Matias C.Y. Relyea

CONTACT INFORMATION	*E-mail:* hyanlong@unc.edu *Website:* quadcryo.github.io/quadcryo/

EDUCATION

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

B.S. Mathematics; Minor in violin performance (expected graduation, May 2029).

North Carolina School of Science and Mathematics (NCSSM), Durham, North Carolina

High School Diploma, August 2023—May 2025.

PUBLICATIONS

[1] Matias C.Y. Relyea. The Quadratic and Cubic Characters of 2. ***Mathematics Magazine***. Published online January 2026. [arXiv: 2410.21646] [DOI: 10.1080/0025570X.2025.2574223].

PREPRINTS

[2] Matias C.Y. Relyea. On Finite Fields and Higher Reciprocity (2024). [arXiv: 2407.03559].

PRESENTATIONS

[3] "On Finite Fields and Higher Reciprocity" (poster). NCSSM Research Symposium Spring 2024.

OTHER WRITING

[4] Peyton Jackson, Tatiana Medved, and Matias C.Y. Relyea. "Can You Even?" An Exploration of Polyominos. Accepted for publication in ***NCSSM Broad Street Scientific*** (forthcoming 2026). PDF: quadcryo.github.io/quadcryo/assets/pdf/jackson_medved_relyea_polyominos.pdf.

[5] Matias C.Y. Relyea. Proofs and Applications of Quadratic Reciprocity. Summer 2022, ***Euler Circle***. PDF: simonrs.com/eulercircle/irpw2022/matias-quadrec-paper.pdf.

RESEARCH EXPERIENCE

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

UNC Accelerated Research Program, Fall 2025—

Directed Reading Program on Category Theory, Fall 2025

- Completed DRP on Tom Leinster's *Basic Category Theory* under UNC graduate student.

North Carolina School of Science and Mathematics, Durham, North Carolina.

Independent study on number theory and algebraic number theory, producing one arXiv preprint and one peer-reviewed publication. August 2023—May 2025. Mentored by Dr. Tamar Avineri.

Euler Circle, Mountain View, California

Attended Summer 2022 Independent Research and Paper Writing course. Independently produced 44-page expository paper on quadratic reciprocity. Mentored by Dr. Simon Rubinstein-Salzedo.

TEACHING AND SERVICE

Mathematics Institute of the Triangle, Chapel Hill, North Carolina

Mathematics Tutor and Teaching Assistant, Fall 2025—

- Provided one-on-one tutoring to students located in the Chapel Hill area. Assisted with grading and led short problem-solving workshops.

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Undergraduate Learning Assistant

- MATH 381 (Discrete Mathematics), Fall 2025.

Chapel Hill Math Circle, Chapel Hill, North Carolina

Program Volunteer, Fall 2025—

- Collaborated with UNC graduate students to assist and lead teaching for various levels of mathematics circle coursework.

TECHNOLOGICAL SKILLS

Proficient in LaTeX, familiar with Python.