

# Zachary Porat

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Department of Mathematics and Computer Science  
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🖱 <https://zporat.github.io>  
🌐 U.S. Citizen  
📅 Last Updated May 14, 2024

## EDUCATION

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**Wesleyan University** | MIDDLETOWN, CT 2020 – Present

- Ph.D. Candidate in Mathematics (Expected 2026)
- Advisor: David Pollack

**Union College** | SCHENECTADY, NY 2016 – 2020

- Bachelor of Science in Mathematics with Honors, *summa cum laude*
  - Honors Thesis: Classification of Torsion Subgroups for Mordell Curves [🔗](#)
- Physics Minor, Phi Beta Kappa, Scholars Program

## TEACHING EXPERIENCE

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**Instructor of Record** | WESLEYAN UNIVERSITY Fall 2022 – Present

- MATH 132 - Elementary Statistics (Fall 2022)

**Teaching Assistant** | WESLEYAN UNIVERSITY Fall 2021 – Present

- MATH 262 - Advanced Topics in Abstract Algebra (Spring 2024)
- MATH 261 - Introduction to Abstract Algebra (Fall 2023)
- MATH 225 - Introduction to Real Analysis (Spring 2022, Spring 2023)
- MATH 228 - Discrete Mathematics (Fall 2021)

**Math Workshop Tutor** | WESLEYAN UNIVERSITY Fall 2020 – Spring 2021

- Covers the entire selection of undergraduate math courses at Wesleyan

**Course Assistant** | UNION COLLEGE Fall 2017 – Winter 2020

- MTH 340 - Linear Algebra (Winter 2020)
- MTH 110 - Calculus I (Fall 2017, Fall 2018, Fall 2019)
- MTH 112 - Calculus II (Winter 2018, Winter 2019)
- MTH 115 - Differential Vector Calculus and Matrix Theory (Spring 2018)

**Calculus Help Center Tutor** | UNION COLLEGE Fall 2019 – Winter 2020

- Covers Calculus I, Calculus II, and Multivariable Calculus with Linear Algebra

## MENTORSHIP

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**Directed Reading Program Mentor** | WESLEYAN UNIVERSITY

Spring 2023 – Present

- William Dollhopf, *Mathematical Cryptography* (Fall 2023)
  - Talk Title: “Introduction to Cryptography and the ElGamal Key Cryptosystem”
- Emily Bennett, *Mathematical Cryptography* (Spring 2023)
  - Talk Title: “Understanding Public Key Cryptography: The Diffie-Hellman Key Exchange”
- Stefan Hesselning, *Mathematical Cryptography* (Spring 2023)
  - Talk Title: “RSA and Integer Factorization”

## PUBLICATIONS

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[2] **Family Sizes for Complete multipartite Graphs** (with Danielle Gregg, Thomas Mattman, and George Todd), *Involve, a Journal of Mathematics*, Vol. 15, No. 4 (2022), 669-686.

 MR4536581, DOI: [10.2140/involve.2022.15.669](https://doi.org/10.2140/involve.2022.15.669)

[1] **PIXE Analysis of Synthetic Turf** (with Sajju Chalise, Morgan Clark, Skye Conlan, Scott LaBrake, and Michael Vineyard), *Environment and Ecology Research*, Vol. 6, No. 1 (2018), 60-65.

 DOI: [10.13189/eer.2018.060105](https://doi.org/10.13189/eer.2018.060105)

## INVITED TALKS

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- **How Computers are Shaping Math**, Manhattan College Math Seminar, November 15, 2023
- **The Search for Large Prime Numbers**, Union College Math Seminar, January 12, 2023

## CONTRIBUTED TALKS

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These are talks for which my submitted abstract was selected by the event organizers.

- **Additional Computations of the Hecke Action on the Cuspidal Cohomology of Congruence Subgroups of  $SL(3, \mathbb{Z})$** , 36<sup>th</sup> Automorphic Forms Workshop (Oklahoma State University), May 24, 2024
- **Death at 20: The Story of Évariste Galois**, Graduate Student Seminar (Wesleyan University), March 9, 2023
- **An Introduction to Cryptography**, Graduate Student Seminar (Wesleyan University), February 10, 2022
- **An Introduction to Elliptic Curves**, Graduate Student Seminar (Wesleyan University), October 14, 2021

## WORKSHOPS

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36 <sup>th</sup> Automorphic Forms Workshop 📍 Oklahoma State University	May 20-24, 2024
Arizona Winter School: Abelian Varieties 📍 University of Arizona	March 2-6, 2024
Connecticut Summer School in Number Theory 📍 University of Connecticut	June 6-12, 2022
Connecticut Summer School in Number Theory 📍 Online due to COVID-19	June 8-14, 2020

## SERVICE

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• Co-organizer of the Directed Reading Program <a href="#">↗</a>	Spring 2023 – Present
• President of the Wesleyan AMS Graduate Student Chapter <a href="#">↗</a>	Fall 2023 – Present
• Creator and editor of the departmental graduate student website	Fall 2021 – Present
• Co-organizer of the departmental Graduate Student Seminar <a href="#">↗</a>	Spring 2022 – Fall 2023
• Vice President of the Wesleyan AMS Graduate Student Chapter	Fall 2021 – Spring 2023

## HONORS AND AWARDS

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• Martin Terry Resch Prize <a href="#">↗</a>	May 2020
• Phi Beta Kappa Membership	May 2020
• Pi Mu Epsilon Membership	April 2019

## REFERENCES

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- David Pollack, [dpollack@wesleyan.edu](mailto:dpollack@wesleyan.edu)