Yassine GUERCH ENS-Lyon UMR CNRS 5669 Universite de Lyon, UMPA, 69007 Lyon, France email: yassine.guerch@ens-lyon.fr Webpage: http://perso.ens-lyon.fr/yassine.guerch/

Education

2022-2024	Postdoctoral position at UMPA, ENS de Lyon Advisor: Damien Gaboriau
2019–2022	Ph.D thesis at Université Paris-Saclay Subject: Geometry, dynamics and rigidity of automorphism groups of free products Advisors: Camille Horbez and Frédéric Paulin
2018–2019	Second year of master in mathematics Analysis, Arithmetic, Geometry Université Paris-Saclay Master thesis: <i>Rigidity phenomenon in the mapping class group of a</i> <i>surface</i> Advisor: Camille Horbez
2016-2019	École normale supérieure, Paris
2015-2016	Exchange student at University of California at Los Angeles
2013-2016	Double diploma in social sciences and mathematics Sciences Po, UPMC (Université Paris 6)

Papers

Preprints

- On the homology growth and the ℓ^2 -Betti numbers of $Out(W_n)$, with Damien Gaboriau and Camille Horbez, arXiv:2209.02760 (2022), under revision for Ann. Inst. Fourier
- Homology growth of polynomially growing mapping tori, with Naomi Andrew, Sam Hughes and Monika Kudlinska, arXiv:2305.10410 (2023)
- Centralisers and the virtually cyclic dimension of $Out(F_N)$, with Sam Hughes and Luis Jorge Sánchez Saldaña, arXiv:2308.01590 (2023)

- Folding median graphs, with Anthony Genevois and Romain Tessera, arXiv:2311.09751 (2023)
- Suspensions of relatively hyperbolic groups and the Farrell–Jones Conjecture, with Naomi Andrew and Sam Hughes, arXiv:2311.14036 (2023)

Accepted and published papers

- Automorphismes du groupe des automorphismes d'un groupe de Coxeter universel arXiv:2002.02223 (2020), accepted in Algebr. Geom. Topol.
- Currents relative to a malnormal subgroup system arXiv:2112.01112 (2021), accepted in Ann. Fac. Sci. Toulouse Math. (6)
- Roots of outer automorphisms of free groups and centralizers of abelian subgroups of $Out(F_N)$, arXiv:2212.07674 (2022), accepted in Michigan Math. J.
- The symmetries of the Outer space of a universal Coxeter group Geom. Dedicata **216** (2022) Paper n°39
- Commensurations of the outer automorphism group of a universal Coxeter group Groups Geom. Dyn. 17 (2023) 923–983
- North-South type dynamics of relative atoroidal automorphisms of free groups on a relative space of currents Conform. Geom. Dyn. 27 (2023) 161–263
- Polynomial growth and subgroups of $Out(F_n)$ Ann. H. Lebesgue 6 (2023) 595-625

Talks

- November 2023: Algebra and geometry seminar, Caen, France
- October 2023: Séminaire SPACE Tours, Tours, France
- September 2023: Long-distance seminar on Geometric Group Theory in Mexico, virtual seminar
- March 2023: Topology and Dynamical Systems Conference, virtual conference
- February 2023: Geometric Group Theory seminar, Cambridge, United Kingdom
- February 2023: Séminaire géométrie dynamique, Lille, France
- January 2023 : Groupe de travail "Actions!", Lyon, France
- November 2022: Paroles aux jeunes chercheuses et chercheurs en géométrie et dynamique, Orsay, France

- November 2022: Séminaire topologie, Grenoble, France
- October 2022: Séminaire Géométrie, groupes et dynamique, Lyon, France
- September 2022: Séminaire Darboux, Montpellier, France
- September 2022: World of Groupcraft II, virtual conference
- May 2022: Geometry and topology seminar, Toulouse, France
- April 2022: Ergodic theory seminar, Rennes, France
- March 2022: Groups and operator algebra seminar, Orsay, France
- March 2022: Algebra and geometry seminar, Caen, France
- February 2022: Rauzy seminar, Marseille, France
- July 2021: Graduate student seminar, Rennes, France
- June 2021: Beyond Hyperbolicity at Ohio State University, virtual conference
- June 2021: Geometric and Asymptotic Group Theory with Applications, virtual conference
- June 2021: Graduate student seminar, Orsay, France
- May 2021: Graduate student conference in Algebra, Geometry and Topology at *Philadelphia*, virtual conference
- January 2021: French seminar of groups and geometry, virtual seminar
- November 2020: Tea-Seminar at Muenster, virtual seminar

Attended conferences

- October 2023: Rigidity properties of free-by-cyclic groups, Los Angeles, USA
- August 2023: Coarse geometry and dynamics, Lyon, France
- May 2023: Measured Group Theory, Stochastic Processes on Groups and Borel Combinatorics, Luminy, France
- March 2023: Spring school in geometry and dynamics, Lille, France
- April-July 2022: Groups Acting on Fractals, Hyperbolicity and Self-similarity, IHP, Paris, France
- July 2021: Young Geometric Group Theory X, virtual conference

- July 2021: Artin Groups, CAT(0) geometry and related topics, virtual conference
- December 2020: Young researchers conference in geometry and dynamics, virtual conference
- July 2020: Geometric Group Theory without boundaries, virtual conference
- February 2020: Young Geometric Group Theory IX, Saint-Jacut de la mer, France
- September 2019: Outer space in Bielefeld, Bielefeld, Germany

Teaching

2019–2022	 Exercise sessions at Université Paris-Saclay for the courses: Statistics (2nd year biology students) General mathematics (2nd year economy students) Differential equations (2nd year chemistry students) Arithmetic (2nd year math students)
2018	Parimaths: Exercise sessions for high school students in Paris

Languages

French	Native
English	Fluent (IELTS 7, 2015)