Mehdi Christian Talbi

Curriculum Vitae

École polytechnique
Route de Saclay, 91120 Palaiseau, France
✉ *mehdi.talbi@polytechnique.edu*

Research interests

Mean field optimal stopping & control, mean field games, contract theory, backward SDEs, mathematical finance, numerics...

Education

2019-2022 **PhD, Applied Mathematics**, *École polytechnique*, Palaiseau.
Subject: Mean field optimal stopping. Supervised by Pr. Nizar Touzi.

2015-2019 **"Élève-normalien" at École Normale Supérieure Paris-Saclay**, *ENS Paris-Saclay (formerly ENS Cachan)*, Cachan.

2018 **MSc *Probability and Finance*, Applied Mathematics**, *École polytechnique/Sorbonne université*, Paris.

2016 **BSc, Mathematics**, *ENS Paris-Saclay and Université Paris-Diderot*, Paris.

Experience

2022-present **Postdoctoral researcher**, *ETH Zurich*, Zurich.

2019-2022 **PhD student and teaching assistant**, *École polytechnique*, Palaiseau.

2018-2019 **Visiting student**, *University of Southern California*, Los Angeles, one year pre-doctoral research internship, part of my degree at ENS Paris-Saclay. Supervised by Pr. Jianfeng Zhang.

2018 **Quantitative analyst intern**, *BNP Paribas*, London, six months off-cycle internship.

2017 **Research intern**, *Inria Grand-Est*, Nancy, four months research internship.

Scientific activities

Publications and preprints

4. Talbi, M. A finite-dimensional approximation for viscosity solutions of partial differential equations on Wasserstein space. *Preprint* (2022).

3. Talbi, M., Touzi, N. & Zhang, J. A finite-dimensional approximation for viscosity solutions of obstacle problems on Wasserstein space. *Preprint* (2022).

2. Talbi, M., Touzi, N. & Zhang, J. Viscosity solutions for obstacle problems on Wasserstein space. *Preprint arXiv:2203.17162* (2022).

1. Talbi, M., Touzi, N. & Zhang, J. Dynamic programming equation for the mean field optimal stopping problem. *Preprint arXiv:2103.05736* (2021).

Selected talks

Jun. 2022 9th colloquium on BSDEs and mean field systems, Annecy. Contributory talk.

Jan. 2022 Seminar in financial & actuarial mathematics, University of Michigan, online.

Oct. 2021 PhD seminar in mathematical finance, Sorbonne Université, Paris.

Aug. 2021 6th Berlin workshop for Young Researchers in mathematical finance, online. Contributory talk.

Jun. 2021 Summer school on Distributed Control: Decentralization and Incentives, Luminy. Contributory talk.

Apr. 2021 GT Modèles stochastiques en finance, École polytechnique, Palaiseau.

Sep. 2020 13th European Summer School in financial mathematics, Vienna. Contributory talk.

Referee activities

Invited reviewer for: *SIAM Journal on Control and Optimization*, *Stochastic Processes and their Applications*, *Mathematical Control and Related Fields*, *ESAIM: Control, Optimisation and Calculus of Variations*

Teaching activities

Classes

2020-2022 Introduction to Python (École polytechnique, MAP361P): teaching assistant.

2019-2022 Stochastic calculus in finance (École polytechnique, MAP552): teaching assistant for Python sessions.

2019-2022 Introduction to statistics (École polytechnique, MAA204): teaching assistant.

Supervised students

Supervision of the Bachelor theses (École polytechnique) of: Martin Ponchon (2020), Anaëlle Touré (2020), Diego Gomez (2021), Makram Loughman (2021), Reine Dayekh (2022), Ahmed Wakrim (2022).

Support classes

2016-2017 Support classes in mathematics and physics at Institut Villebon-Chapark, Université Paris-Sud.

Languages

French Mother tongue

English Full professional working proficiency

German Elementary proficiency

Programming skills

Mainly Python (including Tensorflow for deep learning methods), some notions in C++.