

JEONGJIN LEE

Lancaster University
School of Mathematical Sciences

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RESEARCH INTERESTS

My research interests broadly lie in extreme value theory, with a primary focus on developing novel statistical inference and methodologies for multivariate extremes. My work encompasses copula models, graphical models, geometric extremes, dimension reduction methods, spatial statistics, and environmental statistics.

ACADEMIC EXPERIENCE

<i>Senior Research Associate</i>	July 2024 – Present
School of Mathematical Sciences, Lancaster University, Lancaster, UK.	
Mentor: JENNIFER WADSWORTH	
<i>Postdoctoral Fellow</i>	Sep 2022 – June 2024
naXys Institute, Namur & LIDAM/ISBA, UCLouvain, Belgium.	
Mentor: JOHAN SEGERS and ANNA KIRILIOUK	

EDUCATION

Colorado State University, Fort Collins, CO	
Ph.D. in Statistics	2022
Advisor: DANIEL COOLEY	
M.S. in Statistics	2019, earned en route to Ph.D.
Kyungpook National University, Daegu, South Korea	
M.S. in Statistics	2016
B.S. in Statistics and Economics - <i>double major</i>	2013
Rank: 1/34	

AWARDS

Best Oral Presentation Award, Journal of the Korean Data & Information Science Society (2015)
Outstanding Graduate Student Award, Kyungpook National University (2014)
Scholarship for Academic Excellence, Kyungpook National University (2011–2015)
Presidential Award for Statistical Analysis Contest, Kyungpook National University (2013)

WORKING PAPERS

- **Lee, J.**, Corradini, M., and Wadsworth, J. (2026+). Dimension reduction for multivariate geometric extremes.

- **Lee, J.** and Segers, J. (2026+). Geometric properties of Hüsler-Reiss distributions in X-vine models.

UNDER REVIEW

[†]Co-first author (equal contribution, alphabetical order); ^{*}Corresponding author

- **Lee, J.**^{*} and Cooley, D. (2026). Transformed-linear prediction for extremes. [arXiv] [Code]
- **Lee, J.**^{*} and Wadsworth, J. (2025). Geometric criteria for identifying extremal dependence and flexible modeling via additive mixtures. [arXiv] [Code]
- Kim, M.[†] and **Lee, J.**^{*†} (2025). Hypothesis testing for partial tail correlation in multivariate extremes. [arXiv] [Code]
- Campbell, R.[†], Grolmusova, K.[†], Kakampakou, L.[†], and **Lee, J.**^{*†} (2025). Analysing extreme rainfall via a geometric framework. [arXiv]

PEER-REVIEWED PUBLICATIONS

- **Lee, J.** and Kim, Y. (2026). Structure learning for multivariate extremes: A comparative study of regional UK rainfall. *AIMS Mathematics*, 11(3). [DOI]
- Kiriliouk, A.[†], **Lee, J.**[†], and Segers, J.[†] (2025). X-vine models for multivariate extremes. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 87(3), 579–602. [DOI] [Code]
- **Lee, J.**^{*}, Cooley, D., Wagner, A., and Liston, G. (2025). A calibration method for projecting future extremes via a linear mapping of parameters. *Environmental and Ecological Statistics*, 32, 1–20. [DOI]

APPLIED AND REGIONAL PUBLICATIONS

- **Lee, J.**, Kim, E. S., and Kim, Y. (2025). A prediction model for heatwaves and tropical nights based on apparent temperature. *Journal of the Korean Data & Information Science Society*, 36(6), 1057–1067.
- Hughes, S., Rondeau, M., Shannon, S., Sharp, J., Ivins, G., **Lee, J.**, Taylor, I., and Bendixsen, B. A. (2021). Holistic self-learning approach for young adult depression and anxiety compared to medication-based treatment-as-usual. *Community Mental Health Journal*, 57(2), 392–402.
- **Lee, J.** and Kim, Y. (2016). A spatial analysis of the Neyman-Scott rectangular pulses model using an approximate likelihood function. *Journal of the Korean Data & Information Science Society*, 27(5), 1119–1131.
- Gjonbrataj, J., Choi, W.-I., Bahn, Y. E., Rho, B. H., **Lee, J. J.**, and Lee, C. W. (2015). Incidence of idiopathic pulmonary fibrosis in Korea based on the 2011 ATS/ERS/JRS/ALAT statement. *The International Journal of Tuberculosis and Lung Disease*, 19(6), 742–746.
- **Lee, J.**, Kim, N. H., Kwon, H. J., and Kim, Y. (2014). A Bayesian analysis of return levels for extreme precipitation in Korea. *The Korean Journal of Applied Statistics*, 27(6), 947–958.

PRESENTATIONS

Invited Presentations

- **CMStatistics**, Birkbeck, University of London, UK. Dec 2025
Geometric criteria for identifying extremal dependence and flexible modeling via additive mixtures
- **Shanghai Center for Mathematical Sciences**, China. July 2024
X-vine models for multivariate extremes
- **Extreme Value Analysis (EVA) Conference**, Bocconi University, Italy. June 2023
Partial Tail Correlation for Extremes.
- **Young Researcher Day (YRD)**, UCLouvain, Belgium. Feb 2023
Partial Tail Correlation for Extremes.
- **Computational and Methodological Statistics (CMStatistics)**, King's College London, UK. Dec 2022
Partial Tail Correlation for Extremes.
- **University of Namur**, Belgium. Oct 2022
Partial Tail Correlation for Extremes.

Contributed Presentations & Posters

- **Extreme Value Analysis (EVA) Conference**, UNC Chapel Hill, USA. June 2025
Identifying Extremal Dependence Classes Using Additive Mixtures in the Geometric Framework
- **ATMS Workshop**, KU Leuven, Belgium. May 2023
X-Vines: Modelling Extremal Dependence by Vine Constructions for Exponent Measures.
- **Royal Statistical Society of Belgium (RSSB) Annual Meeting**, Belgium. Oct 2022
Partial Tail Correlation for Extremes.
- **International Centre for Mathematical Meetings (CIRM)**, Marseille, France. Sep 2022
Partial Tail Correlation for Extremes.
- **Joint Statistical Meetings (JSM)**, Virtual. Aug 2021
Transformed-Linear Prediction for Extremes.
- **Extreme Value Analysis (EVA) Conference**, University of Edinburgh, Virtual. July 2021
Transformed-Linear Combination of Regularly Varying Random Variables and Linear Prediction for Extremes.
- **Colorado-Wyoming Chapter of the American Statistical Association**, Virtual. Apr 2021
Transformed-Linear Combination of Regularly Varying Random Variables and Linear Prediction for Extremes.

- **Workshop on Risk Analysis in the Earth System**, Lawrence Berkeley National Lab, USA. (Poster) July 2019
Extremal Partial Dependence.

TEACHING EXPERIENCE

Colorado State University

- **STAT 307:** Introduction to Biostatistics Spring 2020
- **STAT 301:** Introduction to Statistical Methods Fall 2019

Teaching Assistant & Consultant

- **Walk-in Lab Consulting** Spring 2021
- **STAT 204:** Statistics for Business Students (Recitation) Fall 2018, Spring 2019
- **STAT 201:** General Statistics (Recitation) Spring 2018

PEER REVIEW SERVICE

- *Electronic Journal of Statistics*
- *Extremes*
- *Statistics and Computing*

SOFTWARE AND WEB PROFILES

- **Personal Website:** jeongjinlee88.github.io
- **Google Scholar:** Jeongjin Lee
- **Software:** X-vine R package, available on GitHub.

TECHNICAL CERTIFICATIONS

- **SAS Certified Advanced Programmer** for SAS 9 2014
- **SAS Certified Base Programmer** for SAS 9 2013

REFERENCES

- Johan Segers, Ph.D.* jjjsegers@kuleuven.be
 Professor
 Department of Mathematics
 KULeuven
- Jennifer Wadsworth, Ph.D.* j.wadsworth@lancaster.ac.uk
 Professor
 School of Mathematical Sciences
 Lancaster University

Daniel Cooley, Ph.D.

Professor

Department of Statistics

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Anna Kiriliouk, Ph.D.

Assistant Professor

Institute of Statistics, Biostatistics and Actuarial Sciences

UCLouvain

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