Dongzhou Huang

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PROFESSIONAL EXPERIENCE	
Assistant Professor (tenure-track)	Aug. 2022 –
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	
– Point processes	

- Appleid 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.

To be submitted:

• Ernst, P.A. and Huang, D. (2024) Exact and asymptotic distribution theory for the empirical correlation of two AR(1) processes. To be submitted to *Stochastic Processes and their Applications*. PDF

FUNDING

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

GRANT PROPOSAL (SUBMISSION IN FALL 2024)

- Funding Agency: National Science Foundation (NSF).
- Role: PI.
- Title: Independence testing for pairs of paths of non-stationary processes.
- Brief description: Most existing methods for testing the independence of two stochastics processes in the literature heavily rely on the assumption of stationarity. The key aim of this proposal is to construct tests of independence for pairs of non-stationary processes, particularly focusing on processes driven by Brownian motion or by the Poisson process.
- Status: To be submitted in Fall 2024.

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)

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:

- 2023-2024: Ph.D. admissions committee. Department of Statistics, Colorado State University.
- 2022-2023: Seminar committee. Department of Statistics, Colorado State University.