

# Kamryn Spinelli

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## Education

### Brandeis University

*PhD student, Mathematics*

Advisors: Bong Lian and An Huang

Waltham, MA

2021 – Present

### Worcester Polytechnic Institute (WPI)

*BS Mathematical Sciences with High Distinction; Minor in Arabic Studies*

Worcester, MA

2017 – 2020

## Research

### Publications and preprints

1. *Period integrals of Calabi-Yau families and a Galois criterion for the Chevalley restriction property* (with Bong Lian). In preparation.
2. (\*) *Exploring a Geometric Conjecture, Some Properties of Blaschke Products, and the Geometry of Curves Formed by Them* (with Mehmet Çelik, Mathis Duguin, Jia Guo, Dianlun Luo, Yunus Zeytuncu, and Zhuoyu Zhu). *Comput. Meth. Funct. Th.*: 2025; arXiv:2410.18863.
3. *Integral representation and approximation of L-functions associated to Hecke cusp eigenforms* (with An Huang). *J. Number Theory* 272: 2025; arXiv:2406.08608
4. *A Tauberian Approach to Weyl's Law for the Kohn Laplacian on Spheres* (with Henry Bosch, Tyler Gonzales, Gabe Udell, and Yunus Zeytuncu). *Can. Math. Bull.* 65(1) 2022; arXiv:2010.04568.
5. *CR-Embeddability of Quotients of the Rossi Sphere via Spectral Theory* (with Henry Bosch, Tyler Gonzales, Gabe Udell, and Yunus Zeytuncu). *Int. J. Math.* 33(2): 2022; arXiv:2110.12413.
6. *Manifolds with Bounded Integral Curvature and no Positive Eigenvalue Lower Bounds* (with Connor Anderson and Xavier Ramos Olivé). *PUMP J. Undergrad. Res.* 4: 2021; arXiv:2103.11970.

(\*): Authored with undergraduates.

### Presentations and talks

1. University of Texas Rio Grande Valley SPIE Seminar, March 2025: *Approximation of L-functions associated to Hecke cusp eigenforms.*
2. Brandeis University Graduate Student Seminar, February 2025: *Approximation of L-functions associated to Hecke cusp eigenforms.*
3. Boston College Algebraic Geometry Seminar, January 2025: *Period integrals and a Galois criterion for the Chevalley restriction property.*
4. Brandeis University Graduate Student Seminar, October 2024: *Period integrals and a Galois criterion for the Chevalley restriction property.*
5. Brandeis University Graduate Student Seminar, November 2023: *Variations on a theme: geometry and representations* (expository talk).
6. Brandeis University Second-Year Seminar, March 2023: *V. Batyrev, Variations of the mixed Hodge structure of affine hypersurfaces in algebraic tori* (expository talk).
7. Brandeis University Second-Year Seminar, March 2023: *P. Candelas, X. de la Ossa, P. Green, and L. Parkes, A pair of Calabi-Yau manifolds as an exactly soluble superconformal theory* (expository talk).

talk).

8. Brandeis University Second-Year Seminar, February 2023: *B. Lian and S.T. Yau, Period Integrals of CY and General Type Complete Intersections* (expository talk).
9. Joint Mathematics Meetings, January 2021: *A Tauberian Approach to Weyl's Law for the Kohn Laplacian on Spheres* (with Henry Bosch, Tyler Gonzales, and Gabe Udell).
10. Joint Mathematics Meetings, January 2021: *CR-Embeddability of Quotients of the Rossi Sphere via Spectral Theory* (with Henry Bosch, Tyler Gonzales, and Gabe Udell).
11. Young Mathematicians Conference, August 2020: *A Tauberian Approach to Weyl's Law for the Kohn Laplacian on Spheres* (live talk) (with Henry Bosch, Tyler Gonzales, and Gabe Udell).
12. Young Mathematicians Conference, August 2020: *CR-Embeddability of Quotients of the Rossi Sphere via Spectral Theory* (pre-recorded talk) (with Henry Bosch, Tyler Gonzales, and Gabe Udell).
13. SUMMR Conference, July 2020: *CR-Embeddability of Quotients of the Rossi Sphere via Spectral Theory* (with Henry Bosch, Tyler Gonzales, and Gabe Udell).

## Teaching

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### Awards.....

- Brandeis Mathematics Graduate Student Teaching Award, 2024

### Instructor of record.....

- Math 10a: Techniques of Calculus (a), Fall 2022
- Math 10a: Techniques of Calculus (a), Spring 2023
- Math 10a: Techniques of Calculus (a), Summer 2023
- Math 10a: Techniques of Calculus (a), Fall 2023
- Math 10a: Techniques of Calculus (a), Spring 2024

### TA/Grader.....

- Math 100a: Introduction to Algebra, Part I, Fall 2021
- Math 40a: Introduction to Applied Mathematics, Spring 2022
- Math 36a: Probability, Summer 2024
- Math 211a: Real Analysis (graduate), Fall 2024
- Math 115a: Introduction to Complex Analysis, Spring 2025

### Other.....

- Topology Prep Camp for incoming graduate students, Summer 2024

## Mentorship

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### Graduate Student Mentor

**Polymath Jr.**

*June 2022 – August 2022, June 2023 – August 2023*

Alongside experienced faculty mentors, advised a small group of undergraduate students in mathematical research. This program aims to provide a research experience students who typically cannot access REUs. Our 2022 group presented their work at the 2023 Joint Mathematics Meetings in Boston and their article was published in *Computational Methods and Function Theory*.

### Guided Reading Program Mentor

**Brandeis University**

*January – May 2024*

*Waltham, MA*

Mentored two undergraduate students in a reading project about Clifford algebras. The students gave a short talk about what they learned to their peers at an end-of-semester presentation session.

**Math Camp Coach***July – August 2023*

Mentored advanced high school students from around the world as they learned introductory linear algebra.

**Yau Tsinghua Mathcamp***Sanya, China***Leadership, honors, and service**

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- Brandeis Harold I. Levine Fellowship 2024
- Brandeis Math Department Graduate Representative, Spring 2022 - Fall 2023. Organized: 2022 stipend raise campaign; 2023 incoming student prep camp; relocation assistance for incoming graduate students; combating graduate student food insecurity
- NSF GRFP Honorable Mention 2021 for research proposal “Riemannian-geometric data of CR manifolds via spectral theory”