Natalia Hajłasz

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EDUCATION

New York University, Courant Institute of Mathematical Sciences New York, NY
PhD Student in Mathematics (advisor: Prof. Jonathan Weare) *September 2022 – Present*

- Research on sublinear algorithms for large-scale eigenvalue problems and spectral density estimation, particularly for applications in quantum chemistry.

Harvard University (Leave of Absence, Fall 2020 and Spring 2021) Cambridge, MA
A.B. in Mathematics, Secondary in Chemistry *September 2017 – May 2022*

PREPRINTS

- *Dimension-independent eigenvalue approximation for sparse matrices*. **Hajłasz, Natalia**; Musco, Christopher; Weare, Jonathan; Webber, Robert J. *https://arxiv.org/pdf/2610.14620* .
- *Faster Spectral Density Estimation for General Symmetric Matrices.* Bhattacharjee, Rajarshi; **Hajłasz, Natalia**; Musco, Cameron; Musco, Christopher; Singh, Apoorv. *In Progress*. https://drive.google.com/file/d/18Y7oBJ-OKimxOdNKbqepyapLGnBfGNwr/view?usp=sharing

TALKS / CONFERENCES

SIAM Mathematics of Data Science Minisymposium
Sparsified Iterative and Greedy Methods for Sublinear-Time Eigenvalue Computation *November 2026*

AWARDS AND HONORS

Peter D. Lax Scholarship NYU Courant Institute
Awarded annually to an outstanding PhD student *November 2026*

Bella Manel Prize NYU Courant Institute
Awarded annually for excellence and promise in mathematics at the graduate level *May 2026*

Paul Garabedian Fellowship NYU Courant Institute
Awarded annually to an outstanding PhD student *September 2025 – May 2026*

Harvard Herchel Smith Summer Undergraduate Fellowship Harvard University
competitive award supporting undergraduates pursuing summer research *May 2019 – August 2019*

Regeneron Science Talent Search Finalist Society for Science and the Public
Top 40 nationally in prestigious math and science competition for high school seniors *May 2017*

PRIOR RESEARCH EXPERIENCE

Kulik Lab, MIT Department of Chemical Engineering Cambridge, MA
Undergraduate Researcher *September 2018 – May 2020*

- *Computational Modeling of Conformer Stability in Benenodin-1, A Thermally Actuated Lasso Peptide Switch*. Yang, Zhongyue; **Hajlasz, Natalia**; Kulik, Heather J. *J. Phys. Chem. B*, Volume 126 (18), p. 3398-3406, (2022) https://doi.org/10.1021/acs.jpcb.2c00762
- *Quantifying the Long-Range Coupling of Electronic Properties in Proteins with Ab Initio Molecular Dynamics.* Yang, Zhongyue; **Hajlasz, Natalia**; Steeves, Adam H.; Kulik, Heather J. *Chemistry - Methods*, Volume 1, p. 362-373, (2021) https://chemistry-europe.onlinelibrary.wiley.com/doi/full/10.1002/cmtd.202100012

TEACHING EXPERIENCE

NYU Courant Institute Math Department New York, NY
Recitation Leader

- MATH-UA 132: Math for Economics II *Fall 2026*
- MATH-UA 358: Honors Numerical Analysis, MATH-UA 353: Optimization *Spring 2026*

- MATH-UA 148: Honors Linear Algebra, MATH-UA 353: Optimization *Fall 2025*
- MATH-UA 132: Math for Economics II *Spring 2025*

NYU Center for Data Science New York, NY
Recitation Leader
- DS-GA 1014: Optimization and Computational Linear Algebra *Fall 2024*

Harvard University Mathematics Department Cambridge, MA
Course Assistant
- Math 113: Complex Analysis *Spring 2022*
- Math 118R: Dynamical Systems *Spring 2019*

OUTREACH

NYU Courant Institute Math Department New York, NY
Department Climate Survey *September 2025 – May 2026*
- Co-designed, administered, and reviewed a survey on Courant Institute Math PhD student experience

Peer Mentor *September 2023 – May 2026*
- Regularly met with incoming first-year PhD students to help guide them to the transition into graduate school

Graduate Student and Postdoc Seminar *September 2022 – May 2023*
- Co-organized a seminar aimed at introducing new PhD students and postdocs to research at the institute

Harvard College Cambridge, MA
Co-President of Gender Inclusivity in Mathematics (GIIM) *September 2019 – May 2020*
- Created a math mentorship program (jointly with another student organization) of ~100 students; increased the number of math-related social and academic events; nominated for Student Organization of the Year for 2019 – 2020

Women in Math and Statistics (WIMS) Conference Co-organizer *September 2018 – May 2019*
- Organized one-day conference primarily for undergraduates (~160 participants)