

Paul Mansanarez

Curriculum Vitae

Born on the 10th of January, 1998.
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Education

- 2025– **PhD candidate**, *Université libre de Bruxelles / Nantes Université*, Brussels / Nantes, Belgium / France.
(continuation of previous PhD thesis below).
- 2022–2025 **PhD candidate**, *Université libre de Bruxelles / Université de Rennes*, Brussels / Rennes, Belgium / France.
Thesis subject : Contributions to Stein’s method.
- 2019–2022 **Magistère in Mathematics**, *École normale supérieure de Rennes*, Bruz, France.
 - Master seminar : Serre’s criterion of affine schemes.
 - Master thesis : Stable ∞ -categories.

Employment

- 2025– **FRIA grant**, *FRS–FNRS*, Belgium
- 2022–2025 **Research assistant**, *Université libre de Bruxelles*, Brussels, Belgium.
- 2021–2022 **Master scholarship**, *Centre Henri Lebesgue*, Rennes, France

Preprints

- 2026 **Breuer–Major–Donsker invariance principle**, *P. Mansanarez, G. Poly and G. Zheng*.
- 2025 **Edgeworth expansion on Wiener chaos**, *P. Mansanarez, G. Poly and Y. Swan*.
- 2025 **Stein’s method for Fréchet approximation: a regularly varying functions approach**, *P. Mansanarez, G. Poly and Y. Swan*.
- 2025 **Non-separable graphs meet Ledoux’s polynomials**, *P. Mansanarez*.

Publications

- 2024 **Derivatives of entropy and the MMSE conjecture**, *P. Mansanarez, G. Poly and Y. Swan*, *IEEE Transactions on Information Theory*, **70**(11):7647–7663.

Past conferences/workshops/seminars

- July 2026 **IMS Annual Meeting 2026**, *Institute of Mathematical Statistics*, Salzburg, Austria (speaker).
- Mai 2026 **Probability seminar**, *Institute of Mathematics, Vietnam Academy of Science and Technology*, Hanoi, Vietnam. (speaker).
- March 2026 **Probability and Statistics group**, *Universidad de la República*, Montevideo, Uruguay. (speaker).
- March 2026 **CLAPEM-17**, *Universidad de la República*, Montevideo, Uruguay. (poster).
- December 2025 **20 Years of the Fourth Moment Theorem**, *University of Luxembourg*, Belval, Luxembourg (participant).
- November 2025 **30th Annual meeting of the Royal Statistical Society of Belgium (RSSB)**, *Université libre de Bruxelles*, Brussels, Belgium. (speaker).
- October 2025 **FNRS contact group in Probability**, *University of Liège*, Liège, Belgium. (speaker).
- September 2025 **Statistical Modeling with Applications 2025**, *University of Piraeus*, Piraeus, Greece. (speaker).
- August 2025 **RSC 2025**, *University of Glasgow*, Glasgow, United–Kingdom. (speaker).

- August 2025 **Random polynomials and their applications**, *ICERM*, Providence, Rhode Island, United States.
(participant).
- July 2025 **International conference in Probability Theory and Statistics dedicated to the 80th anniversary of Pr. Estéate Khmaladze**, *Tbilisi, Georgia*.
(speaker).
- June 2025 **Conference PRIN GRAFIA**, *Cortona, Italy*.
(participant).
- Mai 2025 **Work group "Calcul de Malliavin et processus fractionnaires"**, *University of Lille, Lille, France*.
(speaker).
- February 2025 **Luxembourg Workshop in Stochastic Analysis (2nd edition)**, *University of Luxembourg, Belval, Luxembourg*.
(participant).
- October 2024 **Inaugural conference of the IFUMI**, *Facultad de Ingeniería, Montevideo, Uruguay*.
(participant).
- October 2023 **30th Annual meeting of the Royal Statistical Society of Belgium (RSSB)**, *UCLouvain, Louvain-la-Neuve, Belgium*.
(speaker).
- October 2023 **Seminar of Probability**, *IRMAR, Rennes, France*.
(speaker).
- June 2023 **UNIRANDOM conference**, *IRMAR, Rennes, France*.
(participant).
- March 2023 **Workshop ANR MESA**, *Institut de mathématiques de Toulouse, Toulouse, France*.
(participant).

Teaching

Exercices sessions

- 2024–2025 **151 h**, *MATH-F101 (analysis 1st year), MATH-F201 (analysis 2nd year), MATH-F3001 (measure theory 3rd year), MATH-F302 (probability theory 3rd year)*, ULB, Brussels, Belgium.
- 2023–2024 **195 h**, *MATH-F101 (analysis 1st year), MATH-F201 (analysis 2nd year), MATH-F207 (Statistics 2nd year), MATH-F214 (Mathematics for chemistry 2nd year students), MATH-F3001 (measure theory 3rd year), ACTU-F4001 (Actuary sciences master)*, ULB, Brussels, Belgium.
- 2022–2023 **188 h**, *MATH-F101 (analysis 1st year), MATH-F112 (Mathematics for Info/biology students 1st year), MATH-F201 (analysis 2nd year), MATH-F315 (probability theory and statistics 2nd year), STAT-F407 (probability theory master students)*, ULB, Brussels, Belgium.

Bachelor's thesis supervision

- 2023–2025 **MATH-F305**, ULB, Brussels, Belgium.
For the 3rd year bachelor class MATH-F305 at the ULB, I supervised 4 students for their research projects.

Other

- Juin 2022 **Colleur de mathématiques (PC*)**, *CPGE, Lycée Chateaubriand, Rennes, France*.
- Mai 2022 **Colleur de mathématiques (PSI)**, *CPGE, Lycée Joliot-Curie, Rennes, France*.
- 2021–2022 **Colleur de mathématiques (MP)**, *CPGE, Lycée Chateaubriand, Rennes, France*.
- 2021 **Chargé de TD d'analyse**, *INSA Rennes, Rennes, France*.

Outreach

- 2023–2025 **X-MI ULB**, *Brussels, Belgium*.
I supervised X-MI activities: <https://sciences.brussels/xmi/>
- 2022–2025 **Math.en.Jeans Belgique**, *Brussels, Belgium*.
I supervised research projects in secondary schools.

Administrative responsibilities

- 2024–2025 **Representative of the "corps scientifique" on the Mathematics department's council**, *ULB, Brussels, Belgium*.
- 2023–2024 **Member of the Mathematics department's council**, *ULB, Brussels, Belgium*.

2021 **Agrégation externe de mathématiques**, Option : Probabilités et Statistiques.
Rang : 77.

2018–2019 **Bachelor in Mathematics**, *Université de Rennes*, Rennes, France.

Skills

Languages: French (mother tongue) ; English (fluent) ; Spanish (professional efficiency).

Coding: Python.