

## Matias C. Y. Relyea

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CONTACT INFORMATION	<i>E-mail:</i> <a href="mailto:hyanlong@unc.edu">hyanlong@unc.edu</a> <i>Website:</i> <a href="https://quadcryo.github.io/quadcryo/">quadcryo.github.io/quadcryo/</a>
EDUCATION	<b>University of North Carolina at Chapel Hill</b> , Chapel Hill, North Carolina  B.S., Mathematics. Minor, violin performance. August 2025—May 2029 (expected). <i>Relevant Coursework:</i> MATH 521 (Advanced Calculus), MATH 577 (Linear Algebra). <b>North Carolina School of Science and Mathematics</b> , Durham, North Carolina  High School Diploma, August 2023—May 2025. Graduated.
PUBLICATIONS	[1] Matias C. Y. Relyea. The Quadratic and Cubic Characters of 2. <i>Mathematics Magazine</i> , 2025. <i>Accepted</i> . arXiv preprint (2025): <a href="https://doi.org/10.48550/arXiv.2410.21646">doi.org/10.48550/arXiv.2410.21646</a> .
PREPRINTS	[2] Matias C. Y. Relyea. On Finite Fields and Higher Reciprocity. arXiv preprint (2024): <a href="https://doi.org/10.48550/arXiv.2407.03559">doi.org/10.48550/arXiv.2407.03559</a> .
OTHER WRITING	[3] Peyton Jackson, Tatiana Medved, and Matias C. Y. Relyea. “Can You Even?” An Exploration of Polyominoes. <i>North Carolina School of Science and Mathematics Broad Street Scientific</i> , 2025. <i>Accepted</i> ; PDF <a href="#">here</a> .  [4] Matias C. Y. Relyea. $q$ -analogues. 2023. PDF <a href="#">here</a> .  [5] Matias C. Y. Relyea. A Brief Introduction to Bézier Curves. 2022. PDF <a href="#">here</a> .  [6] Matias C. Y. Relyea. Proofs and Applications of Quadratic Reciprocity. 2022. PDF <a href="#">here</a> .
RESEARCH EXPERIENCE	<b>University of North Carolina at Chapel Hill</b> , Chapel Hill, North Carolina  UNC Accelerated Research Program. August 2025—May 2029.  Directed Reading Program on Category Theory. Fall 2025. <ul style="list-style-type: none"><li>• Mentored by UNC graduate student on Tom Leinster’s <i>Basic Category Theory</i>.</li></ul> <b>North Carolina School of Science and Mathematics</b> , Durham, North Carolina.  Independent study. Number theory and algebraic number theory. Wrote “On Finite Fields and Higher Reciprocity,” “The Quadratic and Cubic Characters of 2.” August 2023—May 2025. Mentored by Professor Tamar Avineri.
WORK EXPERIENCE	<b>Mathematics Institute of the Triangle</b> , Chapel Hill, North Carolina  Private Tutor and Teaching Assistant, Fall 2025—Present <ul style="list-style-type: none"><li>• Tutored mathematics students located in Chapel Hill on topics ranging from high school algebra to calculus.</li></ul>
SERVICE	<b>University of North Carolina at Chapel Hill</b> , Chapel Hill, North Carolina  Undergraduate Learning Assistant <ul style="list-style-type: none"><li>• MATH 381 (Discrete Mathematics), Fall 2025.</li></ul>

**Chapel Hill Math Circle**, Chapel Hill, North Carolina

Program Volunteer, Fall 2025—Present

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

TECHNOLOGICAL SKILLS    Proficient in  $\text{\LaTeX}$ , familiar with Python.

LANGUAGES                  Fluent in English and Mandarin Chinese.