

Amandine Escalier

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Academic career

- Sept 2023 — **Post-doc**, CNRS, *Institut de Mathématiques d'Orsay, Université Paris Saclay*, Orsay (France)
Aug. 2025 Member of the ERC Starting Grant project “Artin groups, mapping class groups and $\text{Out}(Fn)$: from geometry to operator algebras via measure equivalence” led by Camille Horbez.
- Oct. 2021 — **Post-doc**, *University of Münster*, Münster, Germany
Aug. 2023 Member of Linus Kramer’s team.

Ph.D (2018–2021)

- Title **Local and Asymptotic Geometry of Groups**
Subtitle Buildings and LG-rigidity — Measure and Orbit Equivalence
Advisors Romain Tessera, Jérémie Brieussel
Institution *Institut de Mathématiques de Jussieu - Paris Rive Gauche – UMR 7586*

Formation

- 2017 - 2018 **Master degree “Fundamental Mathematics”**, *Université Pierre et Marie Curie*, Paris
July 2017 Accepted to the french *agrégation de mathématiques*
- 2015 - 2016 **First year of master degree in mathematics (M1)**, *Université Claude Bernard*, Lyon
- 2014 - 2015 **Bachelor degree (L3)**, *École Normale Supérieure de Lyon*, Lyon
July 2014 Accepted to the *École Normale Supérieure de Lyon*, ranked third to the entrance examination for university students

Research work

Publications

- Feb. 2022 **Building prescribed quantitative orbit equivalence with the group of integers**
Publié en ligne dans *Groups, Geometry and Dynamics* (2024), arXiv:2202.10312
- Aug. 2020 **Local-to-Global-rigidity of lattices in $\text{SL}_n(\mathbb{K})$**
Annales de l'Institut Fourier, Tome 72 (2022) no. 5, pp. 1733-1771. arXiv:2008.07250

Prepublications

- Jan. 2024 **Graph products and measure equivalence: classification, rigidity, and quantitative aspects**
Joint work with Camille Horbez, arxiv:2401.04635
- May 2022 **Sofic approximations and quantitative measure couplings**, arXiv:2205.12137

Research stays

- July 2022 **Institut Henri Poincaré**, Paris, 1 week
Invited by Camille Horbez

Talks

Conferences as invited speaker

- Sept. 2024 Conference *Probability, Dynamics, and the Geometry of Group*, Münster
- Sept. 2024 Conference *Buildings 2024*, Münster
- July 2024 Conference *Équivalence orbitale*, Besse-en-Chandesse, (Mini-cours de 3h)

- Nov. 2023 Conference *Bruhat-Tits buildings and applications*, Poitiers
- Sept. 2023 Workshop *Leaning into Topology*, Pisa, Invited, but participation cancelled
- June 2023 Conference *Groups and operator algebra*, IMO, Orsay
- Mar. 2023 Workshop *Measured group theory*, CRM, Montréal
- Nov 2022 Conference *Group Actions: Dynamics, Measure, Topology*, Münster
- Sept. 2022 Series of talks on measure equivalence, *Organised by Lewis Bowen*, Online
- May 2022 Conference *Low-dimensional geometry, topology, and dynamics*, Sète
- Nov. 2021 Annual conference of the research group “*Geometry, Dynamic and Probability (Platon)*”, Marseille
- June 2021 Annual conference of the french ANR grant “*Operator Algebras and group dynamics*”, Paris
- Dec. 2020 Annual conference of the research group “*Non-commutative Geometry*”, *Online conference*

Conferences (without invitation)

- Nov. 2023 Forum for young mathematicians, *ULB*, Bruxelles
- Aug. 2023 Conference “*Coarse Geometry and Dynamics*”, *ENS de Lyon*, Lyon
- Oct. 2021 Conference “*Buildings 2021*”, *Otto-von-Guericke-University*, Magdeburg

Seminars

- 2024 Nantes, Montpellier, Rennes, Lille, Strasbourg, Dijon, Leuven, Avignon
- 2023 Münster, Orsay, Münster, Orsay, Bristol
- 2022 Oxford, Lyon, Clermont-Ferrand, Münster, Dijon, Bordeaux
- 2021 Münster, Montpellier, Orsay, Séminaire Virtuel Francophone
- 2020 Paris, Montpellier

Teaching

- Sept. 2023 - Teaching assistant (48h/year), *Université Paris-Saclay*, Orsay
- July 2024 Tutorial of linear algebra for first and second year students in mathematics
- Oct. 2021 - Author of exercise sheets, *WWU Münster*, Münster
- Feb. 2022 Writing the exercise sheets and their solutions for the course “geometric group theory” for third year students, taught by Prof. Kramer.
- Sept. 2018 - Teaching assistant (64h/year), *Université Paris Diderot*, Paris
- June 2020 2018-2019 Tutorial of general analysis and algebra for first year students in physics-chemistry.
2019-2020 Oral interrogations for first year students in mathematics. Tutorial of arithmetics and group theory for second year student in computer science.

Attended conferences and research schools

- Nov. 2023 Bruhat-Tits buildings and applications, Poitiers
- Nov. 2023 Forum for the young mathematicians, *Université Libre de Bruxelles*
- Sept. 2023 Coarse Geometry and Dynamics, *ENS de Lyon*
- June 2023 Groups and operator algebra, IMO, Orsay
- May 2023 Measured Group Theory, Stochastic Processes on Groups and Borel Combinatorics, Marseille
- Mar. 2023 Measured group theory, CRM, Montréal
- Feb. 2020 Young Geometric Group Theory (YGGT) XI, Münster
- Nov 2022 Group Actions: Dynamics, Measure, Topology, Münster
- June 2022 Self-similarity of groups, trees and fractals, IHP, Paris
- May 2022 Low-dimensional geometry, topology, and dynamics, Sète
- May 2022 Workshop “Operator algebras and Group Dynamics”, CIRM, Marseille
- Apr. 2022 Research school “Groups Acting on Fractals”, CIRM, Marseille
- Apr. 2022 Topological and Homological Methods in Group Theory, Bielefeld

- Mar. 2022 Geometric Structures in Group Theory, Oberwolfach
- Dec. 2020 Winter school “Totally Disconnected Locally Compact Groups”, EPFL, Lausanne
- Oct. 2020 Measured and Geometric Group Theory, Rigidity, Operator Algebras, CIRM, Marseille
- Feb. 2020 Young Geometric Group Theory (YGGT) IX, Saint-Jacut-de-la-Mer
- Oct. 2019 Oberwolfach Seminar “Growth in Finite and Infinite Groups”, Oberwolfach
- Aug. 2019 Geometry and approximation, Dresden
- July 2019 Summer school “Aspects of Geometric Group Theory”, Bures-sur-Yvette
- June 2019 Young Geometric Group Theory (YGGT) VIII, Bilbao
- Mar. 2019 Meeting of the ANR project “GAMME”, Saint-Étienne-de-Tinée
- Jan. 2019 Winter school “Geometric Group Theory”, CIRM, Marseille

Scientific mediation and associative activities

Responsabilities

- Since 2018 Proofreader for the editorial board of the association MATH.en.JEANS
- Since 2024 Member of the **parity committee** of the Institute, *IMO*, Orsay
- April 2022 Member of the task force “*Helping mathematicians from Ukraine*”, *WWU Münster*
Task force in charge of allocating scholarships and hosting solutions for Ukrainian students and researchers
- Spring 2021 Co-author of a survey on sexual violence within *IMJ-PRG*
Survey to assess gender-based and sexual violence experienced by doctoral students.
- Apr. 2019 - Member of the Ph.D students board, *IMJ-PRG*, Paris
July 2020

Talks

- Jan. 2024 “**Maths en Herbes**” Days, *IHES*, Bures-sur-Yvette
Short talk (25 min) présentant géométrique group theory to undergraduate students
- Feb. 2023 Lightning talk at the YGGT, *Münster*
Short talk (5 min) introducing orbit equivalence to an audience of non-specialists
- Juin 2022 Post-doc Colloquium, *WWU Münster*
Short talk describing my research to the members of the Institute
- Apr. 2019 Master-Ph.D meeting, *Université Paris Diderot*, Paris
Short talk describing my Ph.D subject to master students

Languages

- French Mother tongue
- English Conversationnal

Other Activities

- Sport Swimming since 2004, including six years of sports-study (from 11 to 17 years old) to an interregional level.
- Associative Member of the editorial board of the student newspaper of the ENS de Lyon from 2015 to 2020.