

Shelby Cox

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Research Interests Tropical geometry, and connections to algebraic geometry, combinatorics, commutative algebra, and machine learning.

Education **University of Michigan, Ann Arbor**
PhD, Mathematics, *expected May 2024*.

University of Massachusetts, Amherst
B.A., Linguistics, May 2018.
B.S., Mathematics, May 2018.
summa cum laude, with honors

Research Yoshida, R., Cox, S. *Tree Topologies along a Tropical Line Segment*.
To appear. Available at arXiv: 2104.09022.

Mattoo, A., Cox, S. (2019). *Finding Euler Characteristics of Hilbert Schemes using Colored Young Diagrams*. Minnesota Journal of Undergraduate Mathematics, 5(1). Retrieved from <https://pubs.lib.umn.edu/.../4137>

Awards and Fellowships

- NSF Graduate Research Fellowship, 2018 – 2023
- UMich International Center Grant (\$400) for a film screening
- Honorable Mention, Barry Goldwater Scholarship, April 2017
- William Field Alumni Scholarship, 2017 – 2018
- Leon Emory Lincoln and Robert Bradley Lincoln Scholarship, 2017
- Monahan Student Leadership Award, 2017
- M.K. Bennett Geometry Award, Fall 2016

Relevant Skills Python, \LaTeX

Teaching

University of Michigan, Ann Arbor

Fall 2021	Math 116	Calculus II	Primary Instructor
Winter 2020	Math 116	Calculus II	Primary Instructor
Fall 2019	Math 115	Calculus I	Primary Instructor

University of Massachusetts, Amherst

Spring 2018	Math 300	Mathematical Proofs	Teaching Assistant
Fall 2017	Math 300	Mathematical Proofs	Teaching Assistant
Spring 2017	Math 300	Mathematical Proofs	Teaching Assistant
Fall 2016	Math 300	Mathematical Proofs	Teaching Assistant
Spring 2016	Math 104	Precalculus	Teaching Assistant
Fall 2015	Math 127	Calculus I	Teaching Assistant

Selected Talks and Posters

Summer 2021	Minicourse in Tropical Geometry University of Michigan Math Summer Minicourses personal.umich.edu/~spcox/tropical_minicourse.html
January 2017	Euler Characteristics of Hilbert Schemes via Colored Young Diagrams Joint Mathematics Meeting, AMS Special Session, Atlanta GA <i>with Amal Mattoo</i>
January 2017	Euler Characteristics of Hilbert Schemes via Colored Young Diagrams Joint Mathematics Meeting, MAA Poster Session, Atlanta GA <i>with Amal Mattoo</i>

Service

- Directed Reading Program (DRP) mentor, Fall 2021. Topic: Curvature.
- Various Roles, Association for Women in Mathematics, UMich chapter.
- President, Association for Women in Mathematics, UMass chapter.
- Member, Graduate Student Advisory Committee, 2019 – 2020, 2021 – 2022.