

## Employment

2025–2028 **Benjamin Peirce Fellow**, Harvard University.

## Education

2019–2025 **Ph.D. Mathematics**, University of Chicago.

Advisor: Benson Farb  
M.S. Mathematics, 2020

2015–2019 **B.A. Mathematics**, Cornell University.

Summa cum laude  
Minor in Computer Science

## Publications and preprints

7. **Cyclic Nielsen realization for del Pezzo surfaces**, with Tudur Lewis and Sidhanth Raman. *preprint*, [arXiv:2504.17235](https://arxiv.org/abs/2504.17235)
6. **Lefschetz fibrations with infinitely many sections**, with Carlos A. Serván. *preprint*, [arXiv:2409.15265](https://arxiv.org/abs/2409.15265)
5. **Mapping classes fixing an isotropic homology class of minimal genus 0 in rational 4-manifolds**. *Pacific J. Math.*, 339(2):283308, 2025. [arXiv:2303.02789](https://arxiv.org/abs/2303.02789)
4. **The Nielsen realization problem for high degree del Pezzo surfaces**. *Geom. Dedicata*, 218(3):Paper No. 67, 27, 2024. [arXiv:2112.13500](https://arxiv.org/abs/2112.13500)
3. **Isotopy classes of involutions of del Pezzo surfaces**. *Adv. Math.*, 426:Paper No. 109086, 38, 2023. [arXiv:2202.10616](https://arxiv.org/abs/2202.10616)
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

- 2025 **Kowalsky Fellowship**, University of Chicago.  
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 seminar talks:

- Jan 2026 Brandeis, Topology Seminar  
Dec 2025 Stony Brook University, Symplectic Geometry, Gauge Theory, and Low-Dimensional Topology Seminar  
Nov 2025 UMass Amherst, Five Colleges Geometry Topology Seminar  
Oct 2025 MIT Geometry and Topology Seminar  
Apr 2025 UT Austin Topology Seminar  
Feb 2025 Columbia, Geometric Topology Seminar  
Apr 2024 Brown, Geometry/Topology Seminar  
Mar 2024 Gauge Theory Virtual  
Nov 2023 Princeton, Topology Seminar  
Mar 2023 Instituto de Matemáticas (UNAM), Seminario de topología algebraica y geométrica  
Oct 2022 Taubes Seminar  
Oct 2022 UMass Amherst, Geometry and Topology Seminar

- Feb 2022 Georgia Tech, Geometry Topology Seminar  
Jul 2021 GT GAPS (Geometric Topology Grad and Postdoc Seminar)

**Invited conference talks:**

- Mar 2026 AMS Spring Eastern Sectional Meeting, Special Session on Topology, Gauge Theory, and Special Geometric Structures (Boston College)  
Mar 2026 59th Spring Topology and Dynamics Conference, Geometric Topology Special Session (University of Alabama at Birmingham)  
Apr 2025 Bloomington Geometry Workshop (Indiana University Bloomington)  
Mar 2025 58th Spring Topology and Dynamics Conference, Geometric Topology Special Session (Christopher Newport University)  
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)  
Mar 2023 AMS Spring Southeastern Sectional Meeting, Special Session on Geometric Group Theory (Georgia Tech)  
Sep 2022 Low-Dimensional Topology and Homeomorphism Groups (Brin Mathematics Research Center)  
Aug 2022 Mod( $M^4$ ) Minicourse (University of Chicago)  
Mar 2022 55th Spring Topology and Dynamical Systems Conference, Geometric Topology Special Session (Baylor University)  
Jan 2019 Joint Mathematics Meetings, Special Session on Differential Equations on Fractals (Baltimore, MD)

**Other talks:**

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

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**Service**

Referee for Israel Journal of Mathematics, Algebraic and Geometric Topology  
Quick Opinion for Inventiones Mathematicae

**Harvard:**

- 2025-2026 Qualifying exam committee

**Chicago:**

- 2022-2023 Co-organizer of Farb and Friends Student Seminar

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**Teaching**

**Harvard:**

- Spring 2026 Math 259A: Mapping class groups and 4-manifolds  
Fall 2025 Math 1a: Introduction to Calculus

**Chicago:**

- Winter 2025 Math 15200/50: Calculus II  
Autumn 2024 Math 15100/50: Calculus I  
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 (TA)**

- 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 14, 2026