

Curriculum Vitae of Adam Cohen

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Education

- 2020 - 2024 ■ **Reed College** (Portland, OR)
B.A. Mathematics-Physics, Mathematics Subject GPA: 3.9
- 2024 - 2029 ■ **University of Minnesota** (Minneapolis, MN)
PhD Mathematics (expected), GPA: 4.0

Advised Projects

- Summer 2022 ■ **Ram and Gopal Goel Reading Fellowship** (Advisor: Kyle Ormsby):
Text: *Differential Forms in Algebraic Topology* by Raoul Bott and Loring Tu
- Summer 2023 ■ **Analysis REU at the University of Michigan Dearborn** (Advisor: Yunus Zeytuncu):
Topic: [Spectral geometry of Cauchy-Riemann manifolds](#)
- Fall 2023 ■ **Undergraduate Thesis** (Advisor: Robert Chang):
Title: [Calculus on Twisty Stuff: The Local Index Theory of Dirac Operators](#)

Miscellany

Awards and Positions

- 2020 ■ **Commendation for Excellence in Scholarship**, Reed College
- Fall 2021 ■ **Teaching Assistant**, Real Analysis
- Spring 2022 ■ **Course Grader**, General Physics II
- Summer 2022 ■ **Ram and Gopal Goel Fellow**, Reed College
- Fall 2022 ■ **Course Grader**, Real Analysis
- Summer 2023 ■ **REU Participant**, University of Michigan Dearborn
- 2024 ■ **Commendation for Excellence in Scholarship**, Reed College
- Fall 2024 ■ **Teaching Assistant** Calculus I (College of Liberal Arts)
- Spring 2025 ■ **Teaching Assistant** Short Calculus
- Summer 2025 ■ **Summer Mathematics Fellow**, University of Minnesota
- 2025 Academic Year ■ **Vice Treasurer**, AMS Student Chapter at UMN
- Fall 2025 ■ **Teaching Assistant**, Calculus 1 (College of Science and Engineering)
- Spring 2026 ■ **Teaching Assistant**, Calculus 2 (College of Science and Engineering)
- **Course Grader**, Graduate Differential Geometry
- **Course Grader**, Computational Algebraic Geometry

Writings

- In Preparation ■ Analysis of the Kohn Laplacian and Sub-Laplacian on Compact Quotients of Quadric Groups
(with Yash Rastogi, Samuel Sottile, Yunus Zeytuncu)
- Submitted for Publication ■ [Spectral Analysis of the Kohn Laplacian on Sphere Quotients](#)
(with Yash Rastogi, Samuel Sottile, Yunus Zeytuncu)
- [Calculus on Twisty Stuff: The Local Index Theory of Dirac Operators](#)

Miscellany (continued)

Seminars and Workshops

- UMN Student Symplectic Geometry Seminar Co-organizer
- UMN Low-Dim Learning Seminar Organizer
- Rutgers Symplectic Summer School 2025 Attendee

Talks

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| July 2023 | ■ “Hearing the Shape of Spherical Manifolds”
(With Yash Rastogi)
Presented at the Summer Undergraduate Michigan Mathematics Research Conference 2023 |
| August 2023 | ■ “The Kohn Laplacian and Sub-Laplacian on Compact Quotients of Quadric Groups”
(With Yash Rastogi)
Presented at the Young Mathematicians Conference 2023 |
| October 2023 | ■ “Hearing the Shape of Spherical and Quadric Manifolds”
Presented at the Reed Mathematics Colloquium

■ “The Laplacian Eigenvalue Problem”
Presented at the Reed Mathematics Student Colloquium |
| January 2024 | ■ “Spectral Analysis of the Kohn Laplacian on Sphere Quotients”
(With Yash Rastogi, Yunus Zeytuncu)
Presented at the Joint Mathematics Meeting 2024

■ “Analysis of the Kohn Laplacian and Sub-Laplacian on Compact Quotients of Quadric Groups”
(With Yash Rastogi)
Presented at the Joint Mathematics Meeting 2024 |
| Spring 2025 | ■ “Linearization of the Floer Equation and the Fredholm Property”
Presented at the UMN Student Symplectic Geometry Seminar

■ “Spin Geometry and the Second Stiefel-Whitney Class”
Presented at the UMN Student Topology and Geometry Seminar |
| Summer 2025 | ■ “An Introduction to the Moduli of Stable Vector Bundles”
Presented at the UMN Student Symplectic Geometry Seminar

■ “Yang-Mills on Riemann Surfaces, Part 2”
Presented at the UMN Student Symplectic Geometry Seminar |
| Fall 2025 | ■ “Perturbative Expansion of Chern-Simons, Part 1”
Presented at the UMN Student Symplectic Geometry Seminar |
| Spring 2026 | ■ “Introduction to Low-Dim Topology and Heegaard Splittings”
Presented at the UMN Low-Dim Learning Seminar

■ “The Mapping Class Group and Three-folds of Heegaard Genus 1”
Presented at the UMN Low-Dim Learning Seminar |