

Bradley Zykoski

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RESEARCH INTERESTS Topology and geometry: Teichmüller theory, translation surfaces, hyperbolic geometry

EDUCATION *University of Michigan*, Ann Arbor, Michigan
Ph.D. Candidate in Mathematics, September 2017 – Present
Advisor: Alex Wright, alexmw@umich.edu

University of Michigan, Ann Arbor, Michigan
M.S. in Mathematics, May 2019

University of Virginia, Charlottesville, Virginia
B.A. with Highest Distinction in Mathematics, May 2017
Minor: Philosophy

RESEARCH With Anne Larsen and Chaya Norton, *Strongly obtuse rational lattice triangles*.
Transactions of the AMS, Vol. 374 (2021), pp. 7119-7142.

With M.I. Bueno, F.M. Dopico, J. Pérez, and R. Saavedra, *A simplified approach to Fiedler-like pencils via block minimal bases pencils*.
Linear Algebra and its Applications, Vol. 547 (2018), pp. 45-104.

With Greg Muller and Jenna Rajchgot, *Lower bound cluster algebras: presentations, Cohen-Macaulayness, and normality*. Algebraic Combinatorics, Vol. 1 (2018), pp. 95-114.

TEACHING **University of Michigan:**

Fall 2021	Math 216	Introduction to Differential Equations	Lab Instructor
Summer 2021	Math 115	Calculus I	Primary Instructor
Winter 2021	Math 115	Calculus I	Course Co-coordinator
Fall 2020	Math 115	Calculus I	Primary Instructor
Fall 2019	Math 116	Calculus II	Primary Instructor
Winter 2019	Math 116	Calculus II	Primary Instructor
Fall 2018	Math 115	Calculus I	Primary Instructor
Winter 2018	Math 115	Calculus I	Primary Instructor
Fall 2017	Math 105	Data, Functions, and Graphs	Primary Instructor

University of Virginia:

Spring 2017	Math 4720	Introduction to Differential Geometry	Grader
Fall 2016	Math 3340	Complex Variables with Applications	Grader
Spring 2015	Math 3310	Basic Real Analysis	Grader

2015-2017, Mathematics Tutor, University of Virginia Math Tutoring Center

AWARDS

President's Challenge, University of Michigan Mathematics Department, 2020

E.J. McShane Prize, University of Virginia Mathematics Department, 2017

Goldwater Foundation Honorable Mention, 2016

E.E. Floyd Prize, University of Virginia Mathematics Department, 2015

Phi Eta Sigma Honor Society

SERVICE

- Helper and facilitator for Wayne County Math Teachers' Circle (2020-Present)
- Mentor for a small team of undergraduates at LOG(M) (Fall 2019)
Project title: Curves in surfaces and mapping class group
- Co-organizer, UM Graduate Student Topology Seminar (2019-2020)
- Co-organizer, UM Graduate Student Dynamics Seminar (2019-2020)

**SELECTED
TALKS &
POSTERS**

A polytopal decomposition of strata of translation surfaces

GSCAGT at Temple University

May 2021

GSTGC at Indiana University

April 2021

Principal bundles

1-week mini-course at the University of Michigan

June 2020

Translation surfaces (joint with Mark Greenfield)

1-week mini-course at the University of Michigan

August 2019

Pre-workshop learning group on Higgs bundles

1-week mini-course at the University of Michigan

June 2018

A unified approach to Fiedler-like pencils

SUMS Conference at JMU (poster)

September 2016

Young Mathematicians Conference at OSU

August 2016

Summer Undergraduate and Graduate Research

Colloquium at UCSB (poster)

August 2016

Lower bound cluster algebras and Stanley-Reisner complexes

Student Research Talks at GMU

October 2015

SUMS Conference at JMU

September 2015

Geometry Labs United Conference at UIUC (poster)

August 2015

Notes and descriptions of my expository talks in graduate seminars can be found at
(www-personal.umich.edu/~zykoskib/talks.html).

**CONFERENCES
& WORKSHOPS
ATTENDED**

- CMI-HIMR Dynamics and Geometry Online Summer School
Clay Mathematics Institute, Heilbronn Institute for Mathematical Research
(virtual due to COVID-19) June 2021
- Graduate Student Conference in Algebra, Geometry, and Topology
Temple University (virtual due to COVID-19), May 2021

- Graduate Student Topology and Geometry Conference
Indiana University (virtual due to COVID-19), April 2021
- Winter School on Dynamics: Topology and Numbers
Hausdorff Research Institute for Mathematics, January 2020
- Flat Surfaces and Dynamics on Moduli Space, II
Casa Matemática Oaxaca, May 2019
- Graduate School on Geometry of Teichmüller Spaces
Simons Center for Geometry and Physics, April 2019
- Graduate Student Topology and Geometry Conference
University of Illinois at Urbana-Champaign, March 2019
- Junior Topology and Geometry in the Midwest
University of Wisconsin, Madison, October 2018
- Workshop on Geometry of Teichmüller Space
The Fields Institute, August 2018
- RTG Workshop on the Geometry and Physics of Higgs Bundles III
University of Illinois at Chicago, June 2018
- Graduate Student Topology and Geometry Conference
University of Illinois at Chicago, April 2018
- Shenandoah Undergraduate Mathematics and Statistics Conference
James Madison University, September 2016
- Young Mathematicians Conference
The Ohio State University, August 2016
- Shenandoah Undergraduate Mathematics and Statistics Conference
James Madison University, September 2015
- Geometry Labs United Conference
University of Illinois at Urbana-Champaign, August 2015