Alex M. Paschal

CONTACT INFORMATION

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Website: alexpasch.al

EDUCATION

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

B.S., Mathematics, August 2023 - Present. Advisor: Idris Assani.

RESEARCH EXPERIENCE

The Ohio State University, Columbus, OH

Thermodynamic formalism, June 2024–Present. 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. *In preparation.*

[2] Idris Assani, Aiden Chester, and Alex Paschal. On Robin's Inequality and the Lagarias Inequality. *In preparation.*

CONFERENCE TALKS

[3] Alex Paschal. "The Variational Principle for Entropy of Countable State Shift Spaces With Specification." 58th Spring Topology and Dynamics Conference, March 6–8, 2025, Newport News, VA.

[4] Alex Paschal and Amy Somers. "The Variational Principle for Entropy of Countable State Shift Spaces With Specification." Joint Mathematics Meeting, January 8–11, 2025, Seattle, WA.

[5] Alex Paschal. "The Variational Principle for Entropy of Countable State Shift Spaces With Specification." Regional Mathematics and Statistics Conference, November 8–9, 2024, Greensboro, NC.

[6] Alex Paschal. "The Variational Principle for Entropy of Countable State Shift Spaces With Specification." Young Mathematicians Conference, August 13–15, 2024, Columbus, OH.

[7] Alex Paschal and Amy Somers. "The Variational Principle for Entropy of Countable State Shift Spaces With Specification." The Ohio State University Consortium of Summer Undergraduate Research Experiences, July 25, 2024, Columbus, OH.

OTHER TALKS

[8] Alex Paschal. "Gödel's First Incompleteness Theorem." Carolina Math Club, March 4, 2025, Chapel Hill, NC.

[9] Alex Paschal. "Paradox in Logical Systems." Carolina Math Club, February 28, 2025, Chapel Hill, NC.

[10] Alex Paschal. "What is Symbolic Dynamics?" Carolina Math Club, August 17, 2024, Chapel Hill, NC.

[11] 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)

PROGRAMMING LANGUAGES

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