

Benjamin York

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Academic Positions

Visiting Assistant Professor (3-2 Teaching Load) <i>Skidmore College</i>	2025 – Present <i>Saratoga Springs, NY</i>
Graduate Assistant (2-2 Teaching Load) <i>University of Connecticut</i>	2019 – 2025 <i>Storrs, CT</i>

Education

University of Connecticut <i>Ph.D. in Mathematics, Advisor: Álvaro Lozano-Robledo</i>	2019 – 2025 <i>Storrs, CT</i>
Bowdoin College <i>B.A. in Mathematics</i>	2015 – 2019 <i>Brunswick, ME</i>

Research Interests

Algebraic number theory, algebraic and arithmetic geometry. Elliptic curves and Galois representations.

Research Papers

The combinatorics of baseball scorekeeping

Breslau, E., York, B.

- Undergraduate research paper, 2026, in preparation

The image of the adelic Galois representation of an elliptic curve with CM

Lozano-Robledo, Á., York, B.

- Submitted, 2026

Heuristics for (ir)reducibility of p -rank strata of the moduli space of hyperelliptic curves

Bouchet, T., Davis, E., Groen, S., Porat, Z., York, B.

- Experimental Mathematics, 2026, Pages 1–14

Models of CM elliptic curves with a prescribed ℓ -adic Galois image

González-Jiménez, E., Lozano-Robledo, Á., York, B.

- Journal of Number Theory, Volume 277, December 2025, Pages 19-62

Teaching Experience

Skidmore College

MA 200 Linear Algebra <i>Spring 2026</i>	Instructor, 1 Section
MA 113 Calculus II <i>Fall 2026</i>	Instructor, 1 Section
MA 111 Calculus I <i>Fall 2025, Spring 2026</i>	Instructor, 2 Sections
MA 100 Quantitative Reasoning <i>Fall 2025, Fall 2026</i>	Instructor, 4 Sections

University of Connecticut

MATH 2210Q Applied Linear Algebra <i>Spring 2025</i>	Instructor, 2 Sections
MATH 1071Q Calculus for Business and Economics <i>Fall 2022</i>	Instructor, 2 Sections
MATH 1020Q Problem Solving <i>Fall 2020, Spring 2021, Fall 2021, Fall 2024</i>	Instructor, 8 Sections
MATH 2210Q Applied Linear Algebra <i>Summer 2023, Summer 2024</i>	Teaching Assistant, 2 Sections
MATH 2110Q Multivariable Calculus <i>Spring 2022, Summer 2022, Spring 2023, Fall 2023, Spring 2024</i>	Teaching Assistant, 8 Sections
MATH 1132Q Calculus II <i>Spring 2020, Summer 2021, Summer 2023</i>	Teaching Assistant, 4 Sections
MATH 1131Q Calculus I <i>Fall 2019</i>	Teaching Assistant, 2 Sections

Bowdoin College

MATH 2603 Introduction to Analysis <i>Fall 2018</i>	Teaching Assistant, 1 Section
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Teaching Workshops

Teaching Pod <i>Skidmore College, Mathematics & Statistics</i>	Fall 2025 - Present
Teaching pods meet monthly to provide support and advice. Members of the pod observe each other once a semester.	
Teaching Co-Lab <i>Skidmore College CLTL</i>	Spring 2026
Paired with a faculty member in the American History department to discuss cross-disciplinary teaching. Included mutual class observations.	

Service & Outreach

Faculty-Student Summer Research Program <i>Skidmore College</i>	Summer 2026
A five week summer research program with an undergraduate student. Resulted in upcoming paper "The Combinatorics of Baseball Scorekeeping."	
Senior Seminar Self-Evaluation Committee <i>Skidmore College</i>	Spring 2026
Helped undertake a self-evaluation of the Math/Stats department's presentation requirements for our Senior Seminar course.	
Directed Reading Program Mentor <i>University of Connecticut</i>	Spring 2024
Mentor to student studying introductory abstract algebra, with a focus on algebraic number theory.	
Graduate Mentorship Program <i>University of Connecticut</i>	Fall 2020 - Spring 2024
Mentor to first year graduate students, helping to smooth the transition to graduate life.	

Preliminary Exam Tutor

Winter 2024

University of Connecticut

- Provided tutoring for graduate students taking the abstract algebra preliminary/qualifying exam (paid position).

Speaker at Mathematics Continued Conference

Oct. 2022

University of Connecticut

- The Mathematics Continued Conference seeks to give undergraduate students interested in math an opportunity to learn about graduate school and current research done by graduate students and faculty.

Conferences Invitations

AMS Eastern Sectional Meeting	Oct. 2025
<i>Heuristics for (ir)reducibility of p-rank strata of the moduli space of hyperelliptic curves</i>	<i>Virtual</i>
AMS Eastern Sectional Meeting	Oct. 2024
<i>Models of CM Elliptic Curves with Prescribed ℓ-adic Galois Image</i>	<i>Albany, NY</i>
Joint Mathematics Meetings, San Francisco	Jan. 2024
<i>Models of CM Elliptic Curves with Prescribed ℓ-adic Galois Image</i>	<i>San Francisco, CA</i>
Joint Mathematics Meetings, Boston	Jan. 2023
<i>On the adelic image of Galois representations attached to elliptic curves with CM</i>	<i>Boston, MA</i>
• Joint with Álvaro Lozano-Robledo	
AMS Eastern Sectional Meeting	Oct. 2022
<i>On the adelic image of Galois representations attached to elliptic curves with CM</i>	<i>Amherst, MA</i>
• Joint with Álvaro Lozano-Robledo	

Conferences Attended

Maine-Quebec Number Theory Conference	Oct. 2026
	<i>Québec City, Canada</i>
CTNT Number Theory Conference	June 2026
<i>The Adelic Galois Image of an Elliptic Curve with CM</i>	<i>Storrs, CT</i>
Maine-Quebec Number Theory Conference	Oct. 2024
<i>Models of CM Elliptic Curves with Prescribed ℓ-adic Galois Image</i>	<i>Québec City, Canada</i>
Sixteenth Algorithmic Number Theory Symposium (ANTS XVI)	July 2024
	<i>Cambridge, MA</i>
The Mordell conjecture 100 years later	July 2024
<i>Models of CM Elliptic Curves with Prescribed ℓ-adic Galois Image</i>	<i>Cambridge, MA</i>
CTNT Number Theory Conference	June 2024
<i>Models of CM Elliptic Curves with Prescribed ℓ-adic Galois Image</i>	<i>Storrs, CT</i>
AMS Graduate Student Conference	April 2024
<i>Models of CM Elliptic Curves with Prescribed ℓ-adic Galois Image</i>	<i>Providence, RI</i>
LMFDB, Computation, and Number Theory Conference	July 2023
	<i>Providence, RI</i>
Maine-Quebec Number Theory Conference	Oct. 2023
<i>On the adelic image of Galois representations attached to elliptic curves with CM</i>	<i>Orono, ME</i>
Modular Curves and Galois Representations Conference	Sept. 2023
<i>Cancelled - On the adelic image of Galois reps. attached to elliptic curves with CM</i>	<i>Zagreb, Croatia</i>

Upstate New York Number Theory Conference <i>On the adelic image of Galois representations attached to elliptic curves with CM</i>	April 2023 Rochester, NY
CTNT Number Theory Conference	June 2022 Storrs, CT
Maine-Quebec Number Theory Conference	Oct. 2022 Québec City, Canada
Upstate New York Number Theory Conference	Oct. 2021 Schenectady, NY
Maine-Quebec Number Theory Conference	Oct. 2021 Virtual
CTNT Number Theory Conference	June 2020 Virtual

Seminar Talks

Galois Representations attached to Elliptic Curves with CM <i>Cornell Number Theory Seminar - Invited Talk</i>	Sept. 2026 Ithaca, NY
Models of CM Elliptic Curves with Prescribed ℓ-adic Galois Image <i>OSU Number Theory Seminar - Invited Talk</i>	Oct. 2024 Columbus, OH
The Adele and Idele Class Groups of $\mathbb{Q}$ <i>UConn Number Theory Reading Group</i>	Oct. 2024 Storrs, CT
A Family of Elliptic Curves with Rank One <i>UConn Number Theory Reading Group</i>	March 2024 Storrs, CT
Construction of Elliptic Curves with Large Rank <i>UConn Number Theory Reading Group</i> • Joint with Asimina Hamakiotes	Feb. 2024 Storrs, CT
A Gentle Introduction to the p-adic Numbers <i>UConn SIGMA Seminar</i>	Nov. 2023 Storrs, CT
Elliptic Curves with a View Towards Computation <i>UConn Number Theory Reading Group</i>	Oct. 2023 Storrs, CT
An Introduction to Elliptic Curves <i>UConn Math Club</i>	March 2023 Storrs, CT
Dimension Formulas for Modular Curves <i>UConn Number Theory Reading Group</i>	March 2023 Storrs, CT
Galois Representations Attached to Elliptic Curves with CM <i>Wesleyan Graduate Student Seminar - Invited Talk</i>	Feb. 2023 Middletown, CT
An Introduction to the Theory of Elliptic Curves <i>UConn SIGMA Seminar</i>	Feb. 2023 Storrs, CT
Complex Tori and Modular Curves - A Four Part Lecture <i>UConn Number Theory Reading Group</i>	Oct. 2022 Storrs, CT
Infinite Galois Theory <i>UConn Number Theory Reading Group</i>	March 2021 Storrs, CT
Finite Extensions of $\mathbb{Q}_p$ <i>UConn Number Theory Reading Group</i>	Oct. 2020 Storrs, CT
Hensel's Lemma & Automorphisms of $\mathbb{Q}_p$ <i>UConn Number Theory Reading Group</i>	July 2020 Storrs, CT
Orders of Imaginary Quadratic Number Fields <i>UConn Number Theory Reading Group</i>	Oct. 2019 Storrs, CT

Instructional Schools/Workshops

UConn Number Theory Reading Group

Fall 2019 - Spring 2025

University of Connecticut

- Weekly reading group covering select topics in number theory. Focuses on student presentation of material.

Modular Curves Workshop

March 2022, 2024

MIT

- Week long workshop to improve and expand the L-functions and Modular Forms Database (LMFDB)

Arizona Winter School (AWS)

March 2023, 2024

University of Arizona

- Five-day-long intensive winter school covering advanced graduate topics in number theory and arithmetic geometry.

Connecticut Summer School in Number Theory (CTNT)

June 2020, 2022

University of Connecticut

- Summer school promoting number theory to advanced undergraduates and early graduate students.

Preliminary Arizona Winter School (PAWS)

Oct. - Nov. 2022

Virtual

- Virtual program on topics related to the upcoming Arizona Winter School.

Awards & Honors

Faculty Student Summer Research Program (\$1,500)

Spring 2026

DOF/VPAA, Skidmore College

Conference Travel Fellowship (\$750)

Fall 2024

Graduate School, UConn

Summer Travel Fellowship (\$1,120)

Summer 2024

Department of Mathematics, UConn

Predctoral Fellowship (\$7,805)

Spring 2024

Graduate School, UConn

Summer Fellowship (\$5,000)

Summer 2020

Department of Mathematics, UConn

Smyth Mathematics Prize

Spring 2019

Bowdoin College

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Spring 2016

Bowdoin College

Specialized Skills

Programming Languages: Magma (advanced); SAGE, Python (intermediate); PARI/GP, Java (novice)

Software: LaTeX, Microsoft Excel