

## Matias C.Y. Relyea

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CONTACT INFORMATION	<p><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></p>
EDUCATION	<p><b>University of North Carolina at Chapel Hill</b>, Chapel Hill, North Carolina B.S. Mathematics; Minor in violin performance (expected graduation, May 2029). <b>North Carolina School of Science and Mathematics</b> (NCSSM), Durham, North Carolina High School Diploma, Fall 2023—Spring 2025.</p>
PUBLICATIONS	<p>[1] Matias C.Y. Relyea. The Quadratic and Cubic Characters of 2. Accepted for publication in <i>Mathematics Magazine</i> (forthcoming 2026). arXiv preprint (2025): <a href="https://doi.org/10.48550/arXiv.2410.21646">doi.org/10.48550/arXiv.2410.21646</a>.</p>
PREPRINTS	<p>[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>.</p>
OTHER WRITING	<p>[3] Peyton Jackson, Tatiana Medved, and Matias C.Y. Relyea. “Can You Even?” An Exploration of Polyominoes. Accepted for publication in <i>NCSSM Broad Street Scientific</i> (forthcoming 2026). PDF: <a href="https://quadcryo.github.io/quadcryo/assets/pdf/jackson_medved_relyea_polyominoes.pdf">quadcryo.github.io/quadcryo/assets/pdf/jackson_medved_relyea_polyominoes.pdf</a>. [4] Matias C.Y. Relyea. Proofs and Applications of Quadratic Reciprocity. Summer 2022, <i>Euler Circle</i>. PDF: <a href="https://simonrs.com/eulercircle/irpw2022/matias-quadrec-paper.pdf">simonrs.com/eulercircle/irpw2022/matias-quadrec-paper.pdf</a>.</p>
RESEARCH EXPERIENCE	<p><b>University of North Carolina at Chapel Hill</b>, Chapel Hill, North Carolina UNC Accelerated Research Program, Fall 2025— Directed Reading Program on Category Theory, Fall 2025</p> <ul style="list-style-type: none"><li>Completed DRP on Tom Leinster’s <i>Basic Category Theory</i> under UNC graduate student.</li></ul> <p><b>North Carolina School of Science and Mathematics</b>, Durham, North Carolina. Independent study on number theory and algebraic number theory. Produced one arXiv preprint and one peer-reviewed publication. Presented first paper at NCSSM Research Symposium 2025. August 2023—May 2025. Mentored by Dr. Tamar Avineri. <b>Euler Circle</b>, Mountain View, California Attended Summer 2022 Independent Research and Paper Writing course. Independently produced 44-page expository paper on quadratic reciprocity and its applications. Mentored by Dr. Simon Rubinstein-Salzedo.</p>
TEACHING AND SERVICE	<p><b>Mathematics Institute of the Triangle</b>, Chapel Hill, North Carolina Mathematics Tutor and Teaching Assistant, Fall 2025—</p> <ul style="list-style-type: none"><li>Provided one-on-one tutoring to students located in Chapel Hill. Assisted teacher with grading and led short problem-solving workshops.</li></ul> <p><b>University of North Carolina at Chapel Hill</b>, Chapel Hill, North Carolina Undergraduate Learning Assistant</p> <ul style="list-style-type: none"><li>MATH 381 (Discrete Mathematics), Fall 2025.</li></ul> <p><b>Chapel Hill Math Circle</b>, Chapel Hill, North Carolina Program Volunteer, Fall 2025—</p> <ul style="list-style-type: none"><li>Collaborated with UNC graduate students to assist and lead teaching for various levels of mathematics circle coursework.</li></ul>
TECHNOLOGICAL SKILLS	<p>Proficient in <math>\LaTeX</math>, familiar with Python.</p>