Mehdi Christian Talbi

Curriculum Vitae

Université Paris-Cité
Laboratoire de Probabilités, Statistiques et Modélisation
8 Place Aurélie Nemours, 75013 Paris, France
✉ *mtalbi@lpsm.paris*

Research interests

Stochastic control, mean field games, contract theory, deep learning, mathematical finance...

Experience

2023-present	**Assistant professor (maître de conférences)**, *Université Paris-Cité*, Paris
2022-2023	**Postdoctoral researcher**, *ETH Zürich*, Zürich
2019-2022	**PhD student and teaching assistant**, *École polytechnique*, Palaiseau
2018	**Quantitative analyst intern**, *BNP Paribas*, London, six months off-cycle internship

Education

2019-2022	**PhD, Applied Mathematics**, *Institut Polytechnique de Paris*, Palaiseau
2015-2019	**"Élève-normalien" (recruited on competitive exam) 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

Grants

2025	**Recipient of the PEPS JCJC (French national center for scientific research) funding**, *Project "Optimal stopping and systems of interacting agent"*, 6,000€

Academic visits

May. 2025	**ETH Zürich**, *Zürich*, invited by Dylan Possamaï (FIM guest)
Apr. 2025	**NYU Shanghai**, *Shanghai*, Invited by Mathieu Laurière
Mar. 2025	**New York University**, *New York*, Invited by Nizar Touzi
Feb. 2024	**ETH Zürich**, *Zürich*, invited by Dylan Possamaï
Jul. 2023	**University of California, Berkeley**, *Berkeley*, invited by Thibaut Mastrolia
2018-2019	**University of Southern California**, *Los Angeles*, one year pre-doctoral research internship, part of my degree at ENS Paris-Saclay, Invited and supervised by Jianfeng Zhang

Scientific activities

Preprints

10. Laurière, M. & Talbi, M. Deep learning for the multiple optimal stopping problem. *Preprint ArXiv:2512.22961* (2025).

9. Talbi, M. & Touzi, N. Itô-Wentzell formulas for semimartingale conditional laws with applications to mean-field control. *Preprint ArXiv:2510.00242* (2025).

8. Khabou, M. & Talbi, M. Markov approximation for controlled Hawkes Jump-Diffusions with general kernels. *Preprint ArXiv:2507.11294* (2025).

7. Possamaï, D. & Talbi, M. Optimal control of Volterra-integral diffusions and application to contract theory. *Preprint ArXiv:2511.09701* (2025).

6. Fadle, A., Talbi, M. & Touzi, N. Itô and Itô-Wentzell chain rule for flows of conditional laws of continuous semimartingales: an easy approach. *Preprint ArXiv:2404.11010* (2024).

Accepted papers

5. Possamaï, D. & Talbi, M. Mean-field games of optimal stopping: master equation and weak equilibria. *Applied Mathematics and Optimization* **92,** 1–32 (2025).

4. Talbi, M. A finite-dimensional approximation for partial differential equations on Wasserstein space. *Stochastic Processes and their Applications* **177,** 104445 (2024).

3. Talbi, M., Touzi, N. & Zhang, J. From finite population optimal stopping to mean field optimal stopping. *Annals of Applied Probability* **34,** 4237–4267 (2024).

2. Talbi, M., Touzi, N. & Zhang, J. Viscosity solutions for obstacle problems on Wasserstein space. *SIAM Journal on Control and Optimization* **61,** 1712–1736 (2023).

1. Talbi, M., Touzi, N. & Zhang, J. Dynamic programming equation for the mean field optimal stopping problem. *SIAM Journal on Control and Optimization* **61,** 2140–2164 (2023).

Talks in international conferences and workshops

Nov. 2025	9th London-Paris Bachelier Workshop, London, United Kingdom
Sep. 2025	Stochastic and Computational Finance, Lisbon, Portugal.
Jul. 2025	SIAM Conference on Financial Mathematics and Engineering, Miami, United States.
Apr. 2025	Workshop on Mean Field Games, Optimal Control, and Machine Learning, Shanghai, China.
Aug. 2024	Bernoulli-IMS 11th World Congress in Probability and Statistics, Bochum, Germany.
Jul. 2024	12th Bachelier World Congress, Rio de Janeiro, Brazil.
Jun. 2024	BIRS workshop on New Trends and Challenges in Stochastic Differential Games, Kelowna, Canada.
Jan. 2024	23rd annual Society for the Advancement of Economic Theory conference, Santiago, Chile.
Aug. 2023	10th International Congress on Industrial and Applied Mathematics, Tokyo, Japan.
Jun. 2023	11th General AMaMeF Conference, Bielefeld, Germany.
Jun. 2023	SIAM Conference on Financial Mathematics and Engineering, Philadelphia, United States.
May. 2023	BIRS workshop on Applications of Stochastic control to Economics and Finance, Banff, Canada.
Apr. 2023	Workshop on Stochastic control and Risk, Hammamet, Tunisia.
Mar. 2023	16th German Probability and Statistics Days, Essen, Germany.
Jan. 2023	15th Bachelier colloquium in mathematical finance and stochastic calculus, Métabief, France.
Jun. 2022	9th colloquium on BSDEs and mean field systems, Annecy, France.
Aug. 2021	6th Berlin workshop for Young Researchers in mathematical finance, online.
Jun. 2021	Summer school on Distributed Control: Decentralization and Incentives, Luminy, France.
Sep. 2020	13th European Summer School in financial mathematics, Vienna, Austria.

Talks in seminars

Dec. 2024	Probability seminar, École polytechnique, Palaiseau, France.
Oct. 2024	Mathematical finance colloquium, University of Southern California, Los Angeles, United States.
Aug. 2024	Financial mathematics seminar, UC Berkeley, Berkeley, United States.
Apr. 2024	Financial mathematics seminar, Princeton University, Princeton, United States.
Mar. 2024	GT Méthodes stochastiques et finances, Écoles des Ponts, Champs-sur-Marne, France.
Feb. 2024	Seminar in financial and insurance mathematics, ETH Zürich, Zürich, Switzerland.
Nov. 2023	Bachelier seminar, Institut Henri Poincaré, Paris, France.

Oct. 2023	Seminar Mathrisk Inria-LPSM, Inria Paris, Paris, France.
Jun. 2023	Mathematical finance seminar, Humboldt Universität, Berlin, Germany.
Mar. 2023	LPSM financial and actuarial mathematics seminar, Sorbonne Université, Paris, France.
Dec. 2022	Seminar in financial and insurance mathematics, ETH Zürich, Zürich, Switzerland.
Jan. 2022	Seminar in financial & actuarial mathematics, University of Michigan, online.
Oct. 2021	PhD seminar in mathematical finance, Sorbonne Université, Paris, France.
Apr. 2021	GT Modèles stochastiques en finance, École polytechnique, Palaiseau, France.

Referee activities

Invited reviewer for: *Annals of Applied Probability*, *Annales de l'Institut Henri Poincaré*, *Applied Mathematics and Optimization*, *Journal of Optimization Theory and Applications*, *Transactions of the AMS*, *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

2025-present	Fundamentals of derivatives modeling (Université Paris-Cité, MSc): teaching assistant.
2024-present	Stochastic control in finance (Université Paris-Cité, MSc) : lecturer.
2023-present	Mathematical finance (Université Paris-Cité, MSc): teaching assistant.
2023-present	Monte Carlo methods for finance (Université Paris-Cité, MSc): teaching assistant.
2023-present	Actuarial science (Université Paris-Cité, MSc): teaching assistant.
2023-2024	Fundamental analysis and algebra (Université Paris-Cité, BSc): teaching assistant.
2022-2023	Mathematical finance and stochastic calculus (ETH Zürich, MSc): surrogate lecturer.
2020-2022	Introduction to Python (École polytechnique, MSc): teaching assistant.
2019-2022	Stochastic calculus in finance (École polytechnique, MSc): teaching assistant for Python sessions.
2019-2022	Introduction to statistics (École polytechnique, BSc): teaching assistant.

Supervised students

Supervision of research internships (Master): Augustin Michel (2025, Université Paris-Cité), Baran Celik (2025, ESPCI).

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++.