

Amy Qing Hai Li

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Citizenship: U.S.A.

Education

2020- PH.D. in Mathematics expected May 2026, UT Austin
Advisor: Sam Payne

2016-2020 B.A. *magna cum laude* in Mathematics, Wellesley College

Research Interests

Intersection theory of Hurwitz spaces and the moduli spaces of curves. In particular, studying the structure of their rational cohomology and Chow rings.

Papers & Preprints

1. Vanishing H^1 for Hurwitz spaces of fully-marked admissible covers of low degree
In preparation.
2. Chow rings of Hurwitz spaces with marked ramification
(with E. Clader, Z. Hu, H. Larson, and R. Lopez). [arXiv:2505.04903](https://arxiv.org/abs/2505.04903).
3. Holomorphic forms and non-tautological cycles on moduli spaces of curves
(with V. Arena, S. Canning, E. Clader, R. Haburcak, S. C. Mok, and C. Tamborini).
[arXiv:2402.03874](https://arxiv.org/abs/2402.03874). In *Selecta Mathematica* (2025). DOI: [s00029-025-01038-5](https://doi.org/10.1007/978-3-030-54765-3_1).
4. Partial Configuration Spaces as Pullbacks of Diagrams of Configuration Spaces
(with I. Volic). In *Advanced Technologies, Systems, and Applications V*, Springer
(2020). DOI: [10.1007/978-3-030-54765-3_1](https://doi.org/10.1007/978-3-030-54765-3_1).
5. Measuring microfluidic flow rates: Monotonicity, convexity, and uncertainty
(with P. Patrone, G. Cooksey, and A. Kearsley). In *Applied Mathematics Letters*,
Volume 112, 2021. DOI: [j.aml.2020.106694](https://doi.org/10.1016/j.aml.2020.106694).

Talks

Upcoming AMS Special Session on Combinatorics and Moduli Spaces, I, JMM. January 2026.
2025 Algebraic geometry seminar, Washington University in St. Louis. November 2025.
Algebraic geometry seminar, UI Urbana-Champaign. November 2025.
Algebraic geometry Seminar, Brown University. October 2025.
Algebraic geometry Seminar, The Ohio State University. September 2025.

- (Mini-talk) Algebraic and tropical geometry of moduli spaces of curves, Università di Bologna. September 2025.
 Special Session on Logarithmic geometry and Gromov–Witten theory, AMS Fall Western Sectional. August 2025.
 Perspectives on Hurwitz Theory, Trinity College Dublin. June 2025.
 (Mini-talk) Combinatorial Algebraic Geometry: Highlighting Underrepresented Genders, Goethe University Frankfurt am Main. April 2025.
 (Mini-talk) Georgia Algebraic Geometry Symposium (GAGS), UG Athens. March 2025.
 Junior Algebraic Geometry at Warwick (JAWS), University of Warwick. February 2025.
- 2023 UT Undergraduate Math Club, UT Austin. September 2023.
 Texas Women in Math Symposium (TWiMs), UT Austin. February 2023.
- 2022 Beginning Algebraic Geometry Seminar, UT Austin. April 2022.

Teaching

UT Austin

- Fall 2024 Multivariable Calculus: Teaching Assistant
 Gave 2 hours of supplementary lectures and 4 hours of office hours each week, graded weekly quizzes and semester exams. Overall evaluation: 4.5/5.
- Fall 2023 Introduction to Mathematical Statistics: Grader
 Held 2 hours of office hours each week, graded weekly homework.
- Spring 2022 Linear Algebra: Grader
 Held 2 hours of office hours each week, graded weekly homework.
- Fall 2022 From Numbers to Chaos: Teaching Assistant
 & Fall 2021 Survey course for first-year undergraduates. Gave 2 hours of supplementary lectures each week, 2 hours of office hours each week, and separate appointments with students to help them write expository papers. Graded papers and exams. Overall evaluation: 4.4/5.

Wellesley College

- Fall 2018 Calculus II: Supplemental Instruction Leader
 Gave 2 hours of supplementary lectures and 1 hour of office hours each week.
- 2017-2020 Tutor
 Subjects: Real Analysis, Abstract Algebra, Complex Analysis, Linear Algebra, Calculus I/II/III. Staffed the drop-in evening help sessions and met individual students for hourly tutoring sessions.

Service

- 2024- Géométrie Algébrique en Liberté XXXIII, Leiden, the Netherlands
 Géométrie Algébrique en Liberté XXXII Toulouse, France.
 US Organizer.
- Fall 2022 Beginning Algebraic Geometry Seminar, UT Austin

Organizer.

Sm. 2022 Summer Minicourses, UT Austin
& Sm. 2021 Organizer.

2020-2021 Graduate Representative Committee, UT Austin
Served on the student-elected Graduate Representative Committee as a liason between the math graduate students and math faculty.

Outreach

2024-2025 Sunday Morning Math Group, UT Austin
Proctored AMC exams for local middle and high-school students. Volunteered as a graduate student helper at SMMG talks.

2023-2024 Texas Prison Education Initiative
Worked as an instructor for a college math course serving incarcerated women at a state prison in Lockhart, Texas.

2022-2023 Directed Reading Program, UT Austin
Mentored undergraduate students in reading projects on algebraic topology, differential topology, algebraic geometry, Galois theory, and algebraic number theory.

Honors & awards

2020- Provost's Graduate Excellence Fellowship, UT Austin
2022 Frank Gerth III Teaching Excellence Award, UT Austin
2020 Martha Davenport Heard Prize in Mathematics, Wellesley College
2019 The Waldemar J. Trjitzinsky Memorial Award, American Mathematical Society
2019 The Samuel and Hilda Levitt Fellowship, Wellesley College
2018 Martha Davenport Heard Sophomore Prize in Mathematics, Wellesley College