

STEVEN CREECH

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EDUCATION

Brown University

PhD in Mathematics

(Masters awarded in Spring 2022)

Fall 2020 - Present

Advisors: Jeff Hoffstein, Junehyuk Jung

Georgia Institute of Technology

Bachelor of Science in Mathematics with a Concentration in Pure Math Undergraduate

Overall GPA: 3.93/4

Major GPA: 4.0/4.0

Fall 2016 - Spring 2020

PAPERS

1. “A Formula For the Number of k -almost Primes”. Preprint: <https://arxiv.org/abs/2310.14989>
2. “A Converse Theorem in Half-Integral Weight”. With Henry Twiss. Preprint: <https://arxiv.org/abs/2306.02872> Submitted to Journal of Number Theory
3. “Limits and Colimits in the Category of Pastures”. Preprint: <https://arxiv.org/abs/2103.08655>
4. “Prym–Brill–Noether loci of special curves”. With Yoav Len, Caelan Ritter, Derek Wu. In International Mathematics Research notices, rnaa207.
5. “Extensions of Hyperfields”. Preprint: arxiv.org/abs/1912.05919.

SEMINAR PRESENTATIONS

2024, University of Minnesota Graduate Student Number Theory Seminar, Talk, “Bounds on Hecke Eigenvalues over Quadratic Progressions and Mass Equidistribution on Cocompact Surfaces”

2024, Brown University Algebra Seminar, Talk, “Bounds on Hecke Eigenvalues over Quadratic Progressions and Mass Equidistribution on Cocompact Surfaces”

2024, University of Connecticut Algebra Seminar, Talk, “Bounds on Hecke Eigenvalues over Quadratic Progressions and Mass Equidistribution on Cocompact Surfaces”

2019, Georgia Tech Algebra Seminar, Joint Talk with Derek Wu, “Prym–Brill–Noether Loci of Special Curves”

CONFERENCE PRESENTATIONS

2024, Maine-Québec Number Theory Conference, Talk, “Mass Equidistribution: Cocompact vs. Non-Cocompact Surfaces”

2024, Palmetto Number Theory Series XXXVIII, Talk, “Mass Equidistribution: Cocompact vs. Non-Cocompact Surfaces”

2024, 36th Automorphic Forms Workshop, Talk, “Mass Equidistribution: Cocompact vs. Non-Cocompact Surfaces”

2023, Palmetto Number Theory Series XXXVI, Talk, “A Converse Theorem in Half-Integral Weights”

2023, Maine-Québec Number Theory Conference, Talk, “Explicit Zero Free Regions of Automorphic L -Functions”

- 2022, AMS New England Graduate Student Conference, Talk, “Prym Tableau”
- 2020, Joint Mathematics Meeting, Poster, “Polynomials Over Hyperfields” (Outstanding Poster Award)
- 2019, Young Mathematicians Conference, Joint Talk with Caelan Ritter and Derek Wu, “Prym Varieties of Folded k -gonal Chains of Loops”
- 2019, Young Mathematicians Conference, Talk, “Hyperfield Extensions”
- 2019, National Conference on Undergraduate Research, Poster, “On Polynomials Over Hyperfields”

WORKSHOPS

- 2024, Rethinking Number Theory 5, Karol Koziol’s group on calculating the Iwasawa Algebra of the pro- p Iwahori subgroup of $\mathrm{GL}_3(\mathbb{Z}_p)$
- 2024, Arizona Winter School, Abelian Varieties
- 2023, Inclusive Paths in Explicit Number Theory, Alia Hamieh’s group on computing explicit zero-free regions for automorphic L -functions
- 2023, Arizona Winter School, Unlikely Intersections

AWARDS & SCHOLARSHIPS

- Brown University Outstanding Graduate Teaching Award (2024)
- Georgia Institute of Technology Undergraduate Mathematics Prize (2019)
- Mehta Phingbodhipakkiya Undergraduate Memorial Scholarship (2019)
- Zell Miller Scholarship (2016-2020)

TEACHING EXPERIENCE

Lecturer

Brown University

- Linear Algebra (Spring 2024, Fall 2024, Fall 2025)
- Calculus 2 (Spring 2023)
- Calculus 1 (Fall 2022)

Teaching Assistant

Brown University

- Calculus 2 (Fall 2023)
- Calculus 3 (Spring 2022)
- Calculus 2 (Fall 2021)

Directed Reading Program

Brown University

- Lie Algebras (Fall 2024)
- Representation Theory (Fall 2023, Spring 2024)
- Geometry of Numbers (Fall 2022)
- Quadratic Forms (Spring 2022)
- Sheaf Cohomology (Fall 2021)
- Combinatorics (Spring 2021)
- Tropical Geometry (Fall 2020)

Teaching Assistant

Georgia Tech School of Mathematics

- Calculus for the Life Sciences (Spring 2020)
- Introduction to Linear Algebra (Fall 2019)
- Introduction to Discrete Mathematics (Spring 2019)
- Introduction to Linear Algebra (Fall 2018)

Georgia Tech School of Mathematics

Grader

- A Second Course in Linear Algebra (Spring 2020)
- A Second Course in Linear Algebra (Fall 2019)
- Combinatorial Analysis (Spring 2019)
- A Second Course in Linear Algebra (Fall 2018)
- Applied Combinatorics (Spring 2018)
- Applied Combinatorics (Fall 2017)

Ross Mathematics Program

Counselor/Lecture Assistant/Lecturer

- Gave an advanced lecture course on quadratic forms (2023)
- Served as a lecture assistant for Provability Course (2022)
- Served as a lecture assistant for Rational Points on Curves course (2021)
- Served as a lecture assistant for Geometric Group Theory course (2020)
- Served as a lecture assistant for Professor Daniel Shapiro's Sums of Squares course (2018)

OUTREACH & LEADERSHIP

Brown University Horizons Seminar

Fall 2024-Present

Co-organizer

AMS New England Graduate Student Seminar

Spring 2023-Present

Co-organizer

Brown Graduate Student Seminar

Fall 2021-Present

Co-organizer

Club Math

Spring 2017- Spring 2020

President/Officer

Sci-Cycle

Fall 2019

Organizer

Advisor: Professor Evans Harrell

National Mathematics Festival

Summer 2019

Volunteer

Mathapalooza Exhibit

Spring 2019

Lead Student Organizer

Advisor: Professor Evans Harrell

Seven Bridges of Königsberg Show

Fall 2018

Lead Student Organizer

Advisor: Professor Evans Harrell