Curriculum Vitae **Jason Schuchardt** jasonsch@ucla.edu

EDUCATION

PhD. Candidate in Mathematics, UCLA ····· *Fall 2019-Present*
M.S., B.S. in Mathematics, Yale University ····· *Fall 2014-May 2018*
GPA/Major GPA: 3.61/3.85 out of 4.00

RESEARCH

Graduate Student Research ····· *Fall 2020-Present*

- Thesis Project: The Adams spectral sequence for a commutative ring spectrum has Steenrod operations because of the isomorphism of E_2 with Ext and Ext has these operations. Bruner showed that if your ring spectrum has an H_∞-ring structure then the Steenrod operations in Ext come from topological maps, which gives formulas for differentials. Recent work of Burklund, Hahn and Senger gives a way of building Adams-like spectral sequences while preserving E_∞-structure by essentially intertwining the Bar resolution with an existing tower functor like the Whitehead tower or a slice tower functor. My goal is to construct Steenrod operations in these spectral sequences and use them to compute differentials.
- In joint work with Ben Spitz and Noah Wisdom we showed that the Nullstellensatzian Tambara functors are precisely those coinduced from ordinary algebraically closed fields.
- Wrote code to automatically computer compute all 3-term Massey products over a given range using Hood Chatham's Steenrod resolver library.

Undergraduate Math Research with SUMRY at Yale ····· *Summer 2017*

- Worked in a group to understand the structure of subdivisions of simplices with local-h zero.
- Local-h is a combinatorial invariant of subdivisions of simplices introduced by Richard Stanley which is connected with the intersection cohomology of toric varieties.
- Published paper in Algebraic Combinatorics. See publications.

PUBLICATIONS AND PREPRINTS

- **Jason Schuchardt**, Ben Spitz, Noah Wisdom, "Algebraically Closed Fields in Equivariant Algebra." arXiv preprint (2025), arXiv:2505.05539
- André de Moura, Elijah Gunther, Sam Payne, **Jason Schuchardt** and Alan Stapledon, "Triangulations of simplices with vanishing local h-polynomial." Algebraic Combinatorics, Volume 3, issue 6 (2020), pp. 1417-1430.

TEACHING

Teaching Assistant ····· *Fall 2019-Present*

- PIC10C - Advanced C++ - Fall 2019, Winter 2020, Spring 2020 (online), Fall 2020 (online), Winter 2023, Spring 2023, Fall 2023, Winter 2024
- PIC20A - Principles of Java Language with Applications - Winter 2021 (online), Spring 2021 (2 sections, online), Winter 2022 (2 sections, online)
- PIC16A - Python with Applications I - Fall 2021 (2 sections, hybrid), Spring 2022 (2 sections), Fall 2022
- PIC10B - Intermediate C++ - Fall 2024 (2 sections)
- MATH 31AL - Calculus Lab - Winter 2025 (2 sections)
- Math 115A - Linear Algebra - Winter 2021 (online)
- Math 225A - Differential Topology - Fall 2020 (online)

Private Tutor ····· *Fall 2018-Spring 2019*
Counselor at the Ross Mathematics Program ····· *Summer 2015, Summer 2019*

- Mentored high school students as they learned number theory and completed problem sets.

TECHNICAL SKILLS

Programming Languages C++, Java, Python, Rust, C, LaTeX, Ruby, Haskell