Orlane Rossini

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Current position

I am currently a PhD fellow in biostatistics at CNRS. I am also an assistant lecturer at the Faculty of Science for the Mathematics department, in Montpellier.

Education

PhD in Applied Mathematics with specialisation in Biostatistics   2022 - Expected October 2025
Institut Montpelliérain Alexander Grothendieck (IMAG)   *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

Master in Data Science & Statistical Modeling   2020 - 2022
University of South Brittany   *Vannes, France*

Bachelor of Science in Computer Science & Mathematics (international course)   2017 - 2019
University of Bordeaux   *Talence, France*

- **Erasmus experience:** Warsaw University of Technology (9 months in Poland)

Academic experience

University of Grenoble, INSERM, IAB   Jan 2022 – Sep 2022
Student Intern - Research engineer   *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

Regional Health Observatory of French Guiana   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.   April 2023

Grants

2022 Competition for the "Information, Structures and Systems" (I2S) Doctoral School   June 2022
35,550€ over 3 years

Mobility grant from the French Ministry of Higher Education and Research   Nov 2019
3,600€ over 9 months

- Exchange with the University of Warsaw, Poland

Teachings

Exercices - Scientific Reasoning
2023 - 2024

First-year bachelor's degree in biology

- Set theory, Random Variables with classical distributions, Conditional Probabilities
- Exam marking

Exercices - Probability & Statistics
2024

First-year bachelor's degree in computer sciences

- Descriptive statistics, Enumeration and laws of probability, Inferential statistics
- Help with exam writing and marking

Exercices - Linear Alebra
2023

First-year bachelor's degree in mathematics

- Complex number, Linear system, Linear subspace, Matrices, Linear application
- Exam writing and marking

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)

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 of University of South Brittany, 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

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 in Jeans* conference