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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Email: xi.luo@uth.tmc.edu   Phone: (713) 500-9589   Fax: (713) 500-9525

Web: **BigComplexData**.com or **BrainDataScience**.com or **LoveDataScience**.com
GitHub: https://github.com/rluo (public repos)
Bitbucket: https://bitbucket.org/sabd/ (private repos)
Youtube: http://bit.ly/bigdatayoutube
Apps: **compute.BigComplexData**.com
         heart.BigComplexData.com

Education

2009, PhD in Statistics, Yale University, USA.
      Dissertation: *Penalized Likelihoods: Fast Algorithms and Risk Bounds*.
      PhD advisor: Andrew Barron
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 **3667** citations on Google Scholar (http://bit.ly/xluopub), as of October 10, 2022. My h-index is **27** and my i10-index is **46**.

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 mathematical statistics.

50 Y Zhao, B Wang, CF Liu, A Faria, M Miller, B Caffo, **X Luo** (In Press). Identifying Brain Hierarchical Structures Associated with Alzheimer's Disease using a Regularized Regression Method with Tree Predictors. *Biometrics*.

49 *Y Zhao, **X Luo** (In Press). Multilevel Mediation Analysis with Structured Unmeasured Confounding. *Computational Statistics and Data Analysis*.

> **2015 ENAR Distinguished Student Paper Award**.
>
> CRAN R pkg **macc** (https://cran.r-project.org/web/packages/macc/): `downloads 23K`

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* 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* 54: 560-572. DOI link: https://doi.org/10.1038/s41588-022-01058-3

46 J Rubinstein, N Robbins, B Caffo, **X Luo**, CF Liu, A Faria, M Miller, Y Zhao (2022). Repurposing Probenecid for the Treatment of Heart Failure (Re-Prosper-HF): a Study Protocol for a Randomized Placebo-controlled Clinical Trial. *Trials*, 23, 266. DOI link: https://doi.org/10.1111/rssc.12545

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 Royal Statistical Society, Series C*. 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*, 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*, 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*, 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*, 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* 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*, 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*, 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*, 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/): `downloads 28K`

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*, 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*. 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/): `downloads 24K`

34 *X Cao, B Sandstede, **X Luo** (2019). A Functional Data Method for Causal Dynamic Network Modeling of Task-related fMRI. *Frontiers in Neuroscience*. 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/): `downloads 6k`

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. *Med Sci Sports Exerc.* 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 Lusis, 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.* 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. *Journal of the American Medical Association.* 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*, 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*, 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/): `downloads 36K`

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*, 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. *Behavioral Brain Research*, 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*, 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*, 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*, 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/):   `downloads 26K`

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*, 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*, 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*, 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 Remediates Error-preceding Activation of the Default Mode Brain Regions in Cocaine-addicted Individuals. *Psychiatry Research: Neuroimaging*, 214(2): 116-121. DOI link: https://doi.org/10.1016/j.pscychresns.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. *Soc Cogn Affect Neurosci*, 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*, 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*, 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*, 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/):   `downloads 40K`

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*, 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*, 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*, 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*, 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 ℓ_1 Minimization Approach to Sparse Precision Matrix Estimation. *Journal of the American Statistical Association*, 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/):   `downloads 47K`

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. *Proceedings of the National Academy of Sciences of the United States of America*, 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*, 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*, 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*, 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*, 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*, 10: 75.   DOI link: https://doi.org/10.1186/1471-2202-10-75

4   AR Barron and **X Luo** (2008). MDL Procedures with ℓ_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.* 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.* 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. *Feschrift 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.* 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.* http://toc.proceedings.com/02590webtoc.pdf from http://www.proceedings.com/02590.html

Articles under Review

2   T Alkis, **X Luo**, K Wall, P Chang, R Hoogeveen, C Ballantyne, J Coresh, E Boerwinkle, A Shah, B Yu A Polygenic Risk Score Improves Prediction of Lifetime Risk for Heart Failure *Under Review*.

1   *Y Zhao, **X Luo**, M Lindquist, B Caffo. Functional Mediation Analysis with an Application to FunctionalMagnetic Resonance Imaging Data. *Under Review*. arXiv:1805.06923.

    CRAN R pkg **cfma** (https://CRAN.R-project.org/package=cfma):   downloads 23K

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

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.

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). ℓ_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 19, 2022. 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 450`
>   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):   `downloads 19K`
>   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

`downloads 6k`

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

`downloads 23K`

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

`downloads 24K`

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

`downloads 23K`

Most recent update on November 3, 2016.
First public release on November 3, 2016.

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): `downloads 28K`
   https://cranlogs.r-pkg.org/badges/grand-total/cord
Most recent update on September 20, 2015.
First public release on September 20, 2015.

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): `downloads 36K`
   https://cranlogs.r-pkg.org/badges/grand-total/pro
Most recent update on September 17, 2015.
First public release on September 17, 2015.

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): `downloads 26K`
   https://cranlogs.r-pkg.org/badges/grand-total/scio
Most recent update on April 15, 2014.
First public release on May 6, 2012.

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 **lorec**: LOw Rank and sparsE Covariance matrix estimation. CRAN R package.

Web: https://CRAN.R-project.org/package=lorec
Programming languages: R, Fortran
Author: **X Luo**
Creator and Maintainer: **X Luo**
Download counts (from one server only, out of hundreds): `downloads 33K`
        https://cranlogs.r-pkg.org/badges/grand-total/lorec
Most recent update on February 20, 2014 .
First public release on November 7, 2011.

1 **clime**: Constrained ℓ_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 47K`
        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

72 (**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

71 (**Invited speaker**) *Covariate Assisted Principal (CAP) Regression for Matrix Outcomes*. ENAR, USA, March 15, 2021.
        Slides available at https://bit.ly/ehrnet20

70 (**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/ehrnet20

69 (**Invited speaker**) *Granger Mediation Analysis for Multiple Time Series*. JSM , Philadelphia, USA, August 1 - 6, 2020.
        Slides available at https://bit.ly/mediationjsm20

68 (**Invited speaker**) *Covariate Assisted Principal (CAP) Regression for Matrix Outcomes*. ICSA , Hangzhou, CHINA, December 20 - 22, 2019.
        Slides available at http://bit.ly/icsahz19

67 (**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

66 (**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

65 (**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

64 (**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

63 (**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

62 (**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

61 (**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.

60 (**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

59 (**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

58 (**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

57 (**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

56 (**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

55 (**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

54 (**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

53 (**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

52 (**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

51 (**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

50 (**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/xlSAMSI16

49 (**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/xlNESS16

48 (**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/xlENAR16

47 (**Invited**) *Estimation of Information Flow in Brain Networks*. Joint Statistical Meetings, Seattle, Washington, USA, August 8 - 13, 2015.

46 (**Invited**) *Variable Partitioning via Large Covariance Matrix Fusion*. European Meeting of Statisticians, Amsterdam, Netherland, July 6 - 10, 2015.

45 (**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.

44 (**Invited Topic-contributed**) *Algebraic Methods and Brain Networks*. Joint Statistical Meetings, Boston, Massachusetts, USA, August 3 - 6, 2014.

43 (**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.

42 (**Invited**) *Algebraic Properties and Fast Large Covariance Estimation.* ENAR, Baltimore, Maryland, USA, March 16 - 19, 2014.

41 (**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.

40 (**Invited**) *Inference with interference in an fMRI experiment.* ENAR, Orlando, Florida, USA, March 10 - 13, 2013.

39 (**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.

38 (**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.

37 (**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.

36 *High Dimensional Sparse and Low Rank Covariance Matrix Estimation via Convex Optimization.* Joint Statistical Meetings, Miami, Florida, USA, August 3, 2011.

35 *CLIME: A Constrained ℓ_1 Minimization Approach to Sparse Precision Matrix Estimation.* The Eighth International Chinese Statistical Association Conference, Guangzhou, China, December 19-22, 2010.

34 *Average Case Analysis of Sparse Multivariate Regression under Noise.* Joint Statistical Meetings, Vancouver, British Columbia, Canada, July 31-August 5, 2010.

33 *Average Case Analysis of Sparse Multivariate Regression under Noise.* International Conference on Statistics and Society, Beijing, China, July 10-12, 2010.

32 ℓ_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.

31 *Relaxed Greedy Pursuit.* IMS-China International Conference on Statistics and Probability, Hangzhou, China, June 11–13, 2008.

30 *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.

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/rtSAMSI1602

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 *ℓ_1 Penalized Least Likelihood: Fast Algorithms and Risk Bounds.* Department of Statistics and Actuarial Science, University of Waterloo, Canada, March 30, 2009.

2 *ℓ_1 Penalized Least Likelihood: Fast Algorithms and Risk Bounds.* Department of Statistics, University of California at Riverside, March 19, 2009.

1 *ℓ_1 Penalized Least Likelihood: Fast Algorithms and Risk Bounds.* Division of Statistics, Northern

Illinois University, February 26, 2009.

Grants

Current Grants

28   NIH *R01AG079324* Biomarkers in Vascular Cog   PI: E Marsh, J Mosher
       Period: 09/15/2022 – 06/30/2027
       Role: Co-I

27   NIH *R01MH126970* Stat Method for Multiview Data   PI: Y Zhao
       Period: 09/01/2022 – 06/30/2027
       Role: Co-I

26   NIH *P30AI161943* D-CFAR   PI: T Giordano
       https://reporter.nih.gov/project-details/10397168
       Period: 04/23/2021 – 03/31/2026
       Role: Co-I

25   NIH *RF1AG074204 Bio-AD*   PIs:J Mosher, M Funke
       https://reporter.nih.gov/project-details/10301875
       Period: 09/01/2021 – 08/31/2024
       Role: Co-I

24   NIH *R01MH110449 OCD*   PI: S Rasmussen
       https://projectreporter.nih.gov/project_info_description.cfm?aid=9157002
       Period: 09/15/2016 – 06/30/2022
       Role: Co-I

Completed Grants

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
       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
      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
      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
      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
      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
      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
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.

Training and Mentoring Grants

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

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
    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

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 School's New Facility Planning Focus Group, UT Health, 2021–pres.

Member of Departmental Prelimnary 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.

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

Member for Committee on New Data Science Faculty Candidates and Big Data Center Development, UT Health, 2019–pres.

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/Frontiers in Neurology/Frontiers in Neuroimaging Brain Imaging Methods Section, PLOS ONE.

Regular Reviewer for the following journals: Neurology, Annals of Applied Statistics, Annals of Statistics, Biometrics, Circulation: Cardiovascular Quality and Outcomes, Frontiers in Neuroscience, Linear Algebra and its Applications, Neuroscience, Nature Scientific Reports, 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.

Review Panels

◇ Junior researcher paper award judge, the 2018 ICSA conference, 2018.

◇ Panel member for National Institute 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

Chair of the poster session, and executive committee member, the ICSA 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

Regular Courses

21 PHD 1930 *Survival Analysis*, Department of Biostatistics and Data Science, UT Health, Fall 2022.

20 PHM 1690 *Introduction to Biostatistics in Public Health*, Department of Biostatistics and Data Science, UT Health, Summer 2022.

19 PHD 1930 *Statistical Computing*, Department of Biostatistics and Data Science, UT Health, Fall 2021.

18 PHD 1930 *Survival Analysis*, Department of Biostatistics and Data Science, UT Health, Fall 2021.

17 PHD 1930 *Survival Analysis*, Department of Biostatistics and Data Science, UT Health, Fall 2020.

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.

Research Courses

12   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Spring 2018.

11   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Fall 2017.

10   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Spring 2017.

9   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Fall 2016.

8   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Spring 2016.

7   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Fall 2015.

6   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Spring

2015.

5   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Fall 2014.

4   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Spring 2014.

3   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Fall 2013.

2   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Spring 2013.

1   PHP 2980 S84 *Graduate Independent Study*, Department of Biostatistics, Brown University, Fall 2012.

Student Advising

Research Advising: PhD

18   2020–pres. Runzhi Zhou   Role: thesis advisor

17   2020–pres. Bo Zhao   Role: thesis advisor

16   2020–pres. Gen Zhu   Role: thesis co-advisor

15   2020–pres. Katherine Wall   Role: thesis co-advisor

14   2019–pres. Vi Ly   Role: thesis advisor

13   2019–pres. Lizhong Liu   Role: thesis advisor

12   2017–2019. Ke Jun   Role: thesis advisor

11   2017–2020. Xuefei Cao   Role: research advisor
           Honorable Mention 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

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)