

Alexander McCleary

Curriculum Vitae

Employment

Fall 2021 – Present **Visiting Assistant Professor**, *Department of Mathematics*, Ohio State University, Columbus, OH.

Education

2016–2021 **PhD in Mathematics**, *Colorado State University*, Fort Collins, CO.
Advisor: Amit Patel

2012–2016 **BS in Mathematics**, *Virginia Commonwealth University*, Richmond, VA.
Cum Laude with departmental honors

Teaching Experience

Primary Instructor

Spring 2021 **Math 155 – Calculus for Biological Scientists.**

Fall 2019 **Math 261 – Calculus III.**

Spring 2019 **Math 261.**

Spring 2018 **Math 261.**

Fall 2017 **Math 155.**

Teaching Assistant

Spring 2017 **Math 155.**

Fall 2016 **Math 155.**

Publications

- [1] Marco Aldi and Alexander McCleary. Darboux calculus. *Involve, a Journal of Mathematics*, 12(3):361–380, 2018.
- [2] Alexander McCleary and Amit Patel. Bottleneck stability for generalized persistence diagrams. *Proceedings of the American Mathematical Society*, 148:3149–3161, Mar 2020.
- [3] Alexander McCleary and Amit Patel. Edit distance and persistence diagrams over lattices. *arXiv preprint arXiv:2010.07337*, 2020.

Research Talks

September 2021 **Persistent Homology via the Möbius Inversion**, *Topology, Geometry, and Data Analysis Seminar*, Ohio State University.

- December 2020 **Edit Distance and Persistence Diagrams Over Lattices**, *Applied Topology in Albany*, Online Seminar.
- September 2019 **Multiparameter Persistence Diagrams**, *Union College Mathematics Conference*, Union College.
- June 2019 **Multiparameter Persistent Homology**, *Geometry and Topology Meet Data Analysis and Machine Learning*, Ohio State University.

Expository Talks

- February 2020 **Verdier Duality**, *Category Theory Lab*, Colorado State University.
- January 2020 **Stable ∞ -Categories**, *Category Theory Lab*, Colorado State University.
- September 2019 **Matroids**, *Topology Seminar*, Colorado State University.
- March 2019 **Persistent Homology**, *SPLINTER*, Colorado State University.
- March 2019 **Simplicial Objects and the Dold-Kan Correspondence**, *Category Theory Lab*, Colorado State University.
- November 2018 **Fibrations, Cofibrations, and Weak Equivalences**, *Category Theory Lab*, Colorado State University.
- October 2018 **Magnitude Homology**, *Topology Seminar*, Colorado State University.
- October 2018 **Galois Theory, Group Extensions, and Higher Categories**, *SPLINTER*, Colorado State University.
- October 2018 **Introduction to Adjoint Functors**, *Category Theory Lab*, Colorado State University.
- September 2018 **Infinity Categories**, *Category Theory Lab*, Colorado State University.
- August 2018 **A General Introduction to Category Theory**, *Category Theory Lab*, Colorado State University.
- June 2018 **Kan Extensions**, *Category Theory Lab*, Colorado State University.

Activities

- June 2018 – March 2020 **Co-founder and Organizer of Category Theory Lab at CSU.**
- December 2018 **Reviewer for Symposium on Computational Geometry.**
- December 2019 **Referee for Journal of Computational Geometry.**