

OLIVIA STRAHAN

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Mathematics
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ACADEMIC INTERESTS

My research is in mixed characteristic commutative algebra, with a combinatorial flavor. In particular, I am developing the theory of “ p -monomials,” an original framework for defining and studying concrete examples of mixed characteristic rings.

EDUCATION

University of Michigan

- Ph.D. in Mathematics
- Advisors: Professor Karen E. Smith, Mel Hochster

McGill University

- B.Sc. First Class Honors Math and Computer Science, *Distinction* (2019).

PUBLICATIONS AND PREPRINTS

1. **Content and Q -sequences in Mixed Characteristic Local Rings.** Journal of Algebra. [Article](#)

TALKS AND POSTER PRESENTATIONS

1. *Mixed Characteristic Variants of Classic Combinatorial Rings* (poster). Women in Commutative Algebra, Fields Institute, Mar 9-14, 2025.
2. *Combinatorial Rings in Mixed Characteristic* (talk). Combinatorics, Algebra and Geometry Seminar, George Mason University, Feb 28, 2025.
3. *Combinatorial recipes for rings in mixed characteristic* (talk). Seminario de Álgebra Conmutativa y Geometría Algebraica, Centro de Investigación en Matemáticas, Nov 25, 2024.
4. *Combinatorial recipes for rings in mixed characteristic* (talk). Algebra and Geometry seminar, University of New Mexico, Sep 26, 2024.
5. *Mixed Characteristic Variants of Classic Combinatorial Rings* (poster). Recent Developments in Commutative Algebra, SLMath at Berkeley, Apr 15-19, 2024.
6. *Mixed Characteristic Variants of Classic Combinatorial Rings* (poster). Algebra Days at Arizona State, Arizona State University, Nov 2-5, 2023.

¹Updated April 2, 2025

TEACHING EXPERIENCE

University of Michigan

- Instructor of Record, Math 105: Functions, Data, and Graphs (Fall 22, Fall 21, Fall 19).
- Instructor of Record, Math 110: Pre-calculus, self-directed (Fall 20)
- Instructor of Record, Math 115: Calculus 1 (Fall 23, Winter 22, Winter 21, Winter 20)
- Course Assistant, [MMSS](#) Graph theory (Summer 2023, 2024)

PROFESSIONAL ACTIVITIES

- Co-organizer of Student Commutative Algebra seminar at UofM (Fall 23-present)
- Co-organizer of perfectoids reading group (Winter 25)
- [Directed Reading Program](#) mentor (Fall 23-Winter 24)

LANGUAGES

- English
- French