

**BUMJUN PARK**

Ph.D. Student in Biostatistics

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**EDUCATION****Sep 2023–(present)**  
(expected Aug 2028)Ph.D., Biostatistics, *University of Washington***Sep 2018–May 2023**B.S., Statistics, *University of Wisconsin-Madison*  
(certificate in Mathematics & Economic Analytics)**PUBLICATIONS**

(\* denotes corresponding author)

- 2025** Lin, X.\*, **Park, B.**, Zahasky, C. & Kang, H. (2025). "Semiparametric Spatial Point Processes". *arXiv*. ([manuscript](#))
- 2024** **Park, B.\***, Kang, H., & Zahasky, C. (2024). "Statistical Mapping of PFOA and PFOS in Groundwater Throughout the Contiguous United States". *Environmental Science & Technology*, 58, 44, 19843–19850. ([manuscript](#)) ([code](#))

**RESEARCH EXPERIENCE****Sep 2025 – (present)****Research Assistant**, *University of Washington*Advisor: **Amy Willis**

- Conducted theoretical and methodological research on nonparametric regression methods incorporating known graph structures such as phylogenetic trees
- Maintained and extended R packages, including issue resolution and feature development on GitHub.

**Dec 2024 – (present)****Independent Study**, *University of Washington*Advisor: **Jon Wakefield**

- Conducted a critical evaluation of the Log-Quad model for estimating under-five mortality rates, assessing its theoretical assumptions and empirical performance through simulation studies.
- Investigated a Bayesian method of using granular data to construct informative priors for estimating hazard functions for countries with coarser data.

- Sep 2023 – (present)**      **Research Assistant**, *University of Washington*      Advisor: **Eardi Lila**
- Studied multivariate functional data analysis methods for predicting ischemic strokes, working with the research group under Professor Mahmud Mossa-Basha, Department of Radiology.
  - Investigated and developed quantitative models to reclassify embolic strokes of unknown origin (ESUS) using MRI data from the cerebral vessel wall.
- Sep 2024 – Sep 2025**      **Research Assistant**, *Fred Hutch Cancer Center*      Advisor: **Jing Ma**
- Studied the impact of compositionality and false discovery rate (FDR) control on microbiome network estimation through simulation and methodological evaluation.
  - Developed and reviewed statistical models for compositional and graphical analyses of microbiome data
- Sep 2022 – May 2023**      **Data Analyst**, *Nelson Institute, UW-Madison*      Advisor: **Jonathan Patz**
- Preprocessed and analyzed data for environmental policy, air quality, and epidemiology projects.
  - Applied spatial random forest models to investigate the relationship between malaria prevalence and factors such as vegetation coverage, insecticide-treated net distribution, precipitation, and livestock populations in Kenya.
- May 2022 – May 2023**      **Undergraduate Research Assistant**, *UW-Madison*      Advisor: **Chris Zahasky**
- Implemented web-scraping algorithms to collect PFAS concentration data from sources such as the U.S. Air Force and Wisconsin Department of Natural Resources.
  - Developed geostatistical visualizations and built an Inhomogeneous Poisson Process model to predict PFAS concentrations while accounting for opportunistic sampling.
- Feb 2022 – May 2023**      **Undergraduate Research Assistant**, *UW-Madison*      Advisor: **Stephen Gammie**
- Analyzed RNA-sequencing gene expression data from Alzheimer's disease models to identify differentially expressed genes.
  - Processed gene expression data for Alzheimer's and Parkinson's disease patients, implementing machine learning models to classify diseases using top-scoring differential gene pairs.

## TEACHING EXPERIENCE

- Jan 2026 – Mar 2026**      **BIOST515: Applied Biostatistics II**, *University of Washington*      (Teaching Assistant)  
*Lead Instructor: Amy Willis*

## PRESENTATIONS

- May 2025**      **UW Biostat Student-Invited Speaker Poster Session** (*Prof. Emmanuel Candès*)      (Poster)  
**Park, B., Lila, E., Mossa-Basha, M.** "Tracking Vessel Wall Changes over Time"

- Jan 2025**      **UW Biostat Student Seminar**      (Talk)  
**Park, B.** "False Discovery Rate and Multiple Testing: Detecting Microbiome Networks"
- Oct 2024**      **UW Biostat Student Seminar**      (Talk)  
**Park, B.** "Function on Function Regression on Sparse Observations: Multivariate Functional PCA on Vessel Wall Imaging Data"
- Mar 2023**      **AWRA Wisconsin Section**      (Poster)  
**Park, B.,** Kang, H., Gnesda, W., & Zahasky, C. "Groundwater Contamination of Per- and Polyfluoroalkyl Substances in the United States - Insights from an Ecological Sampling Bias Correction Method"