

Kenneth Menglin Lee

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EDUCATION

- Duke-NUS Medical School**, Singapore Aug 2020 – Aug 2024
Doctor of Philosophy (PhD), Biostatistics
Committee: Dr. Cheung Yin Bun (Advisor), Dr. Roger Vaughan (Chair), Dr. Bibhas Chakraborty, Dr. Li Jialiang
- Vassar College**, Poughkeepsie, NY Aug 2014 – May 2018
Bachelor of Arts (BA), Neuroscience

PROFESSIONAL EXPERIENCE

- Post-Doctoral Researcher** Sep 2024 – Present
University of Pennsylvania, Department of Biostatistics, Epidemiology, & Informatics, Philadelphia, Pennsylvania
Supervisors: Dr. Michael Harhay, Dr. Katherine Courtright, Dr. Fan Li (Yale University)
- Developing new statistical methods for the analysis of cluster randomized trials. Analyzing and developing statistical tools for research in palliative care.
- Graduate Researcher** Aug 2020 – Aug 2024
Duke-NUS Medical School, Center for Quantitative Medicine, Singapore
Supervisor: Dr. Cheung Yin Bun
- Evaluated time-varying intervention effects and fixed effects models in the analysis of Cluster Randomized Trials, and developed a partitioned methods to control for bias in Self-Controlled Case Series study designs.
- Visiting Researcher** Mar 2024 – Apr 2024
Duke University, Duke Global Health Institute, Durham, North Carolina
Supervisors: Dr. Elizabeth Turner, Dr. Avi Kenny
- Researched the analysis of exposure and calendar time-varying treatment effects in the context of Stepped-Wedge Cluster Randomized Trials when the underlying treatment effect structure is misspecified.
- Biostatistician (part-time)** Jan 2022 – Jul 2022
Singapore Clinical Research Institute, Singapore
Supervisor: Dr. Mihir Gandhi
- Reviewed statistical analysis plans for randomized clinical trials exploring the effects of continuous glucose monitoring on diabetes (GLIMPSE) and aspirin on colorectal cancer (ASCOLT).
 - Used SAS to generate and analyze ADaM datasets for data collected from a randomized longitudinal study of continuous glucose monitoring in the management of diabetes.
- Bioinformatician (part-time)** Dec 2021 – Feb 2023
Treat Therapeutics, Singapore
- Interpreted microbiome sequencing results following 16s rRNA sequencing of canine fecal matter
 - Developed a straight-to-consumer report generating pipeline using Bioconductor in R.
 - Performed pathway analysis with Picrust2.
 - Used Differential Analysis to explore the effect of different probiotic treats on the canine gut microbiome.
 - Created a comparative scoring system to compare canine gut microbiome composition.
- Research Associate** Jul 2018 – Jul 2020
Neuroscience Institute, NYU Langone Health, New York, NY
Supervisor: Dr. James Salzer
- Studied the role of MYPT1 in the assembly of the axon initial segment in mouse layer V pyramidal neurons.
 - Modelled the effect of demyelinating drugs on myelination in the mouse corpus collosum in R.

PUBLICATIONS

1. Lee, K. M. (2024). The Expected Value of Tennis. (Forthcoming, *Significance*)
2. Lee, K. M., Yang, G. M., & Cheung, Y. B. (2024). Inclusion of unexposed clusters improves the precision of fixed effects analysis of stepped-wedge cluster randomized trials with binary and count outcomes. *BMC Medical Research Methodology*, 24(1), 254. [<https://doi.org/10.1186/s12874-024-02379-z>]
3. Lee, K. M. & Cheung, Y. B. (2024). The fixed effects model for robust analysis of stepped-wedge cluster trials with a small number of clusters and continuous outcomes: a simulation study. *Trials*, 25(1), 1-18. [<https://doi.org/10.1186/s13063-024-08572-1>]
4. Lee, K. M. & Cheung, Y. B. (2024). Estimation and reduction of bias in self-controlled case series with non-rare event dependent outcomes and heterogeneous populations. *Statistics in Medicine*, 43(10), 1955-1972. [<https://doi.org/10.1002/sim.10033>]
5. Lee, K. M. (2024). Boxing with George EP Box. *Significance*. [<https://significancemagazine.com/boxing-with-george-box/>]
6. Lee, K. M. & Cheung, Y. B. (2024). Cluster randomized trial designs for modeling time-varying intervention effects. *Statistics in Medicine*, 43(1), 49-60. [<https://doi.org/10.1002/sim.9941>]
7. Lee, K. M., Ma, X., Yang, G. M., & Cheung, Y. B. (2022). Inclusion of unexposed clusters improves the precision of fixed effects analysis of stepped-wedge cluster randomized trials. *Statistics in Medicine*, 41(15), 2923-2938. [<https://doi.org/10.1002/sim.9394>]
8. Arndtsen, C., Ballon, J., Blackshear, K., Corbett, C. B., Lee, K., Peyer, J., ... & Duncan, K. A. (2020). Atypical gene expression of neuroinflammatory and steroid related genes following injury in the photoperiodic Japanese quail. *General and comparative endocrinology*, 288, 113361. [<https://doi.org/10.1016/j.ygcen.2019.113361>]

SUBMITTED MANUSCRIPTS

1. Lee, K. M., & Li, F. (2024). How should parallel cluster randomized trials with a baseline period be analyzed? A survey of estimands and common estimators. *arXiv preprint arXiv:2406.02028*. (under review, *Biometrical Journal*) [<https://doi.org/10.48550/arXiv.2406.02028>]
2. Lee, K. M., Turner, E. L., & Kenny, A. (2024). Analysis of Stepped-Wedge Cluster Randomized Trials when treatment effect varies by exposure time or calendar time. *arXiv preprint arXiv:2409.14706*. (under review, *Statistics in Medicine*) [<https://doi.org/10.48550/arXiv.2409.14706>]
3. Mobley, A, ... , Lee, K. M., ..., Altice, F. L. Syndemic profiles of incarcerated men living with HIV in Malaysia transitioning back to the community: A Latent Class Analysis. (under review, *AIDS and Behavior*)

PRESENTATIONS

1. Lee, K. M. (2024, June). Estimation and reduction of bias in self-controlled case series with non-rare event dependent outcomes and heterogeneous populations. Invited oral presentation at the Health Sciences Authority, Singapore.
2. Lee, K. M. (2024, June). Modelling exposure time-varying treatment effects in cluster randomized trials. Invited oral presentation at the University of Birmingham, Birmingham, England.
3. Lee, K. M. (2024, March). Cluster randomized trials for modelling time-varying treatment effects. Invited oral presentation at the Duke Global Health Institute, Durham, NC.
4. Lee, K. M. (2023, September). Boxing with George Box. Invited oral presentation at the Royal Statistical Society (RSS) International Conference 2023, Harrogate, England.

5. **Lee, K. M.**, Cheung Y. B. (2023, September). Cutting the Gordian Knot: Partitioned Analysis of Self Controlled Case Series of non-rare recurrent events. Contributed oral presentation at the Royal Statistical Society (RSS) International Conference 2023, Harrogate, England.
6. **Lee, K. M.**, Poh, Z. W., Yeung K. F. (2022, February). Monitoring of treatment response in metastatic colorectal cancer patients with cfDNA. Contributed oral presentation at the Duke-NUS PhD Student Research Symposium 2022, Duke-NUS, Singapore.

POSTERS

1. **Lee, K. M.**, Cheung Y. B. (2023, October). Cluster Randomized Trial designs for modelling time-varying intervention effects. Poster presentation at the 15th Duke-NUS Early Career Scientists Association (DUNES) Scientific Symposium, Singapore.
2. **Lee, K. M.**, Cheung Y. B. (2023, October). Cluster Randomized Trial designs for modelling time-varying intervention effects. Poster presentation at the Duke-NUS PhD Student Research Symposium 2023, Singapore.
3. **Lee, K. M.**, Cheung Y. B. (2023, September). Robust Monitoring of Vaccine and Drug Safety using the Self-Controlled Case Series. Poster presentation at the SingHealth Duke-NUS Scientific Conference 2023, Singapore.

HONORS & AWARDS

FDA-OCE-ASA Oncology Educational Fellowship	Oct 2024
Duke University School of Medicine 2024 Pre-Doctoral Research Exchange Award	Mar 2024
(Finalist) Royal Statistical Society 2023 Statistical Excellence Award for Early-Career Writing	Jun 2023
(1 st Place) Duke-NUS 2022 PhD Student Research Symposium	Feb 2022
Khoo Pre-Doctoral Fellowship	Aug 2020

TEACHING EXPERIENCE

Core Instructor	Nov 2024 – Present
University of Pennsylvania, Pragmatic Clinical Research Institute, Philadelphia, Pennsylvania	
<ul style="list-style-type: none"> Gave lectures on common statistical considerations for the analysis of cluster randomized trials 	

ADDITIONAL EXPERIENCE

FDA-OCE-ASA Oncology Educational Fellow	Oct 2024 – May 2025
Food and Drug Administration Oncology Center of Excellence, American Statistical Association	
<ul style="list-style-type: none"> Participated in workshops on statistics in oncology drug development, research, and regulatory policy. 	

Volunteer Statistician	Aug 2019 – Feb 2020
Statistics Without Borders	
<i>Supervisor: Dr. Janet Raboud</i>	
<ul style="list-style-type: none"> Used R to characterize, clean, and visualize data collected from the organization membership survey. 	

Student (part-time)	Oct 2019 – May 2020
NYU School of Professional Studies, New York, NY	
<ul style="list-style-type: none"> Completed Advanced Python, Data Visualization for Business, The Art of Data Visualization. 	

Biostatistics Trainee	Jun 2018 – Jul 2018
Summer Institute for Training in Biostatistics (SIBS), Emory University, Atlanta, GA	
<i>Supervisors: Dr. René Moore, Dr. Lance Waller, Dr. Xavier Higgins, Dr. Raphael Murden, Dr. Andrea Lane</i>	
<ul style="list-style-type: none"> Analyzed the efficacy of sleep apnea treatments and identified biomarkers of chronic kidney disease. 	

Undergraduate Thesis Researcher	Sep 2016 – May 2018
Department of Neuroscience, Vassar College, Poughkeepsie, NY	
<i>Supervisors: Dr. Kevin Holloway, Dr. Kelli Duncan</i>	
<ul style="list-style-type: none"> Identified the role of steroid hormones in response to traumatic brain injury in the Japanese quail brain. 	

Undergraduate Summer Researcher

May 2016 – Aug 2016

Department of Neuroscience and Cell Biology, Rutgers-RWJMS, New Brunswick, NJ

Supervisors: Dr. Long-Jun Wu, Dr. Ukpong Eyo

- Identified the role of the microglia P2Y₁₂ receptor in neuroprotection, seizures and microglia development.

REFEREEING

Statistics in Medicine (1)*International Journal of Epidemiology* (1)*Clinical Trials* (1)*BMC Medical Research Methodology* (1)**TECHNICAL SKILLS**

R, SAS, Python, LaTeX