

# Youjin Lee

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## EDUCATION

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

## PROFESSIONAL EXPERIENCE

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<b>Manning Assistant Professor</b> <b>Department of Biostatistics, Brown University</b>	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

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- Articles in peer-reviewed journals:** \*equal contribution
- 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.
  - Yang, J., Bhattacharya, R., **Lee, Y.**, Westling, T (2024). Statistical and causal robustness for causal null hypothesis tests. [arxiv] (Accepted for the *Uncertainty in Artificial Intelligence*)
  - 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*).
  - 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.
  - 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.

6. 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
7. 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.
8. Lee, Y., Kennedy, E. H., & Mitra, N. (2023). Doubly robust nonparametric instrumental variable estimators for survival outcomes. *Biostatistics*, 24(2), 518-537.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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)*.
14. 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.
15. 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.
16. Lee, Y. & Ogburn, E.L. (2020). Testing for Network and Spatial Autocorrelation. In *International Conference on Network Science* (pp. 91-104). Springer, Cham.
17. 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.
18. 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:

1. 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)
2. 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:

† student mentee

1. Hettinger, G., Roberto, C., Lee, Y., & Mitra, N. (2024+). Estimation of policy-relevant causal effects in the presence of interference with an application to the Philadelphia beverage tax. [arxiv]
2. Lee, Y., Hettinger, G., & Mitra, N. (2024+). Policy effect evaluation under counterfactual neighborhood intervention in the presence of spillover. [arxiv]
3. Lee, Y., †Dong, Z., Katenka, N., Wu, J., Buchanan, A.L. (2024+). Network dependence with multiple clusters: a simulation study across different autocorrelation processes.
4. Lee, Y., †Tan, C., Karmakar, B. (2024+). Constructing multiple, independent analyses in the regression discontinuity design with multiple cutoffs.
5. Hettinger, G., Lee, Y., Mitra, N. (2024+). Multiply robust estimation of causal effect curves for difference-in-differences designs. [arxiv]
6. Lee, Y. & Suk, Y. (2024+). Evidence factors in fuzzy regression discontinuity designs with sequential treatment assignments. [psyarxiv]

## SOFTWARE

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### 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

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### Statistical methods (Active)

- *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**


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<b>Invited seminars/workshops</b>	<b>*upcoming</b>
· Department of Statistics, University of Florida	11/2023
· Department of Biostatistics, University of Iowa	10/2023
· Department of Statistics, Columbia University	09/2023
· Institute of Social Sciences, Seoul National University, South Korea	06/2023
· Journal Club, International Biometric Society	04/2023
· Korean International Statistical Society Webinar	04/2023
· Department of Biostatistics, Boston University	10/2022
· Department of Mathematics and Statistics, University of Massachusetts Amherst	09/2022
· Korean Summer Session on Causal Inference	06/2022
· NIDDK workshop, Bethesda, MD	05/2022
· Statistics and Data Science Seminar, University of Illinois, Chicago	10/2021
· AMPHBIAN, Brown University	10/2021
· Online Causal Inference Seminar	09/2021
· Causal Inference using R, R-Ladies Philly	09/2021
· Department of Biostatistics, University of Washington	02/2021
· Department of Data Sciences and Operations, USC Marshall School of Business	01/2021
· Department of Biostatistics, Brown University	01/2021
· Department of Statistics, University of California, Irvine	01/2021
· Department of Biostatistics and Bioinformatics, Emory University	01/2021
· Department of Statistics, Seoul National University, South Korea	11/2020
· Department of Politics, Princeton University	11/2020
· Johns Hopkins causal inference statistical genetics group	03/2020
· Joint Program in Survey Methodology, University of Maryland	10/2019
· RAND Corporation, Statistics Group	02/2019
<b>Invited scientific meetings</b>	<b>*upcoming</b>
· 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

· 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
<b>Contributed oral and poster presentations</b>	†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*

<b>Grant review</b>	*upcoming
· 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/chair

· Recent advances in causal inference methodologies, NESS	06/2023
· Advances in causal approaches to public policy evaluations using quasi-experimental designs, ICHPS	01/2023
· Advances in social network analysis for public health solutions, JSM	08/2022
· Causal inference methods for survival and longitudinal data, ENAR	03/2021

### Academic service

Brown School of Public Health

· 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
- Diversity and Inclusion Committee, Department of Biostatistics 2021-

### Others

- Secretary, Society for Causal Inference 2024-2027
- Program Chair, Korean International Statistical Society 2024-2025
- 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

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**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

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Overseas scholarship, Kwanjeong Educational Foundation 2014-2018

National Science and Engineering Scholarship, Korea Student Aid Foundation 2010-2013  
 (Full Tuition Scholarship)

## TEACHING

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**Classroom Teaching** Brown University

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

### 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

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### PhD thesis advisor

- Esteban Fernandez, Current PhD student in Biostatistics 09/2021-  
*Recipient of 2022 NSF Graduate Research Fellowships Program* (co-advised by Dr. Arman Oganisian)

### Academic advisor

- Zhejia Dong, Current PhD student in Biostatistics 09/2023-
- Chichun Tan, Current PhD student in Biostatistics 09/2022-08/2023
- Victoria Grase, ScM in Biostatistics, 2024
- Nancy Liu, ScM in Biostatistics, 2023

### Master's thesis advisor

- Caiwei Xiong, ScM Biostatistics, 2024 (Currently Risk Analyst at Beijing Shunxi Venture Capital Fund Management Co., Ltd.)
- Kerry Ye, ScM in Biostatistics, 2024
- 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-