

EDUCATION

PhD in Mathematics, 2017-2020

Title: Long time behavior of a mean-field model of interacting spiking neurons.

Supervised by Etienne Tanré and Romain Veltz.

Jury: François Delarue, Pierre-Emmanuel Jabin, Eva Löcherbach (reviewer), Stéphane Mischler (reviewer).

INRIA Sophia-Antipolis

Thesis defense: 15/01/21.

Master of Mathematics: Probability and Stochastic Models

Second year of master (M2) in probability theory.

Université Pierre et Marie Curie - UPMC

2016-2017

Ecole Normale Supérieure de Lyon

“Foundations of computer science” bachelor (L3) and master (M1): two years of general and advanced topics in computer science. Normalien at ENS Lyon.

Lyon, France

2013-2015

PROFESSIONAL EXPERIENCES

Inria Saclay

Chargé de recherche in the ASCII team

CMAP, Ecole Polytechnique, France

Since October 2022

Princeton University

Postdoctoral researcher

Postdoc at the ORFE department, PI: René Carmona

Princeton, New Jersey, USA

2021 - 2022

Teaching

- **Ecole Polytechnique** (2023, Palaiseau, France, 20 hours): Tutorial classes for the course *MAP361 - Aléatoire*; for first year engineering students (L3).
- **Princeton University** (2021, Princeton, USA, 30 hours): Instructor for the course *ORF 309: Probability and Stochastic systems*; for undergraduate students. Large class with 110 students and 5 TA.
- **Polytech Sophia** (2019, Sophia-Antipolis, France, 12 hours): Practical classes for the course *Numerical probability methods*; for Master 2 students.
- **University of Côte d’Azur** (2019, Nice, France, 24 hours): Tutorial classes for the course *Introduction to Probability*, for undergraduates students in mathematics.
- **University of Côte d’Azur** (2018, Nice, France, 36 hours): Tutorial classes for the course *Introduction to Analysis* for undergraduates students in physics.

Scientific/Engineering consulting Silicon Mobility, Sophia Antipolis, France, 2019 (25 days; helping to design optimisation algorithms to control electrical motors of electrical vehicles)

PUBLICATIONS

1. Launch and Iterate: Reducing Prediction Churn (with Mahdi Milani Fard, Kevin Canini and Maya Gupta); Advances in Neural Information Processing Systems 29 (2016).
2. Long time behavior of a mean-field model of interacting neurons (with Etienne Tanré and Romain Veltz); Stochastic Processes and their Applications (2020).

3. Hopf bifurcation in a Mean-Field model of spiking neurons (with Etienne Tanré and Romain Veltz); Electronic Journal of Probability (2021).
4. Synchronization in a Kuramoto Mean Field Game (with René Carmona and Mete Soner); Communications in Partial Differential Equations (2023).
5. On the stability of the invariant probability measures of McKean-Vlasov equations; Arxiv (preprint 2023).
6. A mean-field model of Integrate-and-Fire neurons: non-linear stability of the stationary solutions; Arxiv (preprint 2023).

ATTENDANCE TO CONFERENCES, WORKSHOPS AND SEMINARS

International conferences

- Order and Randomness in Partial Differential Equations, Institut Mittag-Leffler 27/11/23
- A Random Walk in the Land of Stochastic Analysis and Numerical Probability, CIRM, Marseille 05/09/23
- Conference on Stochastic Processes and their Applications, Lisbon 27/07/23
- Mean-Field Models for Interacting Agents, IMSI, Chicago 03/11/21
- ICMNS 2021, online 28/06/21
- Biohasard 2021, online 04/06/21
- Nonlinear Processes and their Applications, Institut Camille Jordan 05/07/19
- Mean-field approaches to the dynamics of neuronal networks, EITN, Paris 04/04/19
- ICMNS 2019, Copenhagen (poster presentation) 25/06/19
- ICMNS 2018, Juan-Les-Pins (poster presentation) 11/06/18

Seminars

- Séminaire Modélisation Stochastique, LPSM, Paris 11/10/23
- Séminaire de Probabilités commun ICJ/UMPA, Lyon 15/02/22
- Séminaire Bachelier, IHP, Paris 02/12/22
- Groupe de travail PEIPS, CMAP, Polytechnique 11/10/22
- Laboratoire Jean Kuntzmann, Grenoble 07/04/22
- INRIA Ascii Seminar (online) 06/10/21
- Institut de mathématiques de Toulouse, séminaire Mathématiques pour la biologie (online) 05/02/21
- PEIPS Seminar at Ecole Polytechnique (online) 27/11/20
- Talk for the ChaMaNe ANR (online) 19/10/20
- SAMM Seminar, Paris 1 02/10/20
- TOSCA Seminar, Inria Sophia Antipolis 06/02/19