

RYLEE ALANZA LYMAN

CONTACT	Department of Mathematics and Computer Science Smilth Hall, Rutgers University at Newark Newark, NJ 07102	<i>E-mail:</i> rylee.alanza@gmail.com <i>Mobile:</i> 952.465.6895 <i>Webpage:</i> https://ryleealanza.org
INTERESTS	Geometric group theory, geometric topology, outer automorphism groups, mapping class groups, Coxeter groups, deformation spaces of group actions, hyperbolic and CAT(0) geometry.	
APPOINTMENTS	Rutgers University at Newark , Postdoctoral Associate	2020–2023
EDUCATION	Tufts University , PhD in Mathematics (Advisor: Kim Ruane)	May 2020
	Tufts University , MS in Mathematics	May 2017
	Columbia University , BA in Mathematics (honors) & Music, <i>cum laude</i>	May 2015
AWARDS	Mathematical Sciences Postdoctoral Research Fellowship, National Science Foundation	2022
	Robert P. Guertin Student Leadership Award finalist	2020
	Head Teaching Assistant	AY 2019–20
RESEARCH	End invariants of outer automorphisms of free products of finite and cyclic groups <i>In preparation.</i>	
	Étale groupoids and mapping class groups of orbifolds and graphs of groups <i>In preparation.</i> (with Tyrone Ghaswala)	
	Exponential Dehn functions for deformation groups of free splittings <i>In preparation.</i> (with Lee Mosher)	
	Conformal dimension for Coxeter group boundaries <i>In preparation.</i> (with E. Field, R. Gupta and E. Stark)	
	On Whitehead’s cut vertex lemma <i>Submitted.</i> Available at arXiv:2205.06071 [Math.GR]	
	Lipschitz metric isometries between Outer Spaces of virtually free groups <i>Submitted.</i> Available at arXiv:2203.09008 [Math.GR]	
	CTs for free products <i>Submitted.</i> Available at arXiv:2203.08868 [Math.GR]	
	Train track maps on graphs of groups <i>Submitted.</i> Available at arXiv:2102.02848 [Math.GR]	
	Extensions of hyperbolic groups have locally uniform exponential growth <i>Submitted.</i> (with Robert Kropholler and Thomas Ng) Available at arXiv:2012.14880 [Math.GR]	
	Folding-like techniques for CAT(0) cube complexes <i>Math. Proc. Camb. Philos. Soc.</i> 173 (1) (2022), 227–238 (with Michael Ben-Zvi and Robert Kropholler) Available at arXiv:2011.05374 [Math.GR]	
	Some new CAT(0) free-by-cyclic groups <i>Michigan Math. J.</i> Available at: arXiv:1909.03097 [Math.GR]	
	Nielsen realization for infinite-type surfaces <i>Proc. Amer. Math. Soc.</i> 149 (2021), 1791–1799 (with S. Afton, D. Calegari and L. Chen) Available at arXiv:2002.09760 [Math.GT]	
	Train Tracks on Graphs of Groups and Outer Automorphisms of Hyperbolic Groups <i>PhD thesis.</i> Available at arXiv:2005.00164 [Math.GR]	
	Wasatch Topology Conference University of Utah, Brigham Young University	Aug 2022
	Big Mapping Class Groups at BC Boston College	Aug 2022

Project SAGES Colloquium University at Albany	May 2022
Joint Mathematics Meetings <i>Topics and Generalizations in Geometric Group Theory</i> , Seattle <i>Low-Dimensional Manifolds</i> , Seattle	Mar 2022
Special Session, AMS Sectional Meeting <i>Subgroups in Nonpositive Curvature</i> , Tufts University	Mar 2022
Spring Topology and Dynamical Systems Conference Baylor University	Mar 2022
Tetrahedral Geometry/Topology Seminar West Chester University	Mar 2022
Joint Geometry & Topology Seminar Bowling Green State University / University of Toledo	Nov 2021
Geometry & Topology Seminar Temple University	Nov 2021
Mathematics & Statistics Colloquium Swarthmore College	Nov 2021
North British Geometric Group Theory Seminar Newcastle University	Nov 2021
Bi-College Math/Stat Colloquium Haverford College	Oct 2021
World of Geometric Group Theory	Aug 2021
Groups and Geometry in the South East Oxford University	June 2021
Nearly Carbon Neutral Geometric Topology	June 2021
Dynamics and Group Geometry Early Researchers Seminar Warwick University	May 2021
Geometric Group Theory and Topology Seminar Tufts University	Mar 2021
MAXIMALS Algebra, Geometry and Topology Seminar Heriot-Watt University	Mar 2021
Geometry and Topology Seminar Bristol University	Feb 2021
Geometry and Topology Seminar Yale University	Feb 2021
Random and Arithmetic Structures in Topology Seminar Mathematical Sciences Research Institute	Dec 2020
Geometry and Topology Seminar City University of New York	Nov 2020
Geometry and Topology Seminar Binghamton University	Oct 2020
Pure Math Seminar University of North Carolina–Greensboro	Oct 2020
Big Surf(aces) Seminar	Oct 2020
Mathematics Colloquium Rutgers University–Newark	Sep 2020
Geometric Group Theory without Boundaries Mini-course on Bass–Serre Theory	July 2020
Trends in Low-Dimensional Topology	June 2020
Geometry and Topology Online Warwick Mathematics Institute	June 2020
Topology Seminar University of California Riverside	May 2020
Geometric Topology Seminar Columbia University	Apr 2020
Topology Seminar University of Wisconsin at Milwaukee	Mar 2020

Pick My Brain Seminar Northeastern University	Feb 2020
Geometric Group Theory Seminar McGill University	Jan 2020
Hyperbolic Lunch University of Toronto	Jan 2020
Dynamics, Geometry and Groups Seminar Queens University	Jan 2020
Boston Topology Seminar Brandeis University	Jan 2020
Special Session, AMS Sectional Meeting <i>Effective and Quantitative Advances in Low Dimensional Topology and Geometric Group Theory</i> , Binghamton University	Oct 2019
Algebra/Topology Seminar State University of New York at Albany	Oct 2019
Graduate Seminar Temple University	Sep 2019
Geometry and Topology Seminar Temple University	Sep 2019
LG&TBQ University of Michigan	June 2019
Graduate Student Conference in Algebra, Geometry and Topology Temple University	June 2019
Spring Topology and Dynamical Systems Conference University of Alabama at Birmingham	Mar 2019
Geometric Group Theory and Topology Seminar Tufts University	Nov 2018
Eminar Tufts Student Seminar, 6 talks	2017–2019

CONFERENCE
PARTICIPATION

Communicating Mathematics Cornell University	Aug 2022
Geometry, Arithmetic and Groups <i>Lightning talk</i> , University of Texas at Austin	June 2022
SAGE Days <i>Lightning talk</i> , University of Minnesota at Duluth	June 2022
YGGT X <i>Lightning Talk</i> , Newcastle University	July 2021
Artin Groups, CAT(0) Geometry and Related Topics The Ohio State University	July 2021
ParaDIGMS Spring Conference AMS, IMSI	April 2021
Tech Topology Conference <i>Lightning Talk</i> , Georgia Institute of Technology	Dec 2020
RTG Mini-Conference University of Utah	Feb 2020
Tech Topology Conference <i>Lightning Talk</i> , Georgia Institute of Technology	Dec 2019
Algorithms in Complex Dynamics and Mapping Class Groups ICERM, Brown University	Nov 2019
Junior Geometry and Topology in the Midwest University of Wisconsin at Madison	Oct 2019
Wasatch Topology Conference University of Utah, Brigham Young University	Aug 2019
Aspects of Geometric Group Theory Institut des Hautes Études Scientifiques	July 2019

	Young Geometric Group Theory VIII <i>Lightning Talk</i> , Colegio Mayor Miguel de Unamuno	July 2019
	Spring Opportunities Workshop American Institute of Mathematics	Apr 2019
	Graduate Student Topology and Geometry Conference <i>Lightning Talk</i> , University of Illinois at Urbana-Champaign	Mar 2019
	Junior Geometry and Topology in the Midwest University of Wisconsin at Madison	Oct 2018
	Women and Mathematics Program Institute for Advanced Study	May 2016
OUTREACH	Panelist, "US-Based Jobs Panel," YGGT X	July 2021
	Co-organizer, Geometric Group Theory Without Boundaries Summer School	July 2021
	Participant, ParaDIGMS Diversity in Graduate Mathematical Sciences conference	Apr 2021
	Panelist, "Gender in Mathematics" Rutgers University	Mar 2021
	Co-organizer, Geometric Group Theory Without Boundaries Summer School	July 2020
	Co-organizer, Tufts Directed Reading Program	AY 2018–20
	Mentor, Tufts Directed Reading Program	Fall 2019
	Mentor, Tufts Directed Reading Program	Summer 2016
TEACHING	Rutgers University	
	Calculus II	Spring 2022
	Calculus II	Fall 2021
	Basic Linear Algebra	Fall 2021
	Calculus II	Spring 2021
	Topology	Fall 2020
	Tufts University	
	Co-organizer, Graduate Development Seminar	Spring 2020
	Co-organizer, Graduate Development Seminar	Fall 2019
	Math of Social Choice	Summer 2019
	Math of Social Choice	Spring 2019
SERVICE	Organizer, Geometric Group Theory Reading Seminar	AY 2019–20
	Treasurer, Tufts Organization of Graduate Students in Mathematics	AY 2018–19
	Mathematics Department Graduate Union Steward	AY 2017–19
	Mathematics Department Representative, Tufts Graduate Student Council	AY 2017–18
	Graduate Student Member, Tufts Committee on Curricula	AY 2017–18
OTHER	Languages: English (native), German (intermediate), Japanese (intermediate) Citizenship: United States of America	