

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.**, Kampe, J., Dunson, D., and Ovaskainen, O. "Joint species distribution modeling with ecological networks". *In preparation* (2022).

2. **Jin, B.**, Matuk, J., Herring, A.H., and Hoffman, K. "Effects of PFAS on North Carolina thyroid cancer clusters". *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

- | | |
|-----------------|---|
| 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

- 2022 ISBA EnviBayes Student Paper Competition Award
- 2022 ASA ENVR Student Paper Competition 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

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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