(Last Updated: August 10, 2025)

Sung Hee Park

Institute for Informatics, Data Science and Biostatistics (I2DB), School of Medicine,
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Professional Appointments

Postdoc Research Associate September 2023 – Present
I2DB, Washington University in St. Louis (supervised by Lei Liu) *St. Louis, MO*

- Developing statistical methods for longitudinal and multimodal biomedical data
- Collaborating on NIH-funded projects related to multi-omics data

Education

Florida State University, Department of Statistics Tallahassee, FL
Ph.D., Statistics (advised by Xin "Henry" Zhang) *2023*
Dissertation title: Subspace Learning Approaches to Association Analysis for Multi-modal Data
GPA: 4.0/4.0

Florida State University, Department of Statistics Tallahassee, FL
M.S., Statistics *2019*

Dongguk University, Department of Statistics Seoul, South Korea
M.A., Statistics (advised by Kwan-Jeh Lee) *2016*

Dongguk University, Department of Statistics Seoul, South Korea
B.S., Statistics *2014*

Research Interests

- Dimension Reduction
- Longitudinal and Survival Analysis
- Multimodal Data Integration
- Tensor Data Analysis
- Applications in Medical Imaging and Biomechanics

Publications

1. **S. H. Park**, X. Zhang, E. Slate, S. Sun, & H. Yao (2025+). Dimension Reduction for Characterizing Sexual Dimorphism in Biomechanics of the Temporomandibular Joint. *Under revision, submitted August 2024 to Biometrics*

2. Y. Shi, L. Liu, J. Chen, K. M. Wylie, T. N. Wylie, M. J. Stout, C. Wang, H. Zhang, Y. T. Shih, X. Xu, A. Zhang, **S. H. Park**, H. Jiang, & L. Liu (2024). Simplified methods for variance estimation in microbiome abundance count data analysis. *Frontiers in Genetics, 15, 1458851.*

3. **S. H. Park**, R. Zhou, X. Zhang, L. Li, & L. Liu (2024). Tensor Landmark Analysis with Application to ADNI data. *Stat, 13(4), e70014. DOI: https://doi.org/10.1002/sta4.70014*

Preprints

1. **S. H. Park**, X. Zhang, R. Zhou, G. Wang, & L. Liu (2025+). Envelope-based Linear Mixed Model with application to ADNI data. *The manuscript is available upon request.*

2. **S. H. Park**, G. Li & X. Zhang (2025+). Envelope Block-wise Imputation with Applications to Genomic Data Integration. *The manuscript is available upon request.*

3. **S. H. Park**, C. Luo, L. Liu, & L. Liu (2025+). Sparse Longitudinal Canonical Correlation Analysis.

Teaching

Biomedical data mining (Instructor) — Washington University in St. Louis
Topics: resampling, logistic regression, survival analysis, nonlinear regression — *Spring 2024 & 2025*

Statistics thru Example (Instructor) — Florida State University
Designed and led weekly lectures and labs for undergraduate students — *Fall 2019 & 2021, Spring 2022 & 2023*

Invited Talks and Presentations

Dynamic Association Analysis for Multimodal Data Integration — June 2025
The 34th annual symposium of Applied Statistics Symposium (ICSA). Invited Conference Talk. — *Storrs, Connecticut*

Tensor Landmark Analysis with Application to ADNI data — May 2025
The 4th Lifetime Data Science (LiDS) Conference. Invited Conference Talk. — *Brooklyn, New York*

Tensor Landmark Analysis with Application to ADNI data — November 2024
I2DB Seminar Series. Invited Department Seminar. — *Washington University in St. Louis*

Spline Transformation in Envelope models — August 2020
Joint Statistical Meetings 2020. Student Talk. — *Virtual*

Transformed dimension reduction methods for multivariate data — May 2019
Korean Statistical Society Spring Conference. Poster Session. — *Kangwon National University*

Journal Reviewing

Statistics in Medicine (2023 - Present)
Biometrics (2024 - Present)
Stat (2024 - Present)
Ophthalmology Science (2025 - Present)

Awards & Honors

Best First Year Student Award — 2018
Awarded to top two students in Computational Statistics — *Florida State University*

Highest Standing Award of the Paper Competition — 2015
OSHRI, Korea Occupational Safety and Health Agency — *Ulsan, Korea*
Title: Correspondence Analysis for the Working Condition Survey Data

Dean's List (3 semesters) — *Dongguk University*

Programming Skills

Proficient in R, Matlab, and SAS for academic purpose
Experience in C++ and Python