











Luce Breuil

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Education

- 2024 – 2027  **Ph.D - Ecole Polytechnique** under the supervision of Marie Doumic and Sarah Kaakai in collaboration with Michaël Rera.
Thesis title: *Mathematical modelling, numerical simulation and non-parametric estimation of ageing mechanisms within the framework of the two-phase ageing model: application to drosophila.*
- 2022 – 2023  **Master of Science - McGill University** . under the supervision of Tony Humphries.
Master thesis title: *Mathematical modelling of thyroid hormone dynamics during pregnancy and disease.*
- 2019 – 2023  **Cycle ingénieur - Ecole Polytechnique** Palaiseau .
Mathematics, applied mathematics, physics, biology
- 2017 – 2019  **Preparatory class - Lycée Henri IV** in Math/Physics (MPSI-MP).

Professional Experience

- 2024-2025  **Teaching assistant - Ecole Polytechnique**
Teaching assistant in MAA210 : Probability and Statistics for Bachelor 2 students, Introduction to linear algebra for Master X-HEC and Python for Cycle Ingénieur.
- 2023  **Teaching assistant - McGill University**
Teaching assistant in Math 141-Calculus 2 and Math 123- Linear Algebra and Probabilities for Bachelor 1/2 students.
- April – July 2022  **Research internship – LMO Orsay University** under the supervision of Camille Coron.
Modeling of population dynamics following variations of the Moran Model with mathematical and probabilistic tools such as Markov chains.
- June – August 2021  **Internship – SNCF DGEX Solutions**
Coding in Python of an algorithm answering to the traveling salesman problem applied to maintenance wagons in the french railway system
- 2020 – 2021 and 2024  **Oral interrogator** in mathematics for MPSI students at Lycée Henri IV?
- 2019–2020  **Internship – Arts et Développement association** in Marseille.
Deployment of drawing and painting workshops in poor neighbourhoods - Co-ordination of the organisation of a charity auction.

Skills

- Languages  Fluent in French and English (TOEFL 116), strong reading and speaking skills in Spanish and German.
- Coding  Python, R, Matlab, \LaTeX .

Awards and Achievements

- 2022  **Best internship award** from Chaire Modélisation Mathématiques et Biodiversité at Ecole Polytechnique for the internship at LMO.