

Amaury FRESLON

Citizenship : French

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Positions

- **Junior member** Orsay, France
Institut Universitaire de France 09/2025 - 08/30
- **Invited Professor** Bures-sur-Yvette, France
IHES 2022 - 2023
- **Maître de Conférences** Orsay, France
Université Paris-Saclay 2015 - present
- **Post-doctoral researcher** Saarbrücken, Germany
Universität des Saarlandes 2014 - 2015
- **Ph.D. student** Paris, France
University Paris VII 2011 - 2014

Education

- **Habilitation in Mathematics** Orsay, France
University Paris-Saclay 2019
— Thesis : Studies of free quantum groups : Analysis, Algebra and Probability
- **Ph.D. in Mathematics** Paris, France
University Paris VII 2013
— Title : Approximation properties for discrete quantum groups
— Advisor : Étienne BLANCHARD
- **École Normale Supérieure** Paris, France
Studies in Mathematics 2007 - 2011

Publications and preprints

32. *Free inhomogeneous wreath product of compact quantum groups* (with J. van Dobben de Bruyn, P. Nigam Kar, D. Roberson and P. Zeman), Arxiv preprint.
31. *Noncommutative properties of 0-hyperbolic graphs* (with P. Meunier and P. Pournajafi), Arxiv preprint.
30. *Block structures of graphs and quantum isomorphism* (with P. Meunier and P. Pournajafi), Arxiv preprint.

29. *Gaussian Generating functionals on easy quantum groups* (with A. Skalski and U. Franz), to appear in J. Theoret. Probab.
28. *Tracial central states on compact quantum groups* (with A. Skalski and S. Wang), J. Funct. Anal. **289**, n° 7 (2025), 110988.
27. *Discrete quantum subgroups of free unitary quantum groups* (avec M. Weber), J. London Math. Soc. **111**, n° 2 (2025), e70070.
26. *Advances on quantum permutation groups*, in *Advances in functional analysis and operator theory* (M.V. Markin, I.V. Nikolaev and C. Trunk eds.), Contemp. Math. **798** (2024), pp. 153-197.
25. *Classical actions of quantum permutation groups* (avec F. Taïpe et S. Wang), to appear in J. Operator Theory (2025).
24. *The Gaussian part of a compact quantum group* (avec U. Franz et A. Skalski), J. Geom. Phys. **184** (2023), pp. 104710.
23. *Tannaka-Krein reconstruction and ergodic actions of easy quantum groups* (avec F. Taïpe et S. Wang), Comm. Math. Phys. **399** (2023), pp. 105–172.
22. *Free wreath products with amalgamation*, Comm. Alg. **51** (2023), n° 1, pp. 72–94.
21. *Cutoff profiles for quantum Lévy processes and quantum random transpositions* (avec L. Teyssier et S. Wang), Probab. Theory Related Fields **183** (2022), pp. 1285–1327.
20. *On the classification of partition quantum groups*, Exp. Math. **30** (2021), n° 2, pp. 238–270.
19. *Positive definite functions and cut-off for discrete groups*, Canad. Math. Bull. **64** (2021), n° 2, pp. 306–322.
18. *Topological generation and matrix models for quantum reflection groups* (avec M. Brannan et A. Chirvasitu), Adv. Math. **363** (2020), 106982.
17. *On the representation theory of some noncrossing partition quantum groups*, Algebr. Represent. Theory **23** (2019), n° 3, 483–492.
16. *Quantum reflections, random walks and cut-off*, Internat. J. Math. **27** (2018), n° 14, 1850101.
15. *Cut-off phenomenon for random walks on free orthogonal quantum groups*, Probab. Theory Related Topics **174** (2019), n° 3–4, pp. 731–760.
14. *Torsion and K-theory for some free wreath products* (avec R. Martos), Int. Math. Res. Not. **2020** (2020), n° 6, pp. 1639–1670.
13. *On two-coloured noncrossing partition quantum groups*, Trans. Amer. Math. Soc. **372** (2019), n° 6, pp. 4471–4508.
12. *Modelling questions for quantum permutations* (avec T. Banica), Infin. Dimens. Anal. Quantum Probab. Relat. Top. **21** (2018), n° 2, 1–26.
11. *The radial MASA in free orthogonal quantum groups* (avec R. Vergnioux), J. Funct. Anal. **271** (2016), n° 10, pp. 2776–2807.
10. *Wreath products of quantum groups by finite groups* (avec A. Skalski), J. Noncommut. Geom. **12** (2018), n° 1, pp. 29–68.
9. *On the partition approach to Schur-Weyl duality and free quantum groups* (avec un appendice de A. Chirvasitu), Transform. Groups **22** (2017), n° 3, pp. 707–751.
8. *On bi-free de Finetti theorems* (avec M. Weber), Ann. Math. Blaise Pascal **23** (2016), n° 1, pp. 21–51.
7. *Permanence of approximation properties for discrete quantum groups*, Ann. Inst. Fourier **65** (2015), n° 4, pp. 1423–1436.
6. *Fusion (semi)rings arising from quantum groups*, J. Algebra **417** (2014), pp. 161–197.
5. *On the representation theory of partition (easy) quantum groups* (avec M. Weber), J. Reine Angew. Math. **720** (2016), pp. 155-197.

4. *Graphs of quantum groups and K -amenability* (avec P. Fima), Adv. Math. **260** (2014), pp. 233-280.
3. *CCAP for universal discrete quantum groups* (avec K. De Commer et M. Yamashita et un appendice de S. Vaes), Comm. Math. Phys. **331** (2014), n° 2, pp. 677–701.
2. *Examples of weakly amenable discrete quantum groups*, J. Funct. Anal. **265** (2013), n° 9, pp. 2164–2187.
1. *A note on weak amenability for reduced free products of discrete quantum groups*, C. R. Acad. Sci. Paris Ser. I, **350** (2012), n° 7–8, pp. 403–406.

Book

- *Compact matrix quantum groups and their combinatorics*, LMS Student Texts in Mathematics, Cambridge University press (2023).

Reports

3. *Partition actions of partition quantum groups*, Oberwolfach reports **44** (2021).
2. *On the classification of non-crossing partition quantum groups*, Oberwolfach reports **45** (2019).
1. *Cut-off for quantum random walks*, Oberwolfach reports **22** (2018).