

Education

- 2019– **University of Chicago, Chicago, IL.**
Ph.D. student in Mathematics
Advisor: Benson Farb
- 2019–2020 **University of Chicago, Chicago, IL.**
M.S. in Mathematics
- 2015–2019 **Cornell University, Ithaca, NY.**
B.A. in Mathematics, *summa cum laude*
Minor in Computer Science

Publications and preprints

5. **Mapping classes fixing an isotropic homology class of minimal genus 0 in rational 4-manifolds.** *preprint*, [arXiv:2303.02789](https://arxiv.org/abs/2303.02789)
4. **Isotopy classes of involutions of del Pezzo surfaces.** *Adv. Math.*, to appear. [arXiv:2202.10616](https://arxiv.org/abs/2202.10616)
3. **The Nielsen realization problem for high degree del Pezzo surfaces.** *preprint*, [arXiv:2112.13500](https://arxiv.org/abs/2112.13500)
2. **Cohomology of the universal abelian surface with applications to arithmetic statistics.** *Q. J. Math.*, 73 (4): 1227-1278, 2022. [arXiv:2011.12613](https://arxiv.org/abs/2011.12613)
1. **Spectral decimation for families of self-similar symmetric Laplacians on the Sierpinski gasket.** (with Sizhen Fang, Dylan A. King, and Robert S. Strichartz). *J. Fractal Geom.*, 7 (1): 1-62, 2020. [arXiv:1709.02031](https://arxiv.org/abs/1709.02031)

Awards

- 2023 – 2024 **William Rainey Harper Dissertation Fellowship**, University of Chicago.
- 2019 – 2024 **Eckhardt Graduate Scholarship**, University of Chicago.
- 2019 **Harry S. Kieval Prize in Mathematics**, Cornell University.

Talks

Invited conference talks:

- Jan 2024 Joint Mathematics Meetings, Joint Special Session on AMS-AWM Special Session for Women and Gender Minorities in Symplectic and Contact Geometry and Topology (San Francisco, CA)
Mapping class groups of rational 4-manifolds and isotropic homology classes
- Mar 2023 AMS Spring Southeastern Sectional Meeting, Special Session on Geometric Group Theory (Georgia Tech)
Mapping class groups of rational 4-manifolds and isotropic homology classes
- Sep 2022 Low-Dimensional Topology and Homeomorphism Groups (Brin Mathematics Research Center)
Mapping class groups of del Pezzo surfaces
- Aug 2022 $\text{Mod}(M^4)$ Minicourse (University of Chicago)
Mapping class groups of del Pezzo manifolds (2 talks)
- Mar 2022 55th Spring Topology and Dynamical Systems Conference, Special Session on Geometric Topology (Baylor University)
Finite-order mapping classes of del Pezzo surfaces
- Jan 2019 Joint Mathematics Meetings, Special Session on Differential Equations on Fractals (Baltimore, MD)
Spectral Decimation for Families of Self-Similar Symmetric Laplacians on the Sierpinski Gasket

Invited seminar talks:

- Nov 2023 Princeton, Topology Seminar
Nielsen realization problem for del Pezzo surfaces
- Mar 2023 Instituto de Matemáticas (UNAM), Seminario de topología algebraica y geométrica

Isotopy classes of involutions of del Pezzo surfaces

- Oct 2022 Taubes Seminar
Mapping class groups of del Pezzo surfaces, I and II (2 talks)
- Oct 2022 UMass Amherst, Geometry and Topology Seminar
Isotopy classes of involutions of del Pezzo surfaces
- Feb 2022 Georgia Tech, Geometry Topology Seminar
Finite-order mapping classes of del Pezzo surfaces
- Jul 2021 GT GAPS (Geometric Topology Grad and Postdoc Seminar)
Finite-order elements of mapping class groups

Other talks:

- 2020-2023 Farb and Friends Student Seminar (6 talks), Farb Working Group (1 talk), Graduate Student Pizza Seminar (1 talk)

Service

- Referee for Israel Journal of Mathematics
- 2022-2023 Co-organizer of Farb and Friends Student Seminar

Teaching

Chicago: Instructor

- Autumn 2023 Math 15200/37: Calculus II
Winter 2023 Math 15200/42: Calculus II
Autumn 2022 Math 15100/42: Calculus I
Spring 2022 Math 15300/22: Calculus III
Winter 2022 Math 13200/40: Elementary Functions and Calculus II
Autumn 2021 Math 13100/40: Elementary Functions and Calculus I

Chicago: College Fellow

- Spring 2021 Math 24200: Algebraic Number Theory
Winter 2021 Math 25800: Honors Basic Algebra II
Autumn 2020 Math 25700: Honors Basic Algebra I

Cornell: Teaching Assistant

- 2017 – 2018 CS 2800: Discrete Structures (Head Teaching Assistant)
2016 – 2017 CS 2800: Discrete Structures

Other:

- Summer 2020 University of Chicago REU, Mentor to 3 students
Fall 2018 Cornell University Math Support Center, Tutor
Summer 2018 Program in Mathematics for Young Scientists (Boston University), Counselor

Last updated January 20, 2024