

BRUNE MASSOULIÉ

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EDUCATION

PhD student - Université Paris-Dauphine <i>Under the supervision of Cristina Toninelli and Clément Erignoux.</i>	2023 - 2026
M2 Mathématiques de l'aléatoire - Institut Polytechnique de Paris <i>Master's degree in Probability and Statistics.</i>	2022 - 2023
Diplôme d'ingénieur de l'Ecole polytechnique - Ecole polytechnique <i>Master's degree in Engineering and Science. General engineering curriculum with a specialisation in Applied Mathematics.</i>	2019 - 2023
Classe préparatoire scientifique - Lycée Hoche, Versailles <i>Intense preparation for the Grandes Ecoles competitive exams; courses in mathematics, physics and computer science.</i>	2017-2019
Baccalaureate (Option Internationale du Baccalauréat, British version) <i>with high honours</i>	2017

PUBLICATIONS AND PRE-PUBLICATIONS

- B. Massoulié, C. Erignoux, C. Toninelli, W. Krauth, *Velocity trapping in the lifted TASEP and the true self avoiding random walk*, preprint (2025), [arXiv:2503.10575](https://arxiv.org/abs/2503.10575)
- B. Massoulié, *Cutoff for the mixing time of the Facilitated Exclusion Process*, preprint (2024), [arXiv:2412.04032](https://arxiv.org/abs/2412.04032)
- C. Erignoux, B. Massoulié, *Cutoff for the transience and mixing time of a SSEP with traps and consequences on the FEP*, preprint (2024), [arXiv:2403.20010](https://arxiv.org/abs/2403.20010)
- Q. Berger, B. Massoulié, *Wetting on a wall and wetting in a well: Overview of equilibrium properties*, Stochastic Process. Appl., Vol. 170 (2024), Special issue in tribute to Francis Comets, <https://doi.org/10.1016/j.spa.2024.104299>
- P. Carloti, B. Massoulié, A. Morez, A. Villaret, L. Jing, T. Vrignaud, A. Pfister, *Respiratory pandemic and indoor aeramics of classrooms*, Building and Environment Vol. 212 (2022), <https://doi.org/10.1016/j.buildenv.2022.108756>.

TALKS

Séminaire de Probabilités de l'IRMAR , Rennes	May 2025
Séminaire de Probabilités commun ICJ/UMPA , Lyon	May 2025
Recent developments on mixing times , Simons Center for Geometry and Physics, Stony Brook	Mar. 2025
Séminaire SuPerGRandMa , Orsay	Nov. 2024
Séminaire de Probabilités du LAGA , Paris	Nov. 2024
Rencontres de Probabilités , Rouen	Sep. 2024
Mixing Times Workshop with Applications to Theoretical Computer Sciences , Bath	Sep. 2024
Ecole d'Été de Probabilités de Saint Flour	Jul. 2024
University of Warwick Probability Seminar , Coventry	May 2024
Après-midi des lycéennes à Dauphine	Feb. 2024
Young Researchers Seminar du CEREMADE	Oct. 2023

POSTERS

Conference on Mixing Times between Probability, Computer Science and Statistical Physics , Trieste	<i>May 2025</i>
Particle Systems and PDEs (PSPDE) , Trieste	<i>Sep. 2024</i>
French Japanese Conference on Probability & Interactions , IHES	<i>Mar. 2024</i>

TEACHING

Teaching assistant - Summer School on Local Limits of Random Graphs - Université Paris-Saclay	<i>June 2025</i>
TD - Poisson Processes , M1, Université Paris Dauphine	<i>2024 - 2025</i>
TD - Probabilités 2 , L2, Université Paris Dauphine	<i>2023 - 2024</i>
TD - Modèles déterministes et probabilités finies , L1, Université Paris Dauphine	<i>2023 - 2024</i>
Mathematics examiner in Classes Préparatoires , MP2I and MP*, Lycée Hoche, Versailles	<i>2022 - 2023</i>

WORK EXPERIENCE

INRIA, Laboratoire Paul Painlevé, Villeneuve d'Ascq <i>Research internship supervised by Clément Erignoux</i> Study of the transience time of the Facilitated Exclusion Process (FEP)	<i>April 2023 - August 2023</i>
Laboratoire de probabilités, statistique et modélisation, Paris <i>Research internship supervised by Quentin Berger - Rewarded with the "Félicitations" of Ecole polytechnique</i> Generalisation of a polymer wetting model, study of a phase transition in this model using the free energy	<i>April 2022 - August 2022</i>
Reverso, Neuilly-sur-Seine <i>Junior data analyst</i> . Study of a grammatical correction tool, analysis and improvement of a text corpus	<i>June 2021 - August 2021</i>
French National Gendarmerie, Villefranche-de-Rouergue <i>Aspirant in the Groupe de Commandement</i> . Training the new recruits, operational work	<i>December 2019 - March 2020</i>

SKILLS

Languages:	French (fluent, first language), English (fluent, first language), Spanish (B2 level), Italian (B1 level)
Programming:	Julia, Python, C++, Java, OCaml
Software & Tools:	LaTeX, Git, Adobe, Microsoft Office