

CONTACT INFORMATION	5752 Neville Hall Dept. of Mathematics University of Maine Orono, ME 04469 USA	Phone: (+1) 845 750 3244 Email: mjcerchia@gmail.com Web: https://mjcerchia.github.io/ U.S. citizen
RESEARCH INTERESTS	Broad: Arithmetic Geometry, Number Theory, Algebraic Geometry. Specific: Abelian varieties, Galois representations, arithmetic of moduli spaces.	
ACADEMIC APPOINTMENTS	University of Maine Fixed-Term Assistant Professor (2024–present)	
EDUCATION	Emory University , Atlanta, Georgia USA Ph.D., Mathematics, August 2024 Dissertation: <i>Topics in Abelian Varieties</i> Adviser: David Zureick-Brown Wake Forest University , Winston-Salem, North Carolina USA M.A., Mathematics, May 2019 M.A. thesis: <i>Classifying the Image of the Arboreal Galois Representation</i> Adviser: Jeremy Rouse SUNY Geneseo , Geneseo, New York USA B.A., Mathematics and English Literature, May 2012 Budapest Semesters in Mathematics , Budapest, Hungary Study abroad, Fall 2010	
PUBLICATIONS	1. Section rings of $\mathbb{Q}$-divisors on genus 1 curves ; with Jesse Franklin and Evan O’Dorney; to appear in <i>Journal of Algebra</i> (submitted in 2024). arXiv . 2. Uniform bounds on the image of the arboreal Galois representations attached to non-CM elliptic curves ; with Jeremy Rouse; <i>Proceedings of the American Mathematical Society</i> 149 (2021), no. 2, 583–589. arXiv .	
PREPRINTS	3. Nonabelian prime-level entanglements under rational isogeny ; (in preparation, 2026). 4. Modular curves of prime-power level with infinitely many quadratic points ; with Rakvi, 2025. arXiv . 5. Weil polynomials of abelian varieties over finite fields ; with Zeyu Liu, Diana Mocanu, Haodong Yao, and Jing Ye, 2025. arXiv .	
INVITED TALKS	(July 2026) Quadratic points on modular curves . ChaBONNty, Max Planck Institute for Mathematics, Bonn, Germany. (June 2026) Quadratic points on modular curves . CTNT 2026, University of Connecticut, Storrs, CT. (Spring 2026) Computing quadratic points on modular curves . Dartmouth College Number Theory Seminar. (Fall 2025) Modular curves with infinitely many quadratic points . Maine–Québec Number Theory Conference. (Summer 2025) Modular curves with infinitely many quadratic points . ICERM. (Spring 2024) The canonical ring of $\mathcal{A}_g$. University of Copenhagen Number Theory Seminar. (Spring 2024) The section ring of a stacky genus 1 curve . JMM Special Session: Explicit Computations with Stacks.	

TEACHING
(MAINE)

University of Maine, Orono, ME
Fixed-Term Assistant Professor.

Instructor of Record

Fall 2026	Calculus I	MAT 126 (two sections)
Spring 2026	Introduction to Abstract Mathematics	MAT 261
Fall 2025	Linear Algebra II	MAT 362
Fall 2025	Calculus II	MAT 127
Spring 2025	Calculus II	MAT 127
Spring 2025	Abstract Algebra I	MAT 463
Fall 2024	Calculus I	MAT 126 (two sections)

TEACHING
(EMORY)

Emory University, Atlanta, GA
Graduate Teaching Assistant.

Instructor of Record (2 courses)

Spring 2022	Calculus I	Math 111
Fall 2021	Calculus I	Math 111

Teaching Assistant (5 courses) *Wrote quizzes, graded quizzes and exams, taught weekly one hour lab section, and held office hours.*

Spring 2021	Combinatorics	Math 330
Fall 2020	Linear Algebra	Math 221
Fall 2020	Number Theory	Math 328 (Grader)
Spring 2020	Mathematical Statistics II	Math 362
Spring 2019	Mathematical Statistics I	Math 361

TEACHING
(WAKE FOREST)

Wake Forest University, Winston-Salem, NC
Graduate Teaching Assistant.

Teaching Assistant (6 courses) *Led weekly three hour discussion and problem solving session, wrote quizzes, graded quizzes and exams, and held office hours.*

Spring 2019	Modern Algebra I	Math 321
Fall 2018	Modern Algebra I	Math 321
Summer 2018	Linear Algebra I	Math 121
Summer 2018	Calculus with Analytic Geometry II	Math 112
Spring 2018	Linear Algebra I	Math 121
Fall 2017	Multivariable Calculus	Math 113

TEACHING
(OTHER)

Emory Math Circle, Atlanta, Georgia USA
Instructor. Enrichment program for advanced local middle and high school students. Designed and taught courses in number theory, combinatorics, and computer science.

Spring 2021	High School A/B Assistant
Fall 2020	High School A/B Assistant
Spring 2020	High School A Instructor
Fall 2019	High School A Instructor

Mathnasium, Brooklyn, New York USA (2016–2017)
Instructor. Tutored middle and high school students in the standard NYS curriculum.

INDUSTRY
POSITIONS

MinedXAI, Dayton, Ohio USA (Summer 2023)
Intern. Used techniques from topological data analysis to develop a forex forecasting model.

SEMINAR ORGANIZATION	(Fall 2024 – present) UMaine Research Seminar (Fall 2022) Modular Forms Student Seminar (Spring 2022) Automorphic Forms Student Seminar
HONORS AND AWARDS	(Spring 2019) Best Graduating Student in Mathematics (Wake Forest)
CONTRIBUTED TALKS	(Spring 2024) The canonical ring of $\mathcal{A}_g$. Joint Mathematics Meetings. (Spring 2020) Classifying the Image of the Arboreal Galois Representation . Joint Mathematics Meetings. (Fall 2019) Classifying the Image of the Arboreal Galois Representation . Palmetto Number Theory Series (PANTS).
STUDENT SEMINAR TALKS	(Spring 2022) Formal Immersions . Mazur Seminar. Emory University (Expository). (Fall 2021) Introduction to Modular Forms . Seminar on Modular Forms. Emory University (Expository). (Spring 2021) Geometric Invariant Theory . RANT. Emory University (Expository). (Fall 2020) Introduction to Modular Curves . RANT. Emory University (Expository). (Fall 2020) Infinitude of supersingular primes for elliptic curves over $\mathbb{Q}$. RANT. Emory University (Expository). (Spring 2020) An Introduction to Arithmetic Dynamics . RANT. Emory University (Expository). (Fall 2019) The Jacobian . Nonabelian Chabauty and Other Stuff (NACHOS). Emory University (Expository). (Spring 2019) Galois Representations Attached to Elliptic Curves . Wake Forest Summer Research Seminar. Wake Forest University.
COMPUTATIONAL SKILLS	Proficient in Magma and Python.
REFERENCES	David Zureick-Brown Amherst College david.zureick.brown@gmail.com John Voight Dartmouth College jvoight@gmail.com Jeremy Rouse Wake Forest University rouseja@wfu.edu Natasha Speer (Teaching) University of Maine natasha.speer@maine.edu Juan Villeta-Garcia (Teaching) Emory University juan.villeta-garcia@emory.edu