beth Lacy  
Role: Faculty co-sponsor  
Status: Completed.
- 2 NIH K23 OCD fMRI Trainee: Nicole McLaughlin  
Title: Neuroanatomical Changes After Ventral Capsulotomy for Intractable OCD  
Role: Statistics mentor  
Status: Completed
- 1 NIDDK K01 Obesity fMRI Trainee: Kathryn Demos  
Title: The Neural Correlates OF Food Choice Decision-Making in Obesity and Weight Loss  
Role: Statistics mentor  
Status: Completed

## **Professional Activities**

### University-wide

Member of Faculty Council, School of Public Health, UT Health, 2024–pres.

Chair of Faculty Search Committee, Dept of Biostat and Data Science, , UT Health, 2022–pres.

Co-coordinator of Data Science Program, Dept of Biostat and Data Science, , UT Health, 2021–pres.

Member of Departmental Preliminary Examination Committee, UT Health, 2021–pres.

Member of UTHealth President’s Excellence in Postdoctoral Research Award Committee, UT Health, 2021.

Member of School IT Advisory Committee, UT Health, School of Public Health, 2020–pres.

Member of Department Promotion Committee, UT Health, 2020–pres.

Member of Data Science Education Committee, UT Health, 2019–pres.

Member of Department Data Science Task Force Committee, UT Health, 2020–pres.

Member for Committee on New Data Science Faculty Candidates and Big Data Center Develop-

ment, UT Health, 2019–2023.

Member of School's New Facility Planning Focus Group, UT Health, 2021–2023.

Chair of Drug and Alcohol Abuse Grant Working Group, UT Health, 2019–2022.

Member of Diversity and Inclusion Committee, Department of Biostatistics and Center for Statistical Sciences, Brown University, 2017–pres.

Member of Biostatistics Master Admission Committee, Department of Biostatistics, Brown University, 2017–2018.

Organizer for the Charles K. Colver Lectureship Series "Interdisciplinary Perspectives on the Frontiers of Data Science Research", 2017–2018.

Member of Biostatistics Master Admission Committee, Department of Biostatistics, Brown University, 2016–2017.

Brown Seed Grant Reviewer, Office of the Vice-President for Research, Brown University, 2016–2017.

Data science curriculum committee member for Department of Biostatistics, Brown University, 2015–2016.

Advisory Committee for Brain Science Compute Cluster, Brown University, 2013–present.

Advisory committee member for the Sheridan Center for Teaching and Learning, Brown University, 2014–present.

Member of Biostatistics Master Admission Committee, Department of Biostatistics, Brown University, 2015–2016.

Member of Biostatistics Master Admission Committee, Department of Biostatistics, Brown University, 2014–2015.

ALANA Faculty Network member, Brown University, 2012–present.

Faculty search committee member for Department of Biostatistics, Brown University, 2014–2015.

Co-organizer for the Colver Lectureship Series "Inference and Decision Making Based on Large Networks", 2013–2014.

Co-organizer for the seminar series of Department of Biostatistics and Center for Statistical Sciences, 2013-1014.

Public Health Genetic Working Group, Brown University, 2013–2014.

Member of Best Masters Thesis Award Committee, Department of Biostatistics, Brown University, 2013.

Organizer of working group Statistical Analysis of Big Data (SABD), 2012–2014.

Member of Biostatistics Curriculum Committee, Department of Biostatistics, Brown University, 2013–2014.

Member of Biostatistics PhD Admission Committee, Department of Biostatistics, Brown University, 2013–2014.

Member of Biostatistics PhD Admission Committee, Department of Biostatistics, Brown University, 2012–2013.

Member of Biostatistics PhD Program Committee, Department of Biostatistics, Brown University, 2011–2014.

Chair of Department Website Committee, Department of Biostatistics and Center for Statistical Sciences, Brown University, 2011–2012.

Member of Biostatistics Graduate Committee, Department of Biostatistics and Center for Statistical Sciences, Brown University, 2011–2014.

Member of Dean's Committee on International Students, Yale Graduate School, 2006.

Systems Administrator, Yale Statistics Department, 2005–2006.

Program Coordinator, Statistics Graduate Student Colloquium, Yale University, 2005–2006.

Representative of Statistics Department in Graduate Student Assembly, Yale University, 2005–2006.

### Referee Work

**Academic Editor (AE)** for Frontiers in Neuroscience/Brain Imaging Methods Section, PLOS ONE.

**Regular Reviewer** for the following journals: Annals of Applied Statistics, Annals of Statistics, Biometrics, Biostatistics, Circulation: Cardiovascular Quality and Outcomes, Frontiers in Neuroscience, Linear Algebra and its Applications, Neurology, Neuroscience, Nature Scientific Reports, IISE Transactions on Healthcare Systems Engineering, Journal of Applied Clinical Medical Physics, Journal of Biomedical Informatics, Journal of Computational Neuroscience, Journal of Computational and Graphical Statistics, Journal of Machine Learning Research, Journal of the American Heart Association, Journal of the American Statistical Association, Journal of the Royal Statistical Society, Quantitative Finance, Statistica Sinica, Statistics in Medicine, Statistics and Computing, TEST, The Canadian Journal of Statistics, The KDD conference.

### Review Panels

- ◇ Ad hoc reviewers for National Institutes of Health, 2016–present.
- ◇ Junior researcher paper award judge, the 2018 ICASA conference, 2018.
- ◇ Panel member for National Institutes of Health, panel review and site visit, 2016.
- ◇ Ad hoc reviewers for National Science Foundation, 2014–present.
- ◇ Program committee for Statistical Learning for Data Science, 2016 IEEE conference on Data Science and Advanced Analytics, 2016.
- ◇ Student award judge, the Statistics in Imaging section of the American Statistical Association, 2016.
- ◇ Student award judge, the Statistical Learning and Data Mining section of the American Statistical Association, 2015.
- ◇ Student award judge, the Statistical Learning and Data Mining section of the American Statistical Association, 2014.
- ◇ Student paper competition award committee, the Statistics in Imaging Section of the American Statistical Association, 2013.

### Other National or International Activities

Organizers of invited sessions in several international conferences, 2011–present.

Chair of the poster session, and executive committee member, the ICASA 2020 Applied Statistics

Symposium, 2019-2020.

Program committee member, the 2018 International Chinese Statistician Association Meeting, 2018.

Organizer, topic-contributed session Evolving Statistical Methods for the Evolving Brain Networks, Joint Statistical Meeting, 2014.

Co-organizer, topic-contributed session New Developments in Neuroscience and Neuroepidemiology Statistics, Joint Statistical Meeting, 2012.

Session Chair, International Conference on Statistics and Society, Beijing, China, 2010.

### Memberships in Professional Societies

Members or past members of

The International Chinese Statistician Association

The International Biometric Society

The American Statistical Association

The Institute of Mathematical Statistics

## Honors and Awards

- ◇ Course Development Award, Brown University, 2016
- ◇ Annie G K Garland Fellowship, Yale University, 2008
- ◇ Francis J. Anscombe Award for Academic Excellence, Yale Statistics Department, 2005
- ◇ Yale University Fellowship, 2003–2009
- ◇ Bateman Fellowship, Yale Geology&Geophysics Department, 2003
- ◇ Academic Excellence Award, Peking University, 2000–2002
- ◇ Peking University Freshman Scholarship, 1999
- ◇ Bronze Medal, China National Physics Olympiad, 1998
- ◇ Gold Medal, Sichuan Provincial Physics Olympiad, China, 1998

### Awards to My Students

- ◇ Katherine Wall (PhD student): **Scholarship** the Science, Mathematics, and Research for Transformation (SMART) Scholarship-for-Service from the Department of Defense, 2020.
- ◇ Xuefei Cao (PhD student): **Honorable Mention** for the student paper competition from the Mental Health Section of the American Statistical Association (ASA), 2018.
- ◇ Brendan Le (Undergraduate): **Brown Undergraduate Teaching and Research Award** for implementing a research project of my group, 2017.
- ◇ Yi Zhao (PhD student): **Student Paper Award** for our paper from the Mental Health Section of the American Statistical Association, 2017. **Student Paper Award (declined)** following ASA's one award policy) from the Statistics in Imaging Section of the American Statistical Association, 2017.
- ◇ Yi Zhao (PhD student): **Travel Award** for our paper from the Women in Machine Learning Workshop, Barcelona, Spain, 2016.

- ◇ Yi Zhao (PhD student): **Travel Award** for our paper from the conference on Challenges and Advances on Big Data in Neuroimaging, Cleveland Clinic, 2016.
- ◇ Yi Zhao (PhD student): **Student Paper Award** to our paper from the 2nd Annual Conference on Statistical Methods in Imaging, American Statistical Association, 2016.
- ◇ Obinna Ekekezie (MD student, summer intern): **Summer Assistantship** award for implementing a method/tool development project of my group, Alpert Medical School, Brown University, 2015.
- ◇ Yi Zhao (PhD student): **Runner-up for Best Research Poster Award** for our poster, Public Health Research Day, School of Public Health, Brown University, 2015.
- ◇ Yi Zhao (PhD student): **ENAR Distinguished Student Paper Award** for our paper, the Eastern North American Region of The International Biometric Society, 2015.
- ◇ Abi Kulshreshtha (Undergraduate, summer intern): **CFAR Undergraduate Research Intern Award** for implementing a data science project of my group, from Brown/Tufts/Lifespan CFAR, 2014.
- ◇ Xiaoxing Chen (Masters student): **Brain Science Research Award** for our research project, from Brown Institute for Brain Science at Brown University, 2013.
- ◇ Ye Xu (Masters student): **Best Graduate Research Poster Award** for our poster, from Public Health Program of Brown University, 2012.

## Teaching

- 31 PHD 1930L Statistical Computing, Department of Biostatistics and Data Science, UT Health, Spring 2024.  
Teaching evaluation score: **4.43** out of 5 (best)
- 30 PHD 1930L Statistical Computing, Department of Biostatistics and Data Science, UT Health, Fall 2023.  
Teaching evaluation score: **3.96** out of 5 (best)
- 29 PH 1976L Fundamentals of Data Analytics and Predictions, Department of Biostatistics and Data Science, UT Health, Spring 2023.  
Teaching evaluation score: **4.15** out of 5 (best)
- 28 PH 1831L Survival Analysis, Department of Biostatistics and Data Science, UT Health, Fall 2022.  
Teaching evaluation score: **4.50** out of 5 (best)
- 27 PHM 1690L Introduction to Biostatistics in Public Health, Department of Biostatistics and Data Science, UT Health, Summer 2022. Co-instructor with Dr Yunxin Fu (50%).  
Teaching evaluation score: **4.33** out of 5 (best)
- 26 PH 1988 Biostatistics Seminar, Department of Biostatistics and Data Science, UT Health, Spring 2022.  
Teaching evaluation score: **4.43** out of 5 (best)

- 25 PHD 1930L Statistical Computing, Department of Biostatistics and Data Science, UT Health, Fall 2021.  
Teaching evaluation score: **3.62** out of 5 (best)
- 24 PH 1831L Survival Analysis, Department of Biostatistics and Data Science, UT Health, Fall 2021.  
Teaching evaluation score: **4.43** out of 5 (best)
- 23 PH 1988 Biostatistics Seminar, Department of Biostatistics and Data Science, UT Health, Fall 2021.  
Teaching evaluation score: **4.08** out of 5 (best)
- 22 PH 1988 Biostatistics Seminar, Department of Biostatistics and Data Science, UT Health, Spring 2021.  
Teaching evaluation score: **4.00** out of 5 (best)
- 21 PH 1988 Biostatistics Seminar, Department of Biostatistics and Data Science, UT Health, Fall 2020.  
Teaching evaluation score: **4.44** out of 5 (best)
- 20 PH 1831L Survival Analysis, Department of Biostatistics and Data Science, UT Health, Fall 2020.  
Teaching evaluation score: **4.41** out of 5 (best)
- 19 PH 1977L Data Science Computing, Department of Biostatistics and Data Science, UT Health, Spring 2020. Co-instructor with Dr Ashraf Yaseen (50%).  
Teaching evaluation score: **4.45** out of 5 (best)
- 18 PH 1988 Biostatistics Seminar, Department of Biostatistics and Data Science, UT Health, Spring 2020.  
Teaching evaluation score: **4.56** out of 5 (best)
- 17 PH 1988 Biostatistics Seminar, Department of Biostatistics and Data Science, UT Health, Fall 2019.  
Teaching evaluation score: **4.43** out of 5 (best)
- 16 PHM 1690 Introduction to Biostatistics in Public Health, Department of Biostatistics and Data Science, UT Health, Spring 2019.
- 15 PHP 2650 Statistical Learning and Big Data, Department of Biostatistics, Brown University, Spring

2018.

**Google Cloud Platform Education Grant** for supporting the students, teaching staff, and instructor to purchase Google cloud computing services.

14 PHP 2602 Analysis of Lifetime Data, Department of Biostatistics, Brown University, Fall 2017.

13 PHP 2650 Statistical Learning and Big Data, Department of Biostatistics, Brown University, Spring 2017.

**Course Development Award** from Brown Provost's office for developing this new course and new pedagogical techniques (e.g. video labs), with collaboration from Brown School of Professional Studies and Brown's Harriet W. Sheridan Center for Teaching and Learning.

**Google Cloud Platform Education Grant** for supporting the students, teaching staff, and instructor to purchase Google cloud computing services.

12 PHP 2602 Analysis of Lifetime Data, Department of Biostatistics, Brown University, Fall 2016.

11 PHP 2605 Generalized Linear Models, Department of Biostatistics, Brown University, Spring 2016.

10 PHP 2650 Statistical Methods for Big Data, Department of Biostatistics, Brown University, Spring 2015.

**Microsoft Education Award** of \$15,000 for supporting the students and instructor to purchase services from Azure cloud computing.

9 PHP 2602 Analysis of Lifetime Data, Department of Biostatistics, Brown University, Fall 2014.

8 PHP 2602 Analysis of Lifetime Data, Department of Biostatistics, Brown University, Spring 2014.

7 PHP 2601 Linear and Generalized Linear Models, Department of Biostatistics, Brown University, Fall 2013.

6 PHP 2602 Analysis of Lifetime Data, Department of Biostatistics, Brown University, Spring 2013.

5 PHP 2520 Statistical Inference I, Department of Biostatistics, Brown University, Fall 2012.

4 PHP 2602 Analysis of Lifetime Data, Department of Biostatistics, Brown University, Spring 2012.

3 STAT 102 Introduction to Business Statistics, Department of Statistics, The Wharton School, University of Pennsylvania, Fall 2010.

2 STAT 431 Statistical Inference, Department of Statistics, The Wharton School, University of Pennsylvania, Fall 2009.

1 STAT 107 Introduction to Statistics, Department of Statistics, Yale University, Summer 2007.

## Student Advising

Academic advisees are not listed.

### Research Advising: PhD

- |    |  |                               |
|----|--|-------------------------------|
| 18 | 2020–2024. Runzhi Zhou   | Role: thesis advisor          |
|    | Dissertation title: <i>Data Science Modeling For Brain fMRI Analysis: Covariance Regression Estimation, fMRI Classification and Longitudinal Data Prediction</i> |                               |
| 17 | 2020–2024. Bo Zhao   | Role: thesis advisor          |
|    | Dissertation title: <i>Comorbidity Network Analysis (CNA) using Machine Learning and Deep Learning Method</i>  |                               |
| 16 | 2020–2023. Gen Zhu   | Role: thesis advisor          |
|    | Dissertation title: <i>Machine Learning And Statistical Modeling for EHR Data</i>  |                               |
| 15 | 2020–2024. Katherine Wall  | Role: thesis advisor          |
|    | Dissertation title: <i>Multimodal Deep Learning For sMRI Classification</i>  |                               |
| 14 | 2019–2024. Vi Ly   | Role: thesis advisor          |
|    | Dissertation title: <i>Uncertainty Contouring System for CT Scans of Prostate Cancer Patients</i>  |                               |
| 13 | 2019–2024. Lizhong Liu   | Role: thesis advisor          |
|    | Dissertation title: <i>Deep Learning Approach Towards Brain Connectivity Research by Utilizing fMRI Time-series Data</i>   |                               |
| 12 | 2017–2019. Ke Jun  | Role: thesis advisor          |
| 11 | 2017–2020. Xuefei Cao  | Role: research advisor        |
|    | <b>Honorable Mention</b> for the student paper competition from the Mental Health Section of the American Statistical Association (ASA), 2018.                   |                               |
| 10 | 2017–2018. Stephannie Shih   | Role: thesis committee member |
| 9  | 2017–2018. Qing Liu  | Role: thesis committee member |
| 8  | 2017–2018. Mengna Huang  | Role: thesis committee member |
| 7  | 2013–2017. Beth Lacy   | Role: thesis committee member |
| 6  | 2013–2017. Yi Zhao   | Role: thesis advisor          |



Dissertation title: *Causal Mediation Analysis of Big Data*

New position: Assistant Professor (tenure-track) at Indiana University

**Student Paper Award** from the Mental Health Section of the American Statistical Association, 2017. **Student Paper Award (declined)** following ASA's one award policy) from the Statistics in Imaging Section of the American Statistical Association, 2017.

**Travel Award** for the Women in Machine Learning Workshop, Barcelona, Spain, 2016.

**Travel Award** for the conference on Challenges and Advances on Big Data in Neuroimaging, Cleveland Clinic, 2016.

**Student Paper Award** for the 2nd Annual Conference on Statistical Methods in Imaging, American Statistical Association, 2016.

**Brain Science Graduate Research Award**, Brown University.  
Support period: 09/01/2016 – 12/31/2016.

**2015 ENAR Distinguished Student Paper Award**,  
the Eastern North American Region of The International Biometric Society.

**Runner-up for Best Research Poster Award** by PhD students, postdocs, and trainees, Public Health Research Day, School of Public Health, Brown University, 2015.

- 5 2015. Obinna Ekekezie (MD student) Role: Faculty Sponsor  
**Summer Assistantship** award for implementing a research project of my group.
- 4 2015–2016. Xiaochen Lin Role: thesis committee member
- 3 2013–2015. Lingyuan Hu Role: thesis committee member
- 2 2011–2013. Stavroula Chrysanthopoulou Role: thesis committee member
- 1 2011–2013. Andrea Austin Role: thesis committee member
- Research Advising: Masters*
- 12 2019–2021, Hibah Khoja Role: MPH thesis advisor
- 11 2018–2019. Bernard Chu Role: thesis advisor
- 10 2018–2019. Yiquan Xu Role: thesis advisor
- 9 2017–2018. Yifu Liu Role: thesis advisor
- 8 2016–2017. Yuxi Liu Role: thesis advisor
- 7 2017. Seoung Won Lim Role: reader

- 6 2017. Ruiting Guo Role: reader
- 5 2016. Jinjie Liu Role: reader
- 4 2016. Yidan Zhang Role: reader
- 3 2012–2014. Xiaoxing Chen Role: thesis advisor  
**Brain Science Graduate Research Award**, Brown University.  
 Support period: 01/01/2013 – 05/31/2013.
- 2 2011–2012. Ye Xu Role: research advisor  
**Best Graduate Research Poster Award**, Public Health Program, Brown University.  
 Poster title: HIV-1 Mutation Networks Predict Subtype Drug Resistance, by Ye Xu,  
 Xi Luo, Austin Huang, Joseph Hogan, and Rami Kantor, April 19, 2012.
- 1 2011–2012. Nuo Xu Role: thesis reader
- Research Advising: Undergraduate*
- 5 2017–2018. Brendan Le Role: research advisor  
**Brown Undergraduate Teaching and Research Award** for implementing a re-  
 search project of my group.  
 Support period: 09/01/2017 – 05/20/2018.
- 4 2015–2017. Ian Pan Role: honor thesis advisor
- 3 2014 Abi Kulshreshtha Role: research intern advisor  
**CFAR Undergraduate Research Intern Award** for implementing a research  
 project of my group.  
 Support period: 06/16/2014 – 08/01/2014.
- 2 2013 Eleanor Batty (research project) Role: statistics advisor (not thesis advisor)
- 1 2013 Rohan Katpally (**honor thesis**) Role: statistics advisor (not thesis advisor)