

BORA JIN

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<https://jinbora0720.github.io/>

RESEARCH INTERESTS

Environmental health, Spatial statistics, Hierarchical models, Latent factor models, Bayesian methods, Causal inference

EDUCATION AND TRAINING

- PRESENT **Duke University**
Ph.D. in Statistics, 2023 (Expected)
Advisors: Amy H. Herring, David Dunson
- 2017 **Korea University**
M.A. in Statistics
- 2015 **Korea University**
B.A. in Statistics

PUBLICATIONS

JOURNAL ARTICLES

1. **Jin, B.**, Dunson, D., Rager, J.E., Reif, D., Engel, S.M., Herring, A.H. (2022+). Bayesian matrix completion for hypothesis testing. *Journal of the Royal Statistical Science: Series C*. To appear. [arXiv](#).

UNDER REVIEW

1. **Jin, B.**, Peruzzi, M., Dunson, D. "Bag of DAGs: Inferring directional dependence in spatiotemporal processes". *In review* (2022). [arXiv](#).
2. **Jin, B.**, Herring, A.H., Dunson, D. "Spatial predictions on physically constrained domains: Applications to Arctic sea salinity data". *In review* (2022). [arXiv](#).

WORKING PAPERS

1. **Jin, B.** and David Dunson "Nearly orthogonal processes to overcome spatial confounding". *In preparation* (2023).

2. **Jin, B.**, Matuk, J., Herring, A.H., and Hoffman, K. "Effects of PFAS on North Carolina thyroid cancer clusters". *In preparation* (2022).
3. **Jin, B.**, Kampe, J., Tikhonov, G., Dunson, D., and Ovaskainen, O. "Joint species distribution modeling with ecological networks". *In preparation* (2022).
4. Kampe, J., **Jin, B.**, and Dunson, D. "Prediction of insect-plant interaction networks in an Arctic community". *In preparation* (2022).

MASTER'S THESIS

1. **Jin, B.** (2017). "Bayesian inference to multiple equations in a SUR framework". [Korea University Library](#).

STATISTICAL CONSULTING EXPERIENCE

- Jun – Aug, 2016 Client: Korean Environment Ministry, Prediction of carbon emissions from industrial complex areas under different afforestation practices.
- Mar – Aug, 2016 Client: College of Nursing at Chungnam National University, Clustering of cancer patients' symptoms.
- Oct – Mar, 2015 Client: MezzoMedia, Development of a Korean morphological analyser for emotionality of language in online platforms.

TEACHING EXPERIENCE

- Jan – Apr, 2023 Teaching Assistant for Special Topics: Latent Process Modeling (STA790-1, Spring 2023), Department of Statistical Science, Duke University
- Aug – Dec, 2022 Course Organizer for Introduction to Data Science and Statistical Thinking (STA199, Fall 2022), Department of Statistical Science, Duke University
- May – Jun, 2022 Instructor of Record for Introduction to Data Science and Statistical Thinking (STA199, Summer 2022), Department of Statistical Science, Duke University
- Aug – Dec, 2021 Teaching Assistant for Case Studies in the Practice of Statistics (STA440, Fall 2021), Department of Statistical Science, Duke University
- Apr 28, 2021 Guest Lecturer for Spatial Statistics (STAT141, Spring 2021), Department of Statistics, Harvard University
- Jan – May, 2021 Teaching Assistant for Theory and Methods of Statistical Learning and Inference (STA432, Spring 2021), Department of Statistical Science, Duke University

Jan – May, 2019 Teaching Assistant for Statistics (STA250, Spring 2019), Department of Statistical Science, Duke University

Sep – Dec, 2015 Teaching Assistant for Introduction to Probability Theory (STAT201, Fall 2015) and Topics in Mathematical Statistics (STAT412, Fall 2015), Department of Statistics, Korea University

MENTORING EXPERIENCE

May, 2021 Graduate Mentor for Introduction to Undergraduate Research in Statistical Science Workshop, Department of Statistical Science, Duke University

Jan, 2013 Undergraduate Mentor for Gifted and Talented Middle School Students from Low-Income Groups, Samsung Dream Class, South Korea

WORK EXPERIENCE

Jan – Jul, 2018 Intern, Division of Budget and Finance, International Atomic Energy Agency, Vienna, Austria

Feb – Aug, 2017 Intern, Basel/Rotterdam/Stockholm Conventions, United Nations Environment, Geneva, Switzerland

Jun – Jul, 2014 Intern, Banking and Finance, Market Surveillance Department, Korea Exchange, Seoul, South Korea

PROFESSIONAL ACTIVITIES

Jan 18, 2022 Panel, Gender Gap in Higher Education Discussion by Statistical Science Major Union, Duke University, Online

EDITORIAL ACTIVITIES

Reviewer *Environmental Health Perspectives*

HONORS AND AWARDS

2023 ASA ENVR Student Paper Award

2022 ENAR Distinguished Student Paper Award

- 2022 ISBA EnviBayes Student Paper Award
- 2022 ASA ENVR Student Paper Award
- 2021 ISBA Best Student/Postdoc Contributed Paper Award
- 2018 – 2020 Global Korea Scholarship
- 2016 First Prize in the Graduate Paper Session at the Korean Statistical Society’s Annual Conference
- 2016 Yangcheon Foundation Scholarship for Academic Excellence
- 2016 So-Mang Presbyterian Church Scholarship for Academic Merit
- 2015 Second Prize in the Graduate Poster Session at the Korean Statistical Society’s Annual Conference
- 2011 – 2014 Dean’s Award for Academic Merit at Korea University
- 2012 Ministry of Gender Equality and Family Affairs Minister’s Honor Award
- 2011 Seoul National University President’s Prize

PRESENTATIONS

SCIENTIFIC MEETINGS

- Oct, 2022 “Bag of DAGs: Inferring directional dependence in spatiotemporal processes,” 13th International Conference on Bayesian Nonparametrics (BNP), Chile
- Aug, 2022 “Bag of DAGs: Flexible nonstationary modeling of spatiotemporal dependence,” JSM, United States
- Jun, 2022 “Scalable Gaussian processes on physically constrained domains,” ISBA World Meeting, Canada
- Mar, 2022 “Bag of DAGs: Flexible nonstationary modeling of spatiotemporal dependence,” Monthly meeting at Section on Environmental Sciences of ISBA, Online
- Sep, 2021 “Scalable Gaussian processes on physically constrained domains,” Bayesian Young Statisticians Meeting (BAYSM), Online
- Aug, 2021 “Bag of DAGs: Flexible & scalable modelling of spatiotemporal dependence,” Joint Statistical Meetings (JSM), Online
- Jul, 2021 “Bag of DAGs: Flexible & scalable modelling of spatiotemporal dependence,” World Meeting of the International Society for Bayesian Analysis (ISBA), Online

- Jun, 2021 “Scalable Gaussian processes on physically constrained domains,” The International Environmetrics Society - GRASPA Conference, Online
- Jun, 2021 “Scalable Gaussian processes on physically constrained domains,” Symposium on Data Science and Statistics (SDSS), Online
- Nov, 2016 “Bayesian inference to multiple equations in seemingly unrelated regression framework,” Korean Statistical Society’s Annual Conference, South Korea
- Jun, 2016 “Bayesian inference to multiple equations in seemingly unrelated regression framework,” Korea University - Hokkaido University Joint Conference in Statistics, South Korea
- Nov, 2015 “Bayesian approaches to instrumental variable models with multiple endogenous regressors,” Korean Statistical Society’s Annual Conference, South Korea

 INVITED SEMINARS

- Feb 2022 “Bayesian Matrix Completion for Chemical Activity using ToxCast data,” Integrated Toxicology & Environmental Health Program Seminar Series, Online

 REFERENCES

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|-----------------------|--|
| Amy H. Herring | Sara & Charles Ayres Distinguished Professor of Statistical Science, Global Health, and Biostatistics and Bioinformatics at Duke University
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| David Dunson | Arts and Sciences Distinguished Professor of Statistical Science and Mathematics at Duke University
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| Jo Eidsvik | Professor of Mathematical Sciences at Norwegian University of Science and Technology
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+47 (901) 27-472 |
| Mine Çetinkaya-Rundel | Professor of the Practice of Statistical Science at Duke University
mc301@duke.edu
Regarding my teaching ability |