Alessandro Sgarabottolo

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LinkedIn GitHub

Academic studies

Oct 2021 – Feb 2025	**Ph.D. in Mathematical Economics (Finance profile), Bielefeld University,** Bielefeld, Germany. Supervisor: Prof. Dr. Max Nendel. Defense date: February 18, 2025. Title of the thesis: *Essays on model uncertainty in finance: from optimal transport to nonlinear semigroups*
Oct 2016 – Oct 2018	**M.Sc. in Mathematics, University of Padua,** Padua, Italy. Title of the thesis: *Limit theorems for nearly unstable Hawkes processes and their applications*
Oct 2013 – Jul 2016	**B.Sc. in Mathematics, University of Padua,** Padua, Italy. Title of thesis: *Renewal processes, theory and examples*
Sep 2001 – Sep 2011	**M.A. in Violin Performance (Diploma di violino), Conservatory of Padua,** Padua, Italy

Working experience

Apr 2025 – Present	**Postdoctoral Researcher and Lecturer**, *Department of Mathematics, LMU Munich*, Munich
Feb 2024 – Oct 2024	**Research Associate**, *School of Physical and Mathematical Sciences, NTU Singapore*, Singapore
Oct 2021 – Mar 2025	**Research Assistant,** *Center for Mathematical Economics, Bielefeld University*, Bielefeld, Germany
Feb 2019 – Sep 2021	**Senior Quantitative Analyst,** *Pricing Unit, Prometeia*, Bologna, Italy. Main tasks: pricing activities and development of pricing models
2016 – 2018	**Freelance Violin**, Italy
2013 – 2016	**Violin tutti,** *Orchestra L. Cherubini*, conductor Riccardo Muti, Piacenza, Italy

Research interests

Model uncertainty, derivative pricing, optimal transport, machine learning, distributionally robust optimization

Publications

1. Risk measures based on weak optimal transport (with M. Kupper and M. Nendel). *Quantitative Finance*, 2025. `https://doi.org/10.1080/14697688.2024.2403540`

Preprints and working papers

4. Hopf-Lax approximation for value functions of Lévy optimal control problems (with M. Kupper and M. Nendel), *Preprint*, 2025, https://arxiv.org/abs/2501.16846

3. Discrete approximation of risk-based prices under volatility uncertainty (with J. Blessing and M. Kupper), *Preprint*, 2024, https://arxiv.org/abs/2411.00713

2. Assessing swaption portfolios for prepayment risk mitigation: a parametric perspective (with A. Monaco and A. Perrotta), *Preprint*, 2023, https://www.sfb1283.uni-bielefeld.de/preprints/view/2866

1. A parametric approach to the estimation of convex risk functionals based on Wasserstein distance (with M. Nendel), *Preprint*, 2022, https://arxiv.org/abs/2210.14340

Talks at conferences and seminars

Invited talks

- *Oberseminar Workgroup Financial and Insurance Mathematics*, LMU Munich, Department of Mathematics, Munich, 20.01.2025
- *Workshop on Mathematical Finance*, Jeju Island (Korea), 01.06.2024
- *Mini-Workshop on Mathematical Finance*, Sungkyunkwan University, Seoul, 24.05.2024
- *PhD Seminar Series on Financial Modeling*, University Paris 1 Panthéon-Sorbonne, online talk, 02.05.2023
- *Analysis Seminar Series*, University College Dublin, Dublin, 7.12.2022
- *Research seminar*, University of Vienna, Department of Mathematics , Vienna, 22.09.2022
- *Research seminar*, University of Konstanz, Department of Mathematics and Statistics, Konstanz, 07.06.2022

Contributed talks

- *INFORMS Conference on Financial Engineering and FinTech*, Hong Kong Polytechnic University, Hong Kong, 19-21.08.2024
- *Bachelier World Congress*, Rio De Janeiro, 11.07.2024
- *XLVII Annual Meeting of the Amases*, Università Milano Bicocca, Milan, 22.09.2023
- *11th General AMaMeF Conference*, Bielefeld, 26.06.2023
- *XXIV Workshop on Quantitative Finance*, Angevin Castle, Gaeta, 22.04.2023
- *German Probability and Statistics Days*, University of Duisburg Essen, Essen, 9.03.2023
- *QED Workshop*, University of Vienna, Vienna, 24.09.2022
- *Workshop on Imprecise Probability and Robust Finance*, Cartagena, 19.09.2022
- Workshop *Risk Measures and Uncertainty in Insurance*, Leibnizhaus, Hannover, 19.05.2022

Organization of academic events

- *18th BiGSEM Workshop* (Bielefeld University), 4.05.2023 - 5.05.2023, member of the local organizing committee
- *11th General AMaMeF Conference* (Bielefeld University), 26.06.2023 – 30.06.2023, member of the local organizing committee (Convenors: Giorgio Ferrari and Frank Riedel)

Teaching experience

Summer term 2025	Introduction to Object-Oriented Programming in Java, LMU Munich, Instructor

Teaching experience (continued)

	Exercises of Numerical Methods for Mathematical Finance, LMU Munich, Teaching Assistant
Winter term 2023/24	Finance 3: Stochastic Control and Model Uncertainty in Economics and Finance, Bielefeld University, Teaching Assistant
Summer term 2023	Finance 2, Bielefeld University, Teaching Assistant

Skills

Languages	Italian (native), English (fluent), French (fluent), German (basic)
Coding	Phython, Java, R, VBA, Wolfram Mathematica, MATLAB

Collaborators

- Jonas Blessing (ETH Zurich)
- Michael Kupper (University of Konstanz)
- Andrea Monaco (University College Dublin)
- Max Nendel (University of Bielefeld)
- Adamaria Perrotta (University College Dublin)