

Chanhwa Lee

CONTACT INFORMATION 135 Dauer Drive
McGavran-Greenberg Hall
Chapel Hill, NC 27599

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EDUCATION **University of North Carolina at Chapel Hill**, Chapel Hill, NC

Ph.D., Biostatistics Expected May 2025

- Dissertation: *Causal Inference under Interference and Nonparametric Efficient Estimation*
- Advisor: Dr. Michael G. Hudgens & Dr. Donglin Zeng

Seoul National University, Seoul, Korea

B.S., Statistics and Mathematics (double major), summa cum laude Aug 2020

- GPA: 4.06 / 4.3

RESEARCH INTERESTS Causal Inference, Precision Medicine, Machine Learning, Semiparametric Efficient Estimation

PROFESSIONAL EXPERIENCE **Machine Learning Engineer Intern** May 2024 - Aug 2024
Apple Inc. Cupertino, CA

- Analyzed Apple applications user data and built state-of-the-art content recommender systems to optimize user experience.

Research Statistics Intern May 2023 - Aug 2023
GlaxoSmithKline (GSK) Philadelphia, PA

- Built high dimensional multi-omics ensemble ML prediction models to identify biomarkers related to cancer cell drug sensitivity.

Graduate Research Assistant Jan 2022 - Present
Center for AIDS Research, UNC Chapel Hill Chapel Hill, NC

- Wrote statistical analysis plans for biomedical research grants and provided statistical data analysis.

Journal Referee

- Journal of Royal Statistical Society: Series B
- Journal of the International AIDS Society

Undergraduate Research Assistant Mar 2019 - Dec 2019
Biostatistics and Bioinformatics Lab Seoul, Korea
Seoul National University

HONORS AND AWARDS **Tom Ten Have Award Honorable Mention & Travel Award** May 2024
American Causal Inference Conference 2024

Best Poster Award & Early Career Award Mar 2024
Duke Industry Statistics Symposium 2024

Travel Award, 2024 Winter Workshop on Causal Inference Jan 2024
Department of Statistics, University of Florida

Travel Award, Extending Inferences to a New Target Population Workshop Nov 2023
ICERM at Brown University

1st Prize, Doctoral Comprehensive Written Exam (Theory) Aug 2021
Department of Biostatistics, UNC Chapel Hill

Doctoral Study Abroad Program Fellowship (\$65K) Korea Foundation for Advanced Studies	2020 – 2025
Silver Prize, 38th University Student Contest of Mathematics Korean Mathematical Society	Spring 2019
Dean’s List College of Natural Sciences, Seoul National University	2014, 2015, 2019
Korean Presidential Science Scholarship (\$44K) Korea Student Aid Foundation	2014 – 2020
Bronze Prize, 20th Humantech Paper Award Samsung Electronics	Feb 2014
2nd Prize, 26th Final Korean Mathematical Olympiad Korean Mathematical Society	2013
Silver Prize, 26th Korean Mathematical Olympiad Korean Mathematical Society	2012

PUBLICATIONS

1. Lee, C., Zeng, D., & Hudgens, M. G. (2024). Efficient Nonparametric Estimation of Stochastic Policy Effects with Clustered Interference. *Journal of the American Statistical Association*. In Press. [link] [code]
2. Kilpatrick, K., Lee, C., & Hudgens, M. G. (2024). G-Formula for Observational Studies with Stratified Interference, with Application to Bed Net Use on Malaria. *Statistics in Medicine*, 43(15), 2853-2868. [link]
3. Chen, B., Lee, C.*, Tapia, A., Reiner, A., Tang, H., Kooperberg, C., Li, Y., & Raffield, L. (2024). Proteome-Wide Association Study Using Cis and Trans Variants and Applied to Blood Cell and Lipid-Related Traits in the Women’s Health Initiative Study. *Genetic Epidemiology*, 48, 310-323. *Co-first author. [link]
4. Li, L., Lee, C., Cruz, D. F., Krovi, S. A., Hudgens, M. G., Cottrell, M. L., & Johnson, L. M. (2022). Reservoir-Style Polymeric Drug Delivery Systems: Empirical and Predictive Models for Implant Design. *Pharmaceuticals*, 15(10), 1226. [link]

MANUSCRIPTS
SUBMITTED
(PREPRINTS)

1. Lee, C., Zeng, D., & Hudgens, M. G. (2024+). Nonparametric Causal Survival Analysis under Clustered Interference. *arXiv*, 2409.13190. Under Review at Journal of the Royal Statistical Society Series B. [preprint] [code]
2. Shook-Sa, B., Zivich, P., Lee, C., ..., & Cole, S. (2024+). Double Robust Variance Estimation. *arXiv*, 2404.16166. **Under Revision at Biometrics**. [preprint]
3. Sheahan, T. P., Laura J. Stevens, L. J., Lakshmanane, P., Krajewski, T. J., Lee, C., ..., & Fischer, W. A. (2024+). The Antiviral Mechanism of Action of Molnupiravir in Humans with COVID-19. *medrxiv*, 2023.11.21.23298766. **Under Revision at Nature Communications**. [preprint]

TALKS AND
PRESENTATIONS

- “Nonparametric Causal Survival Analysis under Clustered Interference”
Oral, US-Korea Conference on Science, Technology, and Entrepreneurship 2024,
San Francisco, CA Aug 2024
Travel Award

- “Nonparametric Causal Survival Analysis under Clustered Interference”
Oral, Joint Statistical Meeting 2024, Portland, OR Aug 2024
- “Nonparametric Causal Survival Analysis under Clustered Interference”
Poster, American Causal Inference Conference 2024, Seattle, WA May 2024
Tom Ten Have Award Honorable Mention
- “Nonparametric Causal Survival Analysis under Clustered Interference”
Poster, Duke Industry Statistics Symposium 2024, Durham, NC Mar 2024
Best Poster Award
- “Nonparametric Causal Survival Analysis under Clustered Interference”
Poster, 2024 Winter Workshop in Causal Inference, Gainesville, FL Jan 2024
Travel Award
- “Efficient Nonparametric Estimation of Stochastic Policy Effects with Clustered Interference”
Seminar Talk, **Online Causal Inference Seminar Fall 2023** [video] Sep 2023
- “Efficient Nonparametric Estimation of Stochastic Policy Effects with Clustered Interference”
Oral, Joint Statistical Meeting 2023, Toronto, CA Aug 2023
- “Efficient Nonparametric Estimator of Incremental Propensity Score Effect with Clustered Interference”
Oral, Eastern North American Region International Biometrics Society Meeting 2023, Nashville, TN Mar 2023

TEACHING
ACTIVITIES

Teaching Assistant at University of North Carolina at Chapel Hill
Causal Inference (~40 students) Spring 2024
Basics of Probability and Statistical Inference (~60 students) Spring 2023

Teaching Assistant at Seoul National University
Mathematical Statistics II (~40 students) Fall 2019
Mathematical Statistics I (~40 students) Spring 2019

PROFESSIONAL
MEMBERSHIPS

American Statistical Association
Eastern North American Region, International Biometric Society
Korean-American Scientists and Engineers Association

SKILLS

R, Python, Docker, Git, SAS, Bash, SQL, \LaTeX

DATE OF
PREPARATION

October 31, 2024