

Anya Katsevich

Ph.D. Candidate

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Education

Courant Institute, New York University, Ph.D. in Mathematics, expected June 2022.

Advisors: Afonso Bandeira and Jonathan Weare

University of North Carolina at Chapel Hill, B.S. in Mathematics with Highest Honors, May 2017.

Thesis Project: The hydrodynamic limit of a crystal surface jump diffusion with Metropolis-type rates

Thesis Advisor: Jeremy Marzuola.

Awards

- Department of Energy Computational Sciences Graduate Fellowship (DOE CSGF), 2017-2021
- NSF Graduate Research Fellowship (declined for DOE CSGF)
- Barry Goldwater Scholarship, 2015-2017
- Archibald Henderson Medal, awarded by UNC math dept. for “high degree of mathematical ability and the greatest promise of originality in the field”, 2015
- Phi Beta Kappa invitee, 2015
- University of Central Florida Advanced Calculus Award for best performance in advanced calculus sequence, 2013 (classes taken while in high school)

Research Interests

Applied probability, stochastic analysis, math of data science.

Preprints

- [1] **A. Katsevich.** From local equilibrium to numerical PDE: Metropolis crystal surface dynamics in the rough scaling limit. *Submitted.* Available on [arXiv](#).
- [2] **A. Katsevich.** The Local Equilibrium State of a Crystal Surface Jump Process in the Rough Scaling Regime. *Submitted.* Available on [arXiv](#).

Publications

- [1] **A. Katsevich**, A. Bandeira. Likelihood Maximization and Moment Matching in Low SNR Gaussian Mixture Models. *Communications on Pure and Applied Mathematics*, 2021 (to appear). Available on [arXiv](#).
- [2] Y. Gao, **A. Katsevich**, J. Liu, J. Lu, J. Marzuola. Analysis of a fourth order exponential PDE arising from a crystal surface jump process with Metropolis-type transition rates. *Pure and Applied Analysis*, 2020 (to appear) Available on [arXiv](#).
- [3] **A. Katsevich**, P. Mikusiński. On De Graaf spaces of pseudoquotients. *Rocky Mountain J. Math* 45 (5): pp. 1445-1455 (2015). Available on [Project Euclid](#).
- [4] **A. Katsevich**, P. Mikusiński. Order in Spaces of Pseudoquotients. *Topology Proceedings* 44: pp. 21-31 (2014). Available from [journal](#).

Presentations

Invited talks

- *The Connection between EM and the Method of Moments in Low SNR Gaussian Mixtures.*
National Meeting of the Sociedade Portuguesa de Matemática (ENSPM), July 12–16, 2021, held virtually.

Poster Presentations

- *Microgrid Reliability under Uncertainty: Static and Dynamic Analysis*
DOE CSGF Annual Program Review, July 14–18, 2019, in Arlington, VA