

Joffrey Mathien

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2025-... **Postdoc position**, *University of Vienna, Vienna, Austria.*

Education

- 2022–2025 **PhD thesis under the supervision of Charles Bordenave**, *I2M, Marseille, France*,
Processes on hyperbolic surfaces.
- 2021–2022 **M2 Fundamental Mathematics**, *ENS de Lyon, Lyon, France*,
Probability and Statistics.
- 2020–2021 **M2 FEADéP**, *ENS de Lyon, Lyon, France*,
Agrégation, rank 17.
- 2019–2020 **M1 Mathematics**, *ENS de Lyon, Lyon, France*.
Cambridge Certificate in Advanced English (CAE) Grade B (C1 level)
- 2018–2019 **L3 Mathematics**, *ENS de Lyon, Lyon, France*.
- 2016–2018 **Higher School Preparatory Class MPSI/MP***, *Lycée Kléber, Strasbourg, France*.

Internships

- April–July 2022 **4 months internship**, with Charles Bordenave, at *Institut de Mathématiques de Marseille, Aix-Marseille Université*.
Stochastic processes on random hyperbolic surfaces.
- April–July 2020 **4 months internship**, with Anna Ben Hamou, at *Université Paris Sorbonne – remote work*.
Mixing time of random walks on random graphs
- June–July 2019 **6 weeks internship**, with Jean Baptiste Gouéré, at *Université de Tours*.
Percolation : Bernoulli percolation and introduction to continuous percolation.

Publications

Prepublication

- P1. C. Bordenave & J. Mathien. **Cutoff for geodesic paths on hyperbolic manifolds**. Accepted in Communications in Mathematical Physics. 2025+. arXiv: 2502.06325 [math.PR]. <https://arxiv.org/abs/2502.06325>.
- P2. J. Mathien. **Diameter of a new model of random hyperbolic surfaces**. Accepted in Annales de l'Institut Henri Poincaré, Probabilités et Statistiques. 2025+. arXiv: 2403.01925 [math.GT]. <https://arxiv.org/abs/2403.01925>.

Talks

- Dec 2025 **(Not so) informal probability seminar**, *Vienna*.
- Dec 2025 **ETH-UZH probability seminar**, *ETH, Zurich*.
- June 2025 **Journées Probabilité 2025**, *Aix-Marseille Université, Marseille*.
- Apr 2025 **Probability seminar of Grenoble**, *Institut Fourier, Grenoble*.
- Feb 2025 **Probability seminar of Marseille**, *Institut de Mathématiques de Marseille, Aix-Marseille Université*.
- Nov 2024 **Random hyperbolic surfaces and random graphs**, *CIRM, Marseille*.
- Nov 2024 **Journées cartes**, *UMPA, Lyon*.

- Oct 2023 **Probability and Geometry in, on and of non-Euclidian spaces**, *CIRM, Marseille*.
Lightning talk
- June 2023 **INFORMS Applied Probability Society Conference**, *Nancy*.
- June 2023 **Rauzy seminar**, *Institut de Mathématiques de Marseille, Marseille*.
- Mar 2023 **Probability seminar of Marseille**, *Institut de Mathématiques de Marseille, Marseille*.
- Feb 2023 **Master Class: Géométrie des surfaces**, *CIRM, Marseille*.

Teaching

- 2024 **Stage Hippocampe**, *Aix-Marseille Université*.
Tutoring for a 3-day initiation to mathematics research for high-school students
- Fall 2024 **L2 Maths - Linear Algebra**, *Aix- Marseille Université*.
Exercise Sessions
- Spring 2023 **M1 Maths - Stochastic Processes**, *Aix- Marseille Université*.
& 2024 Exercise Sessions
- Fall 2022 & **L2 Maths - Geometry**, *Aix- Marseille Université*.
2023 Exercise Sessions

Organization and Academic Service

- 2023-2025 **(Co)-organizer of the PhD seminar**, *on Saint-Charles Campus in Marseille*.
Organisation of the seminar and management of the budget allocated by the laboratory

Non-academic experience

- Dec 2019 - **Turing Machine in Lego**, *project supervised by Aurélien Alvarez*.
- Apr 2022 Repairs and improvements to the Lego Turing Machine at the Maison des Mathématiques et de l'Informatique in Lyon, to make it functional. Project started as part of a popularisation of science course in M1.
- 2018-2019 **Tutoring Sessions**, *in the association ENSeigner*.
Educational support for high-school students.

Skills

- Languages French,
English (Cambridge Certificate in Advanced English (CAE) Grade B (C1)),
Spanish (B1).
- CS $\text{\LaTeX}$, Python, OCaml, Linux.