

BRUNE MASSOULIÉ

🔗 <https://b-massoulie.github.io>

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CURRENT POSITION

Postdoctoral researcher - University of Augsburg 2026 - 2028
Working with Dominik Schmid

EDUCATION

PhD – Université Paris Dauphine - PSL 2023 - 2026
Under the supervision of Cristina Toninelli and Clément Erignoux.

M2 Mathématiques de l'aléatoire – Institut Polytechnique de Paris 2022 - 2023
Masters degree in Probability and Statistics.

Diplôme d'ingénieur de l'Ecole polytechnique – Ecole polytechnique 2019 - 2023
Masters in Engineering and Science. Specialisation in Applied Mathematics.

Classe préparatoire scientifique – Lycée Hoche, Versailles 2017 - 2019
Intense preparation for the French Grandes Ecoles competitive exams; mathematics, physics and computer science.

Baccalaureate (Option Internationale du Baccalauréat, British version) 2017
with high honours

PUBLICATIONS AND PRE-PUBLICATIONS

B. Massoulié, *Cutoff for the mixing time of the Facilitated Exclusion Process*. Stochastic Processes and Their Applications 197, 104933, 2026

B. Massoulié, C. Erignoux, C. Toninelli, W. Krauth, *Velocity Trapping in the Lifted Totally Asymmetric Simple Exclusion Process and the True Self-Avoiding Random Walk*. Physical Review Letters 135, 127102, 2025

C. Erignoux, B. Massoulié, *Cutoff for the transience and mixing time of a SSEP with traps and consequences on the FEP*. Accepted in Annales de l'Institut Henri Poincaré, Probabilités et Statistiques, 2025

Q. Berger, B. Massoulié, *Wetting on a wall and wetting in a well: Overview of equilibrium properties*. Stochastic Processes and their Applications 170, 104299, 2024

P. Carloti, B. Massoulié, A. Morez, A. Villaret, L. Jing, T. Vrignaud, A. Pfister, *Respiratory pandemic and indoor aerualics of classrooms*. Building and Environment 212, 108756, 2022

TALKS

Random Interacting Systems, Padova Sep. 2026

Journées MAS, Lyon Aug. 2026

Séminaire Probabilités et Statistiques, Orsay Jun. 2026

Passing the torch: a journey through Probability and Mathematical Physics with Fabio, L'Aquila Jun. 2026

Recent progress on self-interacting processes and non-reversible Monte-Carlo, Paris May 2026

Séminaire informel de probabilités du DMA, Paris May 2026

Probability Colloquium Augsburg-Munich, May 2026

Les Probabilités de Demain, Paris Feb. 2026

Seminar of MODAL'X, Nanterre Jan. 2026

Matinée du CEREMADE, Paris Jan. 2026

Oberseminar in Stochastics, Bonn Jan. 2026

Stochastic Calculus seminar of IRMA, Strasbourg Nov. 2025

Modelling and Probability seminar of LPSM , Paris	<i>Oct. 2025</i>
Large scale stochastic dynamics , Oberwolfach	<i>Sep. 2025</i>
53rd Probability Summer School , Saint Flour	<i>Jul. 2025</i>
Probability seminar of IRMAR , Rennes	<i>May 2025</i>
Joint Probability seminar of ICJ/UMPA , Lyon	<i>May 2025</i>
Recent developments on mixing times , Simons Center for Geometry and Physics, Stony Brook	<i>Mar. 2025</i>
SuPerGRandMa seminar , Orsay	<i>Nov. 2024</i>
Probability seminar of LAGA , Paris	<i>Nov. 2024</i>
Rencontres de Probabilités , Rouen	<i>Sep. 2024</i>
Mixing Times Workshop with Applications to Theoretical Computer Sciences , Bath	<i>Sep. 2024</i>
52nd Probability Summer School , Saint Flour	<i>Jul. 2024</i>
University of Warwick Probability seminar , Coventry	<i>May 2024</i>
Afternoon for high school girls , Université Paris Dauphine - PSL, Paris	<i>Feb. 2024</i>
Young Researchers' Seminar of the CEREMADE, Paris	<i>Oct. 2023</i>

POSTERS

Particle Systems and PDEs XIII , Modena	<i>Dec. 2025</i>
Mixing Times between Probability, Computer Science and Statistical Physics , Trieste	<i>May 2025</i>
Particle Systems and PDEs XII , Trieste	<i>Sep. 2024</i>
French Japanese Conference on Probability & Interactions , IHES, Bures-sur-Yvette	<i>Mar. 2024</i>

TEACHING

Teaching assistant – Summer School on Local Limits of Random Graphs , Université Paris-Saclay	<i>Jun. 2025</i>
Tutorials – Poisson Processes , M1, Université Paris Dauphine - PSL	<i>2024 - 2026</i>
Tutorials – Probabilités 2 , L2, Université Paris Dauphine - PSL	<i>2023 - 2024</i>
Tutorials – Modèles déterministes et probabilités finies , L1, Université Paris Dauphine - PSL	<i>2023 - 2024</i>
Mathematics examiner in Classes Préparatoires , MP2I and MP*, Lycée Hoche, Versailles	<i>2022 - 2023</i>

COMMITMENTS AND SCIENTIFIC OUTREACH

Organisation of a workshop , Paris. <i>Recent Progress on Self-Interacting Processes and Non-Reversible Monte Carlo</i> , funded by PSL Statistical Physics and Mathematics program and a BOUM SMAI project	<i>May 2026</i>
Elected representative of PhD students in the Conseil du laboratoire , CEREMADE	<i>2025 - 2026</i>
Responsible of the offices of PhD students , CEREMADE	<i>2024 - 2026</i>
Organisation of the Young Researchers' Seminar , CEREMADE: <i>weekly seminar with talks by young researchers, for an audience of PhD students, postdoctoral researchers and Master students</i>	<i>2024 - 2025</i>
Middle school students' observation internship , Université Paris Dauphine - PSL: <i>meeting students</i>	<i>2024, 2025</i>
Afternoon for high school girls , Université Paris Dauphine - PSL: <i>presentation and informal discussion</i>	<i>2024</i>
Voluntary academic support , <i>online tutoring in mathematics for Villefranche-de-Rouergue high school students during lockdown</i>	<i>2020</i>
Presenting scientific studies to high school students , Lycée Raymond Savignac, Villefranche-de-Rouergue	<i>2020</i>

FUNDING OBTAINED

- BOUM funding of the SMAI, for organising a workshop in May 2026
- Erasmus+ Doctoral Mobility grant, for a research stay at University of Warwick in July 2026
- AMX scholarship of Ecole polytechnique to fund my PhD 2023-2026

WORK EXPERIENCE

INRIA, Laboratoire Paul Painlevé, Villeneuve d'Ascq

Apr. 2023 - Aug. 2023

Research internship supervised by Clément Erignoux

Study of the transience time of the Facilitated Exclusion Process (FEP)

Laboratoire de probabilités, statistique et modélisation, Paris

Apr. 2022 - Aug. 2022

Research internship supervised by Quentin Berger – Rewarded with the “Félicitations” of Ecole polytechnique

Generalisation of a polymer wetting model, study of a phase transition in this model

Reverso, Neuilly-sur-Seine

Jun. 2021 - Aug. 2021

Junior data analyst. Study of a grammatical correction tool, analysis and improvement of a text corpus

French National Gendarmerie, Villefranche-de-Rouergue

Dec. 2019 - Mar. 2020

Aspirant in the Groupe de Commandement. Training the new recruits, operational work

SKILLS

Languages:	French (first language), English (first language), Spanish (B2), Italian (B1), German (A1)
Programming:	Julia, Python, C++, Java, OCaml
Software & Tools:	LaTeX, Git, Adobe, Microsoft Office