Mason Price

mason.o.price@gmail.com

Education

Brandeis University

B.S. in Mathematics and Physics (GPA: 3.75/4.0) 2025

- Highest Honors in Physics
- Magna Cum Laude

Publications

1. **Mason Price**, Daichi Hayakawa, et al. "**From toroids to helical tubules: Kirigami-inspired programmable assembly of two-periodic curved crystals from DNA origami**". *Proceedings of the National Academy of Sciences (PNAS)*, 2025. [https://www.pnas.org/doi/10.1073/pnas.2516695122]
2. Rupam Saha, Daichi Hayakawa, Thomas E. Videbæk, **Mason Price**, et al. "**Modular programming of interaction and geometric specificity enables assembly of complex DNA origami nanostructures**". *Nature Communications*, 2025. [https://www.nature.com/articles/s41467-025-66195-9]

Research Experience

Research Assistant — Rogers Lab 2023 – 2025

Brandeis University

- Automated kinetic Monte Carlo simulations using Python and Bash on a high-performance computing cluster, enabling more than 10,000 simulations and efficient data analysis.
- Developed a MATLAB-based geometry optimization algorithm to generate symmetric triangular meshes used in a publication.
- Designed and implemented a Python-based interactive application for 3D visualization, enabling lab members to efficiently generate figures.
- Designed, synthesized, and assembled DNA origami monomers into curved crystalline surfaces, and verified their unique geometries using transmission electron microscopy (TEM) data.

Research Assistant — Sciolla Lab 2022

Brandeis University

- Performed data analysis of ATLAS Run-2 data, utilizing Python and ROOT to support high-energy physics research.

Skills

Languages: Python, MATLAB, C/C++, Bash, Julia, Mathematica

Tools: Git, Linux, LaTeX

Experimental: DNA origami synthesis and assembly; buffer preparation; TEM sample preparation and image analysis.

Honors

Molly W. and Charles K. Schiff Award in Science, Brandeis University 2025

Jerome A. Schiff Undergraduate Fellowship, Brandeis University 2024

Math Mentor of the Year Award, Brandeis University 2024

Science Mathematics and Research for Transformation (SMART) Scholarship 2024-2025

Winning team in math competition at the MAA Northeastern Section Meeting 2023

Dean's List, Brandeis University 2022-2025

Talks

Global Physics Summit — American Physical Society (APS) 2025
Oral Presentation and Poster ("Kirigami design for programmable self-assembly of complex curved surfaces")

MIT Polymer Day — MIT 2024
Poster ("Programmable assembly of toroids and helical tubules using DNA origami building blocks")

New England Complex Fluids Workshop — Brandeis University 2024
Short Talk ("Self-assembly of toroids using DNA origami building blocks")

SciFest — Brandeis University 2023
Poster ("Self-assembly of DNA origami structures: toroids and helical tubules")

Guided Reading Programs

Studied in Guided Reading Programs led by graduate students.

1. **Category Theory**, culminating in a presentation on the Snake Lemma. 2024
2. **Introduction to Mapping Class Groups**, culminating in a presentation on Algebraic Topology and the definition of Mapping Class Groups for a surface. 2023

Teaching Assistant Experience

1. Introductory Physics Lab II 2024
2. Introductory Physics Lab I 2023

Community Involvement

Math mentor, Department of Mathematics, Brandeis University 2024

- Mentored four students in navigating the mathematics major, offering academic and professional guidance.
- Facilitated networking by organizing meetings with other students and department representatives.

Journal club coordinator, Physics club, Brandeis University 2024

- Organized and presented discussions on physics publications to make advanced topics accessible to a broader undergraduate audience.

Secretary, Robotics Club, Brandeis University 2024

- Guided fellow students in designing and manufacturing custom robots in competitions, fostering a community of teamwork.