Filippo Baroni

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Education

2021 –   **DPhil**, *University of Oxford*
Advisor: Marc Lackenby

2016 – 2021   Student of mathematics at *Scuola Normale Superiore di Pisa*

2019 – 2021   **Master's degree**, *University of Pisa*
Advisor: Carlo Petronio
Degree thesis: *Realisability of branching data with a short partition*

2016 – 2019   **Bachelor's degree**, *University of Pisa*
Advisor: Riccardo Benedetti
Degree thesis: *Singular homology of fibred spaces*

Publications and preprints

2024   "Uniformly polynomial-time classification of surface homeomorphisms", preprint (`arXiv:2402.00231`)

2024   "Classification of genus-two surfaces in S^3", accepted for publication in *Algebraic & Geometric Topology*

2024   "Solution of the Hurwitz problem with a length-2 partition" (with Carlo Petronio), in *Illinois Journal of Mathematics* 68.3, pp. 479-511

2022   "The Proportionality Principle via Bounded Cohomology", in *Bounded Cohomology and Simplicial Volume*, pp. 118–131, Cambridge University Press

Invited speaker

Oct 2024   "BRIJGES seminar", *University of Bristol*
Talk: *Algorithmic classification of surface homeomorphisms*

Jun 2024   "Geometry seminar", *University College London*
Talk: *Algorithmic classification of surface homeomorphisms*

May 2024   "Junior geometry seminar", *University of Cambridge*
Talk: *Algorithmic classification of surface homeomorphisms*

Apr 2024   "Manchester geometry seminar", *University of Manchester*
Talk: *Algorithmic classification of surface homeomorphisms*

Apr 2024   "Purdue topology seminar", *Purdue University*
Talk: *Algorithmic classification of surface homeomorphisms*

Jan 2024   "Log cabin workshop: Big mapping class groups", *Young, AZ, USA*
Talk: *Actions on hyperbolic spaces*

Nov 2023   "DAGGER seminar", *University of Warwick*
Talk: *Navigating the curve graph with train tracks*

Jan 2023	"Log cabin workshop: Surfaces in 3-manifolds", *Young, AZ, USA* Talk: *The virtual fibring theorem*
Mar 2022	"BabyGeometri seminar", *University of Pisa* Talk: *An algorithm for unknot recognition*
Feb 2021	"International young seminar on bounded cohomology and simplicial volume", *online* Talk: *The proportionality principle via bounded cohomology*

Teaching

Oct–Dec 2024	Tutor for *Pure maths*, St Catherine's College, Oxford
Apr–Jun 2024	Tutor for *Pure maths*, St Catherine's College, Oxford
Jan–Mar 2024	Tutor for *Pure maths and Graph theory*, St Catherine's College, Oxford
Oct–Dec 2023	Tutor for *Pure maths*, St Catherine's College, Oxford
Apr–Jun 2023	Tutor for *Graph theory*, St Catherine's College, Oxford
Jan–Mar 2023	Tutor for *Low-dimensional topology and knot theory*, University of Oxford
Oct–Dec 2022	Tutor for *Set theory*, University of Oxford
Oct–Dec 2022	Tutor for *Graph theory*, St Catherine's College, Oxford
Apr–Jun 2022	Tutor for *Graph theory*, St Catherine's College, Oxford
Jan–Mar 2022	Teaching assistant for *Low-dimensional topology and knot theory*, University of Oxford
Oct–Dec 2021	Teaching assistant for *Geometry of surfaces*, University of Oxford

Updated on November 20, 2024.