Jerónimo García-Mejía

Personal Data

Email:	jeronimo.garcia-mejia@maths.ox.ac.uk
Website:	jeronimomaths.github.io
Research Interests:	Geometric group theory. In particular, filling functions of groups and spaces, with a focus on Dehn functions, nilpotent groups and their QI-classification, and automorphism groups of non-positively curved groups.

Academic Positions

Dec. 2024 – Present	**University of Oxford**
	Postdoctoral Research Associate
	Mathematical Institute
	Postdoctoral Mentor: Ric Wade

Education

Sept. 2024	**Karlsruhe Institute of Technology**
	PhD in Mathematics, Grade: Magna Cum Laude
	Thesis: *Dehn functions of groups with filiform subgroups*
	Advisor: Jun.-Prof. Claudio Llosa Isenrich
Aug. 2020	**University of Bonn**
	M.Sc. in Mathematics, Grade: 1.8
	Thesis: *Group actions on hyperbolic spaces*
	Advisor: Prof. Ursula Hamenstädt
Apr. 2018	**Universidad Nacional Autónoma de México**
	B.Sc. in Mathematics, Grade: 9.3
	Thesis: *Construction of classifying spaces* (in Spanish)
	Advisor: Prof. Carlos Prieto

Scolarships

2022–2024	**Deutsche Forschungsgemeinschaft** (German Research Foundation)
	PhD Scholarship
2018–2020	**Rosa Luxemburg Stiftung** (Rosa Luxemburg Foundation)
	Scolarship

Publications

1. Jerónimo García-Mejía and Antoine Goldsborough, *Random Dehn function of groups*. To appear in **Journal of Topology and Analysis** (**arXiv**).

Preprints

1. Yu-Chang Chan, Jerónimo García-Mejía, and Matteo Migliorini, *Complete classification of the Dehn functions of Bestvina–Brady groups*, (Jul. 2025), **arXiv:2507.07566**.

2. Jerónimo García-Mejía, Claudio Llosa Isenrich and Gabriel Pallier *On Dehn functions of central products of nilpotent groups*, Submitted, (Oct. 2023), **arXiv:2310.11144**.

Other work containing original research

- *Dehn functions of groups with filiform subgroups.*
  PhD thesis, Karlsruhe Institute of Technology.

- *Group actions on hyperbolic spaces.*
  Master thesis, University of Bonn. Unpublished.

Invited talks

May 2025	*Dehn functions of Bestvina–Brady groups*, Geometric Group Theory Seminar, University of Cambridge, Cambridge, United Kigndom.
July 2024	*Dehn functions of nilpotent groups*, Geometric Group Theory Seminar, University of Oxford, Oxford, United Kingdom.
Apr. 2024	*Dehn functions of nilpotent groups*, Research seminar Model theory and groups, University of Münster, Münster, Germany.
Mar. 2024	*Funciones de Dehn de grupos nilpotentes*, Long-distance seminar in Geometric Group Theory in Mexico, Online Seminar.
Jan. 2024	*Dehn functions of central products of nilpotent groups*, Geometry and Dynamics Seminar, Université de Lille, Lille, France.
Oct. 2022	*The Geometry of the Word Problem*, Baby Geometri Seminar, University of Pisa - Scuola Normale Superiore, Pisa, Italy.
May 2020	*Group actions on hyperbolic spaces*, Junior Geometry Seminar, Heidelberg University, Heidelberg, Germany.

Contributed talks

May 2023	*Lightning Talk*, Conference Geometry of subgroups, Thematic program on Geometric Group Theory, Centre de Recherches Mathématiques, Montréal, Canada.
Feb. 2023	*Lightning Talk*, Young Geometric Group Theory XI, Münster, Germany.
Feb. 2021	*Group actions, hyperbolic spaces and small cancellation*, AG Seminar Metric Geometry, Karlsruhe Institute of Technology, Karlsruhe, Germany.

Conferences and workshops attendance

Jul. 2025	*Actions on graphs and metric spaces* part of the Program Operators, Graphs, Groups, Isaac Newton Institute for Mathematical Sciences, Cambridge, United Kingdom.
Jul. 2025	*Non-positive curvature and applications*, Isaac Newton Institute for Mathematical Sciences, Cambridge, United Kingdom.
Jun. 2025	*The William Rowan Hamilton Geometry and Topology Workshop: Celebrating Martin Bridson's 60th Birthday*, The Hamilton Mathematics Institute, Trinity College Dublin, Dublin, Ireland.

MAY 2025	*Groups and Geometry in South England*, University of Oxford, Oxford, England.
AUG. 2024	*Workshop on Profinite Rigidity*, Karlsruhe Institute of Technology, Karlsruhe, Germany.
APR. 2024	*Young Geometric Group Theory XII*, University of Bristol, Bristol, United Kingdom.
MAR. 2024	*Topological and Homological Methods in Group Theory 2024*, Bielefeld University, Bielefeld, Germany.
JUN. 2023	*Cube complexes and combinatorial group theory* part of the Thematic program on Geometric group theory, Centre de Recherches Mathématiques, Montréal, Canada.
JUN. 2023	*Groups around 3-manifolds* part of the Thematic program on Geometric group theory, Centre de Recherches Mathématiques, Montréal, Canada.
MAY 2023	*Geometry of subgroups* part of the Thematic program on Geometric group theory, Centre de Recherches Mathématiques, Montréal, Canada.
FEB. 2023	*Young Geometric Group Theory XI*, Münster University, Münster, Germany.
JUL. 2022	*Metric Geometry and Geometric Analysis*, MSRI-Oxford Summer Graduate School, Oxford University, Oxford, United Kingdom.
JUN. 2022	*Hyperbolic groups and their generalisations*, Institut Henri Poincaré, Paris, France.
MAR. 2022	*Topological and Homological Methods in Group Theory 2022*, Bielefeld University, Bielefeld, Germany.
FEB. 2022	*Workshop on Finiteness properties*, Karlsruhe Institute of Technology, Karlsruhe, Germany.

EXTENDED VISITS

SEP. 2025	ISAAC NEWTON INSTITUTE Program *Operators, Graphs, Groups*
MAY – JUN. 2023	CENTRE DE RECHERCHES MATHÉMATIQUES Thematic program on *Geometric group theory*

TEACHING EXPERIENCE

My teaching experience as *Teacher's Assistant* covers preparing exercise-sheets, presenting solutions in front of the class, and grading. All of this in Spanish, English, and German.

WINTER 2021/22	*Elementare Geometrie (Elementary Geometry)*, Bachelor course in German at the Karlsruhe Institute of Technology.
SUMMER 2021	*Geometric Group Theory*, Master course in English at the Karlsruhe Institute of Technology.
WINTER 2020/21	*Proseminar Geometrie: Knotentheorie (Knot theory)*, Bachelor Seminar in German at the Karlsruhe Institute of Technology.
WINTER 2017/18	*Analytical Geometry I* and *Topology I*, Bachelor courses in Spanish at Universidad Nacional Autónoma de México.

SERVICES

Aug. 2024	*Organiser of the workshop Profinite Rigidity,* joint with the Universiy of Münster, Regensburg University, and the Karlsruhe Institute of Technology, Karlsruhe, Germany.
Apr. 2022	*Organiser of the RTG "Asymptotic Invariants and Limits of Groups and Spaces" Seminar: Group (co)homology* joint with the Karlsruhe Institute of Technology and Heidelberg University, Germany.
Oct. 2021 – Sep. 2022	*Speaker of the RTG "Asymptotic Invariants and Limits of Groups and Spaces".*