

ROBERT ALONZO LYMAN

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RESEARCH 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 , Assistant Professor	2024
	Rutgers University at Newark , Postdoctoral Associate, NSF Postdoctoral Fellow	2020–2024
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
RESEARCH*	The complex of cuts in a Stone space <i>Submitted.</i> (as Rylee Alanza Lyman; with Beth Branman) Available at arXiv:2408.06994 [Math.GT]	
	Low complexity among principal fully irreducible elements of $\text{Out}(F_3)$ <i>Submitted.</i> (as Rylee Alanza Lyman; with Naomi Andrew, Paige Hillen and Catherine Pfaff) Available at arXiv:2405.03681 [Math.GR]	
	One-Endedness of Outer Automorphism Groups of Free Products of Finite and Cyclic Groups <i>Submitted.</i> (as Rylee Alanza Lyman) Available at arXiv:2305.04986 [Math.GR]	
	When is the Outer Space of a free product CAT(0)? <i>Submitted.</i> (as Rylee Alanza Lyman) Available at arXiv:2209.04711 [Math.GR]	
	On Whitehead's Cut Vertex Lemma <i>J. Group Theory.</i> 26(4) (2023), 665–675 (as Rylee Alanza Lyman) Available at arXiv:2205.06071 [Math.GR]	
	Lipschitz Metric Isometries Between Outer Spaces of Virtually Free Groups <i>Illinois J. Math.</i> 67(2) (2023), 409–422 (as Rylee Alanza Lyman) Available at arXiv:2203.09008 [Math.GR]	
	CTs for Free Products <i>Submitted.</i> (as Rylee Alanza Lyman) Available at arXiv:2203.08868 [Math.GR]	
	Train Track Maps on Graphs of Groups <i>Groups Geom. Dyn.</i> 16(4) (2022), 1389–1422 (as Rylee Alanza Lyman) Available at arXiv:2102.02848 [Math.GR]	
	Extensions of Hyperbolic Groups Have Locally Uniform Exponential Growth <i>Submitted.</i> (as Rylee Alanza Lyman; 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 (as Rylee Alanza Lyman; with Michael Ben-Zvi and Robert Kropholler) Available at arXiv:2011.05374 [Math.GR]	
	Some New CAT(0) Free-by-Cyclic Groups <i>Mich. Math. J.</i> 73 (2023) 621–630 (as Rylee Alanza Lyman) Available at: arXiv:1909.03097 [Math.GR]	
	Nielsen Realization for Infinite-Type Surfaces <i>Proc. Amer. Math. Soc.</i> 149 (2021), 1791–1799 (as Rylee Alanza Lyman; 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> (as Rylee Alanza Lyman) Available at arXiv:2005.00164 [Math.GR]	

* In pure mathematics, there is no conventional meaning attached to first or last authorship; almost without exception, joint papers list their authors alphabetically by last name.

GRANTS	NSF Grant DMS-2404322, PI	2024
	<i>Conference: Young Geometric Group Theory XII</i> \$35,000	
	NSF Grant DMS-2202942, PI	2022–2024
	<i>MSPRF PostDoctoral Research Fellowship (Geometric Group Theory)</i> \$150,000	
INVITED TALKS (CONFERENCES)	LG&TBQ 2	June 2025
	Centre de Recherches Mathématiques, Montréal	
	Special Session, AMS Sectional Meeting	Oct 2024
	<i>Geometric group theory</i> , State University of New York at Albany	
	Joint Mathematics Meetings	Jan 2024
	<i>Geometric group theory</i> , San Francisco, CA	
	Fairfield Algebra Regional Meeting	Dec 2023
	Fairfield University	
	Groups, Logic and Dynamics Meeting	Oct 2023
	Rutgers University at New Brunswick	
	Diverse Aspects of Groups, Geometry and Dynamics	Sep 2023
	Heidelberg University	
	Special Session, CMS Summer Meeting	Jun 2023
	<i>Geometric Topology, pseudo-Anosov Maps, and Complex Dynamics</i> , University of Ottawa	
	Geometry of Subgroups	May 2023
	Centre de Recherches Mathématiques, Montréal	
	Special Session, AMS Sectional Meeting	Apr 2023
	<i>Ends and Boundaries of Groups</i> , University of Cincinnati	
	Redbud Topology Conference	Mar 2023
	University of Oklahoma	
	Young Geometric Group Theory XI	Feb 2023
	Westfälische Wilhelms-Universität Münster	
	Wasatch Topology Conference	Aug 2022
	University of Utah, Brigham Young University	
	Big Mapping Class Groups at BC	Aug 2022
	Boston College	
	Joint Mathematics Meetings	Mar 2022
	<i>Topics and Generalizations in Geometric Group Theory</i> , Seattle	
	<i>Low-Dimensional Manifolds</i> , Seattle	
	Special Session, AMS Sectional Meeting	Mar 2022
	<i>Subgroups in Nonpositive Curvature</i> , Tufts University	
	Spring Topology and Dynamical Systems Conference	Mar 2022
	Baylor University	
	World of Geometric Group Theory	Aug 2021
	Groups and Geometry in the South East	June 2021
	Oxford University	
	Nearly Carbon Neutral Geometric Topology	June 2021
	Trends in Low-Dimensional Topology	June 2020
	Special Session, AMS Sectional Meeting	Oct 2019
	<i>Effective and Quantitative Advances in Low Dimensional Topology and Geometric Group Theory</i> , Binghamton University	
	LG&TBQ	June 2019
	University of Michigan	
	Graduate Student Conference in Algebra, Geometry and Topology	June 2019
	Temple University	
	Spring Topology and Dynamical Systems Conference	Mar 2019
	University of Alabama at Birmingham	
INVITED TALKS (SEMINARS)	Geometry & Topology Seminar	Dec 2024
	State University of New York at Buffalo	

Geometry & Topology Seminar Temple University	Mar 2024
Geometric Group Theory Seminar McGill University	Feb 2024
New York Group Theory Seminar City University of New York	Feb 2024
Geometry Seminar University of Virginia	Nov 2023
Topology Seminar Rice University	Nov 2023
Algebra and Cryptology Center Seminar Stevens Institute of Technology	Oct 2023
Special Session, AMS Sectional Meeting <i>Geometric Group Theory</i> , Georgia Institute of Technology	Mar 2023
Topology and Group Theory Seminar Vanderbilt University	Mar 2023
Topology Seminar Princeton University	Mar 2023
Mathematics Colloquium Rutgers University at Newark	Dec 2022
Geometry & Topology Seminar City University of New York	Sep 2022
Mathematics Colloquium State University of New York at Albany	May 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
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

	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
	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
	Geometric Group Theory and Topology Seminar Tufts University	Nov 2018
SERVICE (ORGANIZATION)	(Co-organizer) Young Geometric Group Theory XII	April 2024
	(Co-organizer) AIM Workshop, "Rigidity properties of free-by-cyclic groups"	Oct 2023
	(Co-organizer) Geometric Group Theory Without Boundaries Summer School	July 2021
	(Co-organizer) Geometric Group Theory Without Boundaries Summer School	July 2020
	(Co-organizer) Tufts Directed Reading Program	AY 2018–2019
SERVICE (OUTREACH)	Panelist, "Academic Careers Panel" YGGT XII	April 2024
	Panelist, "US-Based Jobs Panel" YGGT X	July 2021
	Participant, ParaDIGMS Diversity in Graduate Mathematical Sciences conference	Apr 2021
	Panelist, "Gender in Mathematics" Rutgers University	Mar 2021
	Mentor, Tufts Directed Reading Program	Fall 2019
	Mentor, Tufts Directed Reading Program	Summer 2016
TEACHING	Rutgers University	
	Advanced Topics in Topology	Fall 2024
	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

AWARDS	Robert P. Guertin Student Leadership Award finalist Head Teaching Assistant	2020 AY 2019–20
SERVICE	Referee work for <i>Groups, Geom. Dyn., New York J. Math., Proc. Amer. Math. Soc., J. London Math. Soc., Rev. Mat. Iberoam., Topology Proceedings, J. Algebra</i> Reviewing work for zbMath, MathSciNet Treasurer, Tufts Organization of Graduate Students in Mathematics Mathematics Department Graduate Union Steward Mathematics Department Representative, Tufts Graduate Student Council Graduate Student Member, Tufts Committee on Curricula	AY 2018–19 AY 2017–19 AY 2017–18 AY 2017–18
OTHER	Languages: English (native), German (intermediate), Japanese (intermediate) Citizenship: United States of America	