

Andrew Paul

University of North Carolina at Chapel Hill

Department of Mathematics

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Areas of specialization

Geometry, topology, and mathematical physics. Especially complex geometry, Hodge theory, algebraic topology, and interactions between these areas.

Education

2023–Present Ph.D. Mathematics; University of North Carolina at Chapel Hill

- Advisor: Justin Sawon

2019–2023 B.S. Mathematics; University of California, San Diego

- Honors with Distinction
- Thesis title: *Chern Classes and Lines on a Cubic Surface*; thesis advisor: Dragos Oprea

Papers

2024 *Weak convergence of spectral shift functions revisited* with Carson Connard, Benjamin Ingimarson, and Roger Nichols; *Pure and Applied Functional Analysis* Volume 9(4), 2024, pages 1023–1051. [arXiv: [2211.14970](https://arxiv.org/abs/2211.14970)]

2023 *Topological Properties of Almost Abelian Groups* with Zhirayr Avetisyan, Oderico-Benjamin Buran, and Lisa Reed. [arXiv: [2308.08059](https://arxiv.org/abs/2308.08059)]

Attended Conferences, Workshops, and Summer Schools

2025 University of Antwerp summer school in Non-Commutative Algebraic Geometry

2024 Palmetto Number Theory Series

2024 Graduate Student Topology and Geometry Conference

2024 Triangle Area Graduate Mathematics Conference

2023 Joint Mathematics Meetings

2022 UTC Fall Research Conference

2022 Joint Mathematics Meetings

- 2021 Gulf Coast Undergraduate Research Symposium
2021 Young Mathematicians Conference
2021 Southern California Math REU Conference

Research Experiences

- 2022 UT Chattanooga Mathematics REU
2021 UC Santa Barbara Mathematics REU
2020–2021 Computational Astrophysics; PI: Thomas Siegert

Teaching

UNC Chapel Hill

- Summer 2025 Instructor; MATH 231 (Calculus of Functions of One Variable I)
Spring 2025 Teaching assistant; MATH 231 (Calculus of Functions of One Variable I), MATH 548 (Combinatorial Mathematics)
Fall 2024 Teaching assistant; MATH 232 (Calculus of Functions of One Variable II), MATH 233 (Calculus of Functions of Several Variables)
Spring 2024 Teaching assistant; MATH 231 (Calculus of Functions of One Variable I), MATH 233 (Calculus of Functions of Several Variables)
Fall 2023 Teaching assistant; MATH 231 (Calculus of Functions of One Variable I)

UC San Diego

- Winter 2023 Teaching assistant; MATH 20B (Calculus for Science and Engineering II)
Fall 2022 Teaching assistant; MATH 20A (Calculus for Science and Engineering I)
2021–2022 Teaching assistant; MATH 20C (Calculus and Analytic Geometry for Science and Engineering);
Fall 2021, Winter 2022

Directed Reading Program

- Fall 2025 Mentored Zhouyi Wu in a reading course on combinatorics and representation theory.
Spring 2024 Mentored Yiyang Fan in a reading course on topology and differential geometry, with a final presentation on the Whitney embedding theorem.

Saret & Co. Education

- 2023–Present Specialized tutor

Chapel Hill Math Circle

- 2025–Present Advanced-group instructor

San Diego Math Circle

- 2020–2024 Cauchy-group instructor

Independent Tutoring

- 2022–Present Tutor

2018

Mathnasium

Tutor

Other employment

UNC Chapel Hill

Spring 2025 Grader; MATH 548 (Combinatorial Mathematics)
Fall 2023 Grader; MATH 381 (Discrete Mathematics)

UC San Diego

Fall 2022 Grader; MATH 150A (Differential Geometry)
Spring 2022 Grader; MATH 20D (Introduction to Differential Equations)

Last updated: November 12, 2025