

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

SCHOLARSHIPS

2018–2020 ROSA LUXEMBURG STIFTUNG (Rosa Luxemburg Foundation)
Scholarship

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*, Submitted (Jul. 2025), [arXiv:2507.07566](#).
2. Jerónimo García-Mejía, Claudio Llosa Isenrich and Gabriel Pallier *On Dehn functions of central products of nilpotent groups*, Under review, (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 Unpublished.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 Kingdom.
- 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

- SEP. 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 University 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"*.