Orlane Rossini

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Current position

I am currently a PhD student in biostatistics in Montpellier, France. I am under the supervision of Benoîte de Saporta, Alice Cleynen and Régis Sabbadin at Institut Montpelliérain Alexander Grothendieck (IMAG).

Education

University of Montpellier   2022 - Expected October 2025
PhD in applied mathematics with specialisation in biostatistics   *Montpellier, France*
- **Thesis subject:** Model-based reinforcement learning for the control of partially observable piecewise deterministic semi-Markov decision processes
- **Supervisors:** Benoîte de Saporta, Alice Cleynen and Régis Sabbadin

University of South Brittany   2020 - 2022
Master of Science in data science & statistical modeling (Summa Cum Laude)   *Vannes, France*
University of Bordeaux   2017 - 2019
Bachelor of Science in Computer Science & Mathematics - international course (Magna Cum Laude)   *Bordeaux, France*
- **Erasmus experience:** Warsaw University of Technology (Poland)

Academic experience

University of Grenoble, INSERM, IAB   Sep 2022
Research engineer   *Grenoble-Montpellier, France*
- **Subject:** Accelerated epigenetic placental aging as a biomarker of pregnancy exposure to ambient air pollution
- **Supervisors:** Johanna Lepeule, Aurélie Nakaruma and Lucile Broséus

University of Grenoble, INSERM, IAB   Jan 2022 – Jul 2022
Student Intern   *Grenoble, France*
- **Subject:** Accelerated epigenetic placental aging as a biomarker of pregnancy exposure to ambient air pollution
- **Supervisors:** Johanna Lepeule, Aurélie Nakaruma, Lucile Broséus and François Septier

Observatoire Régional de la Santé de Guyane   Jan 2021 – May 2021
Mentored project - Intern (remotely)   *Cayenne, France*
- **Subject:** Analysis of patient flow in the emergency department and its associated factors in French Guiana between 2018 and 2020
- **Supervisors:** Joseph Rwagitinywa and Evans Gouno
- Extraction and exploitation of data from the French National Health Data System (SNDS).

Publications

In Proceedings of Conferences
- *An example of medical treatment optimization under model uncertainty* in Journées des Statistiques de France by A. Cleynen, B. de Saporta, O. Rossini, R. Sabbadin.

2023

Talks

International conferences
- *An example of medical treatment optimization under model uncertainty*, 21st INFORMS Applied Probability Society Conference, June 2023
- *Maternal exposure to ambient air pollution and placental epigenetic aging: Developing a new clock and estimating associations*, Australian Mathematical Society, December 2022

National conferences
- *Stochastic dynamic control: an approach based on semi-Markov models, application to the optimization of a medical treatment*, 8èmes rencontres de Statistique, November 2023

- *An example of medical treatment optimization under model uncertainty*, Processus markoviens, semi-markoviens et leurs applications, June 2023
- *Maternal exposure to ambient air pollution and placental epigenetic aging: Developing a new clock and estimating associations*, IMAG PhD student days, February 2023
- *Model-based reinforcement learning for the control of partially observable, piecewise deterministic semi-Markovian decision processes*, INRAE-MIAT PhD student days, January 2023

Other involvements

Teachings
- Spring 2023, 2024 - Teaching assistant for a first-year biology course covering probability concepts
- Spring 2024 - Teaching assistant for a first-year computer science course covering probability and statistical concepts
- Fall 2023 - Teaching assistant for a first-year mathematics course covering linear algebra concepts

Scientific mediation
- Workshop at the *Fête de la Science* "Mathematics with head and hands" (2022)
- Workshop at the *Girls, Math and Computer Science* event (2023)
- Workshop at the *Math is for Her* event (2024)

Administratives
- Elected member of the IMAG laboratory council
- Member of the sustainable development group at the IMAG laboratory
- Member of the organising committee of the *Math en Jean* conference