Rémi Barritault

Last year Ph.D. Student in Mathematics
Université Claude Bernard Lyon 1, France
barritault@math.univ-lyon1.fr · rbarritault.github.io

RESEARCH INTERESTS

Unitary Representations, Property (T), Polish Groups, Permutation Groups, Topological dynamics, Model Theory, Stability, Fraïssé Limits, Ergodic Theory.

EDUCATION

2023–present	**Ph.D. in Mathematics**, Université Claude Bernard Lyon 1, France. Supervisors: Todor Tsankov and Christian Rosendal. Thesis: *Dynamics and Geometry of Locally Roelcke-Precompact Polish Groups.*
Sept. 2024 – June 2025	**Second Year of PhD**, Research stay with Christian Rosendal at the University of Maryland, College Park, USA.
2022	**M.Sc. in Mathematics**, École Normale Supérieure de Lyon, Lyon, France.
2020	**B.Sc. in Mathematics**, École Normale Supérieure de Lyon, Lyon, France.

SCIENTIFIC PRODUCTIONS

- **Unitary Representations of Universal Burger-Mozes Groups in Infinite Arity**,
  in preparation.
- **On dissociated Infinite Permutation groups**,
  with Colin Jahel and Matthieu Joseph. *Preprint. arXiv:2504.14057.*
- **Unitary Representations of the Isometry Groups of Urysohn Spaces**,
  with Colin Jahel and Matthieu Joseph. *Submitted. arXiv:2410.01725.*
- **Tannaka–Krein Duality for Roelcke-Precompact Non-Archimedean Polish Groups**,
  accepted in Fundamenta Mathematicae, 2024. arXiv:2403.20077.

TALKS AND CONFERENCES

SEMINARS AND WORK GROUPS

2025

A New Approach to the Representation Theory of $\mathrm{Aut}(\mathbf{T}_\infty)$**,**
   Seminar: Groupes et Théorie des Modèles, IMJ-PRG, Paris, France.

Unitary Representations of Permutation Groups,
   Two-session lecture, Work group: Geometric Group Theory and its Coarse Neighbourhood, IMJ-PRG, Paris, France.

Spaces with measured walls, the Haagerup property and Property (T),
   Work group: Groups and Sets, University of Maryland, College Park, USA.

Irreducible representations of infinite-dimensional Burger–Mozes groups,
   Three-session lecture, Work group: Groups and Sets, University of Maryland, USA.

2024

Dissociation of unitary representations and the Urysohn spaces,
   Three-session lecture, Work group: Groups and Sets, University of Maryland, USA.

Tannaka–Krein Duality for Roelcke-precompact non-Archimedean Polish groups,
  Logic Seminar, University of Maryland, USA,
  Seminar: Groupes et Actions, Orsay, France,
  Operator Algebra Seminar, IMJ-PRG, Paris, France,
  Logic Seminar, Institut Camille Jordan, Lyon, France.
Le Théorème de Glimm,
  Two-session lecture with Basile Morando, Work group: Groupes de Type I, UMPA, ENS de Lyon, Lyon, France.

INTERNATIONAL CONFERENCES

2025
Dissociated permutation groups,
  Groups and Dynamics, Aussois, France.
Dissociation phenomena in higher generality and Burger–Mozes universal groups on the $\aleph_0$-regular tree,
  Ergodic Theory and Isometric Representations of Polish Groups, Marcoux, France.

TEACHING

2025–2026	**Undergraduate Teaching, Université Claude Bernard Lyon 1, France.** (64h) Tutorials for *Mathematics 2* (L1) and *Mathematics 4* (L2); Labs for *Analysis 2* (L1); Oral exams in Algebra and Analysis.
2024–2025	**Tutor, Directed Reading Program, University of Maryland, USA.** (20h) *Fall Semester: Introduction to Dynamical Systems and Chaos Theory; Spring Semester: The Krein–Milman Theorem.*
2023–2024	**Undergraduate Teaching, Université Claude Bernard Lyon 1, France.** (64h) Tutorials for *Mathematics 2* (L1) and *Mathematics 4* (L2); Labs for *Analysis 2* (L1); Oral exams in Algebra and Analysis.
2020–2021	**Oral examiner, Lycée La Martinière Monplaisir, Lyon.** (48h) Preparatory classes for Grandes Écoles entrance exams.

RESEARCH INTERNSHIPS AND VISITS

2024–2025	**Doctoral Research Visit**, *Second year of Ph.D*, with Christian Rosendal, University of Maryland, College Park, USA.
Summer 2023	**Predoctoral Research Internship**, *Dynamics and Geometry of Locally Roelcke-Precompact Polish Groups*, Institut Camille Jordan, Lyon. Supervised by Todor Tsankov.
Fall 2023	**Predoctoral Research Internship**, *Model Theory of Groups*, Münster University, Germany. Supervised by Katrin Tent.
Summer 2022	**Master's Thesis 2**, *Structure and Geometry of Polish Groups*, University of Maryland, USA. Supervised by Christian Rosendal.
Summer 2021	**Master's Thesis 1**, *Continuous Logic and Model Theory*, Institut Camille Jordan, Lyon. Supervised by Todor Tsankov.
Summer 2020	**Bachelor's Thesis**, *General Model Theory*, Institut Camille Jordan, Lyon. Supervised by Itaï Ben Yaacov.