

Curriculum Vitae

Shangjie Yang

Universidade de São Paulo

email: shjyang@ime.usp.br yashjie@gmail.com

Webpage: <https://shjyang.github.io>



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 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)

Teaching in Universidade Federal da Bahia

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

Talks

- 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 Webinar *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)