# Seoncheol Park

## About Me

I am an Assistant Professor at the Department of Mathematics and the Department of Applied Statistics at Hanyang University, South Korea. Prior to joining Hanyang University, I worked as an Assistant Professor at the Department of Information Statistics at Chungbuk National University for two years. I was also a Postdoctoral Research Fellow at the Pacific Climate Impacts Consortium where I worked under the supervision of Professor Francis Zwiers. I received my Ph.D. in Statistics from Seoul National University under the supervision of Professor Hee-Seok Oh, and I was a member of Multiscale Methods in Statistics Lab.

## Professional Experiences

- Assistant Professor, Department of Mathematics and Department of Applied Statistics, Hanyang University, Seoul, Korea, March 2023 ~
- Assistant Professor, Department of Information Statistics, Chungbuk National University, Cheongju, Korea, March 2021 ~ February 2023.
- Post-Doctoral Research Fellow, Pacific Climate Impacts Consortium, University of Victoria, Victoria, British Columbia, Canada, August 2019 ~ January 2021.

## Education

- Ph.D., Statistics, Seoul National University, Seoul, Korea, 2019.
- B.S., Mathematical Sciences (Double Major with Management Sciences), KAIST, Daejeon, Korea, 2013.

## Research Interests

- Spatio-temporal data analysis and extreme value statistics, application to environmental and public health data

## Academic Works

## Publications

### International Journal Papers

(*: Corresponding author, and **: Students I supervised)

1. H. Park, **S. Park** and J. Kim* (2026+). Expectile-based probabilistic forecasting for spatio-temporal river network data. *International Journal of Forecasting*, In Press. (I contributed equally to this work as joint first authors.)

2. S. Kang, K. Kim, Y. Kwon, S. Park, **S. Park**, H-Y. Shin, J. Kim* and H-S. Oh (2025). Semiparametric approaches for the inference of univariate and multivariate extremes. *Extremes*, **28(1)**, 123–148.
3. B. Lee**, H-D. Sou*, P. Yeon, H. Lee, C-R. Park, S. Choi and **S. Park*** (2024). Seasonal characteristics of particulate matter by pollution source type and urban forest type. *Applied Sciences*, **14(21)**, 9988.
4. S. Cho, D-K. Kim, M-C. Song, E. Lee, **S. Park**, D. Chung and J. Ha* (2024). Deciphering changes in the incidence of hemorrhagic stroke and cerebral venous sinus thrombosis during the coronavirus disease 2019 pandemic: a nationwide time-series correlation study. *PLOS ONE*, **19(10)**, e0301313.
5. H. Lee, D. Kwon, **S. Park**, S-R. Park, , D. Chung and J. Ha* (2023). Temporal association between age-specific incidence of Guillain–Barré syndrome and SARS-CoV-2 vaccination; a nationwide time-series correlation study. *Osong Public Health and Research Perspectives*, **14(3)**, 224–231.
6. J. Lee** and **S. Park*** (2023). Prediction of sharp change of particulate matter in Seoul via quantile mapping. *Communications for Statistical Applications and Methods*, **30(3)**, 259–272.
7. B. Lee**, P. Yeon and **S. Park*** (2022). The factors and relationships influencing urban hiking exercise characteristics after COVID-19 occurrence: at Seoul Metropolitan Area and in their 20s and 30s. *International Journal of Environmental Research and Public Health*, **19(24)**, 16403.
8. S. Cho, Y-M. Kim, G. Seong, S. Park, **S. Park**, S-E. Lee and Y. Park* (2022). Analysis of on-ship transmission through cases of COVID-19 mass outbreak on Republic of Korea Navy Amphibious Warfare ship. *Epidemiology and Health*, **44**, e2022065.
9. S. Lee, **S. Park** and Y. Lim* (2022). Prediction of extreme PM2.5 concentrations via extreme quantile regression. *Communications for Statistical Applications and Methods*, **29(3)**, 319–331.
10. **S. Park** and H-S. Oh* (2022). Lifting scheme for streamflow data in river networks. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, **71(2)**, 467–490.
11. J. Kim, **S. Park***, J. Kwon, Y. Lim and H-S. Oh (2021). Estimation of spatio-temporal extreme distribution using a quantile factor model. *Extremes*, **24(1)**, 177–195.
12. **S. Park***, J. Kwon, J. Kim and H-S. Oh (2018). Prediction of extremal precipitation by quantile regression forests: from SNU Multiscale team. *Extremes*, **21(3)**, 463–476.

13. **S. Park** and H-S. Oh* (2017). Spatio-temporal analysis of particulate matter extremes in Seoul: use of multiscale approach. *Stochastic Environmental Research and Risk Assessment*, **31(9)**, 2401–2414.

# Presentations

## Talks and Posters

1. Statistical Modeling of Water Quality Data on River Networks, *2025 Workshop on Spatial Statistics and Related Fields*, Taipei, Taiwan, July 2025.
2. Clustering of Mountain Hiking GPS-Trajectory Data, *IASC-ARS Interim Conference 2024*, Taipei, Taiwan, December 2024.
3. Estimation of marine heatwaves in the East Sea: The extreme value generalized additive model approach, *Asia Oceania Geosciences Society (AOGS) 2024 21$^{th}$ Annual Meeting*, Pyeongchang, Korea, June 2024.
4. Spatial statistical models for environmental data in Korea, *Japanese Joint Statistical Meeting 2022*, Tokyo, Japan, September 2022.
5. Lifting scheme for streamflow data in river networks, *2022 The Korean Data Information Science Society Spring Conference*, Busan, Korea, May 2022.
6. Lifting scheme for streamflow data in river networks, *2021 The Korean Statistical Society Autumn Conference*, Seoul, Korea, November 2021.
7. Lifting scheme for streamflow data in river networks, *Bernoulli-IMS 10$^{th}$ World Congress in Probability and Statistics*, Seoul, Korea, July 2021.
8. A new approach for modelling the spatial extent of agricultural drought, *The 55$^{th}$ Canadian Meteorological and Oceanographic Society (CMOS) Congress*, Victoria, Canada, June 2021.
9. Multiresolution analysis for spatio-temporal data, *5$^{th}$ Institute of Mathematical Statistics Asia Pacific Rim Meeting*, Singapore, Singapore, June 2018.
10. Prediction of extremal precipitation: the use of quantile regression forests, *10$^{th}$ Extreme Value Analysis Conference*, Delft, Netherlands, June 2017.
11. Multiresolution analysis for spatio-temporal data. *2017 The Korean Statistical Society Spring Conference*, Seoul, Korea, May 2017.
12. Multiscale modeling for particulate matter extremes. *2015 The Korean Statistical Society Autumn Conference*, Yongin, Korea, November 2015.
13. Multiscale modeling for particulate matter extremes in Seoul. *The Seoul Institute Research Competition 2015*, Seoul, Korea, November 2015.

14. Prediction of extreme particulate matter : the use of quantile regression forests. *2014 The Korean Statistical Society Autumn Conference*, Seoul, Korea, November 2014.

### With My Students

1. 종단 오믹스 자료 발현 분석을 위한 R 패키지 개발 (with Haju Kang), *2025 The Korean Statistical Society Winter Conference*, Seoul, Korea, December 2025.
2. Adaptive Boosting on Linear Networks (with Seungyeon Lim), *2025 The Korean Statistical Society Summer Conference*, Gyeongju, Korea, June 2025.
3. Outlier Detection Followed by Fault Type Prediction: Two-Stage Approach (with Min Ju Kim and Seungyeon Lim), *2025 The Korean Statistical Society Summer Conference*, Gyeongju, Korea, June 2025.
4. Prediction of sharp change of particulate Matter in Seoul via quantile mapping (with Jeongeun Lee), *2022 The Korean Statistical Society Summer Conference*, Seoul, Korea, June 2022.

## Awards

1. Excellence award (3rd place), KSIAM-MathWorks problem challenge, *Korea Society for Industrial and Applied Mathematics*, Sep 2018.
2. Best oral presentation award (Pre-PhD): Multiresolution analysis for spatio-temporal data. *The Korean Statistical Society*, May 2017.
3. Excellence award, The Seoul Institute Research Competition 2015, *The Seoul Institute*, November 2015.

## Grants

### International or Domestic Research Foundations

- Outstanding Young Scientist Grants (우수신진연구), *Korean Ministry of Science and ICT*, April 2024 ~ March 2027.
- Basic Science Research Program (기본연구), *Korean Ministry of Education*, June 2021 ~ August 2024.

### University Grants

- 서울-ERICA 공동연구 지원사업, *Hanyang University (HYU)*, June 2024 ~ May 2025.
- 신임교원 정착 연구 지원사업, *Hanyang University (HYU)*, March 2023 ~ August 2024.
- 신진교수 연구비 지원사업, *Chungbuk National University (CBNU)*, March 2021 ~ August 2022.

### Scholarship

- Sohn Dong-Joon Scholarship, *College of Natural Sciences (SNU)*, May 2016 ~ August 2019.

## Services

### Referee

- Theoretical and Applied Climatology
- Annals of Applied Statistics
- Journal of Agricultural, Biological and Environmental Statistics
- Extremes
- Stochastic Environmental Research and Risk Assessment
- Computational Statistics
- Journal of the Korean Statistical Society
- Communications for Statistical Applications and Methods
- Computational Statistics and Data Analysis
- Scientific Reports
- Epidemiology and Health

### Professional Services

- 한국통계학회 평의원
- 서울특별시 스마트도시위원회 위원

## Teaching

### Hanyang University

#### Undergraduate Courses

- Statistical Computing / Statistical Methods for Data Analysis (2023 Fall, 2024 Fall, 2025 Fall)
- Introduction to Regression Analysis (2024 Spring, 2026 Spring)
- Artificial Intelligence and Machine Learning (2023 Spring, 2024 Spring, 2025 Spring)

#### Graduate Courses

- Regression Analysis (2024 Spring, 2026 Spring)
- Nonparametric Statistics (2024 Fall)

- Linear Models (2025 Spring)
- Statistical Data Science (2023 Fall, 2025 Fall)
- Seminar in Recent Development of Applied Statistics (2023 Spring)

## Chungbuk National University

### Undergraduate Courses

- Elementary Probability Theory (2022 Spring)
- Regression Analysis (2021 Spring, 2022 Spring)
- Statistical Simulation (2021 Spring)
- Insurance Statistics (2021 Fall)
- Financial Statistics (2021 Fall)
- Financial and Insurance Statistics (2022 Fall)
- Spatial Statistics (2022 Fall)

### Graduate Courses

- Topics in Regression Analysis (2022 Spring)
- Statistical Methodology (2021 Spring)
- Machine Learning Methodology (2022 Fall)
- Deep Learning (2021 Fall)

# Contact Me

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