

# William Da Silva

Postdoc in probability  
University of Vienna

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## EDUCATION

<b>Post-doctoral fellow</b> , University of Vienna Postdoc in Probability within the group of Prof. Nathanaël Berestycki Principal Investigator of Austrian Science Fund grant since January 2024	2022–present
<b>PhD in Mathematics</b> , Sorbonne Université, LPSM (Paris) Thesis Title: <i>Growth-fragmentation and multitype planar excursions</i> Advisor: Élie Aïdékon (Sorbonne Université) Jury: E. Aïdékon, N. Curien, T. Duquesne, B. Haas, A. Kyprianou, G. Miermont, Z. Shi	2018–2022
<b>MSc in Mathematics</b> , Sorbonne Université, Paris Master of Research, Majored in Probability, <i>Highest honours</i> Master Thesis: <i>Compensated fragmentation processes</i> supervised by Élie Aïdékon (Sorbonne Université)	2017–2018
<b>Agrégation de mathématiques</b> (French highest teaching degree), ENS Paris-Saclay	2016–2017 Ranked 3 <sup>rd</sup>
<b>Élève normalien</b> , ENS Paris-Saclay	2014–2018

## RESEARCH INTERESTS

Probability theory, mathematical physics, combinatorics. More specifically: random geometry, planar maps, statistical mechanics, Liouville quantum gravity, Schramm-Loewner evolutions, branching processes, spinal techniques, pattern-avoiding permutations, universality classes in permutons, directed geometry.

## TEACHING EXPERIENCE

<b>Minicourse on LIS and permutons</b> , Beijing Chinese Academy of Sciences	Scheduled 2026
<b>Minicourse on Random Planar Geometry</b> , University of Vienna New graduate course for the Vienna School of Mathematics	2024
<b>Teaching Assistant</b> , Sorbonne Université Bachelor level, <i>Functional Analysis and Measure Theory and Probability</i> , 128h	2019–2021

<b>Teaching Assistant</b> , École Polytechnique Master level, <i>Complex Analysis</i> and <i>Differential calculus</i> , 64h	2018–2019
<b>Oral examiner</b> (“colleur”), Lycées Henri 4 and Saint-Louis	2015–2018

## SCIENTIFIC RESPONSIBILITIES

<b>Referee</b> Annals of Probability, Random Structures and Algorithms, Journal de l'École Polytechnique, Probability and Mathematical Physics, Transactions of the AMS	2020–present
<b>Co-organiser of the Informal Probability Seminar</b> (University of Vienna) With Marcin Lis, and then Ariane Carrance and Kieran Ryan	2024–present
<b>Organiser of PhD student seminar</b> , Sorbonne Université, LPSM	2019–2020
<b>Organiser and jury of French national high-school tournament</b> TFJM <sup>2</sup>	2018–2019
<b>Organiser of student seminar</b> , ENS Paris-Saclay	2014–2016

## GRANTS

- P.I. of the Austrian Science Fund (FWF) grant on “Emergent branching structures in random geometry” (DOI: 10.55776/ESP534), amount 316,037 EUR
- ENS PhD grant, French Ministry of Research (2018–2021)

## PUBLICATION LIST

- A. Adhikari, J. Borga, T. Budzinski, W. Da Silva and D. Sénizergues (2025). *The longest increasing subsequence of Brownian separable permutons*. arXiv:2506.19123.
- W. Da Silva, E. Powell, A. Watson (2025). *Growth-fragmentations, Brownian cone excursions and  $\text{SLE}_6$  explorations of a quantum disc*. arXiv:2501.03010.
- E. Aïdékon, W. Da Silva and X. Hu (2024). *The scaling limit of the volume of loop- $O(n)$  quadrangulations*. To Appear in Communications in Mathematical Physics.
- W. Da Silva and J.C. Pardo (2024). *Spatial growth-fragmentations and excursions from hyperplanes*. Stochastic Processes and their Applications 181.
- W. Da Silva and J.C. Pardo (2024). *Multitype self-similar growth-fragmentation processes*. ALEA, Lat. Am. J. Probab. Math. Stat. 21, 985–1040.
- J. Borga, W. Da Silva and E. Gwynne (2024). *Power-law bounds for increasing subsequences in Brownian separable permutons and homogeneous sets in Brownian cographons*. Advances in Mathematics 439.
- W. Da Silva (2023). *Self-similar signed growth-fragmentations*. Electronic Journal of Probability 28, pages 1–45.

- E. Aïdékon and W. Da Silva (2022). *Growth-fragmentation process embedded in a planar Brownian excursion*. Probability Theory and Related Fields 183, pages 125–166.

## INVITED TALKS AT SEMINARS AND CONFERENCES

- 2025 International Conference on Lévy processes, Sofia (Bulgaria) – *invited* by V. Rivero and M. Savov, July 2025
- SPA 2025 Conference (Wrocław) – *invited* by S. Penington, July 2025
- Vienna Probability Seminar, May 2025
- Branching and Persistence, Angers – *invited* by P. Thévenin, April 2025
- Inn’formal probability seminar (Innsbruck) – *invited* by S. Glazman, March 2025
- SEED Seminar (IHES) – *invited* by E. Kammerer, March 2025
- “Probas du vendredi” (seminar talk) – *invited* by Camille Tardif and Armand Riera, February 2025
- Séminaire SPOC de Dijon – *invited* by Patrick Tardivel, February 2025
- Annual conference of the “GDR Branchement” – *invited* by N. Curien and O. Hénard, January 2025
- MIT Probability seminar – *invited* by J. Borga, December 2024
- Séminaire de Probabilités de Besançon – *invited* by F. Bienvenu, October 2024
- Two-dimensional random geometry, Chicago – *invited* by E. Gwynne, July 2024
- Joint Mathematics Meeting (JMM2024), San Francisco – *invited* by Peter Winkler, January 2024
- Informal Probability Seminar, University of Vienna, December 2023
- Journées Cartes, Universität Zürich – *invited* by Armand Riera, June 2023
- Fudan University Probability seminar (online), June 2023
- UC Berkeley Probability seminar (California, US) – *invited* by Alan Hammond, January 2023
- Stanford Probability seminar (California, US) – *invited* by Jacopo Borga and Amir Dembo, January 2023
- BUC conference, Guanajuato (Mexico) – *invited* by Juan Carlos Pardo, January 2023
- Informal Probability Seminar, University of Vienna, January 2023
- Austrian Stochastic Days, University of Vienna, September 2022
- Probability and Mathematical Physics conference (poster), University of Helsinki, July 2022
- Seminar on Stochastic Processes, University of Zurich – *invited* by Jean Bertoin, May 2022
- Informal Probability Seminar, University of Vienna, November 2021
- UCL Probability and Statistics Seminar (online) – *invited* by Alexander Watson, October 2021
- Durham Probability seminar (online) – *invited* by Ellen Powell, April 2021
- Séminaire de Probabilités de Paris 13 (online) – *invited* by Clément Foucart, March 2021
- Séminaire de Probabilités d’Orsay, Université Paris-Sud (online) – *invited* by Nicolas Curien, September 2020

## SKILLS AND LANGUAGES

- **Languages** French and English (fluent), Spanish and Portuguese (proficient), German (B1)
- **Programming** Scilab, Python, L<sup>A</sup>T<sub>E</sub>X, Git