Curriculum Vitae

Shangjie Yang
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Positions

- March 2024— Present   Universidade de São Paulo
  Postdoc   Host: Leonardo Rolla
- February 2022 — February 2024   Bar-Ilan University
  Postdoc   Host: Gidi Amir and Naomi Feldheim
- November 2021 — February 2022   Universidade Federal de Bahia
  Postdoc (online)   Host: Tertuliano Franco
- July 2021 — October 2021   Bar-Ilan University
  Postdoc (online)   Host: Gidi Amir

Education

- March 2017 — April 2021   Instituto de Matemática Pura e Aplicada
  Ph.D. student   Adviser: Hubert Lacoin
- March 2015 — February 2017   Instituto de Matemática Pura e Aplicada
  Master student   Adviser: Vladas Sidoravicius
- September 2013 — December 2014   Nankai University
  Master student (dropout)   Adviser: Kainan Xiang
- September 2009 — June 2013   Sun Yat-sen University
  Undergraduate student

Research interest

My research focuses on the intersection between probability theory and statistical mechanics: Markov chains and mixing times, random polymer models, interacting particle systems, random walks in random environments, Gaussian random functions.

Publications and preprints

8. **S. Yang,** Cutoff of the simple exclusion process with inhomogeneous conductances
   Arxiv:2409.16337
7. **S. Yang,** The spectral gap and principle eigenfunction of the random conductance model in a line segment   Arxiv:2408.07139
6. **Y. Wang, K. Xiang, S. Yang, and L. Zou** The high-order corrections of discrete harmonic measures and their correction constants
   Journal of Statistical Physics. Volume 191, article number 81, (2024)
5. **N. Feldheim and S. Yang,** Typical height of the (2+1)-D Solid-on-Solid surface with pinning above a wall in the delocalized phase   Arxiv:2301.09197
   Stochastic Processes and their Applications. 165 (2023), Pages 168-182.
4. **G. Amir and S.Yang,** The branching number of intermediate growth trees
   Arxiv:2205.14238   Accepted by **Groups, Geometry, and Dynamics**.
3. **H. Lacoin and S.Yang,** Mixing time of the asymmetric simple exclusion process in a random environment   Arxiv:2102.02606
   Annals of Applied Probability. 34(1A): 388-427 (February 2024).
2. **H. Lacoin and S.Yang,** Metastability for expanding bubbles on a sticky substrate
   Arxiv:2007.07832
   Annals of Applied Probability. 32(5): 3408-3449 (October 2022).

1. **S. Yang,** Cutoff for polymer pinning dynamics in the repulsive phase   Arxiv:1909.04635
Annales de l'Institut Henri Poincaré, Probabilités et Statistiques. 57(3): 1306-1335 (2021).

Teaching in Universidade Federal da Bahia

1. Minicourse: mixing time for interface models and particle system (11/2021 — 01/2022)

Teaching assistants at Instituto de Matemática Pura e Aplicada

1. Probability 1 (03/2018 — 06/2018)
2. Stochastic process (the second half) (10/2019 — 11/2019)
   (The first half was given by Leandro Chiarini, 8/2019 — 9/2019)
3. Markov chains and mixing times (01/2020 — 02/2020)

Talks

- Indian Institute of Technology Madras   *October 2024*
  Talk: Spectral gap and cutoff of the simple exclusion process with IID conductances
- Universidade de São Paulo   *September 2024*
  Talk: Spectral gap and cutoff of the simple exclusion process with IID conductances
- Beijing Normal University   *September 2024*
  Talk: Spectral gap and cutoff of the simple exclusion process with IID conductances
- Universidade Federal da Bahia   *June 2024*
  Talk: Metastability for expanding bubbles on a sticky substrate
- Universidade de São Paulo   *April 2024*
  Talk: Mixing Time of ASEP in a random environment
- Conference: Probability and Statistical Physics   *January 2024*
  Talk: Mixing Time of ASEP in a random environment
- Beijing Normal University   *January 2024*
  Talk: Metastability for expanding bubbles on a sticky substrate
- Harbin Institute of Technology   *December 2023*
  Talk: Metastability for expanding bubbles on a sticky substrate
- Southern University of Science and Technology (SUSTech)   *November 2023*
  Talk: Metastability for expanding bubbles on a sticky substrate
- Sichuan University   *November 2023*
  Talk: Cutoff for polymer pinning dynamics in the repulsive phase
- Academy of mathematics and system science   *November 2023*
  Talk: Cutoff for polymer pinning dynamics in the repulsive phase
- Nankai University   *November 2023*
  Talk: Cutoff for polymer pinning dynamics in the repulsive phase
- Tsinghua University   *November 2023*
  Talk: Cutoff for polymer pinning dynamics in the repulsive phase
- Harbin Institute of Technology   *October 2023*
  Talk: Cutoff for polymer pinning dynamics in the repulsive phase
- Weizmann: Students Probability Day IX   *May 2023*
  Short talk: Typical height of the (2+1)-D Solid-on-Solid surface with pinning above a wall in the delocalized phase
- Bar-Ilan University   *March 2023*
  Talk: Typical height of the (2+1)-D Solid-on-Solid surface with pinning above a wall in the delocalized phase
- Technion   *March 2023*
  Talk: Typical height of the (2+1)-D Solid-on-Solid surface with pinning above a wall in the delocalized phase
- Bar-Ilan University   *December 2022*
  Talk: The branching number of intermediate growth trees

- Tsinghua U.-Peking U.-BKU Webminar *September 2022*
  Talk: Mixing time of ASEP in a random environment
- Sichuan University *May 2022*
  Talk: mixing time for interface models and particle system
- Xiangtan University *May 2022*
  Talk: mixing time for interface models and particle system
- Bar-Ilan University *March 2022*
  Talk: mixing time for interface models and particle system
- Oberwolfach workshop *November 2021*
  Short talk: mixing time for ASEP in random environment
- Ningbo University *March 2021*
  Talk: metastability for expanding bubbles on a sticky substrate
- Xiangtan University *November 2020*
  Talk: metastability for expanding bubbles on a sticky substrate
- Bernoulli-IMS One World Symposium *August 2020*
  short talk: metastability for expanding bubbles on a sticky substrate
- XXIII Brazilian School of Probability *July 2019*
  poster: Cutoff for polymer pinning dynamics in the repulsive phase
- Probability Summer School Saint-Flour (France), *July 2019*
  short talk: Cutoff for polymer pinning dynamics in the repulsive phase

Language

| Mandarin (native) | Cantonese (native) | English (fluent) | Portuguese (advance) | French (basic) |

Programming

| Mathematica | MATLAB |

Visit

- 27 May 2024 — 7 June 2024   Universidade Federal da Bahia
  Short visit   Host: Dirk Erhard, Tertuliano Franco
- 30 December 2023 — 13 January 2024   Academy of Mathematics and Systems Science
  Short visit   Host: Quan Shi
- 11 December 2023 — 29 December 2023   Bimsa
  Short visit   Host: Yuval Peres
- 02 December 2023 — 10 December 2023   Tsinghua University & Peking University
  Short visit   Host: Chenlin Gu, Xinyi Li
- 29 November 2023 — 2 December 2023   Southern University of Science and Technology
  Short visit   Host: Jieliang Hong, Raúl Ures
- 8 November 2023 — 15 November 2023   Sichuan University
  Short visit   Host: Yinshan Chang
- 2 November 2023 — 7 November 2023   Academy of Mathematics and Systems Science
  Short visit   Host: Hui Xiao
- 27 October 2023 — 1 November 2023   Harbin Institute of Technology
  Short visit   Host: Jinghao Huang
- May 2021 — February 2022   Instituto de Matemática Pura e Aplicada
  Visiting fellow   Host: Hubert Lacoin

Referee for journals

| Annals of Applied Probability | Annals of Probability |
| Communications in Mathematical Physics | Electronic Journal of Probability |

Award

Colman-Soref scholarship   2023, Israel

Miscellanies

2018 ICM Volunteer (Rio de Janeiro)