

## Alex M. Paschal

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CONTACT INFORMATION      *E-mail:* [ampasch@unc.edu](mailto:ampasch@unc.edu)  
*Website:* [alexpasch.al](http://alexpasch.al)

EDUCATION                      **University of North Carolina at Chapel Hill**, Chapel Hill, NC  
B.S., Mathematics, August 2023 - Present.

RESEARCH EXPERIENCE      **The Ohio State University**, Columbus, OH  
Thermodynamic formalism, June 2024–Present. ROMUS and tOSU-IM program participant. Mentored by Daniel Thompson.

**University of North Carolina at Chapel Hill**, Chapel Hill, NC  
Analytic number theory, October 2023–Present. Mentored by Idris Assani.

PUBLICATIONS                [1] Alex Paschal and Amy Somers. The Variational Principle for Entropy of Countable State Shift Spaces With Specification. *Submitted*.  
[2] Idris Assani, Aiden Chester, and Alex Paschal. On Robin’s Inequality and the Kaneko-Lagarias Inequality. *Submitted*, available [here](#).

CONFERENCE TALKS                [3] 58th Spring Topology and Dynamics Conference, Christopher Newport University, March 6–8, 2025, Newport News, Virginia.  
[4] Joint Mathematics Meeting, January 8–11, 2025, Seattle, Washington.  
[5] Regional Mathematics and Statistics Conference, University of North Carolina Greensboro, November 8–9, 2024, Greensboro, North Carolina.  
[6] Young Mathematicians Conference, Ohio State University, August 13–15, 2024, Columbus, Ohio.  
[7] Consortium of Summer Undergraduate Research Experiences, Ohio State University, July 25, 2024, Columbus, Ohio.

CONFERENCE POSTERS                [8] Beyond Uniform Hyperbolicity Conference, International Centre for Theoretical Physics, June 2–13, 2025, Trieste, Italy.  
[9] Midwest Dynamical Systems Conference, Northwestern University, April 25–27, Evanston, Illinois.

OTHER TALKS                    [10] Alex Paschal. “Gödel’s First Incompleteness Theorem.” Carolina Math Club, March 4, 2025, Chapel Hill, NC. Notes available [here](#).  
[11] Alex Paschal. “Paradox in Logical Systems.” Carolina Math Club, February 28, 2025, Chapel Hill, NC. Notes available [here](#).  
[12] Alex Paschal. “What is Symbolic Dynamics?” Carolina Math Club, August 17, 2024, Chapel Hill, NC.  
[13] Alex Paschal. “Superabundant Numbers and the Riemann Hypothesis.” Carolina Math Club, April 1, 2024, Chapel Hill, NC.

SERVICE

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

Undergraduate Learning Assistant

- MATH 522 (Advanced Calculus II) (Spring 2025)
- MATH 521 (Advanced Calculus I) (Spring 2024 and Fall 2024)
- MATH 381 (Discrete Mathematics) (Fall 2023)

Carolina Math Club

- President (Spring 2025)
- Academic Chair (Spring 2024 and Fall 2024)

TECHNOLOGY

Proficient: Python, LaTeX, Wolfram Language (Mathematica).  
Familiar: Java, Rust, Javascript.