

# Urshita Pal

---

University of Michigan  
Department of Mathematics  
530 Church Street  
Ann Arbor, MI, USA

urshita@umich.edu  
urshitapal.github.io

## Education

**University of Michigan, USA**  
Ph.D., Mathematics, Expected 2027.  
Advisor: Jenny Wilson

**University of Michigan, USA**  
M.S., Mathematics, 2021-23

**Chennai Mathematical Institute, India**  
B.Sc., Mathematics & Computer Science, 2018-21.

## Research Interests

(Co)homology of Arithmetic Groups, (Co)homological stability phenomena

## Awards and Fellowships

**Rackham One-Term Dissertation Fellowship**  
January 2025 - April 2025

**Gold Medal of Excellence, BSc Math & Computer Science**  
Chennai Mathematical Institute, 2021  
*Highest GPA at time of graduation*

**Tuition Fee Waiver**  
Chennai Mathematical Institute, Aug 2018 - April 2021

**Bronze Medal, European Girls Math Olympiad**  
Held in Florence, Italy, 2018

**International Math Olympiad Training Camp, Mumbai, India**  
Selected for Participation, 2017 & 2018

## Research Papers

**Representation Stability in the (Co)homology of Vertical Configuration Spaces**  
with D Baron, C Wang, J Wilson, and C Yang  
ArXiv preprint ArXiv:2412.01128

## Teaching

### University of Michigan

Instructor, Math 105 (Data, Graphs & Functions), Fall 2024  
Instructor, Math 115 (Calculus 1), Fall 2023  
Instructor, Math 115 (Calculus 1), Winter 2023  
Instructor, Math 115 (Calculus 1), Fall 2022  
Instructor, Math 115 (Calculus 1), Winter 2022  
Instructor, Math 115 (Calculus 1), Fall 2021

### Chennai Mathematical Institute

Teaching Assistant, NPTEL Rings & Fields, Jan-March 2021  
Teaching Assistant, Topology, Spring 2021  
Teaching Assistant, Complex Analysis, Spring 2021  
Teaching Assistant, Analysis 3, Fall 2020  
Teaching Assistant, Probability Theory, Spring 2020

## Talks

### Invited Talks

-*Steinberg Modules and  $H^*(SL_n\mathbb{Z}; \mathbb{Q})$*   
Scissors Congruences, Algebraic K-Theory and Steinberg Modules, July 2024  
(Held at the American Institute of Mathematics, Pasadena)  
  
-*Conectivity and Cohomology* (5 min lightning talk)  
Young Geometric Group Theory, Bristol, April 2024

### Student & Learning Seminars

-*The Nerve Lemma and Spectral Sequences*, Winter 2024  
-*Configurations, Graphs and Trees*, Winter 2024  
-*Rational Duality Groups and  $H^*(SL_n\mathbb{Z}; \mathbb{Q})$* , Fall 2023  
-*Introduction to Group (Co)homology*, Fall 2023  
-*Configurations, Graphs and Trees*, Fall 2023  
-*High Dimensional Cohomology of  $SL_n\mathbb{Z}$* , Winter 2023  
-*Grassmannian Cohomology and Symmetric Polynomials*, Winter 2023  
-*A Gentle Introduction to Representation Stability*, Fall 2022  
-*The Combinatorial Nullstellensatz and its Applications*, Winter 2022  
-*Braid Groups*, Fall 2021

## Service and Mentorship

### University of Michigan REU, Summer 2024

-*Graduate Student Mentor for the REU hosted by Jenny Wilson*

### Student Dynamics/Geometry/Topology Seminar

-*Co-organiser 2022-23, Organiser 2023-24*

### Lab of Geometry at Michigan

-*Served on the Admissions Committee in Fall '23 & Winter '24*

### AWM Mentoring Programs

-*Mentor in the Mentor-Mentee program for the Academic Year 2022-23*  
-*Participated in the 'Vertical Mentoring Program' in Winter 2024*

### **Michigan Directed Reading Program**

-*Mentor, Winter 2023*

### **Michigan Math Club**

-*Fagnano's Problem and Reflecting Triangles, Jan 2023*

### **Michigan Math Circle**

-*Tiling With Dominoes, Feb 2022*

## Conferences and Workshops Attended

- Scissors Congruences, Algebraic K-Theory and Steinberg Modules, July 2024  
(Organised through the American Institute of Mathematics, Pasadena)
- Young Geometric Group Theory XII, Bristol, April 2024
- Stability in Topology, Arithmetic and Representation Theory, Purdue, 2023  
(Attended Virtually)
- Nearly Carbon Neutral Geometric Topology Conference, June 2023  
(Attended Topic Group: Profinite and Residual Methods in Geometric Group Theory)
- Nearly Carbon Neutral Geometric Topology Conference, September 2022  
(Attended Topic Group: Group Actions on Hyperbolic Spaces)
- Michigan Research Experience for Graduates, June 2022  
(Project Topic: *Braids and Polynomials*)

## Languages and Skills

Hindi, English, Bengali (native); German (basic)  
 $\LaTeX$ , C++, Haskell, Python, Java