

---

## Tullia Dymarz

Associate Professor  
Department of Mathematics  
University of Wisconsin - Madison WI 53706

<http://www.math.wisc.edu/~dymarz>  
[dymarz@math.wisc.edu](mailto:dymarz@math.wisc.edu)

---

### Employment

University of Wisconsin, Department of Mathematics, (August 2017 - Present)  
Associate Professor (tenured)

University of Wisconsin, Department of Mathematics, (August 2011 - August 2017)  
Assistant Professor (tenure track)

Université Paris-Sud 11, Département de Mathématiques, (July 2010 - July 2011)  
Postdoctoral

Yale University, Department of Mathematics, (January 2008 - June 2010)  
Gibbs Assistant Professor

Mathematical Sciences Research Institute, (August 2007 - December 2007)  
Postdoctoral

### Education

University of Chicago Ph.D Mathematics (June 2007) *Thesis Advisor:* Benson Farb  
University of Chicago M.A Mathematics (June 2003)  
University of Alberta BSc. Honors Mathematics (June 2001)

### Visiting Positions

August - December 2016 Mathematical Sciences Research Institute - Research Member, Berkeley  
January - March 2014 IHP Special trimester on Random walks and asymptotic group theory, Paris, France  
January - March 2011 IHP Special trimester on Metric geometry, algorithms and groups, Paris, France  
November 2009 Hausdorff Institute trimester on Rigidity, Bonn, Germany

### Grants and Honors

2023-Present NSF RTG Co-PI  
2017/2018 Sabbatical  
2016-Present NSF CAREER  
2015,2014,2013 Honored Instructor Teaching Award  
2014 Wisconsin Alumni Research Foundation Fall Competition Grant  
2013 Baldwin Wisconsin Idea Endowment Grant  
2012 NSF Research grant DMS - 1207296  
2012 NSF conference grant "Young Geometric Group Theory Conference" 2012

### Graduate Students

Meng-Che Ho Ph.D. graduated Spring 2017  
Carolyn Abbott Ph.D graduated Spring 2017  
Micky Steinberg Ph.D. graduate Spring 2021  
Yandi Wu Ph.D in progress  
Andrew Krenz Ph.D in progress  
Daniel Levitin Ph.D in progress

### Post doctoral Mentees

Yuchan Cheng (Visiting Assistant Professor) 2019-2020  
Nathan Fisher (Van Vleck Assistant Professor) 2021-2024

## Professional Service (Recent)

2023	Co-organizer of <i>Women in Groups, Geometry and Dynamics Research Retreat</i> , Idaho
2021-Present	AMS Simons Travel Grants reviewer
2022-Present	Spring Topology and Dynamics conference steering committee member
2021	Co-organizer of <i>Women in Groups, Geometry and Dynamics Research Retreat</i> , Montana
2017,2018,2019	Principal organizer of <i>Junior Geometry and Topology in the Midwest Workshop</i> , Madison WI
2017	Co-organizer of AMW special session, <i>Geometric Group Theory</i> , Los Angeles CA
2017	Co-organizer of Spring Topology and Dynamics special session, <i>Geometric Group Theory</i> , Jersey City NJ

## University Service (Recent)

### *Departmental Service*

- Graduate Admissions Chair (Fall 2017- present)
- Graduate Program Committee (Fall 2022- present)
- Graduate Advising (Fall 2023- present)
- Diversity Committee (Fall 2021-present)
- Topology/Geometry Qual Committe (Various)
- Organizer of Girls Math Night mentoring program for high school women (Fall 2012 - present)
- Faculty Contact for Directed Reading Program (2015 - present)

### *University Service*

- Graduate Faculty Executive Committee (Fall 2021- present)
- Physical Sciences Divisional Committee (Fall 2018- Spring 2021)

## Research Publications

### *Bijjective quasi-isometries of amenable groups.*

Geometric methods in group theory, 181-188, Contemp. Math., 372, Amer. Math. Soc., Providence, RI, (2005)

### *Large scale geometry of certain solvable groups.*

Geometric And Functional Analysis, volume 19-6 (2009), 1650-1687.

### *Bijjective equivalence is not equivalent to quasi-isometric equivalence for finitely generated groups.*

Duke Mathematical Journal, volume 154-3 (2010), 509-526.

### *Bilipschitz maps of boundaries of certain negatively curved homogeneous spaces.*

(with I. Peng) Geometriae Dedicata volume 152 (2011)

### *Quasisymmetric maps of boundaries of amenable hyperbolic groups.*

IUMJ Indiana University Mathematics Journal 63 (2014), 329-343.

### *Rigidity with locally compact targets for certain solvable groups.*

Comment. Math. Helv. 90 (2015), 195-224.

### *Bilipschitz versus quasi-isometric equivalence for higher rank lamplighter groups*

(with I. Peng and J. Taback) New York Journal of Mathematics 21 (2015), 129-150.

### *Day's fixed point theorem, Group Cohomology and Quasi-isometric rigidity*

(with X. Xie) Groups Geom. Dyn. 10 (2016), no. 4, 1121-1148.

### *Non-rectifiable Delone sets in SOL and other solvable groups*

(with A. Navas) Indiana Univ. Math. J. 67 (2018), no. 1, 89-118.

### *Separated nets in nilpotent groups*

(with M. Kelly, S. Li and A. Lukyanenko) Indiana Univ. Math. J. 67 (2018), no. 3, 1143-1183.

### *A matrix model for random nilpotent groups*

(with K. Delp and A. Schaffer-Cohen) Int. Math. Res. Not. IMRN (2019), no. 1, 201-230.

*A fibered Tukia theorem for nilpotent Lie groups*  
(with D. Fisher and X. Xie) *Annales Fennici Mathematici*, 48(2), 653-680. (2023)

*A Tukia-type theorem for nilpotent Lie groups and quasi-isometric rigidity of solvable groups*  
(with D. Fisher and X. Xie) Submitted. (2023)

*Quasi-isometries of Baumslag-Gersten groups and related groups*  
(with J. Taback and K. Whyte) In preparation.

*Pattern preserving quasi-isometries in lamplighter groups and other related groups*  
(with B. Liu and R. Morris-Wright) In preparation.

## Other Publications

*Book Review - Office Hours with a Geometric Group Theorist* *American Math. Monthly*. (Jan 2019)

## Other Research Activities (Recent)

### Postdoc Research

Nathan Fisher: *Horoboundaries of homogeneous groups* (In preparation, 2023)

### Graduate Student Research

Yandi Wu:

*A topologically rigid set of quotients of the Davis complex.* *Geom. Dedicata* 217(2023), no.5, Paper No. 82, 20 pp.

*Marked length spectrum rigidity for surface amalgams.* arXiv:2310.09968

Daniel Levitin:

*Metric Spaces of Arbitrary Finitely-Generated Scaling Group.* arXiv:2205.04367

Phillip Harris (Ph.D student of Simon Marshall):

*Random nilpotent groups of maximal step.* *New York J. Math.* 28(2022), 1365–1371.

### Outreach Research - Group leader for Women in Groups Geometry and Dynamics

*Lead junior researchers (graduate students and postdocs) through a year long collaborative research project.*

- Summer 21 - Pattern preserving quasi-isometries of lamplighter groups.

- Summer 23 - Conformal dimension of boundaries of Coxeter groups.

### MXM - Undergraduate Research

- Fall 23 - Geometry of Diestel-Leader graphs.

- Fall 22/Spring 23 - Horospheres in right angled Coxeter groups.

## Talks and Seminars (Recent)

*Sub-Riemannian Geometry and Beyond III - Pisa Italy* - June 2023

*University of Oklahoma - Topology seminar* - March 2023

*Rice University - Topology seminar* - March 2023

*University of Milwaukee - Colloquium* - February 2023

*CIMPA school "Groups and Geometry" - Kolkata, India (Online)* - mini course Jan 2022

*Beyond Hyperbolicity - Columbus Ohio* - June 2021

*IMS Workshop - Singapore (Online)* - mini course, Jan 2021

*Quasi-isometries Workshop - Ventotene Italy* - mini course, Sept. 2019

*Rigidity Conference - Warsaw Poland* - June 2019

*AMS Sectional Meeting Special Session on Analysis and Geometry* - March 2019

*George Mason University - Geometry Seminar* - Oct 2018

*Columbia University - Topology Seminar - Sept 2018*  
*Large Scale Geometry and Applications - Fields Institute Toronto Canada - May 2018*  
*Superexpanders and Their Coarse Geometry - Oberwolfach Germany - April 2018*  
*Plenary talk at AMS Sectional Meeting - Columbus Ohio - March 2018*  
*Purdue Geometry Seminar - Lafayette Indiana - Feb 2018*  
*Bowling Green State University Colloquium - Bowling Green Ohio - Nov 2017*  
*Benson Farb's Birthday Conference - Chicago Illinois - Oct 2017*  
*Lee Mosher's Birthday Conference - Princeton New Jersey - Sept 2017*  
*University of Illinois at Chicago - Geometry/Topology Seminar - Sept 2017*  
*Mathematical Congress of the Americas Special Session Speaker - July 2017*  
*Thematic School on Quasi isometric rigidity Toulouse - July 2017*

## **Teaching at UW - Madison**

*As Associate Professor, Fall 2018-Present*

Math 552, Math 621, Math 561, Math 851 Topics in Geometric Group Theory (Graduate),  
Math 761 (Graduate), Math 341, Math 431, Math 765 (Graduate), Math 542, Math 751  
(Graduate)

*As Assistant Professor, Fall 2011-Spring 2017.*

Math 851 Topics in Geometry - Lie groups (Graduate), Math 851 Topics in Geometry - Rigidity in  
Geometry (Graduate) Math 542, Math 375-376, Math 751-752 (Graduate), Math 171-217,  
Math 747 (Graduate), Math 847 Topics in Algebra - Intro to Geometric Group Theory (Graduate),  
Math 340, Math 441