Yier Lin

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Education

Ph.D. in mathematics, Columbia University   Sep 2016 - May 2021

B.S. in mathematics, Tsinghua University   Sep 2012 - Jun 2016

Employments

Quantitative Research Intern Citadel Securities   Feb 2025 - now

William H. Kruskal Instructor The University of Chicago   Jan 2022 - Dec 2024

Postdoctoral Researcher Simons Laufer Mathematical Sciences Institute   Aug 2021-Dec 2021

Research Interest

Probability, quantum integrable systems, stochsatic PDE, mathematical physics,

Publications/To appear

1. Multi-point Lyapunov exponents of the Stochastic Heat Equation
   Electronic Journal of Probability (2024), Vol 29, no. 188, 1-22

2. Exact Multi-Point Correlations in the Stochastic Heat Equation for Strictly Sublinear Coordinates
   (with Pierre Yves Gaudreau Lamarre)
   Electronic Communications in Probability (2024), Vol 29, no.72, 1-13

3. Long and short time laws of iterated logarithms for the KPZ fixed point
   (with Sayan Das and Promit Ghosal)
   Electronic Journal of Probability (2024), Vol 29, no. 153, 1-38

4. Hydrodynamics of the t-PNG model via a colored t-PNG model
   (with Hindy Drillick)
   Annales de l'Institut Henri Poincaré, Probabilités et Statistiques (2024), Vol.60, no.2 1215 - 1245

5. Strong law of large numbers for the stochastic six vertex model
   (with Hindy Drillick)
   Electronic Journal of Probability (2023), Vol.28, no. 148, 1-21

6. Classification of Stationary distributions for the stochastic vertex models
   Electronic Journal of Probability (2023), Vol. 28, no. 122, 1-40

7. KPZ equation with a small noise, deep upper tail and limit shape
   (with Pierre Yves Gaudreau Lamarre and Li-Cheng Tsai)
   Probability Theory and Related Fields (2023), Vol 185, no. 3-4, 885–920

8. Lyapunov exponents of the SHE for general initial data
   (with Promit Ghosal)
   Annales de l'Institut Henri Poincaré, Probabilités et Statistiques (2023), Vol 59, no. 1, 476-502

9. Lyapunov exponents of the half-line SHE
   Journal of Statistical Physics (2021), Vol 183, 1-34

10. Short time large deviations of the KPZ equation
    (with Li-Cheng Tsai)
    Communications in Mathematical Physics (2021), Vol 386, 359–393

11. The stochastic telegraph equation limit of the stochastic higher spin six vertex model
    Electronic Journal of Probability (2020), Vol 25, no. 148, 1-30

12. KPZ equation limit of stochastic higher spin six vertex model
    Mathematical Physics, Analysis and Geometry (2020), Vol 23, no. 1, 1-118

13. Markov duality for stochastic six vertex model
    Electronic Communications in Probability (2019), Vol 24, no. 67, 1-17

14. Second order behavior of the block counting process of beta coalescents
    (with Bastien Mallein)
    Electronic Communications in Probability (2017), Vol 22, no. 61, 1-8

Preprints

1. Spacetime limit shapes of the KPZ equation in the upper tails *arXiv:2304.14380*
   (with Li-Cheng Tsai)
2. A lower-tail limit in the weak noise theory *arXiv:2210.05629*
   (with Li-Cheng Tsai)

Teaching Experience

University of Chicago (Instructor)

STAT 23400: Statistical Models and Methods (Spring 2022, 2023, 2024)

STAT 38520: Topics in Random Matrix Theory (Spring 2024)

STAT 36510: Topics on Random Growth Model (Winter 2022, 2023)

Columbia University (Instructor)

MATHUN 1102: Calculus II (Spring 2021)

MATHUN 1003: College Algebra-Analytic Geometry (Spring 2020)

Invited Talks

1. Probability Seminar
   University of Maryland (November 2023)
2. Probability Seminar
   University of California, San Diego (November 2023)
3. Center for Financial Mathematics and Actuarial Research Seminar
   University of California, Santa Barbabra (October 2023)
4. Probability and Statistics Seminar
   University of Southern California (October 2023)
5. Probability Seminar
   University of California, Los Angeles (October 2023)
6. Probability Seminar
   Northwestern University (October 2023)
7. Probability Seminar
   Temple Univeristy and University of Pennsylvania (September 2023)
8. Probability Seminar
   University of Wisconsin–Madison (September 2023)
9. Probability Seminar
   Massachusetts Institute of Technology (September 2023)
10. Workshop on Stochastic Analysis, Random Fields, and Applications
    Michigan State University (August 2023)
11. Frontiers in Stochastic Analysis
    University of Illinois Chicago (August 2023)
12. Probability and Statistical Physics Seminar
    University of Chicago (March 2023)
13. Probability Seminar
    University of Cincinnati (Februray 2023)
14. Analysis and Applied Mathematics Seminar
    University of Illinois Chicago (Februray 2023)

15. Probability Seminar
    Michigan State University (Februray 2023)
16. Probability Seminar
    Columbia University (January 2023)
17. Workshop on Stochastic PDE and Related Topics
    University of Maryland (November 2022)
18. Random Matrix Theory Seminar
    KTH Royal Institute of Technology (November 2022)
19. Analysis Seminar
    Oregon State University (October 2022)
20. AMS Spring Central Sectional Meeting
    Purdue University (March 2022)
21. Stochastics Seminar
    University of Utah (March 2022)
22. Probability Webinar
    Tsinghua University, Peking University and Beijing Normal University (March 2022)
23. 5th Colloquium on Interacting Particle Systems
    Instituto Superior Técnico (January 2022)
24. Minicourse on interacting particle systems and stochastic PDEs
    Mathematical Science Research institute (November 2021)
25. Conference on Algebraic duality methods in probability
    Texas A&M University (June 2021)
26. Probability and Statisics Seminar
    University of Kansas (March 2021)
27. Stochastic Seminar
    University of Utah and University of Arizona (November 2020)
28. SPDE seminar
    Columbia University (November 2020)
29. Integrable probability seminar
    Massachusetts Institute of Technology (October 2020)
30. Probability seminar
    Purdue University (September 2020)
31. Junior integrable probability seminar
    Online (August 2020)
32. Integrable Probability Seminar
    Columbia University (October 2019)
33. Integrable Probability Summer School
    University of Virginia (May 2019)

Service

Journal Referee

Served 27 times in total for:
• Annals of Probability • Annales de l'Institut Henri Poincaré, Probabilités et Statistiques • Communications in Mathematical Physics • Electronic Communication in Probability • Electronic Journal of Probability • Journal of Functional Analysis • Journal of Statistical Physics • Probability Theory and Related Fields • Transactions of the AMS • Forum of Mathematics, Sigma.