

Youjin Lee

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Brown University, School of Public Health
Department of Biostatistics
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EDUCATION

Johns Hopkins School of Public Health Ph.D. in Biostatistics (Primary Advisor : Elizabeth L. Ogburn)	09/2014 - 01/2019
Seoul National University , South Korea B.S. with honors in Statistics (Graduated summa cum laude)	03/2010 - 08/2014

PROFESSIONAL EXPERIENCE

Manning Assistant Professor Department of Biostatistics, Brown University	07/2021 -
Postdoctoral Fellow Center for Causal Inference (CCI), University of Pennsylvania	08/2019 - 06/2021
Postdoctoral Fellow Johns Hopkins School of Public Health	02/2019 - 07/2019

PUBLICATIONS

- Articles in peer-reviewed journals:** *equal contribution; † student mentee
21. **Lee, Y.**, Hettinger, G., & Mitra, N. (2024). Policy effect evaluation under counterfactual neighborhood intervention in the presence of spillover. Accepted for publication at *Journal of the Royal Statistical Society: Series A (Statistics in Society)*. In press
 20. Hettinger, G., Roberto, C., **Lee, Y.***, & Mitra, N*. (2024). Doubly robust estimation of policy-relevant causal effects under interference. Accepted for publication at *Journal of the Royal Statistical Society: Series C (Applied Statistics)*. In press
 19. **Lee, Y.**, Tan, C.†, & Karmakar, B. (2024). Constructing multiple, independent analyses in the regression discontinuity design with multiple cutoffs. *Observational Studies*, 10(2), 63-91.
 18. Wilson-Barthes, M., Steingrimsson, J., **Lee, Y.**, Tran, D. N., Wachira, J., Kafu, C., ... & Galárraga, O. (2024). Economic Outcomes Among Microfinance Group Members Receiving Community-based Chronic Disease Care: Cluster Randomized Trial Evidence From Kenya. *Social Science & Medicine*, 116993.
 17. Yang, J., Bhattacharya, R., **Lee, Y.**, Westling, T (2024). Statistical and causal robustness for causal null hypothesis tests. In *Proceedings of the Fortieth Conference on Uncertainty in Artificial Intelligence*, UAI '24. JMLR.org.

16. **Lee, Y.**, Reese, P.P., & Schaubel, D.E. (2024). Prognostic score-based methods for estimating center effects based on survival probability: Application to post-kidney transplant survival. Accepted for publication at *Statistics in Medicine*. *In press*
15. Yorlets, R. R., **Lee, Y.**, & Gantenberg, J. R. (2023). Calculating risk and prevalence ratios and differences in R: developing intuition with a hands-on tutorial and code. *Annals of Epidemiology*, 86, 104-109.
14. Koo, T., **Lee, Y.**, Small, D.S., & Guo, Z. (2023). RobustIV and controlfunctionIV: Causal Inference for Linear and Nonlinear Models with Invalid Instrumental Variables. *Observational Studies* 9(4), 97-120.
13. **Lee, Y.**, Buchanan, A.L., Ogburn, E.L., Friedman, S.R., Halloran, M.E., Katenka, N.V., Wu, J., & Nikolopoulos, G. (2023). Finding influential subjects in a network using a causal framework. *Biometrics*, 79(4), 3715-3727
12. Buchanan, A.L., Katenka, N., **Lee, Y.**, Wu, J., Pantavou, K., Friedman, S.R., Halloran, M.E., Marshall, B.D.L., Forastiere, L., Nikolopoulos, G.K. (2023) Methods for Assessing Spillover in Network-Based Studies of HIV/AIDS Prevention among People Who Use Drugs. *Pathogens*, 12, 326.
11. **Lee, Y.**, Kennedy, E. H., & Mitra, N. (2023). Doubly robust nonparametric instrumental variable estimators for survival outcomes. *Biostatistics*, 24(2), 518-537.
10. Chang, T. H., Nguyen, T. Q., **Lee, Y.**, Jackson, J. W., & Stuart, E. A. (2022). Flexible propensity score estimation strategies for clustered data in observational studies. *Statistics in Medicine*, 41(25), 5016-5032.
9. Zhao, A.* , **Lee, Y.***, Small, D. S., & Karmakar, B. (2022). Evidence factors from multiple, possibly invalid, instrumental variables. *The Annals of Statistics*, 50(3), 1266-1296.
8. **Lee, Y.**, & Schaubel, D. E. (2022). Facility profiling under competing risks using multivariate prognostic scores: Application to kidneytransplant centers. *Statistical Methods in Medical Research*, 31(3), 563-575.
7. Kang, H*., **Lee, Y.***, Cai, T. T., & Small, D. S. (2022). Two robust tools for inference about causal effects with invalid instruments. *Biometrics*, 78(1), 24-34.
6. **Lee, Y.**, Nguyen, T. Q., & Stuart, E. A. (2021). Partially pooled propensity score models for average treatment effect estimation with multilevel data. *Journal of the Royal Statistical Society Series A: Statistics in Society*, 184(4), 1578-1598.
5. **Lee, Y.**, & Ogburn, E. L. (2021). Network dependence can lead to spurious associations and invalid inference. *Journal of the American Statistical Association*, 116(535), 1060-1074.
4. Ogburn, E. L., Shpitser, I., & **Lee, Y.** (2020). Causal inference, social networks and chain graphs. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 183(4), 1659-1676.
3. **Lee, Y.** & Ogburn, E.L. (2020). Testing for Network and Spatial Autocorrelation. In *International Conference on Network Science* (pp. 91-104). Springer, Cham.
2. **Lee, Y.**, Shen, C., Priebe, C. E., & Vogelstein, J. T. (2019). Network dependence testing via diffusion maps and distance-based correlations. *Biometrika*, 106(4), 857-873.

1. Lee, Y., Wang, M. C., Grantz, K. L., & Sundaram, R. (2019). Joint modelling of competing risks and current status data: an application to a spontaneous labour study. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 68(4), 1167-1182.

Non peer-reviewed publications:

3. Lee, Y. (2024). Handbook of matching and weighting adjustments for causal inference by José R. Zubizarreta, Elizabeth A. Stuart, Dylan S. Small, and Paul R. Rosenbaum, Chapman and Hall/CRC, 2023, ISBN: 9781003102670, <https://www.routledge.com/Handbook-of-matching-and-weighting-adjustments-for-causal-inference/Zubizarreta-Stuart-Small-Rosenbaum/p/book/9781003102670>. *Biometrics*, 80(3), ujae102. (Book reviews)
2. Wrobel, J., Hector, E. C., ... Lee, Y., ... Wolfson, J. (2024). Partnering with Authors to Enhance Reproducibility at JASA. *Journal of the American Statistical Association*, 1–6. (Invited comment)
1. Lee, Y. (2021). Beyond Multiple Linear Regression: Applied Generalized Linear Models and Multilevel Models in R. *The American Statistician*, 75(4), 450–451. (Book reviews)

Submitted papers:

*equal contribution; † student mentee

4. †Fernández-Morales, E., Oganisian, A., & Lee, Y. (2025+). Bayesian shrinkage priors for penalized synthetic control estimators in the presence of spillover. [arxiv]
3. Hettinger, G., Lee, Y., Mitra, N. (2024+). Multiply robust estimation of causal effect curves for difference-in-differences designs. [arxiv]
2. Lee, Y. & Suk, Y. (2024+). Evidence factors in fuzzy regression discontinuity designs with sequential treatment assignments. [psyarxiv]
1. †Ye, K., Bilinski, A., & Lee, Y. (2024+). Difference-in-differences analysis with repeated cross-sectional survey data.

SOFTWARE

R package

- `logisticRR` (author, maintainer) : An R package for deriving adjusted relative risks from a logistic regression. [CRAN]
- `netdep` (author, maintainer): An R package for testing network dependence and generating network-dependent observations. [CRAN]
- `netchain` (author, maintainer) : An R package for estimating probabilities associated with collective counterfactual outcomes under interference. [CRAN]

RESEARCH GRANT PARTICIPATION

Statistical methods (Active)

- *Network-based study design, statistical, and modeling solutions for HIV among populations that use illicit substances: Informing interventions and policy in real-world settings using existing data*
Sponsor: National Institute on Drug Abuse (PI: Buchanan)
Role: Co-investigator (15% efforts), Subaward-PI 09/2024-07/2029

- *Causal effect estimation of public policies on purchasing behaviors, consumption and health outcomes*
Sponsor: National Institute of Diabetes and Digestive and Kidney Diseases (PI: Mitra)
Role: Co-investigator (10-12.5% efforts), Subaward-PI 04/2024-03/2028
- *Reliable and robust causal inference approaches for effective connectivity research with fMRI data*
COBRE Center for Central Nervous System Function, Brown University
Sponsor: National Institute of General Medical Sciences (PI: Sanes)
Role: Project Leader, \$698,815 08/2022-07/2025
- *Novel approaches to estimating the causal effect of policy interventions in the presence of spillovers*
Sponsor: National Science Foundation
Role: co-Principal Investigator (with Nandita Mitra), \$360,000 08/2022-07/2025

Interdisciplinary collaborations (Active)

- *Improving Preschool Outcomes by Addressing Maternal Depression in Head Start*
Sponsor: National Institute of Child Health & Human Development (PI: Silverstein)
Role: Co-investigator (15% efforts) 01/2022-12/2024

Past participation

- *Causal Inference Methods for HIV Prevention Studies Among Networks of People Who Use Drugs*
Sponsor: National Institute on Drug Abuse (PI: Buchanan)
Role: Co-investigator 10/2021-05/2023
- *Harambee: Integrated Community-Based HIV/NCD Care & Microfinance Groups in Kenya*
Sponsor: National Institute of Mental Health (PI: Galarraga)
Role: Co-investigator 02/2022-04/2024

PRESENTATIONS

Invited seminars/workshops	*upcoming
· Department of Statistics, Seoul National University, South Korea <i>"Replicable causal inference research using several treatment assignment mechanisms"</i>	12/2024
· Center for Statistical Science Symposium, Brown University <i>"Replicable causal inference research using several treatment assignment mechanisms"</i>	10/2024
· Paul H. Chook Department of Information Systems and Statistics, Baruch College, CUNY <i>"Replicable causal inference research using several treatment assignment mechanisms"</i>	09/2024
· Department of Statistics, University of Florida <i>"Causal inference, spillover effects, and policy effect evaluation"</i>	11/2023
· Department of Biostatistics, University of Iowa <i>"Causal inference, spillover effects, and policy effect evaluation"</i>	10/2023
· Department of Statistics, Columbia University <i>"Instrumental variables and replicable causal research"</i>	09/2023
· Institute of Social Sciences, Seoul National University, South Korea <i>"Causal inference methods for policy effect evaluation"</i>	06/2023
· Journal Club, International Biometric Society <i>"Finding influential subjects in a network using a causal framework"</i>	04/2023

- Korean International Statistical Society Webinar 04/2023
"Policy effect evaluation, spillover effects, and causal inference"
- Department of Biostatistics, Boston University 10/2022
"Policy effect evaluation, spillover effects, and causal inference"
- Department of Mathematics and Statistics, University of Massachusetts Amherst 09/2022
"Replication crisis, evidence factors, and instrumental variables"
- Korean Summer Session on Causal Inference 06/2022
"Policy Effect Evaluation under Counterfactual Neighborhood Intervention in the Presence of Spillover"
- Statistics and Data Science Seminar, University of Illinois, Chicago 10/2021
"Replication crisis, evidence factors, and instrumental variables"
- AMPHBIAN, Brown University 10/2021
"The role of social network dependence in the replication crisis"
- Online Causal Inference Seminar 09/2021
"Evidence factors from multiple, possibly invalid, instrumental variables"
- Causal Inference using R, R-Ladies Philly 09/2021
"Causal Inference in R "
- Department of Biostatistics, University of Washington 02/2021
"The role of social network dependence in the replication crisis"
- Department of Data Sciences and Operations, USC Marshall School of Business 01/2021
"The role of social network dependence in the replication crisis"
- Department of Biostatistics, Brown University 01/2021
"The role of social network dependence in the replication crisis"
- Department of Statistics, University of California, Irvine 01/2021
"The role of social network dependence in the replication crisis"
- Department of Biostatistics and Bioinformatics, Emory University 01/2021
"The role of social network dependence in the replication crisis"
- Department of Statistics, Seoul National University, South Korea 11/2020
"The role of social network dependence in the replication crisis"
- Department of Politics, Princeton University 11/2020
"The role of social network dependence in the replication crisis"
- Johns Hopkins causal inference statistical genetics group 03/2020
"Two robust tools for inference about causal effects with invalid instruments"
- Joint Program in Survey Methodology, University of Maryland 10/2019
"Partially pooled propensity score models for average treatment effect estimation with multilevel survey data"
- RAND Corporation, Statistics Group 02/2019
"Statistical and causal reasoning in network data"

Invited scientific meetings

*upcoming

- *Lifetime Data Science Conference, Brooklyn, NY 05/2025
- NYU Langone Biostatistics Symposium 10/2024
- Joint Statistical Meetings. Portland, Oregon 08/2024
- CMStatistics. Berlin, Germany 12/2023
- New England Statistical Society Symposium, Boston 06/2023
- Joint Statistical Meetings. Washington DC 08/2022
- International Chinese Statistical Association (ICSA), University of Florida 06/2022

· NIDDK workshop, Bethesda, MD	05/2022
· CMStatistics. King's College London, UK	12/2021
· New England Statistical Society Symposium, Providence	10/2021
· ENAR. Baltimore, MD (<i>online</i>)	03/2021
· CMStatistics. King's College London, UK (<i>online</i>)	12/2020
· UPenn DBEI & CCEB Covid-19 Population Journal Club (<i>online</i>)	07/2020
Contributed oral and poster presentations	†Poster
· Joint Statistical Meetings. Philadelphia, PA (<i>online</i>)	08/2020
· ENAR. Nashville, TN (<i>online</i>)	03/2020
· Joint Statistical Meetings. Vancouver, Canada	08/2018
· †Atlantic Causal Inference Conference. Carnegie Mellon University	05/2018
· ENAR. Atlanta, GA	03/2018
· Joint Statistical Meetings. Baltimore, MD	08/2017
· †Conference on Lifetime Data Science. University of Connecticut	05/2017
· †ENAR. Washington DC	03/2017

PROFESSIONAL ACTIVITIES

Reviewer : *Journal of the American Statistical Association, Journal of Causal Inference, Statistics in Medicine, Pharmaceutical Statistics, Biometrical Journal, Epidemiology, BJPsychOpen, Biometrics, American Journal of Epidemiology, Biometrika, Journal of Computational and Graphical Statistics, Stat, Journal of the Korean Statistical Society, BMC Medical Research Methodology, JAMA Network Open, Sociological Methods and Research, Journal of Machine Learning Research, Scientific Reports, Biostatistics, Health Services and Outcomes Research Methodology, Statistics and Its Interface, Biostatistics & Epidemiology, Journal of Statistical Software, Journal of the Royal Statistical Society: Series B, Scandinavian Journal of Statistics*

Grant review	*upcoming
· Panel reviewer, PCORI	2024
· Panel reviewer, NSF-DMS	2024
· Ad-hoc reviewer, NSF-DMS	2022
· TBIPHRP panel reviewer , Department of Defense	2021

Editorial Board

· Associate Editor for Reproducibility for <i>Journal of the American Statistical Association</i>	2023-
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Session organizer(O)/chair(C)	*upcoming
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· *KISS Student Paper Competition Award Section (O/C), JSM	08/2025
· *Advanced Statistical and Causal Methods for Healthcare Provider Profiling (O), LiDS	05/2025
· Improving decision-making with methods to transport causal knowledge to policy-relevant contexts (C), JSM	08/2024
· Recent advances in causal inference methodologies (O/C), NESS	06/2023
· Advances in causal approaches to public policy evaluations using quasi-experimental designs (O), ICHPS	01/2023
· Advances in social network analysis for public health solutions (O/C), JSM	08/2022

- Causal inference methods for survival and longitudinal data (O), ENAR 03/2021

- Academic service** Brown School of Public Health
- Master's Curriculum Review Committee, Department of Biostatistics 2024
- Departmental Seminar Committee, Department of Biostatistics 2022-2023
- Faculty Search Committee, Department of Biostatistics 2021-2022
- Faculty Search Committee, Department of Health Services, Policy & Practice 2024
- Admission Committee, Department of Biostatistics 2022, 2024, 2025
- Diversity and Inclusion Committee, Department of Biostatistics 2021-2024

- Others**
- Secretary, Society for Causal Inference 2024-2027
- Program Chair, Korean International Statistical Society 2024-2025
- Student Committee, International Conference on Health Policy Statistics 2025
- KISS Student Paper Award Committee 2024
- Program Chair Elect, Korean International Statistical Society 2023-2024
- Early Career Awards Committee, ASA Section on Statistics in Epidemiology 2024
- Distinguished Student Paper Award Committee, ENAR 2023

AWARDS

- ASA 2020 Outstanding Statistical Application Award** 2020
- The Jane and Steve Dykacz Award** 2018
For outstanding paper by a Biostatistics student in the area of medical statistics, Department of Biostatistics, Johns Hopkins School of Public Health
- The Margaret Merrell Award** 2018
For outstanding research by a Biostatistics doctoral student, Department of Biostatistics, Johns Hopkins School of Public Health
- Student Paper Awards** Joint Statistical Meetings (JSM) 2017
ASA Nonparametric Statistics Section
- Student Poster Award** Conference on Lifetime Data Science 2017
- Louis I. and Thomas D. Dublin Award** 2016
For the advancement of Epidemiology and Biostatistics supports for students, Department of Biostatistics, Johns Hopkins School of Public Health

SCHOLARSHIP

- Overseas scholarship, Kwanjeong Educational Foundation 2014-2018
- National Science and Engineering Scholarship, Korea Student Aid Foundation (Full Tuition Scholarship) 2010-2013

TEACHING

- Classroom Teaching** Brown University

- PHP2610 Causal Inference and missing data Fall 2022, 2023, 2024
- PHP2580 Statistical Inference II Spring 2024, 2025*

Teaching Assistant

- Public Health Biostatistics (Undergraduate Course) Fall 2018
- Causal Inference in Medicine and Public Health I 2017-2018 3rd and 4th terms
- Survival Analysis I-II 2017-2018 1st and 2nd terms
- Survival Analysis Summer 2017
- Causal Inference in Medicine and Public Health I 2016-2017 3rd and 4th terms
- Statistical Reasoning in Public Health II 2016-2017 2nd term
- Survival Analysis I 2016-2017 1st term
- Statistical Reasoning in Public Health IV 2015-2016 4th term
- Statistical Reasoning in Public Health III 2015-2016 3rd term
- Statistical Reasoning in Public Health I - II 2015-2016 1st and 2nd terms

Guest Lecture

- *Causal interference* 10/2020
Class: Causal Inference in Biomedical Research (Instructor: Nandita Mitra and Peter Yang)
- *Causal inference under interference* 03/2018
Class: Causal Inference in Medicine and Public Health I (Instructor : Elizabeth Stuart)
- *Introduction to principal stratification and truncation due to death* 03/2017
Class: Causal Inference in Medicine and Public Health I (Instructor : Elizabeth Stuart)

ADVISING

PhD thesis advisor

- Esteban Fernandez, Current PhD student in Biostatistics (co-advised by Dr. Arman Oganisian)
Recipient of 2022 NSF Graduate Research Fellowships Program
- Zhejia Dong, Current PhD student in Biostatistics

Academic advisor

- William Welsh, Current Master’s student in Biostatistics
- Aijia Zhang, Current Master’s student in Biostatistics
- Chichun Tan, Current PhD student in Biostatistics 2022-2023
- Victoria Grase, ScM in Biostatistics, 2024 2022-2024
- Nancy Liu, ScM in Biostatistics, 2023 2021-2022

Master’s thesis/project advisor

- Peirong Hao, Current Master’s student in Biostatistics
- Caiwei Xiong, ScM Biostatistics, 2024
Currently Risk Analyst at Beijing Shunxi Venture Capital Fund Management Co., Ltd.
- Kerry Ye, ScM in Biostatistics, 2024
Currently Associate Biostatistician at St. Jude Children’s Research Hospital
- Shirley Song, ScM in Biostatistics, 2024
Currently PhD student at Brown Biostatistics

- Zhejia Dong, ScM in Biostatistics, 2023
Currently PhD student at Brown Biostatistics

PhD thesis committee

- Gary Hettinger, Current PhD student in Biostatistics, UPenn (external committee) 2021-
- Shuo Feng, Current PhD students in Biostatistics 2023-

Undergraduate research

- Marwan Ali, Department of Applied Mathematics, Brown University (Class of 2025)