

Jerónimo García-Mejía

PERSONAL DATA

EMAIL: jeronimo.maths@gmail.com
WEBSITE: jeronimomaths.github.io
RESEARCH INTERESTS: Geometric group theory. Geometric, combinatorial, and topological methods in group theory. Nilpotent groups and 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)
Scholarship

PUBLICATIONS AND PREPRINTS

- Jerónimo García-Mejía and Antoine Goldsborough, *Random Dehn function of groups*, Submitted, (Nov. 2024), [arXiv:2411.12715](#)
- 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 Unpublished.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

- JULY 2024 *Dehn functions of nilpotent groups*, **Geometric Group Theory Seminar**, Oxford University, Oxford, England.
- 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.
- DEC. 2022 *Dehn functions of central products of nilpotent groups*, AG Seminar: Topology and Geometric Group Theory, Karlsruhe Institute of Technology, Karlsruhe, Germany.
- JAN. 2022 *Bestvina-Brady Morse theory*, GCD Seminar, Karlsruhe Institute of Technology, Karlsruhe, Germany.
- FEB. 2021 *Group actions, hyperbolic spaces and small cancellation*, AG Seminar Metric Geometry, Karlsruhe Institute of Technology, Karlsruhe, Germany.

CONFERENCES AND WORKSHOPS ATTENDANCE

- AUG. 2024 *Workshop on Profinite Rigidity*, Karlsruhe Institute of Technology, Karlsruhe, Germany.
- APR. 2024 *Young Geometric Group Theory XII*, University of Bristol, Bristol, England.
- 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, England.
- JUN. 2022 *Hyperbolic groups and their generalizations*, 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.

TEACHING EXPERIENCE

My teaching experience as a *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 *Organizer of the workshop Profinite Rigidity*, joint with the University of Münster, Regensburg University, and the Karlsruhe Institute of Technology, Karlsruhe, Germany.
- APR. 2022 *Organizer 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"*.

LANGUAGES

SPANISH: Native
 ENGLISH: Fluent
 GERMAN: B1