Giovanni Italiano

Curriculum Vitae

Contact Information

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Professional Appointments

2024–Current **Royal Society Newton International Fellow**, *Oxford University*.

I am a Research Fellow at Oxford University, working in Dawid Kielak's group. The project, titled *Fibring of odd-dimensional hyperbolic manifolds*, is funded by the Royal Society.

Education

2019–2024 **PhD in Mathematics**, *Scuola Normale Superiore*, Pisa.

Thesis: Fibering Hyperbolic Manifolds and Hyperbolic Groups, *Advisor: Prof. Bruno Martelli*

2014–2019 **Diploma of "Corso Ordinario"**, *Scuola Normale Superiore*, Pisa, *100/100 cum Laude*.

2017–2019 **Master's Degree in Mathematics**, *University of Pisa, 110/110 cum Laude*.

Thesis: Trisection of 4-manifolds, Advisor: Prof. Bruno Martelli

2014–2017 **Bachelor's Degree in Mathematics**, *University of Pisa, 110/110 cum Laude*.

Thesis: Local Regular Rings and UFDs, Advisor: Prof. Ilaria del Corso

Experience

2014–Present   **Tutor and staff**, *Italian Mathematical Olympiads*.

I have covered multiple roles in the organization of the Italian Mathematical Olympiads (a mathematical competition for high school students). My contributions varied during the years (depending on my other academic responsibilities), and included:
- Grading the problems of the national competition, and the tests for selecting the Italian teams in international competitions;
- Lecturer at the "Stage Senior" (Geometry and Combinatorics - Level Basic)
- Co-organizing the training sessions for the (future) international teams (Geometry in 2014-2015, Combinatorics 2023-Present);
- *Beta-tester* for the competition "Gara di Febbraio", which is held in all Italian provinces, and selects the participants of the national competition;

2020–2023   **Co-organizer**, *"Baby Geometri" Seminars*, University of Pisa and Scuola Normale Superiore.

I was one of the organizers of the Young Geometry and Topology Seminar "Baby Geometri" in Pisa. These are informal seminars mainly addressed to master and PhD students, about classical or research topics.

2022   **Tutor**, *University orientation courses*, Scuola Normale Superiore, Rome and Naples.

I participated in two university orientation courses organized by Scuola Normale, each one lasting one week, aimed at top-level high school students in Italy, with the purpose to offer them the tools to identify and enhance their potential and passions. My responsibilities included holding seminars, and communicating with the students in order to provide them guidance and insights into the university world.

2022   **Teaching Assistant**, *Istituzioni di Geometria*, University of Pisa.

I was responsible for grading and discussing the solutions of the weekly exercises as well as being in the exam commission for the main course in geometry and topology of the Master's degree.

2019–2020   **Tutoring**, *Complementi di Matematica*, Scuola Normale Superiore.

I have been a tutor for first-year students of Scuola Normale, holding weekly meetings with a special focus on high-level exercises.

2019   **Teaching Assistant**, *Analisi 1*, University of Pisa.

I was responsible for grading the exam papers for a Calculus course for first-year Mathematics students.

2018   **Teaching Assistant**, *Geometria 1*, University of Pisa.

I was responsible for grading the exam papers for a Linear Algebra course for first-year Physics students.

Talks and Seminars

Invited Talks

Jul 2024   **TBA**, *Joint Meeting AMS-UMI*, "Developments in Hyperbolic Geometry" special session, Palermo, Italy.

May 2024   **TBA**, *Homology growth in topology and group theory*, MPIM Bonn, Germany.

Jul 2023   **Hyperbolic manifolds that fiber over the circle**, *Group Actions and Low-Dimensional Topology*, El Barco de Avila, Spain.

Mar 2023   **Hyperbolic manifolds that fiber over the circle**, *Manifolds and groups in Bologna*, University of Bologna, Italy.

Contributed Talks

Dec 2021	**Hyperbolic manifolds that fiber over the circle**, *Winter Braids XI*, Dijon, France.
Sep 2021	**Hyperbolic 5-manifolds that fiber over the circle**, *Counting Problems*, Ventotene, Italy.

Other Talks

Sep 2022	**Hyperbolic manifolds that fiber over the circle**, *GTGAPS*, online.
May 2021	**Hyperbolic manifolds and circle-valued functions: a combinatorial approach**, *"Doc in Progress" Seminar*, University of Trento (online).
Nov 2019	**Trisections of 4-Manifolds**, *"Baby Geometri" Seminar*, University of Pisa.
Apr 2018	**Seifert Manifolds**, *Fourth year colloquia*, Scuola Normale Superiore.

Schools, Conferences and Workshops

Jul 2024	**AMS – UMI Joint Meeting**, *Palermo*, Italy. Invited Speaker
Jun 2024	**Combinatorial and Gauge theoretical methods in low dimensional topology and geometry**, *Pisa*, Italy.
May 2024	**Homology growth in topology and group theory**, *MPIM Bonn*, Germany. Invited Speaker
Apr 2024	**Manifolds and groups in Bologna II**, *University of Bologna*, Italy.
Apr 2024	**Young Geometric Group Theory**, *University of Bristol*, UK.
Sep 2023	**Leaning Into Topology Workshop**, *Pisa*, Italy. Organizer
Sep 2023	**GRAZP: Groups and Rigidity Around the Zimmer Program**, *Ventotene*, Italy.
Jul 2023	**International Congress of Basic Sciences**, *Beijing*, China.
Jul 2023	**Group Actions and Low-Dimensional Topology**, *El Barco de Avila*, Spain. Invited Speaker
June 2023	**Cube Complexes and Combinatorial Geometry**, *CRM Montréal*, Canada.
June 2023	**Groups Around 3-Manifolds**, *CRM Montréal*, Canada.
May 2023	**Geometry of Subgroups**, *CRM Montréal*, Canada.
Mar 2023	**Non-positive curvature in manifolds and groups**, *University of Bologna*, Italy.
Mar 2023	**Manifolds and groups in Bologna**, *University of Bologna*, Italy. Invited Speaker
Feb 2023	**Young Geometric Group Theory**, *University of Münster*, Germany.
Sep 2022	**Workshop on Topological Methods in Geometry**, *CRM Barcelona*, Spain.
Sep 2022	**4-Manifolds: from above and below**, *CIRM Marseille*, France.
Dec 2021	**Winter Braids XI**, *Dijon*, France. Contributed talk
Sep 2021	**Counting Problems**, *Ventotene*, Italy. Contributed talk

May 2021	**Topological Workshop**, *Matemale*, France.
Feb 2020	**Winter Braids X**, *Pisa*, Italy.
May 2019	**Topological Workshop**, *Matemale*, France.
Jan 2019	**Winter School on Geometric Structures**, *Nice*, France.

Funding, Scholarships and Awards

2024–2027 Newton International Fellowship, *Royal Society*.
I was awarded a 3-years fellowship with total funding of 420.000£. The grant was awarded to 39 young researchers in the fields of natural sciences, mathematics and engineering.

2024 Frontiers of Science Award, *International Congress of Basic Sciences*, BIMSA, Beijing, China.
This 25.000 $ prize was awarded to the paper *Hyperbolic 5-manifolds that fiber over S^1*, in collaboration with Bruno Martelli and Matteo Migliorini.

2014–2019 Scholarship, *Scuola Normale Superiore*, Pisa, Italy.
I won the scholarship of Scuola Normale, covering university taxes, living, and studying expenses during the five years of the university degree.

2014 INdAM Scholarship, *Istituto Nazionale di Alta Matematica*.
I won a Scholarship for undergraduate Maths students in an Italian university, with value of 4000€/year. Not accepted due to incompatibility with the SNS scholarship.

2014 International Mathematical Olympiads.
- Silver Medal (2014 - Cape Town, South Africa, 109° place).

2013–2014 Balkan Mathematical Olympiads.
- Honorable Mention (2014 - Pleven, Bulgaria);
- Bronze Medal (2013 - Agros, Cyprus).

2011–2014 Italian Mathematical Olympiads, Cesenatico, Italy.
- Gold Medal (2014, 6° place);
- Gold Medal (2013, 6° place);
- Gold Medal (2012);
- Silver Medal (2011).

2011 Banca d'Italia Award, *Banca d'Italia*, Rome, Italy.
I was awarded a prize for being in the top 10 best classified junior students (first two years of high school) in the Italian Mathematical Olympiads. The prize consisted in a two week study trip in England.

Pubblications and pre-prints

2023 *(with B. Martelli and M. Migliorini)* **Hyperbolic 5-manifolds that fiber over S^1**, Invent. math. **231** (2023), 1–38.

2023 *(with B. Martelli and M. Migliorini)* **Hyperbolic manifolds that fibre algebraically up to dimension 8**, Journal of the Institute of Mathematics of Jussieu (2023), 1-38.

Languages

Italian	**Mothertongue**
English	**Fluent**

French **Basic**