

Theodore Weisman

weisman@math.utexas.edu
web.ma.utexas.edu/users/weisman/

Department of Mathematics
University of Texas at Austin

EDUCATION

University of Texas at Austin, Austin, Texas
Ph.D. candidate in Mathematics
Advisor: Jeffrey Danciger

Expected 2022

Yale University, New Haven, Connecticut
B.S. in Mathematics (intensive), magna cum laude

May 2016

PUBLICATIONS AND PREPRINTS

1. *An extended definition of Anosov representation for relatively hyperbolic groups*. 2021. Preliminary draft available at <https://web.ma.utexas.edu/users/weisman/papers/> (71 pages).
2. *Dynamical properties of convex cocompact actions in projective space*. arXiv:2009.10994, 2020 (submitted, 50 pages).
3. *Realization of Groups with Pairing as Jacobians of Finite Graphs* (with L. Gaudet, D. Jensen, D. Ranganathan, and N. Wawrykow). *Annals of Combinatorics*, 22.4 (2018), pp 781-801.

AWARDS AND HONORS

Provost's Graduate Excellence Fellowship
University of Texas at Austin

2016 – 2021

Outstanding Presentation Award
MAA Mathfest Undergraduate Paper Sessions

2014

TEACHING EXPERIENCE

Teaching Assistant, University of Texas at Austin
M408C (Differential and integral calculus)
M408S (Integral calculus for science)

Fall 2018, Spring 2020
Spring 2019

SI (Supplemental Instruction) Teaching Assistant, University of Texas at Austin
M408C (Differential and integral calculus)

Fall 2019

In addition to taking on normal TA duties, SI teaching assistants meet weekly to develop better teaching strategies and discuss ways to improve classroom environment.

Peer Tutor, Yale University
MATH 244 (Discrete mathematics)
MATH 222 (Linear algebra with applications)

Fall 2014, Fall 2015
Spring 2016

OUTREACH

Mentor, Texas Geometry Lab
University of Texas at Austin

Spring 2021, Fall 2021

Mentored a group of undergraduates on a computer visualization project. Met with students twice a week, and provided guidance and suggestions for their programming project.

Mentor, UT Directed Reading Program
University of Texas at Austin

2017–2021

Mentored an undergraduate student through the process of reading a mathematical text. Mentoring involved meeting the student weekly to discuss the text and coaching them through a 15-minute talk at the end of the semester.

Volunteer, Sunday Morning Math Group
University of Texas at Austin

2019–2020

Worked with Austin middle school and high school students biweekly on math problems, and gave a talk at one session on geometry of map projections.

Volunteer teacher, Splash at Yale
Yale University

Summer/Fall 2014, Spring 2015

Taught one-hour long minicourses to high school students. Each class met 1-4 times and had 20-30 students. Titles included *Abstract algebra*, *What is a number?*, and *The game of hex*.

MathCounts Coach, Columbus Family Academy
New Haven, CT

2013

Led weekly problem sessions for 7-10 students on the Columbus Family Academy middle school MathCounts team.

TALKS

1. “Extended convergence dynamics and relative Anosov representations”
Heidelberg University differential geometry seminar December 2021
2. “Relative Anosov representations and convex projective structures.”
University of Wisconsin dynamics seminar October 2021
3. “Relative Anosov representations and convex projective structures.”
Rice University topology seminar September 2021
4. “Relative Anosov representations and convex projective structures.”
Florida State University geometry and topology seminar September 2021
5. “Extended convergence dynamics, relative Anosov representations, and stability”
IHES September 2021
6. “Anosov representations: the relatively hyperbolic case.” (Expository talk)
Workshop on Anosov representations in Aussois September 2021
7. “Expansion/contraction dynamics for non-strictly convex projective manifolds.”
GTA Philadelphia May 2021
8. “Group actions on boundaries of convex divisible domains.”
AMS Fall Southeastern Sectional Meeting: Special Session on Geometric Structures on Manifolds November 2019
9. “Jacobians of finite graphs,” with L. Gaudet and N. Wawrykow.
MAA Mathfest Undergraduate Paper Sessions August 2014

OUTREACH TALKS

1. “Geometry in Minkowski space.” *UT undergraduate math club* Spring 2021
2. “Solving the word problem with geometry.” *UT undergraduate math club* Fall 2020
3. “Map projections.” *UT Sunday morning math group* Fall 2019

SERVICE

Minicourse leader

“Boundaries of Groups and Spaces”

June 2020

“Hyperbolic Groups”

August 2019

Led weeklong courses for graduate students as part of a University of Texas summer minicourse program

Co-organizer , Learning seminar on geometric group theory <i>University of Texas at Austin</i>	<i>Fall 2021</i>
Organizer , Learning seminar on relative Anosov representations <i>University of Texas at Austin</i>	<i>Summer 2020</i>
Organizer , Junior Topology Seminar <i>University of Texas at Austin</i>	<i>Fall 2019</i>
Co-organizer , Geometric topology seminar <i>University of Texas at Austin</i>	<i>2018 - 2021</i>
Co-founder , SUMS <i>Yale University</i>	<i>2014 – 2016</i>
Co-organized weekly meetings for math talks given by a small group of undergraduates	

CONFERENCES ATTENDED

1. Graduate Student Geometry and Topology Conference, Michigan State University	<i>April 2017</i>
2. Graduate Student Conference in Algebra Geometry and Topology, Temple University	<i>May 2017</i>
3. Texas Geometry and Topology Conference, University of Texas at Austin	<i>November 2017</i>
4. Thin Groups in Number Theory, Geometry, and Topology, Rice University	<i>May 2018</i>
5. Representation Varieties and geometric structures in low dimensions, University of Warwick	<i>July 2018</i>
6. Young Topologists Meeting, University of Copenhagen	<i>July 2018</i>
7. Young Geometric Group Theory, UPV/EHU	<i>June 2019</i>
8. Aspects of Geometric Group Theory, IHES	<i>July 2019</i>
9. Nearly Carbon Neutral Geometric Topology (virtual)	<i>June 2020</i>
10. Virtual Topology Festival, NUS	<i>January 2021</i>
11. Graduate Student Geometry and Topology Conference (virtual), University of Indiana Bloomington	<i>April 2021</i>
12. GTA Philadelphia (virtual)	<i>May 2021</i>
13. Nearly Carbon Neutral Geometric Topology (virtual)	<i>June 2021</i>
14. Beyond Hyperbolicity, The Ohio State University	<i>July 2021</i>
15. Workshop on Anosov representations in Aussois, France	<i>August-September 2021</i>
16. Virginia Topology Conference (Geometry and dynamics in hyperbolic space), University of Virginia	<i>November 2021</i>