

Jiajie(Jason) Ma

Duke University
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Education

Duke University	2022 – Present
Ph.D candidate in Mathematics (qualified) Advisor: Lenhard Ng	
Haverford College	2018 – 2022
B.S. in Mathematics and Computer Science, <i>summa cum laude</i>	
Budapest Semester in Mathematics	Fall 2020
Online learning program due to COVID-19 circumstances	

Research Interests

Symplectic geometry, contact geometry, low-dimensional topology, knot theory

Honors and Awards

L.P Smith Award for Promise of Teaching Excellence	2025
<i>Duke University</i>	
Phi Beta Kappa	2022
<i>Haverford College</i>	
Class of 1896 Prize in Mathematics for Sophomores	2020
<i>Haverford College</i>	

Publications

5. **Weak Relative Calabi-Yau Structures for Legendrian Contact Homology**,
joint with Joshua M. Sabloff, arXiv:2509.02485 (2025).
4. **Exact Lagrangian fillability of 3-braid closures**,
joint with James Hughes, to appear in *Bulletin of London Mathematical Society*,
arXiv:2507.16747 (2025).
3. **On the monodromy and spin parity of single-cylinder origamis in the minimal stratum**,
joint with Tarik Aougab, Adam Friedman-Brown, and Luke Jeffreys, arXiv:2502.09498
(2023).
2. **On faces of the Kunz cone and the numerical semigroups within them**,
joint with Levi Borevitz, Tara Gomes, Harper Niergarth, Christopher O'Neill, Daniel
Pocklington, Rosa Stolk, Jessica Wang, and Shuhang Xue, to appear in *Rocky Mountain
Journal of Mathematics*, arXiv:2309.07793 (2023).

1. **Information access representations and social capital in networks**,
joint with Ashkan Bashardoust, Hannah C. Beilinson, Sorelle A. Friedler, Jade Rousseau,
Carlos E. Scheidegger, Blair D. Sullivan, Nasanbayar Ulzii-Orshikh, and Suresh
Venkatasubramanian, arXiv:2010.12611 (2023).

Research Talks

**AMS Eastern Sectional Meeting, Sheaf-Theoretic and Floer-Theoretic Approaches
to Contact and Symplectic Topology** March 2026

Teaching Experience

At Duke University:

MATH111L: Laboratory Calculus I, instructor	Spring 2026
MATH111L: Laboratory Calculus I, instructor	Spring 2025
MATH218D: Matrices and Vector Spaces, discussion leader	Fall 2024
MATH221D: Linear Algebra, TA	Spring 2024
MATH111L: Laboratory Calculus I, TA	Fall 2023
MATH111L: Laboratory Calculus I, TA	Fall 2022

At Haverford College:

MATH317: Analysis I, grader	Fall 2019, 2022, 2021
Math@theWritingCenter, tutor	2019 – 2022
Math Question Center, tutor	2019 – 2022

Service and Outreach

Project manager for 3 undergraduate researchers in Duke Math+ program <i>Project report: Symmetries of Legendrian surfaces</i>	Summer 2025
Co-organizer of Triangle Area Graduate Mathematics Conference	Spring 2025
Officer of Duke American Mathematical Society (AMS) Chapter	2024 - 2025
Project manager for 4 undergraduate researchers in Duke Math+ program <i>Project report: Computing hyperbolic structures from link diagrams</i>	Summer 2023

Languages

Fluent in Mandarin and English. Elementary French and Japanese.