Rebecca R. Winarski

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Academic Positions	**Assistant Professor**, College of the Holy Cross	2020-present
	Parekh Family IBL Fellow, University of Michigan	2019-2020
	Instructor of inquiry based learning classes.	
	Visiting Assistant Professor, University of Michigan	2018-2020
	Visiting Assistant Professor, University of Wisconsin-Milwaukee	2015-2018
	Visiting Assistant Professor, Wittenberg University	2014-2015
Education	**Ph.D., Mathematics**	2014
	Georgia Institute of Technology, Atlanta, GA	
	B.S. in Mathematics, B.A in Psychology	2008
	Case Western Reserve University, Cleveland, OH, summa cum laude	

Research Interests:

Geometric group theory, low dimensional topology, complex dynamics

Awards, Fellowships, and Memberships	**NSF Standard Grant - 2002951**, PI
	NSF Grant, DMS - 1822040 TSW: Topology Student Workshop, Co-PI
	AMS-Simons Travel Fellowship
	Travel funding for early-career mathematicians for research related travel.
	Project NExT "New Experiences in Teaching" Gold '14
	Festa Fellowship 2014 For excellence in academics and service.
	Georgia Tech, Department of Mathematics
	Outstanding Teaching Assistant 2012-2013
	Georgia Tech, Department of Mathematics
	AMS Graduate Student Travel Grant
	Phi Beta Kappa

Courses	**Math 135: Calculus 1**
	Math 136: Calculus 2
	Math 243: Mathematical Structures
	Math 301: Topics in Geometry (hyperbolic geometry)
	Math 392: Geometry Seminar (geometric group theory)

Papers	**Recognizing topological polynomials by lifting trees.**
	with Belk, Margalit, and Lanier. To appear in Duke Mathematical Journal
	Elastic Graphs for Main Molecule Matings. ArXiv: 2010.11382
	with Davis, Powell, Yang.
	Pseudo-Anosov homeomorphisms of punctured non-orientable surfaces with small stretch factor.
	with Khan and Partin. To appear in Algebraic Geometry and Topology
	Superbridge and bridge indices for knots.
	with Adams, Agarwal, Allen, Khandhawit, Simons, and Wootters
	Journal of Knot Theory and its Ramifications. Volume 30 (2021) no. 2.
	Using Strong Branching to Find Automorphism Groups of n-gonal Surfaces
	with Broughton, Camacho, Paulhus, and Wootton.
	In Memorium of Kay Maagard. Albanian Journal of Mathematics.

Volume 12 (2018) no. 1, 89–129.

Big Torelli: Generation and Commensuration
with Aramayona, Ghaswala, Kent, McLeay, and Tao.
Groups, Geometry, and Dynamics
Volume 13 (2019) no. 4. 1373–1399.

The Birman–Hilden Theory
with Dan Margalit.   To appear in Bulletin of the London Mathematical Society

Lifting Homeomorphisms and Cyclic Branched Covers of the Sphere
with Tyrone Ghaswala.   Michigan Mathematics Journal
Volume 66 (2017), no.4, pg 885-890

The Liftable Mapping Class Group of Superelliptic Covers
with Tyrone Ghaswala   New York Journal of Mathematics
Volume 23 (2017). pg 133-164.

Symmetry, Isotopy, and Irregular Covers   Geometriae Dedicata
Volume 177 (2015). pg 213-227.

Talks		
ICERM, Braids in Symplectic and Algebraic Geometry Workshop		Upcoming
MSRI Semester in Complex Dynamics, Introductory Workshop		Upcoming
Topology Seminar, Brown University		October 2021
CIRM, Advancing Bridges in Complex Dynamics Conference		September 2021
Function Theory Study Seminar, Kansas State University		May 2021
Dynamics Seminar, University of Michigan		April 2021
AMS Sectional Meeting, Virtual		March 2021
Topology Seminar, University of Wisconsin-Milwaukee		November 2020
Quasiworld Workshop		July 2020
Joint Math Meetings Women in Topology Special Session		January 2020
Dynamics Seminar, Cornell University		2019
ICERM "Hot topics" Algorithms in complex dynamics and mapping class groups		2019
Geometric and Asymptoic aspects of Group Theory and Applications Bar Ilan University, Israel		2019
Midwest Women in Mathematics, University of Iowa Session on Geometry and Topology		2019
Grinnell Math Club, Grinnell, IA		2019
AMS Sectional Conference, Auburn, AL Special Session on Mapping Class Groups		2019
Geometry Seminar, University of Indiana–Bloomington		2019
Hilbert's 13th, resolvent degrees, and covering space, IPAM, UCLA		2019
Topology Seminar, UC Irvine		2019
Topology Seminar, Michigan State University		2019
AMS Sectional Conference, Fayetteville, AR Special Session on Geometric Group Theory		2018
Summer Topology and its Applications, Bowling Green, KY Special Session on Topological Methods on Group Theory		2018
"The roots of topology" workshop, University of Chicago		2018
Geometry Seminar, University of Michigan		2018

	Joint Math Meetings	2018
	No boundaries: groups in algebra, geometry, and topology, Chicago, IL, Lightning talk	2017
	GEAR Seminar, UIUC	2017
	Gathering on braid groups and rational maps, Harvard University	2017
	Summer Topology and its Applications, Dayton, OH Special Session on Geometry+Topology	2017
	Braids in Algebra, Geometry, and Topology, Edinburgh, UK Lightning talk	2017
	Junior Geometry and Topology in the Midwest, Madison, WI	2017
	Young Geometric Group Theory Oxford, UK Poster session	2017
	Joint Math Meetings Special Session on Mapping class groups and their subgroups	2017
	Joint Math Meetings Special Session on Office Hours with a Geometric Group Theorist	2017
	AMS Sectional Conference, Brunswick, ME Special Session on Geometric Group Theory	2016
	Colloquium, University of Wisconsin-Milwaukee	2016
	Topology Seminar, University of Iowa	2016
	Topology Seminar, Georgia Institute of Technolgoy	2016
	Wisconsin Section MAA Meeting, La Crosse, WI Two contributed talks	2016
	Teaching Colloquium, University of Wisconsin–Milwaukee	2016

Service to the Department	**Library Liason**	2020-2021
Service to the College	**Weiss Summer Scholar Committee**	2021
Service to the Profession	**Topology Students Workshop,** Co-organizer/mentor	2020
	Topology Postdocs Workshop, Co-organizer/mentor	2012, 2014, 2016, 2018, 2020
	Referee, Turkish Journal of Mathematics, Algebraic & Geometry Topology, International Journal of Mathematics, Journal of Topology & Analysis, Mathematical Proceedings of the Cambridge Philosophical Society, Transactions of the AMS	
	ICERM "Hot topics," Co-organizer	2019
	SACNAS Science Spotlight station leader with Sault tribe	2019
	Math Circle activity leader Lead a human knot theory activity for middle school students	March 2019
	Classroom assistant Enrichment activities in Ypsilanti public schools	2018-2019
	Mentor Graduate Research Opportunities for Women University of Michigan	2018
	Mentor Females Excelling More in Math, Engineering, and Science University of Michigan	2018
	Presentations in "Life After Ph.D." University of Wisconsin-Milwaukee Professional development seminar for doctoral students	2017
	Graduate TA Teaching Award Selection Committee	

	University of Wisconsin-Milwaukee	2016

Topology Seminar Organizer, University of Wisconsin-Milwaukee   2016-2017

Calculus Committee University of Wisconsin-Milwaukee   2016-2017

Co-organizer Geometric Group Theory Special Session   2016
Spring Topology and Dynamics Conference, Waco, TX

Redesign of Math Major committee   2014-2015
Wittenberg University

Assistant to Organizer Mathematical Research Community   2013
Snowbird, UT

Organizer Geometric Group Theory Reading Course   2011
Georgia Institute of Technology, Atlanta, GA

Organizer Graduate Women's Group   2010-2012
Georgia Institute of Technology, Atlanta, GA

Founder and President Math Club   2006-2008
Case Western Reserve University, Cleveland, OH

Founder Pi Mu Epsilon   2007-2008
Case Western Reserve University, Cleveland, OH

Workshops attended

HHMI Workshop on Inclusive Excellence in STEM   July 2021

Center for Minorities in Math, Enhancing Equities Workshop   July 2021

Hewlett-Mellon, Calculus workshop   June 2021

Mathematical Sciences Research Institute, Mathematics and Racial Justice June 2021

DEI REU Workshop   May 2021

AMS Webinar Series: "Advocating for students of color: there's more you can do"   Fall 2020
Four part webinar series

Holy Cross Series: Becoming a White Ally for Racial Justice   Fall 2020

MAA Webinar Series: "Innovative Course Design for the Fall"   July 2020
Three webinars on the topics:
- An Introduction to (Online) Inquiry-Based Learning
- Teaching Online Upper Level Mathematics Courses
- Build a Syllabus: An Introduction to Mastery Grading

Attendee of Diversity and Inclusion Workshop   May 2019
Center for Research in Teaching and Learning, University of Michigan

Inquiry based learning workshop attendee,   August 2018, 2019
Classroom and syllabus planning, strategies for encouraging positive student engagement and buy-in, inclusion and diversity, assessment   University of Michigan

Participant in IBL lunches, University of Michigan   2018-2020
Continued conversations about facilitating and troubleshooting IBL

Participant in the inclusive learning community lunch discussions
University of Michigan   2018-2020

Project NExT "New Experiences in Teaching"   2014-2015
Workshops on active learning strategies, mentoring, and student research