Yael Davidov

Email: yael.davidov@rutgers.edu
Website: yaeldavidov.github.io

EDUCATION

Rutgers University — New Brunswick, NJ
Ph.D. candidate, Advisor: Daniel Krashen — 2017–Expected May 2023

Wesleyan University — Middletown, CT
BA in Mathematics and Chemistry, GPA: 4.0/4.0 — 2012–2016
- Graduated with Honors

RESEARCH INTERESTS

I am broadly interested in arithmetic geometry, and understanding the relationship between algebraic objects over a field, such as division algebras, and the arithmetic properties of that field. Currently I am investigating the admissibility of groups over semi-global fields through the use of field patching techniques.

THESIS WORK

"On the Admissibility of Finite Groups over Semi-Global Fields in the Bad Characteristic Case", in preparation.

TALKS

- **Galois Extensions in Division Algebras Over Semi-Global Fields** — April 2023
  AMS Special Session on Brauer Groups in Algebraic Geometry and Arithmetic

- **Admissibility of Groups over Semi-Global Fields in the Bad Characteristic Case** — October 2022
  Rutgers Algebra Seminar

- **Admissibility of Groups: An Application of Field Patching** — May 2022
  Graduate Student Conference in Algebra, Geometry, and Topology at Temple University

- **Exploring the Admissibility of Groups and an Application of Field Patching** — April 2022
  Rutgers Algebra Seminar

- **Admissibility Problems for Finite Groups** — February 2022
  Rutgers Graduate Algebra and Representation Theory Seminar

- **Hunting for Division Algebras in Representations of Finite Groups** — October 2021
  Rutgers Graduate Algebra and Representation Theory Seminar

AWARDS

- AMS Rutgers Student Chapter Award for Leadership — 2022
- Rutgers TA Teaching Excellence Award — Spring 2020
- Rice Prize, awarded for excellence in mathematics — 2016
- Phi Beta Kappa — Spring 2016

Teaching

Instructor of Record at Rutgers

- 01:640:300 Introduction to Mathematical Reasoning   Summer 2022
  In person course which I structured to include group work and guided reading.

- 16:186:857 Introduction to Online and Hybrid Teaching   Spring 2022, Spring 2021
  Online course for graduate students across different departments.

- 01:640:300 Introduction to Mathematical Reasoning   Summer 2020
  Online course which I structured to include group work and oral exams.

- 01:640:123 Preparation for Calculus I   Spring 2020
  8-week, flipped-format course designed to review prerequisite topics for success in calculus.

TA at Rutgers

- 01:640:311 Introduction to Real Analysis   Spring 2023

- 01:640:291 Honors Calculus III   Fall 2021

- 01:640:251 Multivariable Calculus   Spring 2021
  online

- 01:640:250 Introductory Linear Algebra   Fall 2019

- 01:640:151 Calculus I for the Mathematical and Physical Sciences   Spring 2019

- 01:640:152 Calculus II for the Mathematical and Physical Sciences   Fall 2018

Directed Reading Program Mentor at Rutgers (Spring 2020)

Mentored an undergraduate student in reading about identities involving sums of squares.

Service and Other Activities

- Program Coordinator, Rutgers TA Project   2020–Current
  Organize annual university-wide TA orientation program and lead pedagogy workshops for a broad audience of graduate TAs from different department on topic such as "Engaging a Quiet Classroom", "Supporting Students with Diverse Academic Preparation", and "The Role of the TA".

- Co-Organizer, Rutgers Math Teaching Seminar   2019–Current

- Fellow, Rutgers Academy for the Scholarship of Teaching and Learning   2019–Current
  A selective group of graduate students, faculty, and administrators across the university which meets monthly to review undergraduate instructional practices and issues related to the scholarship of teaching and learning.

- Co-Founder and Vice President, Association for Women in Mathematics Rutgers Chapter   2018–2022

- Head TA, Rutgers Math Department   Summer 2020
  Conducted observations of other graduate student instructors and provided feedback and support.

- Panelist, Workshop on Math Advice and Networking at the University of Pennsylvania   2019
  Participated in a panel on graduate student life at an event for undergraduate women.

- TA Orientation Leader   2019
  Lead a session in the University-wide orientation for incoming Math and Statistics graduate students on discipline specific teaching practices.

- Co-Organizer, Rutgers Pizza Seminar   2018–2019

Attended Conferences

- **Joint Mathematics Meetings**   January 2023
  Boston
- **The 14th Brauer Group Conference**   June 2022
  Israel
- **Graduate Student Conference in Algebra, Geometry, and Topology**   June 2022, June 2018
  Temple University, Philadelphia
- **Motivic Homotopy session of the Graduate Summer School**   July 2021
  IAS/Park City Mathematics Institute (virtual)
- **ALGAR Summer School: Algebra and Arithmetic**   July 2020
  University of Antwerp (virtual)
- **ALGAR Summer School: Algebras with Involution**   July 2019
  University of Antwerp, Belgium
- **The 13th Brauer Group Conference**   June 2018
  Colorado
- **Northeastern Conference on Research in Undergraduate Mathematics Education**   2017-2022
  Montclair State University, Rutgers University, and Virtually. Attended 5 of the past 6 years.