Jacob Richey

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I am a postdoctoral research fellow at the University of British Columbia. I study combinatorial probability, with a focus on stochastic processes on networks. I am currently thinking about the parking process, an interacting particle system.

Employment

Postdoctoral fellow, University of British Columbia, 2020-

Education

Ph.D student, Univeristy of Washington, 2014-2020. Advisor: Christopher Hoffman

B.A. Mathematics and Chinese Language, Dartmouth College, 2014

Publications

1. *Intersections of random sets.* Jacob Richey, Amites Sarkar. (arXiv:2006.01323)
2. *Active phase for activated random walk on* $\mathbb{Z}$. Chris Hoffman, Jacob Richey, Leonardo Rolla. (arXiv:2009.09491)
3. *Rumor source detection with multiple observations under adaptive diffusion protocols.* Miklos Z. Racz, Jacob Richey. (arXiv:2006.11211)
4. *When random intersection graphs lose geometry.* Sebastien Bubeck, Miklos Z. Racz, Jacob Richey. (In preparation; 2020)
5. *Activated random walk on a cycle*. Riddhipratim Basu, Shirshendu Ganguly, Chris Hoffman, Jacob Richey. Published in *AIHP*, 2019. (arXiv:1709.09163)
6. *A smooth transition from Wishart to GOE*. Miklos Racz, Jacob Richey. Published in *JOTP*, 2018. (arxiv: 1611.05838)
7. *Counting clusters on a grid*. Project advisor: Peter Winkler. Undergraduate honors thesis.

Recent talks

1. Finding the source of a random diffusion. WWU, Dartmouth, UVic. Fall 2020
2. Recent results on the phase transition for activated random walk. Cornell, UBC. 2020
3. Rumor source detection with multiple observations under adaptive diffusion protocols. SIAM Workshop on Network Science 2018. Portland, OR

Projects

(2015-2020) Washington Experimental Mathematics Lab (WXML). Designed and oversaw an undergraduate research project: in the Spring of 2016, our topic was the randomness of the discrete logarithm.

(Summer, 2015) University of Washington Inverse Problems REU. Gave a lecture at the REU colloquium, and advised an undergraduate student research project (link).

Teaching

Taught multiple courses in advanced multivariable calculus and linear algebra at University of Washington (Summer 2016 - 2020)

Taught the second year course for *UW Math Circle,* a math outreach program for advanced middle and high school students (2016-Present)

Teaching assistant for various math courses at the University of Washington (2015-2016)

Junior staff at Hampshire College Summer Studies in Mathematics (HCSSiM). (Summer 2015)

Personal tutor for students in mathematics courses at Dartmouth College (2012-2014)

Conferences/visits

JMM 2020. Denver, CO

AMS MRC on Stochastic Spatial Models, Summer 2019. Providence, RI

Virginia Integrable Probability Summer School 2019. UVA, Charlottesville, VA

Visitor at NYU Shanghai, May 2019. Sponsor: Leonardo Rolla. Shanghai, China

Northwestern Probability Summer School, 2018. Northwestern University, Evanston, IL

Recent trends in Continuous and Discrete Probability, 2018. Georgia Tech, Atlanta, GA

Combinatorial Potlach, 2018. UBC, Vancouver, Canada

SIAM 2018. Portland, OR

Workshop on Random Geometric Graphs and Applications to Complex Networks, 2017. Toronto, Canada

Pacific Northwest Probability Seminar, 2014-2019. Seattle, WA

JMM 2015. Seattle, WA

Awards

Gerald B. Folland Fellowship (2019)

Personal

Originally from New York City.

Interests: bridge, chess, hiking, cooking, travel.

Other

(Programming Languages) Python, Mathematica, Matlab, LaTeX

(Language skills) Mandarin Chinese

Last updated: November 24, 2020