Dongzhou Huang

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Professional Experience

Assistant Professor (tenure-track)   Aug. 2022 –present

Department of Statistics, Colorado State University, Fort Collins, US

Education

Rice University, Houston, US   Aug. 2017–May. 2022

Ph.D. in Statistics
Specialty: Applied probability
Advisor: Philip A. Ernst

University of Science and Technology of China (USTC), Hefei, China   Aug. 2012–Jul. 2016

B.S. in Mathematics and Applied Mathematics

Research Interests

- Mathematical statistics:
    - Statistical inference for stochastic processes
    - Exact distribution theory
    - Graphical model
    - Nonparametric estimation
- Applied Probability:
    - Path properties of general Gaussian processes
    - Reflected Brownian motion
    - Malliavin Calculus
    - Optimal stopping

Publications

(*) As is standard practice in applied probability, authors are listed alphabetically.

Published/Accepted:

- Huang, D. (2024) The "logarithmic scale" Minkowski dimension of the most visited sites of two-dimensional Brownian motion. *Statistics and Probability Letters*, 205: 109952. Link to Journal.
- Huang, D. (2023) On a modified version of the Lindley recursion. *Queueing Systems*, 105: 271-289. Link to Journal PDF.
- Huang, D. (2023) The existence of the least favorable noise. *Electronic Communications in Probability*, 28, 1-11. Link to Journal.
- Ernst, P.A., Huang, D. and Viens, F.G. (2023) Yule's "nonsense correlation" for Gaussian random walks. *Stochastic Processes and their Applications*, 162: 423-455. Link to Journal.
- Bruss, F.T., Ernst, P.A., and Huang, D. (2022) The rencontre problem. *Stochastic Processes and their Applications*, 150: 938-971. Link to Journal.
- Ernst, P.A., Franceschi, S., and Huang, D. (2021) Escape and absorption probabilities for obliquely reflected Brownian motion in a quadrant. *Stochastic Processes and their Applications*, 142: 634-670. Link to Journal.

Manuscript:

- Ernst, P.A. and Huang, D. (2024) Exact and asymptotic distribution theory for the empirical correlation of two AR(1) processes with Gaussian increments. To be submitted. PDF

- Ernst, P.A. and Huang, D. (2024) The asymptotics of the empirical correlation for AR(1) processes driven by second-chaos white noise. To be submitted.
- Huang, D. and Pang G. (2024) On the ergodic properties and invariant measure of a two-dimensional reflected Ornstein-Ulenbeck process. Submitted to *Stochastic Systems*. PDF

FUNDING

- **Junior Research Collaborator**: New frontiers in statistical inference for stochastic processes (PI: Philip Ernst), *Royal Society Wolfson Grant*, £3500, 2022 - 2027.

TEACHING EXPERIENCE

Course Instructor at Colorado State University
- STAT 421 (Undergraduate level): Introduction to Stochastic Processes (Spring 2023, Spring 2024)
- STAT 720 (Ph.D. level): Probability Theory (Fall 2022, Fall 2023)

Teaching Assistant at Rice University
- STAT 650 (Ph.D. level): Stochastic Control & Stochastic Differential Equations (Spring 2022)
- STAT 581 (Ph.D. level): Mathematical Probability (Fall 2018, Fall 2021)
- STAT 519 (M.S. level): Statistical Inference (Spring 2018, Spring 2019)
- STAT 518 (M.S. level): Probability (Fall 2017)

SUPERVISION

Undergraduate Student:
- Casey Martin: Summer project entitled "Simulation and testing on point processes."

PROFESSIONAL SERVICE

Referee Service for:
- Biometrical Journal
- Queueing Systems
- Indagationes Mathematicae
- Electronic Journal of Statistics (EJS)
- External referee assistance for Dissertation at Monash University, Australia

Invited Talks:
- Oct. 2023: University of Kentucky, Department of Statistics. Lexington, KY.
- May 2023: SIAM Conference on Applications of Dynamical Systems. Portland, OR.
- April 2022: Rice University, Statistics 650 Seminar. Houston, TX.
- Feb 2022: Colorado State University, Department of Statistics. Fort Collins, CO.
- Feb 2022: University of Arkansas at Pine Bluff, Department of Aquaculture and Fisheries. Pine Bluff, AR.

Service to Department:
- 2024-2025: MAS and applied graduate statistics committee. Department of Statistics, Colorado State University.
- 2024-2025: Graduate admissions committee. Department of Statistics, Colorado State University.
- 2023-2024: Graduate admissions committee. Department of Statistics, Colorado State University.
- 2022-2023: Seminar committee. Department of Statistics, Colorado State University.