

MATTIA

MARTINI

CONTACT INFO

E-mail mattia.martini@univ-cotedazur.fr
Professional address Parc Valrose, 06108 Nice, Cedex 2, France
Website <https://mattiamartini.github.io>
ORCID <https://orcid.org/0000-0002-9326-3234>

EXPERIENCE

POST-DOC RESEARCHER Apr. 2023-present
Université Côte d'Azur | Nice, France
(Laboratoire de Mathématiques J.A. Dieudonné)

- Mentor: Prof. François Delaure
- Member of ERC project ELISA

EDUCATION

PhD IN MATHEMATICAL SCIENCES Oct. 2019-Mar. 2023
Università degli Studi di Milano | Milan, Italy

- Thesis: Advances in stochastic analysis on spaces of measures: Kolmogorov equations related to stochastic filtering and mean field optimal stopping
- Supervisor: Prof. Marco Fuhrman

MSc IN MATHEMATICAL ENGINEERING Sep. 2017-Oct. 2019
Politecnico di Milano | Milan, Italy
(110/110 cum laude)

- Thesis: Kolmogorov Equations on Space of Measures Associated to Stochastic Filtering Processes
- Supervisors: Prof. Sandro Salsa and Prof. Marco Fuhrman

BSc IN MATHEMATICAL ENGINEERING Sep. 2014-Sep. 2017
Politecnico di Milano | Milan, Italy
(110/110)

- Thesis: Quantum bits and superdense coding
- Supervisor: Prof. Matteo Gregoratti

High School Diploma 2009-2014
I.T.I.S Galileo Galileo | San Secondo P.se, Italy
(100/100 cum laude)

PUBLICATIONS

Preprints	Delarue, F. and M. Martini (2024). "Fourier Galerkin approximation of mean field control problems". arXiv:2403.15642.
	M. Martini (2022). "Kolmogorov equations on the space of probability measures associated to the nonlinear filtering equation: the viscosity approach". arXiv:2202.11072.
Articles	Cosso, A. and M. Martini (2023). "On smooth approximations in the Wasserstein space". <i>Electronic Communications in Probability</i> 28, 1-11.
	Djehiche, B. and M. Martini (2023). "Time-inconsistent mean-field optimal stopping: A limit approach". <i>Journal of Mathematical Analysis and Applications</i> 528.1.
	M. Martini (2023). "Kolmogorov equations on spaces of measures associated to nonlinear filtering processes". <i>Stochastic Processes and their Applications</i> 161, 385-423.
	M. Martini and G. E. Sodini (2021). "Numerical Methods for a System of Coupled Cahn-Hilliard Equations". <i>Commun. Appl. Ind. Math.</i> 12, 1-12.

GIVEN TALKS, SEMINARS AND POSTERS

2nd AMS-UMI International Joint Meeting (upcoming)	2024
<i>TBA - special session "Mean Field Games and related topics"</i>	
Fourth Italian Meeting on Probability and Mathematical Statistics (upcoming)	2024
<i>Presentation of [Delarue, M. 24] - invited session "Stochastic optimal control of McKean-Vlasov equations"</i>	
Young Researchers in Stochastic Control and Games	2023
<i>Presentation of [Delarue, M. 24] - invited talk</i>	
Séminaire de Probabilités et Statistique, LJAD	2023
<i>Presentation of [M. 23] - seminar of the probability and statistics group</i>	
PGMO Days	2023
<i>Presentation of [M. 23] - invited session "Mean field games and control"</i>	
A Random Walk in the Land of Stochastic Analysis and Numerical Probability	2023
<i>Presentation of [M. 23] - poster</i>	
SPDEs, optimal control and mean field games	2023
<i>Presentation of [M. 23] - poster</i>	
The 9th International Colloquium on BSDEs and Mean Field Systems	2022
<i>Presentation of [M. 23] - contributed talk</i>	
Third Italian Meeting on Probability and Mathematical Statistics	2022
<i>Presentation of [M. 23] - contributed session "New trends in stochastic control"</i>	
100 years UMI and First UMI meeting of PhD students	2022
<i>Presentation of [M. 23] - contributed talk</i>	
Università degli Studi Milano-Bicocca, Seminars cycle "In-salate di Matematica"	2021
<i>Backward Kolmogorov equations: a link between PDEs and SDEs</i>	
Trento-Wuppertal School on Stochastic Processes, Analysis and Semigroups	2021
<i>Presentation of [M. 23] - contributed talk</i>	

TEACHING

Stochastic differential equations	2022-2023
<i>Teaching assistant</i> MSc Mathematical Engineering, Politecnico di Milano	
Stochastic differential equations	2021-2022
<i>Teaching assistant</i> MSc Mathematical Engineering, Politecnico di Milano	
Basics of Statistics	2020-2021
<i>Teaching assistant</i> BSc Biomedical Engineering, Politecnico di Milano	
Stochastic differential equations	2020-2021
<i>Teaching assistant</i> MSc Mathematical Engineering, Politecnico di Milano	
Probability and Statistics	2019-2020
<i>Teaching assistant</i> BSc Management Engineering, Politecnico di Milano	

VISITING POSITIONS

Università di Parma	February 2024
<i>1 Week</i> Host: Dr. Alessandro Calvia	
KTH, Stockholm	May 2022
<i>1 Week</i> Host: Prof. Boualem Djehiche	

ATTENDED CONFERENCES, WORKSHOPS AND SCHOOLS

Mean-Field Interaction, Singular Kernels, and Approximation
<i>Dec. 18 - 22, 2023</i> Institut Henri Poincaré, Paris (conference)
Young Researchers in Stochastic Control and Games
<i>Dec. 14 - 15, 2023</i> Universität Bielefeld (workshop)
PGMO Days
<i>Nov. 28 - 29, 2023</i> EDF Lab Paris-Saclay (conference)
A Random Walk in the Land of Stochastic Analysis and Numerical Probability
<i>Sept. 4 - 8, 2023</i> CIRM Luminy (conference)
SPDEs, optimal control and mean field games
<i>July 10 - 14, 2023</i> Universität Bielefeld (workshop)
Summer School on Mean Field Models
<i>June 12 - 16, 2023</i> Centre Henri Lebesgue, Université de Rennes (school)
Two-day workshop on deterministic and stochastic control
<i>September 6 - 7, 2022</i> Politecnico di Milano (workshop)
9th International Colloquium on BSDEs and Mean Field Systems
<i>June 27 - July 1, 2022</i> IAE Savoie Mont Blanc, Annecy (conference)
Third Italian Meeting on Probability and Mathematical Statistics
<i>June 13 - 16, 2022</i> Università di Bologna (conference)
100 years UMI & First UMI meeting of PhD students
<i>May 23 - 27, 2022</i> Università di Padova (conference)
Stochastic Games and Martingale Optimal Transport
<i>May 5 - 6, 2022</i> Università degli Studi di Milano (workshop)

3rd Spring Colloquium on Probability and Finance

April 28 - 29, 2022 | Università di Padova, online (workshop)

Schrödinger Problem and Mean-field PDE Systems: Computational and Theoretical Advances

November 15 - 19, 2021 | CIRM Luminy (conference)

Trento-Wuppertal School on Stochastic Processes, Analysis and Semigroups

August 30 - September 3, 2021 | Università di Trento (school)

Stochastic games with partial and asymmetric information

July 6 - 7, 2021 | Collegio Carlo Alberto, online (workshop)

Stochastic Processes and their Friends

March 18 - 19, 2021 | University of Leeds, online (conference)

Mean field games in economics

September 7 - 8, 2020 | LUISS University and Einaudi Institute for Economics and Finance, online (workshop)

13th European Summer School in Financial Mathematics

August 31 - September 4, 2020 | University of Vienna (school)

Stochastic analysis brats

June 23 - 26, 2020 | Università di Pisa, online (workshop)

ORGANIZATION

Contributed session "Mean Field Games and Mean Field Control I"

4th Italian Meeting on Probability and Mathematical Statistics, 2024 | Roma

Conference "Phd Days 2021"

December 14 - 17, 2021 | Università degli Studi di Milano

SKILLS

IT

- **Operating systems:** Microsoft Windows, Linux-Unix, MacOS
- **Office:** \LaTeX , Microsoft Office
- **Languages:** C++, C, MPI
- **Scientific programming:** Matlab, R, FreeFem

Languages

- Italian (native)
- English (Full professional proficiency)
- French (Basic)

OTHERS

Abilitations

Maître de conférences (26 - Mathématiques appliquées et applications des mathématiques)

Referee activities

SICON, Stochastic Processes and Their Applications

Part of research project

- From 2023: member of the ERC project ELISA (Grant agreement No. 101054746), P.I. Prof. F. Delarue.

Memberships

- From 2022: Unione Matematica Italiana (UMI)
- From 2020: Indam, GNAMPA

Scholarships

- 2016 to 2018: Scholarship for the best off-site students
- 2015: Scholarship for the best freshmen of A.Y. 2014/2015