

RUIXUAN ZHANG

Webpage: <https://sites.google.com/view/rayzhang>

Address: 155 South 1400 East, JWB 317, Salt Lake City, UT 84112

E-mail: ray.zhang@math.utah.edu

EMPLOYMENT

University of Utah, Department of Mathematics
Postdoctoral Research Associate, C.R. Wiley Instructor

July 2024- Present

EDUCATION

University of Kansas
PhD, Department of Mathematics
Dissertation: Conditional Limit Theorems for the KPZ Fixed Point with a Large Height.
Advisor: [Zhipeng Liu](#)

Aug. 2019- May 2024

Indiana University, Indianapolis
PhD Student in Statistics, Department of Mathematical Sciences
Supervisor: [Pavel Bleher](#)

Aug. 2017 - May 2019

Ningbo University
Bachelor of Management, Accounting, ACCA Class, School of Business
Bachelor of Sciences, Mathematics, School of Sciences

Sep. 2013 - June 2017

RESEARCH INTERESTS

Kardar-Parisi-Zhang universality, integrable stochastic systems, random matrix theory and probabilistic models from physics.

PUBLICATIONS

- *An upper tail field of the KPZ fixed point*, with Zhipeng Liu, *Communications in Mathematical Physics*, Volume 406, 198 (2025).
- *Edgeworth-type expansion for the one-point distribution of the KPZ fixed point with a large height at a prior location*, with Ron Nissim, *to appear in Ann inst Henri Poincare (B) Probab Stat*.
- *Bayesian inference for thick-tailed stochastic volatility model- Empirical Study of Shanghai Composite Index* , with Wenli Huang, *Journal of Quantitative Economics*, Vol. 34 - Issue 4.

RESEARCH TALKS

2026/03 Seminar on Stochastic Processes, Union College. *Title: The coalescence and exit time of O'Connell-Yor polymers via Gaussian integration by parts.*

2025/09 Stochastics/Discrete Analysis, North Carolina State University.
Title: An upper tail field of the KPZ fixed point.

2025/09 Statistics Seminars, Indiana University, Indianapolis.
Title: An upper tail field of the KPZ fixed point.

2025/06 Workshop on stochastic interacting particle systems and random matrices, Rényi Institute, Budapest.

2025/03 Probability seminar, Northwestern University.
Title: An upper tail field of the KPZ fixed point.

2024/02 Probability seminar, University of Utah.
Titile: Conditional limit theorem of the KPZ fixed point with a large height.

- 2023/11 The 22nd Northeast Probability Seminar, New York University.
Title: A conditional limit theorem of the KPZ fixed point.
- 2023/10 Probability seminar, Texas Tech University.
Title: Some exact formulas of the KPZ fixed point and its application.
- 2023/03 Probability Seminar, University of Rochester.
Title: Conditional limits of the KPZ fixed point with a large height at one location.
- 2022/12 The 3rd Kansas Math Graduate Student Conference.
Title: Asymptotics of the one-point distribution of the KPZ fixed point conditioned on a large height at an earlier point.
- 2022/11 The 21st Northeast Probability Seminar, Columbia University.
Title: Conditional limits of the KPZ fixed point with height tending to infinity at one location.
- 2022/04 The 2nd Kansas Math Graduate Student Conference, Kansas State University.
Title: Right tail of the two-time distribution of the KPZ fixed point.
- 2021/12 The Frontier Probability Days, University of Nevada.
Title: Right tail of the two-time distribution of the KPZ fixed point.

CONFERENCES, SUMMER SCHOOLS

- 2026/07 2nd Summer School on PDEs and Randomness, Max Planck Institute, Leipzig.
- 2026/01 New Interactions between probability and geometry, IPAM.
- 2025/05 Universality, Nonlinearity, and Integrability, KIAS.
- 2025/03 AMS 2025 Spring Central Sectional Meeting, University of Kansas.
- 2024/10 Advances in Probability Theory and Interacting Particle Systems, Harvard University.
- 2024/09 Recent developments in disordered systems, Hausdorff Center for Mathematics, Germany.
- 2024/07 Summer Graduate School: Stochastic Quantization, Mathematical Sciences Research Institute.
- 2024/03 Universality & Integrability in KPZ, Columbia University.
- 2024/03 Workshop on KPZ meets KPZ, Fields Institute.
- 2023/07 Summer Graduate School: Concentration Inequalities and Localization Techniques in High Dimensional Probability and Geometry, Mathematical Sciences Research Institute.
- 2022/11 PNW Integrable Probability Conference, Oregon State University.
- 2022/10 Random Geometry and Statistical Physics Workshop, University of Pennsylvania.
- 2022/10 The 43rd Midwest Probability Colloquium, Northwestern University.
- 2022/06 Random Matrix Theory Summer School, University of Michigan.
- 2021/10 Integrable Structures in Random Matrix Theory and Beyond (Online), MSRI.
- 2021/09 Universality and Integrability in Random Matrix Theory and Interacting Particle Systems, MSRI.
- 2020/06 CRM-PIMS Summer School in Probability (Online).
- 2019/05 Virginia Integrable Probability Summer School, University of Virginia.
- 2018/06 Random Matrix Theory Summer School, University of Michigan.
- 2018/05 Houston Summer School on Dynamical Systems, University of Houston.

TEACHING EXPERIENCE

University of Utah

- MATH1070: Introduction to Statistical Inference Summer 2026
- MATH1030: Introduction to Quantitative Reasoning Spring 2026
- MATH1070: Introduction to Statistical Inference Spring 2026
- MATH3070: Applied Statistics I Fall 2025
- MATH5090: Statistical Inference II Spring 2025
- MATH3080: Applied Statistics II Spring 2025
- MATH5080: Statistical Inference I Fall 2024

Univerisity of Kansas

- MATH126 (Lab Section Instructor) Spring 2023
- MATH104 (Instructor): Pre-Calculus Fall 2022
- MATH101 (Instructor): Algebra I Fall 2019, Spring 2020
- MATH115 (Instructor): Calculus I Fall 2020, Fall 2021
- MATH116 (Instructor): Calculus II Spring 2021
- MATH127 (Lab Section Instructor): Calculus III Spring 2022, Spring 2024

IUPUI

- MATH165 (Instructor): Analytic Geometry and Calculus I Fall 2018
- STAT417 (Teaching Assistant): Statistical Theory Spring 2018
- STAT350 (Teaching Assistant): Introduction to Statistics Spring 2018

HONORS AND AWARDS

Outstanding Postdoc Award

Department of Mathematics, University of Utah

2025

Paul F. Conrad Graduate Scholarship

Department of Mathematics, University of Kansas

2023

Graduate Student Summer Scholarships

Department of Mathematics, University of Kansas

2023

Graduate Student Travel Scholarships

Department of Mathematics, University of Kansas

2022

Outstanding Beginning Graduate Student Awards

School of Sciences, IUPUI

2018

Xinghao Jiang Research Scholarships

School of Business, Ningbo University

2015