

# Bastien Dubail

*Postdoctoral researcher in Mathematics, KTH,  
School of EECS*

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## Professional Experience

2023- **Postdoctor**, KTH, Stockholm, School of Electrical Engineering and Computer Science (EECS), Division of Decision and Control Systems (DCS).  
Supervisor: Alexandre Proutière

## Education

2020-2023 **Ph.D. in Mathematics**, INRIA Paris, ENS and Aix-Marseille Université.  
Supervisors: Laurent Massoulié and Charles Bordenave  
2018-2019 **Master in Mathematics**, ENS Lyon.  
2016-2020 **Student at Ecole Normale Supérieure de Lyon**.

## Publications and Preprints

- [1] Charles Bordenave and Bastien Dubail. Markovian Linearization of Random Walks on Groups. *International Mathematics Research Notices*, 05 2022.
- [2] Bastien Dubail and Laurent Massoulié. Accelerating Abelian Random Walks with Hyperbolic Dynamics. *Probability Theory and Related Fields*, 04 2022.
- [3] Bastien Dubail. Cutoff for mixtures of permuted markov chains: reversible case. *arXiv preprint*, 2024.
- [4] Bastien Dubail. Cutoff for mixtures of permuted markov chains: general case. *arXiv preprint*, 2024.

## Teaching

Tutorials given at Université Paris-Cité (2020-2023)  
Fall 2022 Probability, Master's degree (1st year)  
Spring 2022 Analysis, Maths-Social Sciences bachelor's degree (1st year)  
Fall 2021 Analysis, CS-Maths bachelor's degree (2nd year)  
Spring 2021 Analysis, Maths-Social Sciences bachelor's degree (1st year)  
Supervision of math projects, Maths-Social Sciences bachelor's degree (1st year)  
Fall 2020 Tutoring for bachelor students

## Talks, Seminars, Workshops

- 2023 **Workshop YEP XVIII: "Spectra of random graphs and related combinatorial problems"**, Eurandom, Eindhoven, Mar. 2-31.
- 2021 **Workshop "The Cutoff phenomenon for Finite Markov Chains"**, Oberwolfach, Nov. 21-27.  
**Workshop "On Future Synergies for Stochastic and Learning Algorithm"**, CIRM, Sep. 27 - Oct. 01.
- 2020 **Strukturtheorie Seminar**, TU Graz (virtual), Dec. 17.  
**Workshop "Spectra, Algorithms and Random Walks on Random Networks"**, CIRM, Jan. 13-17.

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## Previous Research Experience

Research internships

- 2020 **The linearization trick for random walks on finitely generated groups**, *Institut de Mathématiques de Marseille*, CMI Marseille, under the supervision of Charles Bordenave.
- 2019-2020 **Mixing times for graph dynamics**, *INRIA*, Paris, under the supervision of Laurent Massoulié.
- 2019 **The cutoff phenomenon and random walks on groups**, *Institut de Mathématiques de Marseille*, CMI Marseille, under the supervision of Charles Bordenave.
- 2018 **Invasion percolation**, *University of British Columbia*, Vancouver, BC, under the supervision of Omer Angel.
- 2017 **Weil's conjectures**, *Institut Elie Cartan de Lorraine*, Vandœuvre-lès-Nancy, under the supervision of Damien Mégy.

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## Outreach

- 2022 Participation to Fête de la Science (annual nationwide event for promotion of science)
- 2018 Participation to Maths à Lyon (activities organised in high schools and middle schools of Lyon to promote mathematics)

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## Language Skills

French Native

English Fluent

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## Computer Skills

Programming: Python

Other: LaTeX