

ZIYI LI

Work address Department of Biostatistics
MD Anderson Cancer Center
P. O. Box 301402
Houston, TX 77230-1402

Home address 3925 Swarthmore Street, Houston, TX 77005

Cell phone (215)429-9695

Email ZLi16@mdanderson.org

Website <https://sites.google.com/site/ziyiliemory/e>

Google scholar <https://scholar.google.com/citations?user=dJsYA04AAAAJ&hl=en>

Date 08/02/2022

Employment

- **November 2020–Present, Assistant Professor of Biostatistics (tenure-track)**, MD Anderson Cancer Center, Department of Biostatistics, Houston, TX
- **April 2021–Present, Regular Member**, Quantitative Sciences Program, The University of Texas MD Anderson Cancer Center UThealth Graduate School of Biomedical Sciences (GSBS), Houston, TX
- **August 2021–Present, Adjunct Assistant Professor**, Department of Statistics, Rice University, Houston, TX

Education

- **Ph.D. in Biostatistics and Bioinformatics** 2014-2018
Emory University, Laney Graduate School
— Advisor: Qi Long
— Dissertation: *Statistical Learning Methods for Big Biomedical Data.*
- **MPH in Biostatistics** 2012-2014
Yale University, School of Public Health
— Advisors: Tassos Kyriakides and Shuangge Ma
— Thesis: *Application of causal inference and non-parametric methods on relations of endoleak risk factors*
- **B.S. in Statistics** 2008-2012
Peking University, School of Mathematical Sciences

Previous Work Experience

- **June 2018–October 2020, Postdoctoral Fellow**, Emory University, Department of Biostatistics and Bioinformatics, Atlanta, GA
— Advisor: Hao Wu
— Research projects on high-throughput omics data
- **May 2016–August 2016, Research Analyst/Summer Intern**, Integrating Data for Analysis, Anonymization and SHaring (iDASH), University of California, San Diego, CA.
— Advisor: Xiaoqian Jiang
— Project name: Distributed learning from multiple EHR databases : contextual embedding models for medical events

- **May 2013–August 2013, Research Analyst/Summer Intern**, Cooperative Studies Program at Veterans Affairs Healthcare System, West Haven, CT.
— Advisor: Tassos Kyriakedes
— Project name: Endoleak study, a sub-study of OVER (Open Versus Endovascular Repair) trial (CSP498)

Research Interests

- Statistical Methodology: Genomics, multi-omics, and electronic health record data analyses. My detailed research interests include developing statistical methods to analyze high-throughput and -omics data from heterogeneous tissues, and statistical methods related with distributed learning and privacy protection for electronic health record data.
- Applications: Cancer, Autism, Alzheimer’s disease, Fragile X syndrome, cardiovascular diseases, obesity.

Publications

Statistical Methodology

1. **Ziyi Li**, Sandra Safo, Qi Long. “*Incorporating Biological Information in Sparse Principal Component Analysis with Application to Genomic Data.*” **BMC bioinformatics** 18.1 (2017): 332.
2. **Ziyi Li[§]**, Changgee Chang[§], Suprateek Kundu, Qi Long. “*Bayesian Biclustering Analysis via Adaptive Structured Shrinkage.*” **Biostatistics** (2018) 00, pp. 1-15.
3. **Ziyi Li**, Kirk Roberts, Xiaoqian Jiang, Qi Long. “*Distributed Learning from Multiple EHR Databases : Contextual Embedding Models for Medical Events.*” **Journal of Biomedical Informatics** (2019): 103138
4. **Ziyi Li**, Zhijin Wu, Peng Jin, Hao Wu. “*Dissecting differential signals in high-throughput data from complex tissues.*” **Bioinformatics** 35, no. 20 (2019): 3898-3905.
5. **Ziyi Li**, Hao Wu. “*Improving reference-free cell composition estimation by cross-cell type differential analysis*” **Genome Biology**, 20.1 (2019): 1-17.
6. **Weiwei Zhang[§]**, **Ziyi Li[§]**, Nana Wei, Hao Wu, Xiaoqi Zheng “*Detection of differentially methylated CpG sites between tumor samples with uneven tumor purities.*” **Bioinformatics**, 36.7 (2020): 2017-2024.
7. **Ziyi Li[†]**, Zhenxing Guo, Ying Cheng, Peng Jin, Hao Wu[†]. “*Robust partial reference-free cell composition estimation from tissue expression profiles.*” **Bioinformatics**, 2020 Jun 1;36(11):3431-3438.
8. Weiwei Zhang, Hao Wu[†], **Ziyi Li[†]**. “*Complete deconvolution of DNA methylation signals from complex tissues: a geometric approach.*” **Bioinformatics** 2021 May 23;37(8):1052-1059..
9. **Ziyi Li**, Yijian Huang, Datta Patil, Martin G. Sanda. “*Covariate adjustment in continuous biomarker assessment.*” **Biometrics** 2021 Nov 22. doi: 10.1111/biom.13601.

10. **Ziyi Li**, Xiaoqian Jiang, Yizhuo Wang, Yejin Kim; “*Applied machine learning in Alzheimer’s disease research: omics, imaging, and clinical data.*” **Emerg Top Life Sci** 2021; ETL20210249. doi: <https://doi.org/10.1042/ETLS20210249>
11. **Ziyi Li**, Hao Feng. “*A neural network based exhaustive cell annotation method for single cell RNA-seq transcripts.*” **Scientific Reports** 2022 Jan 18;12(1):910.
12. Xiaobo Sun, Xiaochu Lin, **Ziyi Li**, Hao Wu. “*A comprehensive comparison of supervised and unsupervised methods for cell type identification in single cell RNA-seq.*” **Briefings in Bioinformatics** 23.2 (2022): bbab567.
13. Xin Wei[§], **Ziyi Li**[§], Hao Wu. “*EDClust: An EM-MM hybrid method for cell clustering in multiple-subject single-cell RNA sequencing.*” **Bioinformatics** 38.10 (2022): 2692-2699.
14. Yizhuo Wang, Bing Z. Carter, **Ziyi Li**[†], Xuelin Huang[†]. “*Application of machine learning methods in clinical trials with response-adaptive randomization.*” **JAMIA open** 5.1 (2022): oab107.
15. Duan, Daoyu, Sijia He, Emina Huang, **Ziyi Li**[†], and Hao Feng[†]. “*NeuCA web server: a neural network-based cell annotation tool with web-app and GUI.*” **Bioinformatics**. 2022 Feb 17;38(8):2361–3.
16. Yizhuo Wang, Christopher Flowers, **Ziyi Li**[†], Xuelin Huang[†]. “*A conditional survival distribution-based method for censored data imputation: overcoming the hurdle in machine learning-based survival analysis.*” **Journal of Biomedical Informatics** 2022 Jul;131:104117.
17. Yizhuo Wang, Christopher Flowers, **Ziyi Li**[†], Xuelin Huang[†]. “*CondiS Web App: Imputation of censored lifetimes for machine learning-based survival analysis.*” **Bioinformatics**. 2022 Jul 8:btac461.
18. **Ziyi Li**, Yijian Huang, Datta Patil, Mark Rubin, Martin G. Sanda. “*Covariate-specific evaluation of continuous biomarkers.*” Under invited revision for **Statistics in Medicine**.
19. Luxiao Chen, **Ziyi Li**, Hao Wu. “*Incorporating cell type hierarchy improves cell type specific differential analyses in bulk omics data*” Under invited revision for **Genome Biology**.
20. **Ziyi Li**[†], Yizhuo Wang, Irene Ganan-Gomez, Simona Colla, Kim-Anh Do[†]. “*A machine learning-based method for automatically identifying novel cells in annotating single cell RNA-seq data.*” Under invited revision for **Bioinformatics**.
21. **Ziyi Li**, Yu Shen, Jing Ning. “*Accommodating time-varying heterogeneity in risk estimation under Cox model: a transfer learning approach.*” Submitted.
22. **Ziyi Li**[†], Ruoxing Li, Irene Ganan-Gomez, Hussein A. Abbas, Simona Colla, Wei Sun[†]. “*Accurate identification of locally aneuploid cells by incorporating cytogenetics information in single cell data analysis.*” In preparation.
23. Ruoxing Li, Jianjun Zhang, **Ziyi Li**[†]. “*EasyCellType: Marker based cell type annotation by automatically querying multiple databases.*” In preparation.

[§] These authors contributed equally to this work.

[†] Corresponding author.

Collaborative

24. Lal, Brajesh K., Wei Zhou, **Ziyi Li**, Tassos Kyriakides, Jon Matsumura, Frank A. Lederle, Julie Freischlag, and OVER Veterans Affairs Cooperative Study Group. “*Predictors and outcomes of endoleaks in the Veterans Affairs Open Versus Endovascular Repair (OVER) Trial of Abdominal Aortic Aneurysms.*” **Journal of Vascular Surgery** 62, no. 6 (2015): 1394–1404.
25. Yi-Juan Hu, Amand F Schmidt, Frank Dudbridge, Michael V Holmes, James M Brophy, Vinicius Tragante, **Ziyi Li**, Peizhou Liao, Ray McCubrey, Benjamin Horne, Aroon Hingorani, Folkert Asselbergs, Riyaz Patel, Qi Long on behalf of the GENIUS-CHD Consortium. “*Impact of Selection Bias on Estimation of Subsequent Event Risk*” **CLINICAL PERSPECTIVE.** **Circulation: Cardiovascular Genetics.** 2017 Oct 1;10(5):e001616.
26. Liping Li, Liqun Zang, Feiran Zhang, Junchen Chen, Hui Shen, Liqi Shu, Feng Liang, Chunyue Feng, Deng Chen, Huikang Tao, Tianlei Xu, **Ziyi Li**, Yunhee Kang, Hao Wu, Lichun Tang, Pumin Zhang, Peng Jin, Qiang Shu, Xuekun Li. “*Fat mass and obesity-associated (FTO) protein regulates adult neurogenesis.*” **Human Molecular Genetics**, Volume 26, Issue 13, 1 July 2017, Pages 2398- 2411
27. Elizabeth P. Parks, Reneé H. Moore, **Ziyi Li**, Chanelle T. Bishop-Gilyard, David B. Sarwer. “*Assessing the Feasibility of a Social Media to Promote Weight Management Engagement in Adolescents with Severe Obesity: Pilot Study.*” **JMIR research protocols** 7.3 (2018).
28. Ying Cheng, **Ziyi Li**, Sasicha Manupipatpong, Li Lin, Xuekun Li, Tianlei Xu, Yong-hui Jiang, Qiang Shu, Hao Wu, and Peng Jin. “*5-hydroxymethylcytosine alterations in the human postmortem brains of autism spectrum disorder.*” **Human Molecular Genetics** (2018).
29. Ying Cheng, Miao Sun, Li Chen, Yujing Li, Li Lin, Bing Yao, **Ziyi Li**, Zhiqin Wang, Jack Chen, Zhigang Miao, Ning Xin, Luoxiu Huang, Emily Allen, Hao Wu, Xingshun Xu, Peng Jin. “*Ten-Eleven Translocation Proteins Modulate the Response to Environmental Stress in Mice.*” **Cell Reports.** 2018 Dec 11;25(11):3194-203.
30. Lixia Qin, Qian Xu, **Ziyi Li**, Li Chen, Yujing Li, Nannan Yang, Zhenhua Liu, Jifeng Guo, Lu Shen, Chao Chen, Chao Ma, Hao Wu, Peng Jin, Xiongwei Zhu, Beisha Tang. “*Ethnicity-specific and overlapping alterations of brain hydroxymethylome in Alzheimer’s disease.*” **Human Molecular Genetics** 29.1 (2020): 149-158.
31. Janise N. Kuehner, Junyu Chen, Emily C. Bruggeman, Chongchong Xu, Feng Wang, Yangping Li, Chadwick M. Hales, **Ziyi Li**, Li Chen, Zhexing Wen, Jingjing Yang, and Bing Yao. “*5-hydroxymethylcytosine is Dynamically Regulated During Forebrain Organoid Development and Prematurely Altered in Forebrain Organoids of Alzheimer’s Disease.*” **Cell Reports** 35.4 (2021): 109042.
32. Katharine E Shelly, Nicholes R Candelaria, **Ziyi Li**, Emily G Allen, Peng Jin, David L Nelson. “*Ectopic expression of CGG-repeats alters ovarian response to gonadotropins and leads to infertility in a murine FMR1 premutation model.*” **Human molecular Genetics** 30.10 (2021): 923-938.
33. Jacob J. Mandela, Michael Youssef, Shlomit Yust-Katz, Akash J. Patel, Ali Jalali, **Ziyi Li**, Jimin Wu, Ethan B. Ludmir, John F. de Groot. “*IDH mutation status and the development of venous thromboembolism in astrocytoma patients.*” **Journal of the Neurological Sciences** 427 (2021): 117538.
34. Yunhee Kang, Ying Zhou, Yujing Li, Yanfei Han, Jie Xu, Weibo Niu, **Ziyi Li**, Shiyong Liu, Hao Feng, Wen Huang, Ranhui Duan, Tianmin Xu, Nisha Raj, Hao Wu, Gary J Bassell,

- Stephen T Warren, Emily G Allen, Peng Jin, and Zhexing Wen. “*Fragile X mental retardation protein regulates neurogenesis and neuronal differentiation in a human organoid model of fragile X syndrome.*” **Nature Neuroscience** 24.10 (2021): 1377-1391.
35. Aiham Qdaisat, Sai-Ching Jim Yeung, Cristhiam M Rojas Hernandez, Pavani Samudrala, Mona Kamal, **Ziyi Li**, Adriana H. Wechsler. “*Characteristics and outcomes of intracranial hemorrhage in cancer patients visiting the emergency department.*” **Cancer** 11.3 (2022): 643.
 36. Qian Zhang, Qicheng Hu, Junjie Wang, Zhigang Miao, **Ziyi Li**, Yuwen Zhao, Bo Wan, Emily G Allen, Miao Sun, Peng Jin, Xingshun Xu. “*Stress modulates Ahi1-dependent nuclear localization of Ten-Eleven Translocation Protein 2.*” **Human molecular Genetics** 30.22 (2021): 2149-2160.
 37. Cuida Meng, Lei Gu, Yujing Li, Ronghua Li, Yiqu Cao, **Ziyi Li**, Emily G Allen, Dongdong Zhu, Peng Jin. “*Ten-Eleven Translocation 2 Modulates allergic inflammation by 5-hydroxymethylcytosine remodeling of immunologic pathways.*” **Human molecular Genetics** 30.21 (2021): 1985-1995.
 38. Xu, Weize, Xicheng Zhang, Feng Liang, Yuhang Cao, **Ziyi Li**, Wenzheng Qu, Jinyu Zhang, Bingui Sun, Qiang Shu, Xuekun Li. “*Tet1 Regulates Astrocyte Development and Cognition of Mice Through Modulating GluA1.*” **Front Cell Dev Biol.** 2021 Oct 28;9:644375. doi: 10.3389/fcell.2021.644375. PMID: 34778243; PMCID: PMC8581465.
 39. Irene Ganan-Gomez, Hui Yang, Feiyang Ma, Natthakan Thongon, Ms Valentina Marchica, Guillaume Richard-Carpentier, Guillermo Montalban-Bravo, Ganiraju Manyam, Feng Wang, Ana Alfonso, Andrea Santoni, Mr Shuaitong Chen, Caleb Class, Kelly Chien, Rashmi Kanagal Shamanna, Justin Ingram, Yamini Ogoti, Ashley Rose, Sanam Loghavi, Pamela Lockyer, Benedetta Cambò, Ms Sarah Schneider, Vera Adema, Mr Michael McLellan, John Garza, Matteo Marchesini, Professor Nicola Giuliani, Matteo Pellegrini, Jing Wang, Jason Walker, **Ziyi Li**, Koichi Takahashi, Stephanie Halene, Joel Leverson, Carlos Bueso-Ramos, Karen Clise-Dwyer, Guillermo Garcia-Manero “*Stem cell architecture drives myelodysplastic syndrome progression and predicts response to venetoclax-based therapy.*” **Nature Medicine** 28.3 (2022): 557-567.
 40. Wang, Sheng, Yang Yang, Andrew Suen, Jing Zhu, Brittney Williams, Jiang Hu, Fengqian Chen, Rosemary Kozar, Shiqian Shen, **Ziyi Li**, Anjana Jeyaram, Steven M. Jay, Lin Zou, Wei Chao. “*Role of Extracellular MicroRNA-146a-5p in Host Innate Immunity and Bacterial Sepsis.*” **iScience** 24.12 (2021): 103441.
 41. Hussein A. Abbas, Edward Ayoub, Rashmi Kanagal, Hanxiao Sun, Nicholas Short, Musa Yilmaz, Sherry Pierce, Brent Cham, Shane Wing, **Ziyi Li**, Danielle Hammond, Elias Jabbour, Guillermo Garcia-Manero, Michael Andreeff, Naval Daver, Tapan Kadia, Marina Konopleva, Courtney DiNardo, Farhad Ravandi. ”*Validation of Acute Leukemia French Association ALFA1200 Model in Older AML Treated with Intensive Chemotherapy.*” Accepted to **Blood Advances**.
 42. Wilfred Leung, Matthew R. Teater, Ceyda Durmaz, Cem Meydan, Ms. Alexandra G. Chivu, Edward J. Rice, Ashlesha Muley, Jeannie M. Camarillo, Jaison Arivalagan, Amy Chadburn, Neil L. Kelleher, Charles G. Danko, Marcin Imielinski, Sandeep S. Dave, Scott A. Armstrong, Christopher E. Mason, **Ziyi Li**, Christopher R. Flowers “*SETD2 haploinsufficiency enhances germinal center-associated AICDA somatic hypermutation to drive B cell lymphomagenesis.*” Accepted to **Cancer discovery**.

43. Lixia Qin, Qian Xu, Shishi Min, Yujing Li, **Ziyi Li**, Chao Chen, Hao Wu, Junhai Han, Xiongwei Zhu, Peng Jin, Beisha Tang. “*Altered Hydroxymethylome in the Substantia Nigra of Parkinson’s Disease.*” Accepted to **Human Molecular Genetics**.
44. Ashley Aaroe, Razelle Kurzrock, Gaurav Goyal, Aaron Goodman, Harsh Patel, Gordon Ruan, Gary Ulaner, Jason Young, **Ziyi Li**, Derek Dustin, Ronald Go, Eli Diamond, and Filip Janku. “*Successful Treatment of Non-Langerhans Cell Histiocytosis with the MEK Inhibitor Trametinib.*” Submitted.
45. Qiong Liu, Kailin Zhang, Yunhee Kang, Penghui Deng, Yujing Li, Yangping Li, Yun Tian, Qiying Sun, Yu Tang, Keqin Xu, Jun-Ling Wang, Jifeng Guo, Jia-Da Li, Kun Xia, Qingtuan Meng, Emily Allen, Zhexing Wen, **Ziyi Li**, Hong Jiang, Lu Shen, Ranhui Duan, Bing Yao, Beisha Tang, Yongcheng Pan. “*GGC repeat expansion within NOTCH2NLC causes behavioral deficits and neurodegeneration through altering splicing and context-dependent gene expression.*” Submitted.
46. Weihua Ding, Lukas Fischer, Qian Chen, **Ziyi Li**, Liuyue Yang, Zerong You, Kun Hu, Lucy Chen, Peter Hu, Wei Chao, Peng Jin, Jianren Mao, Guoping Feng, Mark T. Harnett, and Shiqian Shen. “*Highly synchronized cortical neuronal activity in response to neuropathic pain.*” Submitted.
47. Hao Feng, Ying Cheng, **Ziyi Li**, Hao Wu, Peng Jin. “*5-hydroxymethylcytosine alterations, cell-free DNA, aging, Alzheimer’s disease.*” In preparation.

Current fundings

- **1R03CA270725-01** Li (PI), Role: **Principal investigator**
04/18/22-03/31/24
NIH/NCI
Statistical models for intratumor heterogeneity of tumor-infiltrated leukocytes in lung cancer
- **5R01CA222253-04**, Colla (PI), Role: **Biostatistician**
1/1/2018-12/31/2022
NIH/NCI
Validation of Critical 1q21 Vulnerabilities in Multiple Myeloma
- **RP190295**, Colla (PI), Role: **Biostatistician**
3/1/2019-2/28/2022
Cancer Prevention & Research Institute of Texas (CPRIT)
Targeting Hypomethylating Resistance in Myelodysplastic Syndromes
- **R01CA235673-03**, Puduvalli (PI), Role: **Biostatistician**
8/1/2021-7/31/2025
NIH/NCI
A Novel Hsp90 Inhibitor as a Chemo and Radiosensitizer in Adults with Glioblastoma
- **5P50CA127001-12**, Lang (PI), Role: **Biostatistician**
9/1/2019-8/31/2024
NIH/NCI
SPORC in Brain Cancer - Biostatistics and Bioinformatics Core
- **710499-80-123093-21**, Yam (PI), Role: **Biostatistician**
9/1/2020-8/31/2021
MDACC Moonshots Program
Breast Cancer Moonshot Project 2

- **710499-80-123137-21**, Guermo (PI), Role: **Biostatistician**
9/1/2021-8/31/2022
MDACC Moonshots Program
MDS/AML Cancer Moonshot Project 2
- **P30CA016672-45**, Pister (PI), Role: **Biostatistician**
8/28/1996-6/30/2024
NIH/NCI
Cancer Center Support grant - Biostatistics Resource Group (BRG)
- **1016433.01**, Flowers (PI), Role: **Biostatistician**
3/1/2020-2/28/2022
Burroughs Wellcome Fund
Microsimulation Modeling to Evaluate the Clinical Effectiveness of Novel Cancer Therapies

Honors and Awards

- **2nd place of Young Scientist’s Excellence Award (postdoc section)**, MidSouth Computational Biology and Bioinformatics Society Conference, 2020
- **2nd Place Poster Award**, Georgia Statistics Day, 2018
- **The Penina and Michael Haber Award**, Emory University, 2018
- **ENAR Poster Award**, Eastern North American Region (ENAR), 2018
- **Student Paper Award**, International Chinese Statistical Association Applied Statistics Symposium (ICSA), 2016
- **2nd Place Prize Award** at NSF/Anderson Student Poster Competition and **Boyd Harshbarger Travel Award**, Southern Regional Council On Statistics(SRCOS) Summer Research Conference, 2016
- **Scholarship for Excellent Oversea Students**, China Selection Inc., 2012
- **National Innovation Research Funds for Undergraduate**, Chinese Ministry of Education, 2011
- **Winner Prize**, The 7th “Jiang-Ze-Han” Mathematical Modeling Competition at Peking University, 2010

Software Developed

- **TOAST**: Tools for the analysis of heterogeneous tissues. An R package for deconvolution and differential analysis from high-throughput sequencing data of complex tissues. Available at <http://bioconductor.org/packages/devel/bioc/html/TOAST.html>.
— Software based on publication Li 2019 **Bioinformatics** and Li 2019 **Genome Biology**
- **caROC**: Evaluate continuous biomarkers with caROC. Available at <https://github.com/ziyili20/caROC>.
— Software based on Li 2020+
- **GBC**: Generalized Biclustering. An R package to simultaneously cluster variable space and subject space on single or multi- omics datasets. Available at <https://github.com/ziyili20/GBC>.
— Software based on publication Li 2018 **Biostatistics**

- **DistributedLearningPredictor**: A python library to analyze Electronic Health Record (EHR) data from multiple sources. This library includes three models which can learn from multiple databases distributedly and at the same time make predictions for patient diagnoses. Available at <https://github.com/ziyili20/DistributedLearningPredictor>.
— Software based on publication Li 2019 **Journal of Biomedical Informatics**
- **ssPCA**: Structured Sparse PCA. A matlab toolbox to conduct principal component analysis with incorporation of biological information. Available at <https://github.com/ziyili20/ssPCA>.
— Software based on publication Li 2017 **BMC Bioinformatics**

Presentations

- Invited talk, Biostatistics Epidemiology Research Design (BERD) Seminar, The University of Texas Health Science Center at Houston (UTHealth), Virtual, July, 2022
— Identifying novel cells in annotating single-cell RNA-seq data
- Invited talk, Precision Medicine Series Seminar, The University of Texas Health Center, Virtual, January, 2021
— Dissecting cell type-specific signals from heterogeneous samples
- Invited talk, International Chinese Statistical Association Applied Statistics Symposium (ICSA), Virtual, December, 2020
— Robust partial reference-free cell composition estimation from tissue expression profile.
- Oral presentation, 2020 MidSouth Computational Biology and Bioinformatics Society Conference, Virtual. October, 2020
— Robust partial reference-free cell composition estimation from tissue expression profile.
[**** 2nd place of Young Scientist's Excellence Award ****]
- Invited talk, Department of Quantitative Science and Populational Health, Case Western Reserve University, Cleveland, OH, January, 2020
— Dissecting cell type-specific signals from heterogeneous samples
- Invited talk, Department of Biostatistics, Indiana University, Indianapolis, IN, January, 2020
— Dissecting cell type-specific signals from heterogeneous samples
- Invited talk, Department of Biostatistics, Memorial Sloan Kettering Cancer Center, New York, December, 2019
— Dissecting cell type-specific signals from heterogeneous samples
- Poster, The 7th workshop on Biostatistics and Bioinformatics, Atlanta, GA. 2019
— Dissecting differential signals in high-throughput data from complex tissues.
- Invited talk, The 16th MidSouth Conference on Computational Biology and Bioinformatics (MCBIOS '19), 2018, Birmingham, AL. March, 2019
— Dissecting differential signals in high-throughput data from complex tissues.
- Poster, Georgia Statistics Day, 2018, Athens, GA. October, 2018
— Dissecting differential signals in high-throughput data from complex tissues.
[**** 2nd Place Poster Award ****]
- Poster, The 6th workshop on Biostatistics and Bioinformatics, Atlanta, GA. 2018
— Bayesian Biclustering Analysis via Adaptive Structured Shrinkage.
- Poster, ENAR 2018 Spring meeting, Atlanta, GA. March, 2018
— Bayesian Biclustering Analysis via Adaptive Structured Shrinkage.
[**** ENAR Poster Award ****]

- Oral presentation, ENAR 2016 Washington DC. March, 2016
— Distributed Learning from Multiple EHR Databases : Contextual Embedding Models for Medical Events.
- Oral presentation, Joint Statistical Meeting, Chicago, IL. August, 2016
— Incorporating Biological Information in Sparse Principal Component Analysis with Application to Genomic Data.
- Oral presentation, International Chinese Statistical Association Applied Statistics Symposium (ICSA), Atlanta, GA. June, 2016
— Incorporating Biological Information in Sparse Principal Component Analysis with Application to Genomic Data.
[**** Student Paper Award ****]
- Poster, Southern Regional Council On Statistics(SRCOS) Summer Research Conference, Bentonville, AR. March, 2016
— Incorporating Biological Information in Sparse Principal Component Analysis with Application to Genomic Data.
[**** 2nd Place Poster Award ****]

Conference organizer

- **Session Organizer and Session Chair**, International Chinese Statistical Association Applied Statistics Symposium (ICSA), Virtual. December, 2020
—Decipher cell heterogeneity in high-throughput data analysis
- **Sesson Organizer and Session Chair**, East North American Region (ENAR) Spring meeting of the International Biometric Society, 2021 Virtual, March, 2021
— Recent advances in statistical methods for complex high-throughput data
- **Short course instructor** (co-teach with Dr. Hao Wu), East North American Region (ENAR) Spring meeting of the International Biometric Society, 2021 Virtual, March, 2021
— Analysis of single cell RNA-seq data
- **Sesson Organizer and Session Chair**, East North American Region (ENAR) Spring meeting of the International Biometric Society, 2022 Houston, Texas, March, 2022
— Advances in Single Cell Data Analysis Using Statistical Methods and Machine Learning

Mentoring Experience

Master students (Co-mentor with Dr. Hao Wu at Emory University):

Yuchen Yan (Spring 2019)
Siyi Geng (Spring 2019)
Can Li (Spring 2020)
Jinjing He (Spring 2020)
Xiaochu Lin (Spring 2021)
Xin Wei (Spring 2021)

PhD students I served as mentor or co-mentor:

Yizhuo Wang (GSBS, Co-mentor with Dr. Xuelin Huang, 2021-present)
Ruoxing Li (UTH, 2022-present)
Peng Yang (Rice statistics, Co-mentor with Dr. Ying Yuan, 2022-present)

Rotation students:

Sunyi Chi (Spring 2021)
Yizhuo Wang (Spring 2021)

Serving in the Ph.D. Candidacy Advisory Committee:

Yuanxin Wang (Fall 2021-present)

Serving in the Ph.D. Candidacy Examination Committee:

Sunyi Chi (April 2022)
Mengyi Lu (May 2022)
Feng Tian (September 2022)
Yuanxin Wang (September 2022)

Other Institutional Service Experience

- MD Anderson Cancer Center Multidisciplinary Research Program (MRP) Review Committee (Spring 2021, 2022)
- GSBS Research Grant Award Reviewer (Summer 2022)

Teaching at Emory University

My role	Semester	Class	Class level	Class size
TA	Fall 2015	BIOS710: Probability Theory II	Doctoral	10
	Spring 2016	BIOS591: Biostatistics Method II	Master's	35
	Fall 2016	BIOS510: Probability Theory I	Master's	39
	Spring 2017	BIOS511: Statistical Inference	Master's	40
	Fall 2017	BIOS555: High-throughput data analysis using R and Bioconductor	Master's	14
	Spring 2018	BIOS738: Bayesian and empirical bayes models	Doctoral	24
Guest lecturer	Spring 2017	BIOS511: Statistical Inference	Master's	45
Review session instructor	Spring 2017	BIOS511: Statistical Inference	Master's	45
	Summer 2017	Ph.D. qualify exam (theory part)	Doctoral	7
Instructor	Spring 2019	BIOS545: R Programming	Master's	42
	Spring 2020			36

Teaching at MD Anderson Cancer Cancer/Rice University

Generalized Linear Model, doctoral level course, co-teach with Dr. Yisheng Li

- Fall 2021, number of enrollment = 15
- Fall 2022, number of enrollment = 30

Editorial Activities (total: 93)

Reviewer for *Nucleic Acid Research* (1), *Briefings in Bioinformatics* (4), *Biometrics* (3), *Annals of Applied Statistics* (3), *Cancers* (1), *Epigenetics* (2), *Journal of Applied Statistics* (9), *Frontier in Genetics* (1), *Scientific Reports* (4), *PloS One* (13), *PeerJ* (4), *Scientific Reports* (2), *Journal of Alzheimer's Disease* (8), *Neoplasma* (13), *BMC Bioinformatics* (4), *Oncotarget* (12), *BMC Supplements* (1), *Journal of Agriculture Science and Technology* (1), *International Immunotherapy* (9), *Statistics in BioScience* (1).

Professional Membership

American Statistical Association (ASA)

The International Biometric Society — Eastern North American Region (ENAR)

International Chinese Statistical Association (ICSA)

Caucus for Women in Statistics (CWS)

Computational Skills

- Programming Languages: *R*, *SAS*, *Python*, *Matlab*
- Operating Systems: *Windows*, *Unix*