Tyler Genao **December 11, 2022**

CONTACT INFORMATION

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RESEARCH INTERESTS

Number theory + arithmetic geometry

EDUCATION

University of Georgia, Athens, GA
Ph.D. Candidate — *August 2017-*
Adviser: Pete L. Clark

Florida Atlantic University, Boca Raton, FL
B.Sc., Mathematical Sciences with high honors — *May 2017*

HONORS AND AWARDS

National Science Foundation Graduate Research Fellowship *2017-2022*

NSF RTG Graduate Student Fellowship *2018-2019*

PREPRINTS

9. **Polynomial bounds on torsion from a fixed geometric isogeny class.** Submitted. Copy.
8. **Growth of torsion groups of elliptic curves upon base change from number fields.** Submitted. Copy.

ACCEPTED AND/OR PUBLISHED

7. **Typically bounding torsion on elliptic curves isogenous to rational j-invariant.** Accepted to *Proc. Amer. Math. Soc.* Copy.
6. **Computational study of non-unitary partitions,** with A.P. Akande, S. Haag, M.D. Hendon, N. Pulagam, R. Schneider and A.V. Sills. Accepted to *J. Ramanujan Math. Soc.* Copy.
5. **Typically bounding torsion on elliptic curves with rational j-invariant.** *J. Number Theory* 238 (2022), 823–841. Journal. Copy.
4. **The least degree of a CM point on a modular curve,** with P.L. Clark, P. Pollack and F. Saia. *J. Lond. Math Soc. (2)* 105 (2022), no. 2, 825–883. Journal. Copy. Code.
3. **Chevalley-Warning at the boundary,** with P.L. Clark and F. Saia. *Expo. Math* 39 (2021), no. 4, 604–623. Journal. Copy. Code.
2. **Faltings heights of CM elliptic curves and special gamma values,** A. Barquero-Sanchez, L. Cadwallader, O. Cannon, and R. Masri. *Res. Number Theory* 3 (2017), Paper No. 13, 16 pp. Journal. Copy.
1. **The density of primes dividing a particular non-linear recurrence sequence,** with A. Block Gorman, H. Hwang, N. Kantor, S. Parsons and J. Rouse. *Acta Arith.* 175 (2016), no. 1, 71–100. Journal. Copy.

Talks

1. *Bounds on torsion subgroups from geometric isogeny classes of elliptic curves*
   Joint Mathematics Meetings, Boston, MA *January 2023*
   (upcoming)
2. *Bounds on torsion subgroups from geometric isogeny classes of elliptic curves*
   PANTS XXXV, Columbia, SC *December 2022*
   (**PA**lmetto **N**umber **T**heory **S**eries)
3. *Bounds on torsion from isogeny classes of elliptic curves*
   Number Theory Seminar, University of Georgia (UGA) *September 2022*
4. *Typically bounding torsion on special subfamilies of F_0-curves*
   CTNT 2022 Conference *June 2022*
   (**C**onnecticu**t** Summer School in **N**umber **T**heory)
5. *Typically bounding torsion on elliptic curves: $j(E) \in F$ and beyond*
   Maine-Québec Number Theory Conference *October 2021*
6. *Typically bounding torsion on elliptic curves: $j(E) \in F$ and beyond*
   Number Theory Seminar, UGA *September 2021*
7. *Cyclic isogenies under isogenous elliptic curves*
   Graduate Summer Conference, UGA *August 2021*
8. *Entanglements of Galois representations of CM elliptic curves*
   CRAAG II, UGA *July 2021*
9. *Serre's adelic open image theorem for non-CM elliptic curves*
   SeZoom, UGA *April 2021*
10. *Torsion, bounds and typically bounding torsion*
    Graduate Student Seminar, UGA *October 2020*
11. *Number theory through inquiry*
    SUMR Conference, UGA *July 2020*
12. *Foray into Galois representations*
    Graduate Summer Conference, UGA *July 2020*
13. *Constructible numbers, division points and class field theory*
    Graduate Student Seminar, UGA *April 2020*
14. *What are inseparable and transcendental extensions?*
    SMARTS Seminar, UGA *February 2020*
15. *Why is $e^{\pi\sqrt{163}}$ almost an integer?*
    Graduate Summer Conference, UGA *July 2019*
16. *Faltings heights of CM elliptic curves and special gamma values*
    Joint Mathematics Meetings, Atlanta, GA *January 2017*
17. *Elliptic curves and their Faltings height*
    Texas A&M University *July 2016*
18. *The density of primes dividing a particular non-linear recurrence sequence*
    Joint Mathematics Meetings, Seattle, WA *January 2016*
19. *Describing the density of primes dividing a point on a particular elliptic curve*
    Graduate Summer Conference, UGA *July 2015*

Programs I've Attended

1. CTNT 2022
   June 9-11, 2022
2. Maine-Québec Number Theory Conference
   October 2-3, 2021
3. PAJAMAS III (**Pa**lmetto **J**oint **A**rithmetic, **M**odularity, and **A**nalysis **S**eries)
   September 25-26, 2021
4. YRANT III (**Y**oung **R**esearchers in **A**lgebraic **N**umber **T**heory)
   August 18-20, 2021
5. PCMI Summer School: Number Theory Informed by Computation
   July 26-30, 2021
6. Around Frobenius distributions and related topics II
   June 28-29, 2021
7. CMS 75th+1 Anniversary Summer Meeting
   June 7-11, 2021
8. Workshop on Rational Points and Galois Representations
   May 10-12, 2021
9. Front Range Number Theory Day
   April 24, 2021
10. 2021 Joint Mathematics Meetings
    January 6-9, 2021
11. PAJAMAS II
    December 5-6, 2020
12. Madison Moduli Weekend
    September 26-27, 2020
13. PAJAMAS I
    September 19-20, 2020
14. CTNT 2020
    June 8-14, 2020
15. Arizona Winter School 2020: Nonabelian Chabauty
    March 7-11, 2020
16. MAAIM (**M**odular Forms, **A**rithmetic, **a**nd Women **i**n **M**athematics)
    November 1-3, 2019
17. MAGNTS (**M**idwest **A**rithmetic **G**eometry and **N**umber **T**heory **S**eries)
    October 12-13, 2019
18. AIM: LMFDB as a Microscope and a Telescope
    September 4-6, 2019
19. CTNT 2018
    May 28-June 3, 2018
20. 2017 Joint Mathematics Meetings
    January 2017

21. CTNT 2016
    August 8-14, 2016

22. Texas A&M REU in Mathematics
    May-July 2016

23. 2016 Joint Mathematics Meetings
    January 2016

24. WADE INTO Research REU at Wake Forest University
    June-August 2015

Programming Experience

Have written programs in Magma, Python and Sage. Some of my projects can be found at github.com/tgenao.

Teaching Experience

1. **Instructor of record** for MATH 2250 (Calculus I).
   Fall 2022

2. **Instructor of record** for MATH 1113E (Virtual Precalculus).
   Summer 2022

3. **Instructor of record** for MATH 1113 (Precalculus, 2 sections).
   Spring 2021

4. **Instructor of record** for MATH 1113 (Precalculus).
   Fall 2020

Service & Outreach

1. Course assistant for the 2021 virtual Arizona Winter School on number theory. Webpage.

2. Undergraduate research (REU) project assistant during Summer 2020, for a project on non-unitary partitions. Our project has been accepted for publication.

3. Mentor for the mathematics Directed Reading Program (DRP) at UGA for the Fall 2019, Spring 2020, Fall 2020, Spring 2021, Spring 2022 and Summer 2022 semesters. Through the DRP, I have mentored undergraduates Ethan Boos, Summer Haag, Russell Mathison and Cole Wittbrodt.

4. Organizer of the mathematics DRP at UGA since Summer 2021.

5. Organized a preparatory course for the UGA graduate algebra qualifying exam.

6. Participated as a peer mentor for first year UGA mathematics graduate students.