

Liangyuan Hu

Curriculum Vitae

April 2024

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EDUCATION

- 2015 Ph.D. Biostatistics Brown University
2007 M.Sc. Statistics University of Alberta
2002 B.Eng. Civil Engineering South China University of Technology

ACADEMIC APPOINTMENTS

- 2021 – pres. *Associate Professor*, Department of Biostatistics and Epidemiology, Rutgers University
2016 – 2021 *Assistant Professor (Biostatistics)*, Icahn School of Medicine at Mount Sinai
2016 – 2021 *Core Faculty Member*, Institute for Healthcare Delivery Science, Mount Sinai
2016 – 2021 *Core Faculty Member*, Tisch Cancer Institute, Mount Sinai

OTHER PROFESSIONAL POSITIONS

- 2015 – 2016 *Associate*, Analysis Group, Inc. , New York, NY
2008 – 2009 *Statistician*, Alberta Health & Wellness, Canada

EDITORIAL POSITIONS

- 2024 – pres. **Associate Editor**, *Biometrics*
2024 – pres. **Associate Editor**, *The Journal of the Royal Statistical Society, Series C*
2023 – pres. **Associate Editor**, *The Annals of Applied Statistics*
2021 – 2023 **Editorial Board Member**, *Journal of Clinical Oncology*

AWARDS

- 2021 Delta Omega Honorary Society
2019 American Statistical Association Outstanding Statistical Application Award, Denver, CO.
2017 Travel Award, MCW Biostatistics Conference, Milwaukee, WI.
2015 American Statistical Association Student Paper Award, Health Policy Statistics Section, Seattle, WA.
2015 Best Graduate or Post-Doctoral Trainee Poster Presentation, SPH, Brown University.
2015 CFAR Trainee Support Award, Lifespan/Turfs/Brown Center for AIDS Research.
2014 Best Poster Award, 18th International Workshop on HIV Observational Databases, Spain.
2007 Josephine M. Mitchell Scholarship for Excellence in Academic Achievements, University of Alberta.
2006 Canadian Federation of University Women — Edmonton Academic Awards Fund, University of Alberta.

PUBLICATIONS (* trainee author + senior author ‡ joint first author)

Papers in Peer-Reviewed Journals

1. **Hu L** (2024). A new method for clustered survival data: Estimation of treatment effect heterogeneity and variable selection. *Biometrical Journal* **66** (1), 2200178.
2. Li J, Wisnivesky J, Lin JJ, Campbell KN, **Hu L**, and Kale MS (2024). Examining the trajectory of health-related quality of life among coronavirus disease patients. *Journal of General Internal Medicine*. In Press.
3. **Hu L**⁺, Ji J, Joshi H, Scott E, and Li F (2023). Estimating the causal effects of multiple intermittent treatments with application to COVID-19. *J R Stat Soc: Ser C* **72** (5), 1162–1186.
4. Gluck MA, Gills JL, Fausto BA, Malin SK, Duberstein PR, Erickson K, and **Hu L** (2023). Examining the efficacy of a cardio-dance intervention on brain health and the moderating role of ABCA7 in older African Americans: a protocol for a randomized controlled trial. *Frontiers in Aging Neuroscience* **15**, 1266423.

5. Jadov B, **Hu L**, Zou J, Labovitz D, Ibeh C, Ovbiagele B, and Esenwa C (2023). Associations of historical redlining and social determinants with contemporary occurrence of stroke in New York City. *JAMA Network Open* **6** (4), e235875.
6. Zeng S, Li F, **Hu L**, and Li F (2023). Propensity score weighting analysis of survival outcomes using pseudo-observations. *Statistica Sinica* **33** (3), 2161–2184.
7. **Hu L**⁺, Zou J^{*}, Gu C, Ji J, Lopez M, and Kale M (2022). A flexible sensitivity analysis approach for unmeasured confounding with multiple treatments and a binary outcome with application to SEER-Medicare lung cancer data. *The Annals of Applied Statistics* **62** (2), 1014–1037.
8. **Hu L**⁺ and Ji J (2022). CIMTx: An R package for causal inference with multiple treatments using observational data. *The R Journal* **14** (3), 213–230.
9. **Hu L**⁺, Ji J, Ennis RD, and Hogan JW (2022). A flexible approach for causal inference with multiple treatments and clustered survival outcomes. *Statistics in Medicine* **41** (25), 4982–4999.
10. **Hu L**⁺, Ji J, Liu H, and Ennis R (2022). A flexible approach for assessing heterogeneity of causal treatment effects on patient survival using large datasets with clustered observations. *International Journal of Environmental Research and Public Health* **19** (22), 14903.
11. **Hu L**⁺ and Li L (2022). Using tree-based machine learning for health studies: Literature review and case studies. *International Journal of Environmental Research and Public Health* **19** (23), 16080.
12. Lin J^{*}, **Hu L**⁺, Huang C^{*}, Lawrence S^{*}, and Govindarajulu U (2022). Strategies for variable selection in large-scale healthcare database studies with missing covariate and outcome data. *BMC Medical Research Methodology* **22**, 132.
13. Cohen B, Fleshner P, et al., **Hu L**, and Sands B (2022). Prospective Cohort Study to Investigate the Safety of Preoperative Tumor Necrosis Factor Inhibitor Exposure in Patients with Inflammatory Bowel Disease Undergoing Intra-abdominal Surgery. *Gastroenterology* **163** (1), 204–221.
14. Niu L, **Hu L**, Li Y, and Liu B (2022). Correlates of Cancer Prevalence across Census Tracts in the United States: A Bayesian Machine Learning Approach. *Spatial and Spatio-temporal Epidemiology* **42**, 100522.
15. Veluswamy R, **Hu L**, Smith C, Ji J, Wang X, Wisnivesky J, and Kale M (2022). Immunotherapy Outcomes in Individuals with Non-small Cell Lung Cancer and Poor Performance Status. *JNCI Cancer Spectrum* **6** (2), pkac013.
16. **Hu L**⁺, Lin J^{*}, Sigel K, and Kale M (2021). Estimating heterogeneous survival treatment effects of lung cancer screening approaches: A causal machine learning analysis. *Annals of Epidemiology* **62**, 36–42.
17. **Hu L**⁺ and Gu C (2021). Estimation of causal effects of multiple treatments in healthcare database studies with rare outcomes. *Health Services & Outcomes Research Methodology* **21** (3), 287–308.
18. **Hu L**⁺, Ji J, and Li F (2021). Estimating heterogeneous survival treatment effect in observational data using machine learning. *Statistics in Medicine* **40** (21), 4691–4713.
19. **Hu L**⁺, Ji J, Li Y, and Liu B (2021). Quantile regression forests to identify determinants of neighborhood stroke prevalence in 500 cities in the United States: implications for neighborhoods with high prevalence. *Journal of Urban Health* **98** (2), 259–270.
20. **Hu L**⁺, Lin J^{*}, and Ji J^{*} (2021). Variable selection with missing data in both covariates and outcomes: Imputation and machine learning. *Statistical Methods in Medical Research* **30** (12), 2651–2671.
21. Li L[‡], **Hu L**[‡], Ji J, Mckendrick K, Moreno J, Kelley A, Mazumdar M, and Aldridge M (2021). Determinants of total end-of-life healthcare spending by medicare beneficiaries: A quantile regression forests analysis. *The Journals of Gerontology: Series A* **77** (5), 1065–1071.
22. Hirten R, Danieletto M, Scheel R, Shervey M, Ji J, **Hu L**, Sauk J, Chang L, Arnrich B, Böttinger E, Dunley J, Keefer L, and Sands B (2021). Longitudinal Autonomic Nervous System Measures Correlate with Ulcerative Colitis Disease Activity and Predict Flare. *Inflammatory Bowel Diseases* **27** (10), 1576–1584.

23. Li L, Zhan S, **Hu L**, Wilson K, Mazumdar M, and Liu B (2021). Examining the role of healthcare access in racial/ethnic disparities in receipt of provider-patient discussion about smoking: A latent class analysis. *Preventive Medicine* **148**, 106584.
24. Rabinowitz LG, Zylberberg HM, Yang J, Gold SL, Chesner J, Ji J, **Hu L**, and Dubinsky MC (2021). De Novo Ostomy Placement Is Associated with Increased Outpatient Opioid Use In Patients with Inflammatory Bowel Disease. *Digestive Disease and Sciences* **1** (1), 1–10.
25. Ungaro R, **Hu L**, Ji J, Nayar S, Kugathasan S, Dubinsky M, Sands B, and Cho J (2021). Machine Learning Identifies Novel Blood Proteomic Predictors of Penetrating and Stricturing Complications in Newly Diagnosed Pediatric Crohn’s Disease. *Alimentary Pharmacology & Therapeutics* **53** (2), 281–290.
26. Walshe M, Nayeri S, Ji J, Hernandez-Rocha C, Sabic K, **Hu L**, and et al. (2021). A role for CXCR3 ligands as biomarkers of post-operative Crohn’s disease recurrence. *Journal of Crohn’s and Colitis* **1** (1), jjab186.
27. **Hu L**⁺, Gu C, Lopez M, Ji J^{*}, and Wisnivesky J (2020). Estimation of causal effects of multiple treatments in observational studies with a binary outcome. *Statistical Methods in Medical Research* **29** (11), 3218–3234.
28. **Hu L**⁺, Li L, and Ji J (2020). Machine learning to identify and understand key factors for provider-patient discussions about smoking. *Preventive Medicine Reports* **20**, 101238.
29. **Hu L**⁺, Li L, Ji J, and Sanderson M (2020). Identifying and understanding determinants of high healthcare costs for breast cancer: a quantile regression machine learning approach. *BMC Health Services Research* **20**, 1066.
30. **Hu L**⁺, Liu B, Ji J, and Li Y (2020). Tree-based machine learning to identify and understand major determinants for stroke at the neighborhood level. *Journal of American Heart Association* **9** (22), e016745.
31. Ji J^{*}, **Hu L**⁺, Liu B, and Li Y (2020). Identifying and assessing the impact of key neighborhood-level determinants on geographic variation in stroke: A machine learning and multilevel modeling approach. *BMC Public Health* **20**, 1066.
32. **Hu L** (2020). Discussion on “Bayesian Regression Tree Models for Causal Inference: Regularization, Confounding, and Heterogeneous Effects” by Hahn, Murray and Carvalho. *Bayesian Analysis* **15** (3), 1020–1023.
33. **Hu L**, Liu B, and Li Y (2020). Ranking sociodemographic, health behavior, prevention, and environmental factors in predicting neighborhood cardiovascular health: A Bayesian machine learning approach. *Preventive Medicine* **141**, 106240.
34. Leng S, Moshier E, Tremblay D, **Hu L**, Biran N, Barman N, Parekh S, Cho H, Maddui D, Richter J, Barlogie B, Jagannath S, and Chari A (2020). Timing of autologous stem cell transplantation for multiple myeloma in the era of current therapies. *Clinical Lymphoma, Myeloma and Leukemia* **20** (10), e734–e751.
35. Mazumdar M, Lin J^{*}, Zhang W, Liu M, Sanderson M, Isola L, and **Hu L**⁺ (2020). Comparison of Methods for Predicting High-cost Patients Captured within the Oncology Care Model (OCM): A Simulation Study. *BMC Health Services Research* **20**, 350.
36. **Hu L**⁺ and Hogan J (2019). Causal comparative effectiveness analysis of dynamic continuous-time treatment initiation rules with sparsely measured outcomes and death. *Biometrics* **75** (2), 695–707.
37. Ennis R, **Hu L**, Ryemon S, Lin J, and Mazumdar M (2019). Reply to Marieke J. Krimphove, Junaid Nabi, Alexander P. Cole, and Quoc-Dien Trinh’s Letter to the Editor re: Ronald D. Ennis, Liangyuan Hu, Shannon N. Ryemon, Joyce Lin, Madhu Mazumdar. Brachytherapy-based Radiotherapy and Radical Prostatectomy Are Associated with Similar Survival in High-risk Localized Prostate Cancer. *J Clin Oncol* 2018; 36: 1192-8. *European Urology Oncology* **2**(2), 226–227.
38. **Hu L**⁺, Hogan J, Mwangi A, and Siika A (2018). Modeling the causal effect of treatment initiation time on survival: Application to HIV/TB co-infection. *Biometrics* **74** (2), 703–713.

39. Ennis R, **Hu L**, Ryemon S, Lin J, and Mazumdar M (2018). Brachytherapy-based radiotherapy and radical prostatectomy are associated with similar survival in high-risk localized prostate cancer. *Journal of Clinical Oncology* **36**(12), 1192–1198.
40. Wang L, Sac A, Szabo P, Chasalow S, Castillo-Martin M, Domingo-Domenech J, Siefker-Radtke A, Sharma P, Sfakianos J, Gong Y, Dominguez-Andres A, Oh W, Mulholland D, Azrilevich A, **Hu L**, Cordon-Cardo C, Salmon H, Bhardwaj N, Zhu J, and Galsky M (2018). Epithelial-mesenchymal transition gene expression, T cell infiltration, and outcomes with cystectomy or PD-1 blockade in urothelial cancer. *Nature Communications* **9**(1), 3503.
41. Galsky M, Diefenbach M, Mohamed N, Baker C, Pokhriya S, Rogers J, Atreja A, **Hu L**, Tsao C, Sfakianos J, Mehrazin R, Waingankar N, Oh W, Mazumdar M, and Ferket B (2017). A web-based tool to facilitate shared decision-making regarding neoadjuvant chemotherapy use in muscle-invasive bladder cancer. *JCO Clinical Cancer Informatics* **1**, 1–12.
42. Ayuku D, Embleton L, Koech J, Atwoli L, **Hu L**, Ayaya S, Hogan J, Nyandiko W, Vreeman R, Kamanda A, and Braitstein P (2014). The government of Kenya cash transfer for orphaned and vulnerable children: cross-sectional comparison of household and individual characteristics of those with and without. *BMC International Health and Human Rights* **14**(5), 14:25.
43. Sorber R, Winston S, Koech J, Ayuku D, **Hu L**, Hogan J, and Braitstein P (2014). Social and economic characteristics of street youth by gender and level of street involvement in Eldoret, Kenya. *PLoS ONE* **9**(5), e97587.

Book Chapters

1. Hogan J, Daniels M, and **Hu L** (2014). “A Bayesian perspective on assessing sensitivity to assumptions about unobserved data”. In: *Handbook of Missing Data Methodology*. Ed. by G. Molenaar, G. Fitzmaurice, M. G. Kenward, A. Tsiatis, and G. Verbeke. CRC Press. Chap. 18, pp.405–434.

Papers in Conference Proceedings

1. **Hu L**⁺, Hogan J, and Mwangi A (2015). Modeling the causal effect of treatment initiation time on survival: application to HIV/TB co-infection. In: *JSM Proceedings*. Alexandria, VA: American Statistical Association, pp.1401–1415.

Papers Submitted or in Revision

1. Chen X, **Hu L**, and Li F (2024). A flexible Bayesian g-formula for causal survival analyses with time-dependent confounding. *Bayesian Analysis*. Under review.
2. Cheng C, **Hu L**, and Li F (2024). Doubly robust estimation and sensitivity analysis for marginal structural quantile models. *Biometrics*. In revision.
3. Ghazi L, Chen X, Harhay M, **Hu L**, Biswas A, Li F, and Wilson FP (2024). Treatment Effect Heterogeneity in AKI Incidence following IV Antihypertensive Administration for Severe Blood Pressure Elevation during Hospitalization. *American Journal of Kidney Diseases*. In revision.
4. Li J, Wisnivesky J, Gonzalez A, Feder A, Pietrzak RH, Chanumolu D, **Hu L**, and Kale MS (2024). The Association of Perceived Social Support, Resilience, and Posttraumatic Stress Symptoms among Coronavirus Disease Patients in the United States. *Journal of Affective Disorders*. Submitted.
5. Li L, Chen Y, Huang Y, Zhan S, **Hu L**, Zou J, Yu M, Mazumdar M, and Liu B (2024). Medicaid expansion in California and breast cancer incidence across neighborhoods with varying social vulnerabilities Preventive Medicine. *Cancer Cause & Control*. In revision.
6. Xiong W, Roy J, Liu H, and **Hu L** (2024). Leveraging Machine Learning: Covariate-Adjusted Bayesian Adaptive Randomization and Subgroup Discovery in Multi-Arm Survival Trials. *Contemporary Clinical Trials*. In revision.

INVITED PRESENTATIONS AND LECTURES

1. October 2024. Recent developments in Bayesian nonparametrics for causal inference and missing data, *Statistics Seminar Series*, Department of Statistics, The Chinese University of HongKong, HongKong SAR, China.
2. July 2024. Estimating the causal effect of multiple intermittent treatments on censored survival outcomes, *Fifth International Workshop on Statistical Analyses of Multi-Outcome Data*, Salzburg, Austria.
3. July 2024. Bayesian nonparametric methods for inferring causal effects of longitudinal treatments amidst missing covariate data, *The ISBA 2024 World Meeting*, Venice, Italy.
4. March 2024. Novel BART-enhanced random intercept failure time models: causal estimation, heterogeneity, and variable selection in clustered survival data, *The 7th International Symposium on Biopharmaceutical Statistics*, Baltimore, USA.
5. December 2023. Leveraging Bayesian ML for Causal Inference with Missing Longitudinal Data, *17th International Conference on Computational and Financial Econometrics (CFE 2023)*, Berlin, Germany.
6. August 2023. Novel BART-enhanced random intercept failure time models: causal estimation, heterogeneity, and variable selection in clustered survival Data, *Biostatistics and Bioinformatics Seminar Series*, University of Maryland, Baltimore, MD.
7. August 2023. Causal inference methods for complex longitudinal treatments when covariates are subject to missing data, *Joint Statistical Meetings*, Toronto, Canada.
8. June 2023. Estimating the causal effect of a longitudinal treatment when covariates are subject to missing data, *ICSA China Conference*, Chengdu, China.
9. March 2023. Estimating the causal effects of multiple intermittent treatments with application to COVID-19, *Biometric Society/ENAR Spring Meetings*, Nashville, TN.
10. December 2022. Estimation of causal treatment effects from clustered survival data with application to prostate cancer, *International Conference on Statistics for Twenty-First Century*, University of Kerala, India. (*Virtual)
11. November 2022. Estimation of causal treatment effects from clustered survival data with application to prostate cancer, *Biostatistics Seminar Series*, Memorial Sloan-Kettering Cancer Center, New York, NY.
12. July 2022. Statistical methods motivated by health databases: missing data, causal inference and machine learning, *PETS Research Meeting*, Center for Pharmacoepidemiology and Treatment Science, Rutgers University, New Brunswick, NJ.
13. July 2022. Bayesian machine learning for causal inferences and sensitivity analysis about treatment effects on patient survival using clustered and censored time-to-event data, *31st International Biometric Conference*, Riga, Latvia. (*Coauthor presented this work on my behalf)
14. July 2022. A flexible approach for causal inference with multiple treatments and clustered survival outcomes, *ICSA-Canada Chapter 2022 Symposium*, Banff Centre, Canada.
15. December 2021. Bayesian machine learning for causal inference with multiple treatments and multilevel survival data, *14th International Conference of the ERCIM WG on Computational and Methodological Statistics*, London, United Kingdom. (*Virtual due to the Covid-19 pandemic)
16. November 2021. Causal inference with multiple treatments and censored survival outcomes, *Biostatistics Seminar Series*, Division of Biostatistics, NYU Langone Health, New York, NY.
17. August 2021. Bayesian machine learning for causal inference with multiple treatments and multilevel survival data, *Joint Statistical Meetings*, Seattle, WA.

18. April 2021. Evaluating the causal effect of dynamic continuous-time treatment initiation rules with application to HIV in adolescents, *PRIISM Seminar Series*, Department of Applied Statistics, New York University, New York, NY.
19. December 2020. Causal inference and sensitivity analysis for unmeasured confounding in observational data with multiple treatments and a binary outcome, *ICSA Applied Statistics Symposium*, Huston, TX. (*Virtual due to the Covid-19 pandemic)
20. December 2020. Marginal structural models for causal inference with continuous-time treatment and censored survival outcomes, *Biostatistics Seminar Series*, Department of Biostatistics, Yale University, CT.
21. November 2020. Marginal structural models for causal inference with continuous-time treatment and censored survival outcomes, *Math Seminar Series*, Department of Mathematics, Indiana University–Purdue University Indianapolis, IN.
22. October 2020. Estimation of causal effects of multiple treatments in observational studies, *Symposium on Artificial Intelligence for Learning Health Systems*, Bermuda, 2020.
*Canceled due to the Covid-19 pandemic
23. July 2020. Causal comparative effectiveness analysis of dynamic continuous-time treatment initiation rules with sparsely measured outcomes and death (Invited video talk due to the Covid-19 pandemic), *International Biometric Conference*, Seoul, Korea.
24. March 2020. Causal comparative effectiveness analysis of dynamic continuous-time treatment initiation rules with sparsely measured outcomes and death, *Biometric Society/ENAR Spring Meetings*, Nashville, TN. (*Virtual due to the Covid-19 pandemic)
25. November 2018. Strategies and tactics of NIH R- and K- types research grantsmanship, *Workshop at Mount Sinai School of Medicine*, New York, NY.
26. October 2018. Approaches to evaluating the effectiveness of multiple treatment options on survival, *Biostatistics Analysis Workshop*, Tisch Cancer Institute, Mount Sinai, New York, NY.
27. April 2018. Oncology Care Model: Care Bundles, Risk Adjustment and Opportunity Analytics, *Biostatistics Analysis Workshop*, Tisch Cancer Institute, Mount Sinai, New York, NY.
28. January 2018. Causal inference methods for comparing and optimizing treatment strategies, *Biostatistics Seminar Series*, Division of Biostatistics, NYU Langone Health, New York, NY.
29. July 2017. Leveraging flexible modeling techniques in data-driven analytics, *Joint Statistical Meetings*, Baltimore, MD.
30. March 2017. Data-driven modeling techniques for medical decision making (Invited workshop), *Biometric Society/ENAR Spring Meetings*, Washington, DC.
31. December 2016. Statistical learning from electronic health records databases: challenges and opportunities, *Icahn School of Medicine at Mount Sinai*, New York, NY.

CONTRIBUTED PRESENTATIONS

1. July 2018. A new sensitivity analysis framework for unmeasured confounding with multiple treatments and a binary and survival outcome, *Joint Statistical Meetings*, Vancouver, Canada.
2. March 2018. A flexible Bayesian approach to assessing sensitivity to unmeasured confounding with multiple treatments and a binary outcome, *Biometric Society/ENAR Spring Meetings*, Atlanta, GA.
3. September 2017. Assessing sensitivity to unmeasured confounding with multiple treatments: a Bayesian approach (**won Travel Award*), *Biostatistics in the Modern Computing Era*, Milwaukee, WI.
4. August 2015. Estimating the causal effect of treatment timing on survival with censoring in both exposure and outcome (**won ASA Student Paper Award*), *Joint Statistical Meetings*, Seattle, WA.

5. March 2015. Comparative causal effectiveness analysis of treatment initiation rules for HIV-infected children, *19th International Workshop on HIV Observational Databases*, Catania, Italy.
6. April 2014. Estimating the causal effect of treatment timing on survival from observational data with censoring in both exposure and outcome, *PhD Research Seminar*, School of Public Health, Brown University, Providence, RI.
7. March 2014. Estimating the causal effect of treatment timing on survival from EHR data when both exposure and outcome are subject to censoring (**won Best Poster Award*), *18th International Workshop on HIV Observational Databases*, Sitges, Spain.
8. October 2007. Variance estimation of landmarks data, *Western Canadian Conference for Young Researchers in Mathematics*, Calgary, Canada.

TEACHING

A. Courses Taught

Semester	Course	Title	Institution
FA 2023	BIO 0633	Statistical Learning for Biomedical Studies	Rutgers University
SP 2023	BIO 0610	Advanced Regression Methods for Public Health Studies	Rutgers University
FA 2022	BIO 0633	Statistical Learning for Biomedical Studies	Rutgers University
SP 2021	BIO 8500	Probability and Inference II	Mount Sinai
SP 2020	BIO 8500	Probability and Inference II	Mount Sinai
SP 2019	BIO 8500	Probability and Inference II	Mount Sinai
SU 2011	Bootcamp	Introduction to Statistical Inference	Brown University

B. Short Courses and Tutorials

1. March 2017. “Data-driven modeling techniques for medical decision making”, Biometric Society/ENAR Spring Meetings, Washington DC.
2. October 2016. “Tree-based statistical learning methods”, Tisch Cancer Institute, Mount Sinai, New York.

C. PhD Theses Directed

1. **Jia Li** in Clinical Research Program, Icahn School of Medicine at Mount Sinai, 2024 (expected) (co-advisor with Minal Kale)
Investigating the relationship of chronic disease, post-COVID symptoms, vaccination, and health-related quality of life in individuals with COVID-19
2. **Wenxuan Xiong** in Biostatistics, Rutgers School of Public Health, 2024 (expected) (co-advisor with Jason Roy)
3. **Ningya Wang** in Biostatistics, Rutgers School of Public Health, 2026 (expected) (co-advisor with Hao Liu)

D. Dissertation Committees

1. **Chang Xu**, PhD Biostatistics, 2026 (Expected)
2. **Weiyi Xia**, PhD Biostatistics, 2026 (Expected)

E. Other Teaching and Advising Roles

- 2022 – pres. Research Mentor
Project: Bayesian nonparametric methods for missing data in longitudinal studies
Jungang Zou, PhD student in Biostatistics, Columbia University
- 2020 – 2021 K-Award Research Co-Mentor
Project: Digital Biomarkers of Ulcerative Colitis Flare

- Awardee: Robert Hirten, MD, Icahn School of Medicine at Mount Sinai
- 2020 – pres. Research Mentor
Project: Sensitivity analysis for unmeasured confounding
Jungang Zou, MS student in Biostatistics, Columbia University
- 2020 Capstone Project Mentor
Project: Machine learning analysis of the SWAN study data
Chuyue Huang, MS student in Biostatistics, Icahn School of Medicine at Mount Sinai
- 2019 – 2021 Research Mentor
Project: Variable selection with missing data
Steven Lawrence, MS student in Biostatistics, Columbia University

SERVICE ACTIVITIES

A. University Service

Department, Division and School Level

- 2023 – pres. **Education Advisory Committee**, Rutgers Robert Wood Johnson Medical School
- 2023 – pres. **Curriculum Committee**, Rutgers School of Public Health
- 2022 – pres. **Faculty Search Committee**, Department of Biostatistics and Epidemiology,
Rutgers School of Public Health
- 2022 – pres. **Faculty Search Committee**, Biostatistics Shared Resource,
Rutgers Cancer Institute of New Jersey
- 2022 – pres. **PhD Program Admission Committee**, Department of Biostatistics and Epidemiology,
Rutgers School of Public Health
- 2022 – pres. **MSc Program Admission Committee**, Department of Biostatistics and Epidemiology,
Rutgers School of Public Health
- 2018 – 2021 **Faculty Search Committee**, Institute for Health Care Delivery Science, Mount Sinai
- 2016 – 2021 **Protocol Review & Monitoring Committee**, Tisch Cancer Institute, Mount Sinai

Seminars and Working Groups

- 2024 – pres. **Missing Data & AI/ML Working Group**, Columbia & Rutgers School of Public Health
- 2017 – 2021 **Biostatistics Seminar Workshop Organizing Committee**, Mount Sinai

B. Professional & Government Service

Review and Advisory Panels

- 2024 **Reviewer (ad hoc)**. NIH Study Section, Clinical Data Management and Analysis (CDMA).
- 2023 **Reviewer (ad hoc)**. NIH Study Section, Clinical Data Management and Analysis (CDMA).
- 2022 **Reviewer (ad hoc)**. NIH F18 Fellowships: Epidemiology & Populations Sciences Meeting.
- 2021 – pres. **Statistical Reviewer**. JAMA Network Open.
- 2021 **Reviewer (ad hoc)**. NIH Bridge2AI Other Transaction.
- 2020 **Poster Judge**. ICSA 2020 Applied Statistics Symposium, Huston.
- 2020 **Reviewer (ad hoc)**. NIH Study Section, Clinical Oncology (CONC).
- 2020 **External Methodology Reviewer**. PCORI Awarded Research Project.
- 2019 **External Methodology Reviewer**. PCORI Awarded Research Project.
- 2018 **External Reviewer**. Medical Research Council, UK Research and Innovation.
- 2017 **Reviewer**. Student Paper Competition, ASA Health Policy Statistics Section.

Peer Review Service

2015 – pres. **Peer Reviewer.** *Journal of the American Statistical Association, Biometrika, Biometrics, Statistics in Medicine, Statistical Methods in Medical Research, Biostatistics, Health Services & Outcomes Research Methodology, Journal of the Royal Statistical Society: Series C, Lifetime Data Analysis, Computational Statistics and Data Analysis, Observational Studies, BMC Medical Research Methods, Statistics and Probability Letters, Science, Journal of Clinical Oncology, JCO Cancer Clinical Informatics, PLOS One, American Journal of Public Health, World Journal of Surgical Oncology, Scientific Reports, Annals of Epidemiology, Health and Place, Population Health Metrics, Nature Communications, Computer Methods and Programs in Biomedicine, Applied Artificial Intelligence, JAMA Network Open, Patient-Centered Outcomes Research Institute*

Conference Organizing and Service to Professional Societies

- 2024 **Organizer.** Invited paper session “Modern approaches for causal analysis amidst complex data challenges,” ISI World Statistics Congress 2025, The Hague, The Netherlands.
- 2023 **Organizer.** Invited paper session “New advances in causal inference and missing data,” ICSA China Conference, Chengdu, China.
- 2023 **2023 Joint Statistical Meetings Program Chair Representing ENAR**
- 2022 **Organizer.** Invited paper session “New advances in causal inference with complex health datasets,” Joint Statistical Meetings, Toronto.
- 2019 **Organizer.** Invited paper session “Modern Statistical Methods for Comparative Effectiveness Research,” Joint Statistical Meetings, Denver.
- 2018 **Organizer.** Invited paper session “New Developments in Sensitivity Analysis for Unmeasured Confounding,” Joint Statistical Meetings, Vancouver.
- 2017 **Organizer.** Invited paper session “Data-driven Modeling in Medical & Health Policy Decision Making,” Joint Statistical Meetings, Baltimore.
- 2014 **Organizing Committee Member.** Atlantic Causal Inference Conference, Providence.

RESEARCH GRANTS

Active Research Support

- Bayesian machine learning for causal inference with incomplete longitudinal covariates and censored survival outcomes

Role:	Principal Investigator
Agency:	NHLBI/NIH (R01HL159077)
Period:	5/10/2022 – 4/30/2027
Amount:	\$3,301,474
Effort:	30% FTE
- Robust longitudinal causal inference methods with machine learning

Role:	Principal Investigator
Agency:	PCORI (ME-2021C2-23685)
Period:	8/1/2022 – 7/31/2025
Amount:	\$1,069,876
Effort:	25% FTE
- Towards Improved Design and Analysis of Stepped Wedge Trials by Leveraging Baseline Information (PI: Fan Li)

Role: Sub-PI
 Agency: PCORI (ME-2022C2-27676)
 Period: 9/1/2023 – 8/31/2026
 Amount: \$882,132
 Effort: 15% FTE

4. Determinants of Individual Differences in the Efficacy of Aerobic Exercise to Improve Brain Health and Reduce Alzheimer Disease Risk in Older African Americans (PI: Mark Gluck)

Role: Co-Investigator
 Agency: NIA/NIH (R01AG078211)
 Period: 9/15/2022 – 8/31/2027
 Amount: \$4,710,752
 Effort: 6% FTE

5. Withdrawal of AdaliMumab: Strategies and Outcomes in the CARRA Registry (WAM-SOCCR) (PI: Daniel Horton)

Role: Co-Investigator
 Agency: Childhood Arthritis and Rheumatology Research Alliance
 Period: 07/2023 – 06/2024
 Amount: \$50,000
 Effort: 1.5% FTE

6. Systemic and dietary advanced glycation end products in type 2 diabetes-related cognitive decline and incident dementia: effects on Alzheimer's pathology and cerebrovascular disease (PI: Michal Beeri)

Role: Co-Investigator
 Agency: NIH (R01AG061093)
 Period: 07/2023 – 11/2024
 Amount: \$346,539
 Effort: 10% FTE

7. Peripheral and brain levels of advanced glycation end products AGEs (PI: Michal Beeri)

Role: Co-Investigator
 Agency: NIH (R01AG053446)
 Period: 06/01/2023 – 05/31/2024
 Amount: \$47,469
 Effort: 13% FTE

8. Risk Factors for Future Cognitive Decline and Alzheimer's Disease in Older African American (PI: Gluck, Mark)

Role: Co-Investigator
 Agency: NIA/NIH (R01AG053961)
 Period: 09/2023 – 08/2028
 Amount: \$6,540,056
 Effort: 10% FTE

Pending Research Support

1. Effects of combined intranasal insulin with aerobic exercise on brain vascular and insulin signaling function in older adults with prediabetes at high ADRD risk

Role: Co-Investigator
 PI: Malin, Steven
 Agency: NIH (R61)
 Period: 04/2024 – 03/2026
 Amount: \$1,007,694
 Effort: 5% FTE

2. Multimodal Connectome as a Sensitive Biomarker for Subtle Cognitive Decline in Asymptomatic Middle-Aged Adults at High Alzheimer’s Disease Risk

Role: Co-Investigator
 PI: Beerli, Michal
 Agency: NIH (R21)
 Period: 04/2024 – 03/2026
 Amount: \$370,476
 Effort: 7% FTE

3. Equitable Outcomes for Neurodiverse College Students with Autism and ADHD: Understanding and Embracing Diversity in Postsecondary Education

Role: Co-Investigator
 PI: Langberg, Joshua
 Agency: IES
 Period: 09/2024 – 08/2029
 Amount: \$4,999,890
 Effort: 5% FTE

Completed Research Support

1. Flexible Bayesian approaches to causal inference with multilevel survival data and multiple treatments

Role: Principal Investigator
 Agency: NCI/NIH (R21CA245855)
 Period: 7/16/2020 – 6/30/2023 (NCE: 7/1/2022 – 6/30/2023)
 Amount: \$459,480
 Effort: 10% FTE

2. Bayesian modeling framework for causal inference and assessing sensitivity to unmeasured confounding with multiple treatments

Role: Principal Investigator
 Agency: PCORI (ME-2017C3-9041)
 Period: 12/1/2018 – 1/31/2023
 Amount: \$606,560
 Effort: 30% FTE

3. Outcomes in advanced lung cancer patients with poor performance status

Role: Co-Investigator
 PI: Minal Kale
 Agency: ACS
 Period: 08/01/2020 – 07/30/2021
 Amount: \$74,982
 Effort: 10% FTE

4. Validation study of California Breast Cancer Registry Data with Synthetic Census Tracts

Role: Multiple PI
Agency: NIH/NCI
Period: 9/1/2020 – 6/30/2021
Amount: \$10,000
Effort: 3% FTE

5. The Tisch Cancer Institute – Cancer Center Support Grant

Role: Co-Investigator
PI: Steven J. Burakoff (Director)
Agency: NIH/NCI (P30CA196521)
Period: 08/01/2016 – 06/30/2021
Amount: \$1,000,000
Effort: 15% FTE

6. Inflammatory Bowel Disease Genetics Consortium Data Coordinating Center (DCC)

Role: Co-Investigator
PI: Judy H. Cho
Agency: NIH/NIDDK (U24DK062429)
Period: 09/01/2018 – 08/30/2022
Amount: \$1,131,310
Effort: 15% FTE

SOFTWARE

1. GitHub page: <https://github.com/liangyuanhu>
2. R package CIMTx: <https://cran.r-project.org/web/packages/CIMTx/index.html>
3. R package SAMTx: <https://cran.r-project.org/web/packages/SAMTx/index.html>
4. R package riAFTBART: <https://cran.r-project.org/web/packages/riAFTBART/index.html>

PROFESSIONAL MEMBERSHIPS

American Statistical Association (ASA)

International Biometric Society (ENAR)

International Chinese Statistical Association (ICSA)

International Society for Clinical Biostatistics (ISCB)

Institute of Mathematical Statistics (IMS)

International Society for Bayesian Analysis (IBSA)

International Statistical Institute (ISI)