Andrew Lott

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Mathematics Ph.D. Candidate, Department of Mathematics, University of Georgia
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Advisors: Ákos Magyar and Giorgis Petridis

Education

University of Georgia 2023–present
Ph.D. in Mathematics, in progress. Advisors: Ákos Magyar and Giorgis Petridis.

Millsaps College 2023
B.S. in Mathematics, *summa cum laude*.

Academic Appointments

Visiting Researcher, Alfréd Rényi Institute of Mathematics Jan.–Jun. 2026
Semester-long visiting researcher appointment in Budapest, Hungary, during the Simons Semester in New Directions in Modern Harmonic Analysis and Applications.

Graduate Teaching Assistant, University of Georgia Aug. 2023–present
Department of Mathematics.

Research Interests

Additive combinatorics, analytic number theory, ergodic theory, exponential sum estimates, higher-order Fourier analysis, the transference principle, pointwise ergodic theorems, density Ramsey theory, and classical Ramsey theory.

Publications and Preprints

Submitted Preprints

1. *Bourgain's L^2 pointwise ergodic theorem over function fields*. Thái Hoàng Lê and Andrew Lott. Submitted, 2026. arXiv:2605.28997.
2. *Extensions of the Furstenberg-Sárközy theorem via the arithmetic level-d inequality*. Carlo Francisco E. Adajar, Rishika Agrawal, Mukul Rai Choudhuri, Chian Yeong Chuah, Steve Fan, Swaroop Hegde, Andrew Lott, Krishnamohan Nandakumar, and Nagendar Reddy Ponagandla. Submitted, 2026. arXiv:2605.16216.
3. *Sárközy's theorem in $\mathbb{F}_q[t]$ via the van der Corput property*. Steve Fan and Andrew Lott. Submitted, 2025. arXiv:2510.27581.

Publications

1. *Polynomial configurations in dense subsets of the prime lattice*. Andrew Lott, Ákos Magyar, Giorgis Petridis, and János Pintz. *Acta Arithmetica*, 2026. arXiv:2504.14424.
2. *Polynomial progressions in the generalized twin primes*. Andrew Lott and Nagendar Reddy Ponagandla. *Proceedings of the American Mathematical Society*, 2026. arXiv:2505.17375.
3. *Notes and computations on forbidden differences*. Christian Dean, Haley Havard, Elizabeth Hawkins, Patch Heard, Andrew Lott, and Alex Rice. *The PUMP Journal of Undergraduate Research* **9** (2026), 124–138. arXiv:2508.03650.
4. *The sum-product problem for small sets*. Ginny Ray Clevenger, Haley Havard, Patch Heard, Andrew Lott, Alex Rice, and Brittany Wilson. *Involve* **18** (2025), no. 1, 165–180. arXiv:2307.06874.
5. *Computations and observations on congruence covering systems*. Raj Agrawal, Prarthana Bhatia, Kratik Gupta, Powers Lamb, Andrew Lott, Alex Rice, and Christine Rose Ward. *INTEGERS* **24A** (2024), Paper A1. Proceedings of the INTEGERS Conference 2023. arXiv:2208.09720.
6. *The pigeonhole principle and multicolor Ramsey numbers*. Vishal Balaji, Powers Lamb, Andrew Lott, Dhruv Patel, Alex Rice, Sakshi Singh, and Christine Rose Ward. *Involve* **15** (2022), no. 5, 857–884. arXiv:2108.08410.

7. *Schur's theorem in integer lattices*. Vishal Balaji, Andrew Lott, and Alex Rice. *INTEGERS* **22** (2022), Paper A62. arXiv:2112.03127.

Talks and Presentations

2026

K-point configurations in the integer lattice 2026
Discrete Analysis Seminar, HUN-REN Alfréd Rényi Institute of Mathematics.

Extensions of the Furstenberg-Sárközy theorem via the arithmetic level-d inequality 2026
Number Theory Seminar, HUN-REN Alfréd Rényi Institute of Mathematics.

Sárközy's theorem in function fields 2026
Number Theory Seminar, HUN-REN Alfréd Rényi Institute of Mathematics.

2025

Sárközy's theorem in function fields 2025
Number Theory Seminar, University of Georgia.

Sárközy's theorem in function fields 2025
Number Theory Seminar, University of Mississippi.

Sárközy's theorem in function fields 2025
AMS Fall Southeastern Sectional Meeting, Tulane University.

Polynomial configurations in the primes 2025
INTEGERS 2025 Conference, University of Georgia.

Polynomial configurations in the primes 2025
Millsaps College Kinnaird Summer Research Program.

2024

The sum-product problem for small sets 2024
UGA Graduate Student Seminar.

2023

Schur's theorem in integer lattices 2023
AMS Spring Southeastern Sectional Meeting, Georgia Tech.

Schur's theorem in integer lattices 2023
INTEGERS 2023 Conference, University of Georgia.

Notes and computations on congruence covering systems 2023
MAA Louisiana–Mississippi Sectional Meeting, University of Mississippi. First place student presentation.

Notes and computations on congruence covering systems 2023
Millsaps College TriBeta Symposium. First place student presentation.

New and old results in Ramsey theory and additive combinatorics 2023
Millsaps College Honors Research Conference. Award for best honors thesis.

2022

Schur's theorem in integer lattices 2022
MAA Louisiana–Mississippi Sectional Meeting, Northwestern State University of Louisiana. First place student presentation.

Teaching Experience

Instructor of Record, University of Georgia

Precalculus (MATH 1113) Fall 2024; Fall 2025
Instructor.

Calculus I (MATH 2250) Spring 2025
Instructor.

Course Support

Introduction to Real Analysis / Sequences and Series (MATH 3100) Fall 2023
University of Georgia. Grader.

Graph Theory (MATH 4690/6690) Spring 2024
University of Georgia. Grader.

Honors Multivariable Calculus (MATH 3500H) Fall 2024
University of Georgia. Grader.

Measure Theory (MATH 8100/8105) Fall 2025
University of Georgia. Grader.

Calculus I Fall 2022
Millsaps College. Undergraduate teaching assistant.

Calculus II Spring 2023
Millsaps College. Undergraduate teaching assistant.

Mentorship, Outreach, and Service

Directed Reading Project Mentor, University of Georgia 2025

- Spring 2025: mentored José López-Gervacio through Roth's theorem using Yufei Zhao's *Graph Theory and Additive Combinatorics*.
- Fall 2025: mentored Priya Jani in prime number theory using Paul Pollack's *Not Always Buried Deep*.

Kinnaird Undergraduate Research Program, Millsaps College Summers 2023, 2024
Teaching assistant for the undergraduate research program.

Athens Math Circle, University of Georgia Jan. 2025–present
Presented an introduction to Ramsey numbers and assisted with outreach sessions for local middle and high school students.

UGA High School Math Competition Fall 2025
Volunteer and problem writer.

Millsaps College High School Math Competition 2021, 2022
Volunteer and problem writer.

Workshop Participation

Algebraic and Analytic Methods in Combinatorics Mar. 2025
MSRI/SLMath.

Simons School on Discrete harmonic analysis and analytic number theory May 11–15, 2026
Erdős Center / HUN-REN Alfréd Rényi Institute of Mathematics.

Workshop on Discrete harmonic analysis and analytic number theory May 18–22, 2026
Erdős Center / HUN-REN Alfréd Rényi Institute of Mathematics.

Focused Workshop on Geometric Measure Theory May 25–29, 2026
Erdős Center / HUN-REN Alfréd Rényi Institute of Mathematics.

Simons School on Harmonic analysis and applications to Ramsey theory Jun. 1–5, 2026
Erdős Center / HUN-REN Alfréd Rényi Institute of Mathematics.

Workshop on Harmonic analysis and applications to Ramsey theory Jun. 8–12, 2026
Erdős Center / HUN-REN Alfréd Rényi Institute of Mathematics.

Awards and Honors

- Samuel R. Knox Senior Mathematics Award, Millsaps College, 2023.
- Best Overall Thesis and Presentation, Millsaps Honors Program, 2023.
- First Place Student Presentations, MAA Louisiana–Mississippi Sectional Meetings, 2022 and 2023.
- Eagle Scout, Boy Scouts of America, 2016.