

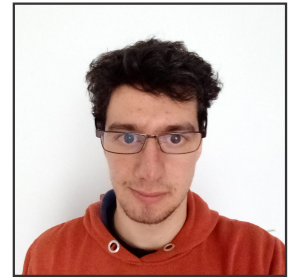
# Giorgio Mangioni

PHD STUDENT AT HERIOT-WATT UNIVERSITY, EDIMBURGH (UK)

Place and date of birth: Milan, 04-02-1999

Residence: Via Pordenone 29, Cologno Monzese, Italy

☎ (+39) 3773229566 | ✉ gm2070@hw.ac.uk | 🏠 poisson.phc.dm.unipi.it/~mangioni/



“A true gentleman leaves no puzzle unsolved.”

## Research interests

I'm mainly interested in Geometric Group Theory, and I especially study Mapping Class Groups of surfaces. Together with my supervisor, Professor Alessandro Sisto (Heriot-Watt University, Edinburgh), I am currently working on some foundational matters about Hierarchically Hyperbolic Spaces. More generally, any topic in Geometric topology, especially if it involves combinatorial and graph-theoretic approaches, or in Hyperbolic geometry, could grab my attention.

## Publications

- *Short hierarchically hyperbolic groups I: uncountably many coarse median structures*, 2024, preprint
- *A combination theorem for hierarchically quasiconvex subgroups, and application to geometric subgroups of mapping class groups*, 2024, preprint
- *Rigidity results for large displacement quotients of mapping class groups*, 2023, preprint
- (with Mark Hagen and Alessandro Sisto) *A Combinatorial Structure for Many Hierarchically Hyperbolic Spaces*, 2023, preprint
- (with Alessandro Sisto) *Rigidity of Mapping Class Groups mod Powers of Twists*, 2022, preprint

## Recent workshops and seminars

- **Geometry and Topology seminar**, on random quotients of a MCG (15/10/2024) Bristol (UK)
- **World of GroupCraft**, on how to amalgamate certain geometric subgroups of a MCG (06/06/2024, VIDEO) Online
- **Advancements in Hierarchical Hyperbolicity**, on quasi-isometries in hierarchically hyperbolic groups (28/05/2024, VIDEO) Banff (Canada)
- **Manifolds and groups in Bologna**, on the rigidity properties of random quotients of MCG (19/04/2023) Bologna (ITA)
- **MAXIMALS**, on the rigidity properties of random quotients of MCG (24/01/2024) Edinburgh (UK)

## Teaching experiences

- 2024-25 **Teaching assistant and marker**, *Calculus A* (first year of undergraduate) Heriot-Watt
- 2024-25 **Teaching assistant**, *Topology* (fourth year of undergraduate) Heriot-Watt
- 2023-24 **Teaching assistant**, *Discrete Maths* (first year of undergraduate) Heriot-Watt
- 2023-24 **Drop-in sessions**, *Mathematics for Engineers and Scientists 2* (first year of undergraduate) Heriot-Watt

## Honors & Awards

- 2022 **Second Prize**, International Mathematics Competition for University Students Blagoevgrad (BGR)
- 2019 **Granted Scholarship**, Scuola Normale Superiore Pisa (ITA)
- 2018 **Bronze medal**, Italian Mathematical Olympiad Final Cesenatico (ITA)
- 2016 **First Place**, Latin Certamen "Beccaria" Milan (ITA)
- 2013 **Second Place**, Kangourou of Computer Science, Italian Team Finals Ravenna (ITA)
- 2012 **Fourth Place**, Kangourou of Mathematics, Italian Individual Finals Ravenna (ITA)

## Education

## Heriot-Watt University

PHD IN MATHEMATICS

Research topic: Hierarchically Hyperbolic Spaces, supervisor prof. A. Sisto

Edinburgh (UK)

September 2023 - present

## Scuola Normale Superiore

SCIENCE CLASS (MATHEMATICS), FINAL GRADE: 100 CUM LAUDE/100

Merit-based 5-years scholarship, covering university fees and all living expenses. It is awarded to 32 Science students every year from all over Italy, and awardees have to take two extra exams per year and keep an average grade of at least 27/30. Moreover they are asked to hold a Colloquium at the end of 5th year, in which I talked about *Rigidity Properties of Random Quotients of Mapping Class Groups*. The final diploma is equivalent to a 2nd level Master.

Pisa (ITA)

October 2018 - October 2023

## University of Pisa

MASTER DEGREE IN MATHEMATICS, FINAL GRADE: 110 CUM LAUDE/110

My Thesis was about *Rigidity of Mapping Class Groups mod powers of Dehn Twists* (supervisor Prof. A. Sisto)

Pisa (ITA)

June 2021 - June 2023

## University of Pisa

BACHELOR'S DEGREE IN MATHEMATICS, FINAL GRADE: 110 CUM LAUDE/110

My Thesis was about *Gromov's approach to Mostow rigidity* (supervisor Prof. R. Frigerio)

Pisa (ITA)

October 2018 - June 2021

## Liceo scientifico Leonardo da Vinci

HIGH SCHOOL DEGREE, FINAL GRADE: 100 CUM LAUDE/100

Cologno Monzese (ITA)

2013 - 2018

## Extracurricular Activities

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### Local church Summer Camp

CHILDREN EDUCATOR

I contributed to the personal development of many children of age from 7 to 13, through games and community life.

Cologno Monzese (ITA)

July-August 2014-2017

### English Summer Camp

ASSISTANT

The organisers of this camp invite some English-speaking educators in order to make children familiar with this language through many activities and lessons. I was in charge of the coordination of the activities and of the relations between the educators and the children.

Cologno Monzese (ITA)

July-August 2016-2018

## Skills

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**Programming languages**, Matlab, C++, LaTeX (intermediate), Python (amateur programmer)

**Soft skills**, Problem solving, critical thinking, teamwork, ability to take on new responsibilities

## Languages

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2023 **English C1**, IELTS Academic, overall band score 8.0

2022 **German A2**, One-year course at SNS

2019 **French B2**, One-year course at SNS

2017 **Latin B2**, Lombard Certification

**Italian**, mother-tongue

## Interests and hobbies

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I like spending time with my friends, hanging out or playing music together (I play the guitar, it helps me shake off the stress). Moreover I am always happy to help others: for example I gave many private lessons to my schoolmates regarding various school subjects, since I believe that knowledge must be shared among as many people as possible. But I also need to take some moments for my personal growth, watching good films, visiting art exhibitions (mostly about painters from the early Twentieth century) and playing videogames.