Giorgio **Mangioni**
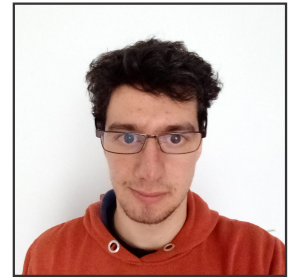
PhD Student at Heriot-Watt University, Edimburgh (UK)

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

- *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

Workshops and seminars

MAXIMALS, on the rigidity properties of (some quotients of) mapping class groups (24/01/2024)	*Edinburgh (UK)*
GLAMS Example showcase, on the centre of the mapping class group of a five-holed sphere (01/12/2023)	*Glasgow (UK)*
Baby geometri seminar, about my master thesis (06/06/2022)	*Pisa (ITA)*

Teaching experiences

2024	**Teaching assistant**, *Discrete Maths* (first year of undergraduate)	*Heriot-Watt*
2024	**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 *Edimburgh (UK)*

PhD in Mathematics *September 2023 - present*

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

Scuola Normale Superiore *Pisa (ITA)*

Science class (Mathematics), final grade: 100 cum laude/100 *October 2018 - October 2023*

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.

University of Pisa

Pisa (ITA)

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

June 2021 - June 2023

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

University of Pisa

Pisa (ITA)

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

October 2018 - June 2021

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

Liceo scientifico Leonardo da Vinci

Cologno Monzese (ITA)

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

2013 - 2018

Extracurricular Activities

Local church Summer Camp

Cologno Monzese (ITA)

CHILDREN EDUCATOR

July-August 2014-2017

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

English Summer Camp

Cologno Monzese (ITA)

ASSISTANT

July-August 2016-2018

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

Skills

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

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

Languages

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

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 expositions (mostly about painters from the early Twentieth century) and playing videogames.