

# Maxime Marivain

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Laboratoire CMAP

École Polytechnique, Route de Saclay,  
91128 Palaiseau Cedex (France)

## Education

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- 2023–2026 **PhD in Mathematics**, École Polytechnique (Palaiseau)  
Thesis: *Two perspectives in first- and last-passage percolation*  
Advisors: Prof. Anne-Laure Basdevant, Prof. Lucas Gerin  
Defense expected in September 2026
- 2021–2023 **Master's degree *Mathématiques de l'aléatoire***, Université Paris-Saclay (Orsay)  
– First year thesis: *Bond percolation theory in  $\mathbb{Z}^d$*   
Advisor: Prof. Nathanaël Enriquez  
– Second year thesis: *Number of maximal paths in oriented and last-passage percolation*  
Advisors: Prof. Anne-Laure Basdevant, Prof. Lucas Gerin
- 2021–2022 ***Agrégation* in Mathematics**, Université Paris-Saclay (Orsay)  
(French national competitive examination for teaching en lecturer qualification)

## Articles

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- [1] M. Marivain. **Brochette first-passage percolation.**  
*Journal of Applied Probability*  
<https://arxiv.org/abs/2501.11398>.
- [2] A.-L. Basdevant, L. Gerin and M. Marivain. **Longest increasing subsequences for distributions with atoms, and an inhomogeneous Hammersley process.**  
Submitted at *Combinatorics, Probability and Computing*  
<https://arxiv.org/abs/2507.05775> .

## Conferences

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### Talks

- March 2026 — ALEA Days, CIRM — Presentation of [2].
- February 2026 — Les probas du vendredi, Sorbonne Université, Presentation of [2].
- November 2025 — Rencontre ANR LOUCCOUM, Université de Poitiers, Presentation of [2].
- March 2025 — ALEA Days, CIRM — Presentation of [1].
- October 2024 — CJC-MA, ENS Lyon — Presentation of [1].
- April 2024 — PhD students seminar — Presentation of *A new proof of the sharpness of the phase transition for Bernoulli percolation on  $\mathbb{Z}^d$*  by H. Duminil-Copin, V. Tassion.

## Attendance without presentation

- June 2025 — MAD Days, LMRS
- March 2024 — ALEA Days, CIRM
- June 2024 — Journées de Probabilités, Institut de mathématiques de Bordeaux

## Skills

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### Languages

- French: native
- English: Level C1

### Computing

- Python
- SageMath

## Teaching Experience

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- 2023–2026 — Teaching assistant — Probability and Statistics — Bachelor 2, Ecole Polytechnique
- 2024 — Supervisor of a Bachelor Thesis — *Random walk on  $\mathbb{Z}^2$*  — Bachelor 3, Ecole Polytechnique
- 2024 — Teaching assistant for Labs in probability in Python — First year of the engineering program, Ecole Polytechnique