

Research Positions

- Feb. 2021 – **INRIA postdoctoral fellow under the supervision of M. Sigalotti and N. Pouradier-Duteil**, *Laboratoire Jacques-Louis Lions*, Paris.
- Nov. 2019 – **CNRS postdoctoral fellow under the supervision of H. Frankowska**, *Institut de Mathématiques de Jussieu*, Paris.
- 2016 – 2019 **PhD student in Applied Mathematics under the supervision of F. Rossi and M. Hauray**, *Aix-Marseille Université, LIS - Università degli Studi di Padova*, Marseille, Padova.

Publications and Conference Proceedings

- 2021 **Continuity Inclusions with State-Constraints and Viability Theory** (with H. Frankowska), *Work in progress*.
- 2021 **Semiconcavity and Sensitivity Analysis in Mean-Field Control and Applications** (with H. Frankowska), *Journal Submission*.
- 2021 **Differential Inclusions in Wasserstein Spaces: The Cauchy Lipschitz Framework** (with H. Frankowska), *Journal of Differential Equations*, 271:594-637.
- 2020 **Mean-Field Optimal Control of Continuity Equations and Differential Inclusions** (with H. Frankowska), *In 2020 IEEE Conference on Decision and Control (CDC)*.
- 2020 **Necessary Optimality Conditions for Optimal Control Problems in Wasserstein Spaces** (with H. Frankowska), *In revision*.
- 2020 **Intrinsic Lipschitz Regularity of Mean-Field Optimal Controls** (with F. Rossi), *In revision*.
- 2020 **Consensus and Flocking Under Communication Failures for a Class of Cucker-Smale System** (with É. Flayac), *In revision*.
- 2019 **Generic Singularities of the 3D-contact Sub-Riemannian Conjugate Locus** (with J.P. Gauthier & F. Rossi), *Comptes Rendus de l'Académie des Sciences*, 357(6):520-527.
- 2019 **A Pontryagin Maximum Principle in the Wasserstein Space for Constrained Optimal Control Problems**, *ESAIM COCV* 25(52).
- 2019 **The Pontryagin Maximum Principle in the Wasserstein Space** (with F. Rossi), *Calculus of Variations and Partial Differential Equations*, 58:11.
- 2017 **Sparse Control of Kinetic Cooperative Systems to Approximate Alignment** (with F. Rossi), *In Proceedings of the 20th IFAC World Congress*.

Presentations at International Conferences, Seminars and Workshops

- Feb. 2021 **Continuity Inclusions and Applications in Multi-Agents Optimal Control**, *Seminar of Analysis, Stochastic Phenomena and Applications, Laboratoire de Mathématiques de Bretagne Atlantique*, Brest.
- Dec. 2020 **Mean-Field Control and Continuity Inclusions**, *59th Conference on Decision and Control*, Jeju Island, Korea (remote session from Paris).
- May 2020 **Flocking for the Cucker-Smale System under Communication Failures**, *Seminar of the CAGE INRIA team, Université Pierre et Marie Curie*, Paris.
- Oct. 2019 **Intrinsic Lipschitz Regularity in Mean-Field Optimal Control**, *Seminar of Probability, Statistics and Control Theory, ENSTA Paris, Palaiseau*.

- Jun. 2019 **Some Problems in Modelling and Optimal Control of Multi-Agent Systems**, *Poster session of the conference "Crowds : models and control"*, Marseille.
- Mar. 2019 **Topics in Analysis and Optimal Control of Multi-Agent Systems**, *Seminar of Analysis, Dipartimento di Matematica "Tullio Levi-Civita"*, Padova.
- Feb. 2019 **Optimal Control of Multi-Agent Systems : A Pontryagin Approach**, *Winter School in Calculus of Variations and Probability Theory*, Toulouse.
- Jul. 2018 **Optimal Control Problems in Wasserstein Spaces**, *"Variational Analysis and Optimal Control" Invited Session, 14th Viennese Conference on Optimal Control and Dynamic Games*, Vienna.
- Jan. 2018 _____, *12th International Young Researcher Workshop on Geometry, Mechanics and Control*, Padova.
- Jul. 2017 **Sparse Alignment of Kinetic Cooperative Systems**, *IFAC World Conference*, Toulouse.

Teaching Activities

- 2020 – 2021 **Exercise sessions for the Bachelor course in Optimisation**, *Université Paris 1 Panthéon-Sorbonne*.
- 2019 – 2021 **Exercise sessions for the Master course Continuous Optimisation – Theory and Algorithms**, *ENSTA Paris & Université Paris-Sud*.
- 2019 – 2020 **Exercise sessions for the Bachelor course Quadratic Optimisation**, *ENSTA Paris*.
- 2017 – 2019 **Lectures of the Bachelor course Introduction to Lebesgue Integration**, *École Centrale Marseille*.
- 2017 – 2019 **Lectures of the Bachelor course Introduction to Continuous Optimization**, *École Centrale Marseille*.
- 2017 – 2018 **Exercise sessions for the Master course Introduction to Optimisation Theory**, *École Centrale Marseille*.
- 2014 **Examiner for mathematics oral examination practice (khôlleur)**, *EPF*.

Grants

- 2021 – 2022 **1-year-and-a-half postdoctoral fellowship from INRIA**, *Laboratoire Jacques-Louis Lions*.
- 2016 – 2019 **3-year PhD grant from the Archimède French Excellence Laboratory**, *Aix-Marseille Université*.

Degrees

- 2019 **PhD degree in Applied Mathematics from Aix-Marseille Université on the topic "Optimal Control in Wasserstein Spaces"**, *Specialisation in Automation and Control Theory*.
- 2016 **Master degree in Applied Mathematics from Université Paris-Saclay**, *Specialisation in Optimisation*.
- 2016 **Master degree in Mathematical Engineering from ENSTA Paris**, *Specialisation in Control Theory and Optimisation*.
- 2011 **A-level validations**, *Specialisation in Mathematics*.

Education

- 2015 – 2016 **Student of the Optimisation MSc program of the Université Paris-Saclay**, *Université Paris-Sud, Orsay*.
- 2013 – 2016 **Student at the ENSTA Paris Engineering School**, *ENSTA Paris, Palaiseau*.
- 2011 – 2013 **Student in French "Classe préparatoire aux Grandes Écoles"**, *Lycée Blaise-Pascal, Orsay*.
- 2008 – 2011 **Highschool student**, *Lycée Descartes, Antony*.

Past Internships and Student Activities

Internships

- Apr. – Aug. 2016 **Research internship on the topic “*Stabilization and analysis of stick-slip phenomena in oil-drilling facilities*” under the supervision of Assistant Pr. Florent Di Meglio, École des Mines de Paris, Paris.**
- May – Aug. 2015 **Research internship on the topic “*Passive tracer transport in time-dependent corner flows*” under the supervision of Assistant Pr. Michal Branicki, University of Edinburgh, Edinburgh.**
- Jul. 2014 **One-month operator placement in the context of the first year curriculum at ENSTA Paris, Horiba Jobin Yvon SAS, Longjumeau.**

Student activities

- 2013 – 2015 **Member of the organisation teams of several scientific seminars addressed to visiting European students, ENSTA Paris, Palaiseau.**

Languages

- French **Mother tongue**
- English **Fluent (TOEIC score 980/990, C2-level CEFR)**
- Italian **Basics (frequent research visits in Italy during 2 years)**

Miscellaneous interests and hobbies

- Playing the drums (10-year regular practice)
- Bouldering (indoor climbing)
- Socio-economic forecasting
- Mesopotamian & medieval history
- Pool billiard (5-year regular practice)
- Video games, science-fiction & fantasy
- Bodhran (celtic traditional drum) & Guitar
- Bike travels
- Climate sciences
- Philosophy of physics and mathematics
- Theatre (attending)
- Strategy-based boardgames