Dongmin (Dennis) Kim

Updated August 8, 2024

Email: kimx3725@umn.edu
Website: kimx3725.github.io

Education

Ph.D. in Ecology, Evolution and Behavior 2019-2024
- University of Minnesota, Twin Cities
- (Advisors: Allison Shaw, John Fieberg)

B.A. in Statistics 2013-2019
- University of Minnesota, Morris

Academic Experience

Max Planck Institute of Animal Behavior 2024-present
- Drylands Project and Vulture Research Consortium

Smithsonian's National Zoo & Conservation Biology Institute 2022-present
- Scimitar-horned Oryx Reintroduction
- Tracking and Migratory Connectivity

University of Minnesota, Twin Cities 2023-2024
- Doctoral Dissertation Fellow (The University's most accomplished Ph.D. candidate)

Professional Experience

Max Planck Institute of Animal Behavior 2024-present
- Google Earth Engine, Generalized Mixed Effects Models (GLMMs)
- Advisor(s): Anne K. Scharf, Martina Scacco, Kamran Safi

Smithsonian's National Zoo & Conservation Biology Institute 2022-present
- Hidden Markov models (HMMs), simulation of animal space use
- Advisor(s): Katherine Mertes, Théo Michelot, Jared Stabach, John Fieberg

National Science Foundation (NSF) INTERN 2022-2023
- SIR models, Ordinary differential equations (ODEs)
- Advisor(s): Allison Shaw

Smithsonian Migratory Bird Center 2022
- Visualization of NOAA satellite images, animal migration
- Advisor(s): Autumn-Lynn Harrison

University of Minnesota, Twin Cities 2019, 2022
- Bayesian hierarchical model, integrated step selection analyses (iSSAs)
- Advisor(s): Todd Arnold, John Fieberg

Honors, Awards, Fellowships

University of Minnesota - Doctoral Dissertation Fellowship ($26,000)	2023-2024
National Science Foundation (NSF) - INTERN Award ($50,329)	2022-2023
Smithsonian Institution Fellowship ($11,200)	2022
World Wildlife Fund (WWF) BRIDGE Data Science and Visualization Graduate Intern (declined)	2022
University of Minnesota - Graduate Summer Fellowship ($14,570)	2021, 2023-2024
Howard Hughes Medical Institute (HHMI) Inclusive Excellence Teaching Assistant Fellowship ($1,000)	2019

Publications

Published

- **Kim D**, Shaw AK. "Migration and tolerance shape host behavior and response to parasites infection" *Journal of Animal Ecology* (2021)
- Chatterjee N, Wolfson DW, **Kim D**, Velez J, Freeman S, Bacheler N, Shertzer K, Christopher Taylor J, Fieberg J. "Modeling individual variability in habitat selection and movement using integrated step-selection analyses" *Methods in Ecology and Evolution* (2024)

In Press

- Shaw AK, Ales R, Bisesi AT, **Kim D**, Lutz P, Narayanan N, Shao C, Torstenson MS, Wojan CM. "Six personas to adopt when framing theoretical research questions in biology" *Proceedings of the Royal Society B* (2024)

In Review

- **Kim D**, Thompson PR, Wolfson DW, Merkle J, Oliveira-Santos L. G. R., Forester J, Avgar T, Lewis MA, Fieberg J. "Identifying signals of memory from observations of animal movements"
- Gould E, Fraser HS, Parker TH, Shinichi N, Griffith SC, Vesk PA, Fidler F,... **Kim D**, ..., Tompkins EM. "Same data, different analysts: variation in effect sizes due to analytical decisions in ecology and evolutionary biology"
- Torstenson MS, Wolfson DW, Safran SM, Walton DJ, Halberg AB, **Kim D**, Tan YF, Kramer GR, Andersen DE. "North American bird migration in the context of conservation: a review"
- Shaw AK, Fouda L, Mezzini S, **Kim D**, Chatterjee N, Wolfson D,Abrahms B, Attias N, Beardsworth CE, Beltran R, Binning SA, Blincow KM, Chan Y-C, Fronhofer EA, Hegemann A, Hurme ER, Iannarilli F, Kellner JB, McCoy KD, Rafiq K, Saastamoinen M, Sequeira AMM, Serota MW, Sumasgutner P, Tao Y, Torstenson M, Yanco SW, Beck KB, Bertram MG, Beumer LT, Bradarić M, Clermont J, Ellis-Soto D, Faltusová M, Fieberg J, Hall RJ, Kölzsch A, Lai S, Lee-Cruz L, Loretto M-C, Loveridge A, Michelangeli M, Mueller T, Riotte-Lambert L, Sapir N, Scacco M, Teitelbaum CS, Cagnacci F. "Perceived and observed biases within scientific communities: a case study in movement ecology"

In Preparation

- **Kim D**, Mertes K, Michelot T, Stabach JA, & Fieberg J, "Detecting disease progression from animal movement using hidden Markov models"
- Chatterjee N, Wolfson DW **Kim D**, Freeman S, Kelly A, Hodson J, & Fieberg J, "Synthesis of methods to analyze responses to linear features using telemetry data"

Selected Invited Talks

Smithsonian National Zoological Park, Remote Sensing Group	Oct 2023
Harvard University, Moorcroft Lab	Sep 2023
University of Minnesota, EEB Seminar	Sep 2023

Conference Presentations

The Wildlife Society (TWS) Annual Conference, KY, USA (Poster)	Nov 2023
Gordon Research Conference (GRC), Lucca, Italy (Poster)	May 2023
Gordon Research Seminar (GRS), Lucca, Italy (Poster)	May 2023
North American Duck Symposium (NADS), Winnipeg, Canada (Poster)	Aug 2019

Teaching Experience

University of Minnesota, Twin Cities:

FW 5051: Analysis of Population	Spring 2022
EEB 3407/5407: Ecology	Fall 2019, 2021
EEB 1961: Foundations of Biology Lab I	Spring 2021

University of Minnesota, Morris:

STAT 3601: Data Analysis	Fall 2018
STAT 1601: Intro to Statistics	Spring 2018

Service & Outreach

Non-academic Career Seminar | *Lead organizer* 2021-2023

- Initiated and organized informal informational interviews with early-career researchers in non-academic positions (PhDs in Ecology, Evolution, Behavior, and Conservation Science)

Field Guides | *Mentor* 2022-2024

- Mentored undergraduate students broadly interested in ecology, evolution, and behavior to help them find on-campus research positions, connect them with potential employers, help them apply to summer research positions

Bell Museum Summer Camp Summer 2024

- Taught kids learn about animal migration, reduced fear of math, introduction to using conceptual models to study the real world

Data Competition

Interdisciplinary Health Data Competition | *Machine Learning* 2021

- Analyzed Covid-19 data to identify possible factors that shape Covid-19 responses (cases, deaths, hospitalization)
- Performed variable selection in the data by using Lasso methods and fit the model with Generalized Linear Mixed Model (GLMM)

Midwest Undergraduate Data Analytics Competition (MUDAC) | *Decision tree learning* 2018

- Identify relevant fan retention metrics in order to maximize the renewal rate of season ticket holders for the Minnesota Wild
- Analyzed the dataset provided by the Minnesota Wild by using classification analysis

Technical Skills

Programming languages: Bash, R

Miscellany: Google Earth Engine, GitHub, HTML, Knitr, LaTex, Markdown