Asimina S. Hamakiotes

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Education

University of Connecticut — Storrs, CT
Ph.D. in Mathematics — 2020–Present
Advisor: Álvaro Lozano-Robledo

University of Connecticut — Storrs, CT
Masters in Mathematics — 2020–2022

Macaulay Honors at Baruch College — New York City, NY
B.A. in Mathematics, GPA: 3.73 — 2016–2020
Minors: Philosophy, Interdisciplinary Minor with Honors in New York City Studies

- Honors Thesis: Asimina Hamakiotes, *The Distribution of the Greatest Common Divisors of Elements in Quadratic Integer Rings*, Baruch College CUNY Library (2020).

Budapest Semesters in Mathematics — Budapest, Hungary
Study abroad program — Spring 2019

Research Interests

Algebraic number theory and arithmetic geometry. Elliptic curves and Galois representations. Cryptography.

Publications

1. Asimina S. Hamakiotes and Álvaro Lozano-Robledo, *Elliptic curves with complex multiplication and abelian division fields*, submitted.
2. Eduardo Dueñez, Asimina S. Hamakiotes, and Steven J. Miller, *Sums of Powers by L'Hopital's Rule*, submitted.
3. Asimina Hamakiotes, Aaron Kriegman, and Wei-Lun Tsai, *Asymptotic Distribution of the Partition Crank*, Ramanujan Journal, Vol. 56, 803-820 (2021).
4. Michael Allen, Nicholas Anderson, Asimina Hamakiotes, Ben Oltsik, and Holly Swisher, *Eta-quotients of prime or semiprime level and elliptic curves*, Involve, Vol. 13, No. 5 (2020), 879-900.

Awards

- Graduate Fellowship for STEM Diversity ($20,000 annually) — 2022 - Present
- CLAS Course Improvement Mini Grant ($1,500) — August 2022
  (Created a module for an inquiry-based mathematical modeling course.)
- NCAA Woman of the Year Semifinals — 2019–2020
- Kanner Prize for Outstanding Baruch Honors Thesis — 2019–2020
- CUNY Athletic Conference Female Scholar-Athlete of the Year — 2019–2020
- Dr. Jane Katz Academic, Athletics, and Community Service Award — 2019–2020
- Meyer Scholar Recipient, Merit Based Scholarship ($4,000) — 2018
- 2nd place in Traders@MIT (largest algorithmic collegiate trading competition) — 2017

Invited Conference Talks

- **LMFDB, Computation, and Number Theory (LuCaNT)** 7/10/23 - 7/14/23
  Elliptic Curves with CM and Abelian Division Fields - Lightning Talk
  Institute for Computational and Experimental Research in Mathematics (ICERM)
- **Joint Mathematics Meetings (Boston, MA)** 1/4/22 - 1/7/22
  The Probability of Non-isomorphic Group Structures of Isogenous Elliptic Curves in Finite Field Extensions - Talk
  AMS Special Session on Rethinking Number Theory II
- **Conférence de théorie des nombres Québec-Maine** 10/15/22 - 10/16/22
  Computing the Proportion of Sneaky Primes for Pairs of Elliptic Curves - Talk
  Université Laval
- **PAlmetto Number Theory Series XXXIV (PANTS 34)** 9/24/22 - 9/25/22
  Computing the Proportion of Sneaky Primes for Pairs of Elliptic Curves - Talk
  University of North Carolina at Charlotte
- **Joint Mathematics Meetings (Denver, CO)** 1/15/20 - 1/18/20
  Asymptotic Distribution of the Partition Crank
  MAA Undergraduate Student Poster Session **Received Honorable Mention*
- **Shenandoah Undergraduate Mathematics and Statistics Conference (SUMS)** 9/21/19
  Asymptotic Distribution of the Partition Crank - Talk
  James Madison University
- **Nebraska Conference for Undergraduate Women in Mathematics (NCUWM)** 1/25/19 - 1/27/19
  Eta-Quotients of Prime or Semiprime Level and Elliptic Curves - Talk
  University of Nebraska - Lincoln
- **Joint Mathematics Meetings (Baltimore, MD)** 1/16/19 - 1/19/19
  Eta-Quotients of Prime or Semiprime Level and Elliptic Curves
  MAA Undergraduate Student Poster Session
- **Shenandoah Undergraduate Mathematics and Statistics Conference (SUMS)** 10/13/18
  Eta-Quotients of Prime/Semiprime Level and Elliptic Curves - Talk
  James Madison University
- **Women in Mathematics in New England Conference (WIMIN)** 9/22/18
  Eta-Quotients of Prime or Semiprime Level and Elliptic Curves - Talk
  Smith College

Invited Seminar Talks

- **Computing the proportion of sneaky primes for pairs of elliptic curves with and without CM**,
  unQVNTS (Québec-Vermont Number Theory Seminar) at the University of Vermont March 30, 2023
- **Sums of powers by L'Hopital's rule**,
  UConn Math Club Feb. 22, 2023
- **Computationally hard problems and their uses in cryptography: RSA and DLP**,
  UConn S.I.G.M.A. Seminar Feb. 17, 2023
- **Computing the genus of modular curves**,
  UConn Number Theory Reading Group Dec. 12, 2022
- **Creating a modular, inquiry-based modeling course**,
  UConn Math Teaching Workshop Dec. 9, 2022
- **Genus of a modular curve**,
  UConn Number Theory Reading Group Dec. 2, 2022
- **Computing the proportion of sneaky primes for pairs of elliptic curves**,
  Oregon State University Number Theory Seminar (online) Oct. 18, 2022

- **Computationally hard problems and their uses in cryptography**,
  UConn Math Club — Oct. 5, 2022
- **Computing the proportion of sneaky primes for pairs of elliptic curves**,
  UConn S.I.G.M.A. Seminar — Sept. 30, 2022
- **Computing the proportion of sneaky primes for pairs of elliptic curves**,
  UConn Algebra Seminar — Sept. 14, 2022
- **Lubin-Tate formal group laws**,
  UConn Number Theory Reading Group — Feb. 26, 2021

Teaching at UConn

- MATH 1071Q Calculus for Business and Economics, Instructor — Fall 2023
- UConn Algebra Prelim Tutor — Summer 2023
- MATH 2210Q Applied Linear Algebra, Instructor — Spring 2023
- UConn Algebra Prelim Tutor — Winter 2022
- MATH 1020Q Problem Solving, Instructor — Fall 2022
- MATH 1132Q Calculus II, Teaching Assistant — Spring 2022
- MATH 1132Q Calculus II Honors, Teaching Assistant — Fall 2021
- MATH 1132Q Calculus II, Teaching Assistant — Spring 2021
- MATH 1131Q Calculus I, Teaching Assistant — Fall 2020

Mentoring

- Directed Reading Program, mentor to Sarah Hocutt (project on mathematical cryptography) — Spring 2023
- Directed Reading Program, mentor to Sierra Woods (project on elliptic curves) — Spring 2022

Instructional Schools Attended / Workshops / Summer Programs

- **Statistiques Arithmétiques** — May 15 - 19, 2023
  Conference on Arithmetic Statistics in CIRM, France.
- **École de printemps en statistiques arithmétiques** — May 8 - 12, 2023
  Research school on Arithmetic Statistics in CIRM, France. Courses on Galois representations and statistics, complex multiplication, class field theory, and Frobenius distributions.
- **Women In Numbers 6 (WIN6)** — March 26 - 31, 2023
  Project: Isogenous discriminant twins over number fields.
- **Arizona Winter School (AWS)** — March 4 - 8, 2023
  Study group: Special point problems and their arithmetic.
- **Symposium sur la géométrie arithmétique et ses applications (SAGA)** — Jan. 30 - Feb. 3, 2023
  Research school: Introduction to SAGA in CIRM, France. Courses on Galois representations and modular forms, modularity and diophantine applications, local-global principles, and Jacobians and models of curves.
- **Preliminary Arizona Winter School (PAWS)** — Oct. 3 - Nov. 11, 2022
  PAWS is a virtual program on topics related to the upcoming AWS. Topic: Heights in Diophantine geometry.
- **PCMI Graduate Summer School, Utah** — July 17 - August 6, 2022
  Park City Mathematics Institute (PCMI) Graduate Summer School in Number Theory Informed by Computation.
- **Rethinking Number Theory 3 (RNT3)** — June 20 - July 1, 2022
  Virtual workshop. Project on computing the proportion of sneaky primes for pairs of elliptic curves.

- **Connecticut Summer School in Number Theory (CTNT)** June 6 - 12, 2022
  Participated and helped run both the summer school and conference. Courses on algebraic number theory, local fields, introduction to Galois theory, and the Chebotarev density theorem.
- **PCMI Graduate Summer School (Virtual)** July 26-30, 2021
  Park City Mathematics Institute (PCMI) Graduate Summer School in Number Theory Informed by Computation.
- **Arizona Winter School (AWS)** Spring 2021
  AWS Virtual School in Number Theory was a 12 week program featuring four online lecture series (and problem solving sessions) on modular forms, modular groups, an exploration of the p-adic numbers and modular forms, and quadratic forms and the local global principle.
- **Connecticut Summer School in Number Theory (CTNT)** June 8 - 12, 2020
  Virtual courses on sieves, infinite Galois theory, computations in number theory research, curves over finite fields, and p-adic functions on Z_p.
- **Honors Thesis in Number Theory**, *Advisor: Andrew Obus* Fall 2019 - Spring 2020
  Researched the distribution of the greatest common divisors of Gaussian integers and other quadratic integer rings.
- **Number Theory REU at Texas A&M University**, *Advisor: Riad Masri* Summer 2019
  Researched and proved the equidistribution of the crank partition function with an effective asymptotic bound on the error. (Paper in the Ramanujan Journal.)
- **Number Theory REU at Oregon State University**, *Advisor: Holly Swisher* Summer 2018
  Researched modular forms and elliptic curves and produced results for eta-quotients of prime or semiprime level and elliptic curves. (Paper in the Involve Journal.)

Professional Services

- **UConn AMS Integration Bee for Undergraduates:** Judge Nov. 17, 2022
  An integration bee is like a spelling bee, but students take turns computing integrals instead of spelling words.
- **Mathematics Continued Conference (MCC):** Organizer Oct. 22, 2022
  The MCC at UConn is aimed at undergraduates to give a glimpse of what graduate school and math research is like.

Professional Activities

- **Graduate school panel (moderator)**, Mathematics Continued Conference Oct. 22, 2022
- **Successful Baruch Alumni Panel (panelist)**, Baruch College Nov. 9, 2021
- **Graduate school panel (panelist)**, Mathematics Continued Conference Oct. 23, 2021
- **Preparing for graduate school (panelist)**, UConn Math Club April 21, 2021
- **Undergraduate math experience (panelist)**, Baruch Math Club March 26, 2021
- **Undergraduate math research (panelist)**, UConn Math Club Nov. 11, 2020

Clubs/Leadership

- **UConn Number Theory Reading Group (NTRG):** Member Summer 2020 –Present
  We study various topics related to number theory. We have studied the p-adics and p-adic analysis, local class field theory, and units of cyclic cubic number fields. We are currently reading about modular forms and modular curves.
- **AWM Baruch Student Chapter:** President/Founder Fall 2019 –Spring 2020
  Started the Association for Women in Mathematics (AWM) Student Chapter at Baruch, organized events, shared knowledge and experience in math, research, math study abroad programs, internships, and mathematical jobs in industry.
- **Baruch Traders Club:** Trader Spring 2017 –Spring 2018
  Gained experience and knowledge of financial markets via trading simulations and trading seminars. Competed in various Baruch and intercollegiate trading competitions.

Languages

- English - fluent (U.S. Citizen)
- Greek - fluent (Dual Citizen)
- Spanish - proficient
- French - beginner

Computer Skills

- Magma
- SageMath
- Mathematica
- C++, Java, and Python (novice)