LORETTA MASTROENI
Associate Professor of Mathematical Finance
Full Professor Qualification

Roma Tre University
Department of Economics
Via Silvio d'Amico, 77
00145 Rome, Italy

Email: loretta.mastroeni@uniroma3.it

CV OF THE LAST 10 YEARS

Research Interests

Prof. Mastroeni is a mathematician and works in the areas of quantitative finance and risk management. She has written on topics in:

Energy and commodity finance

Pricing models and risk management in finance

Management of telecommunications systems

Network economics

Pricing and cost models for cloud computing

Expert for European and National Projects

2019-present Review Panel Expert in the PRIN-National Research Projects, Italian Ministry of University and Research

2013-present Review Panel Expert in the COST Action Proposal, Submission, Evaluation, Selection and Approval Procedure ((Domain [ISCH IT] IT Social Sciences).

2008-2010 Network of Excellence Euro-NF- 7FP, Anticipating the Network of the Future- From Theory to Design.

Editorial activity

Journal of Mathematical Finance (Associate Editor) ISSN 2162-2434

AIMS Energy (Associate Editor) ISSN 2333-8334

American Journal of Applied Sciences (Associate Editor) ISSN 1546-9239

Advances in Decision Sciences (ADS) (Associate Editor) ISSN 2090-3359

International Journal of Applied Management Science (Associate Editor) ISSN 1755-8913

SN Business & Economics, Springer (Associate Editor) ISSN 2662-9399

Annals of Operations Research (Guest Editor with R. D'Ecclesia & G. Morelli), Special Issue: "Machine Learning for Finance Insurance and Risk Management"

Entropy (Guest Editor with P. Vellucci), Special Issue: "Entropy-Based Methods for Finance and Risk Management"

Mathematics (Guest Editor with M. Naldi), Special Issue: "Computational Intelligence Algorithms in Economics and Finance"

DEAF-Decision in Economics and Finance (Guest Editor with R. Wunderlich) Special Issue "Energy Finance"

Journal of Risk and Financial Management (Topical Advisory Panel Member)

Risks (Topical Advisory Panel Member)

Entropy (Topical Advisory Panel Member)

Reviewer activity

Mathematical Finance, Journal of Economic Dynamics and Control, Energy Economics, Annals of Operations Research, Resources Policy, Electronic Commerce Research, Journal of Differential Equations, IEEE Communications Letters, Telecommunications Policy, European Transactions on Telecommunications, Central European Journal of Operations Research, International Journal of Economics and Management Engineering, Computers and Industrial Engineering, Applied Mathematics and Computation, Risks, Applied Sciences, Economic Modeling, IEEE Access, Electronic Commerce Research and Applications, Technological Forecasting and Social Change, Journal of Risk and Financial Management, Entropy, Financial Innovation, Aims Energy, Review of Managerial Science, Quality & Quantity, Journal of Commodity Markets, Mathematics, Review of Managerial Science

Visiting Positions

2022 Cracow University of Economics, Cracow, (Poland): MSc course on *Quantitative Tools for Risk Management and Derivatives*

2017 AGH University of Science and Technology, Cracow, (Poland): PhD course on *Risk Management in Financial Markets*

2013 Stockholm School of Economics. Visiting professor at the Department of Finance, Stockholm (Sweden).

2011 Stockholm School of Economics. Visiting professor at the Department of Finance, Stockholm (Sweden).

Institutional Activities

2024-present Coordinator of the MSc *Economia e Gestione della Trasformazione Digitale*, Department of Economics, Roma Tre University

2022-present Member of the Teaching Board of the PhD Programme in *Finance and Institutions*, Sapienza University of Rome

2011-2021 Member of the Teaching Board of the PhD Programme in *Economics*, Roma Tre University

2011-present Coordinator for international didactic projects of the Department of Economics, Roma Tre University

2010-present Member of the Commission for the evaluation of research activities, Department of Economics, Roma Tre University

2010-present Member of the Scientific Committee of the W.P. Series of the Department of Economics, Roma Tre University, (ISSN: 2279-6916)

Organizational Activity

2024 EURO24, *Risk Management in Private and Public Finance*, (Chair and Organizer of the Invited Session), Copenhagen,

2024 EFI9-Energy Finance Italia, University of Bari, (Scientific Committee)

2023 EFI8-Energy Finance Italia, Politecnico di Milano, (Scientific Committee)

2023 67th Meeting of the EWGCFM: *The role of fintech and artificial intelligence in risk management and measurement*, Rome (Scientific and Organizing Committee)

2022 EURO-2022, *Risk Management in Private and Public Finance*, in stream: Financial Risk Measurement and Management (Chair and Organizer of the Invited Session), Espoo,

2022 EFI7-Energy Finance Italia, University of Naples *Parthenope*, (Scientific Committee)

2021 EFI6-Energy Finance Italia, University of Brescia (online event), (Scientific Committee)

2020 EFI5-Energy Finance Italia, Roma Tre University, (Responsible organizer and Scientific Committee)

2018 EURO-2018, Valencia, *Agent Based Modeling and Simulation*, in stream: Financial Modeling, Risk Management and Managerial Accounting (Chair and Organizer of the Invited Session)

2015 The first International workshop on "Signal Processing for Secure Communications" (SP4SC-2015), Roma Tre University, (Scientific Committee)

2013 The 3rd International Conference of the Financial Engineering and Banking Society (FEBS) "Financial regulation and systemic risk", Paris (Scientific Committee)

2013 51th Meeting of the EWGFM and 1st Conference of the RCEM and ICSTF on Recent developments on energy modeling and regulation, London, (Scientific Committee)

2012 The 2nd International Conference of the Financial Engineering and Banking Society (FEBS), London, (Scientific Committee)

2012 International Summer School on Risk Measurement and Control, Rome, (Scientific Committee)

2012 50th Euro Working Group on Financial Modeling meeting, Rome, (Scientific Committee)

2012 Final Meeting of the research group RISKASIP (Risk Assessment in IP Networks), Excellent Networks Euro-NF Anticipating the Network of the Future: from Theory to Design, 7th FP European Union, Rome (Organizing Committee)

2009 Workshop Econ@Tel- A Telecommunications Economics COST Network, COST Action ISO605, Meeting of Working Group 4, Rome (Organizing Committee)

Publications

Journal Articles

Mastroeni L., Mazzoccoli A. & Vellucci P. (2024) *Studying the impact of Fluctuations, Spikes and Rare Events in Time Series through a Wavelet Entropy Predictability Measure*. Physica A, 641 (2024) 129720

Mastroeni L., Naldi M. & Vellucci P. (2023) *Wind energy: influencing the dynamics of the public opinion formation through the retweet network*. Technological Forecasting & Social Change, 194, September 2023, 122748

Mastroeni L., Mazzoccoli A. & Naldi M. (2023) *Cyber insurance premium setting for multi-site companies under risk correlation.*, RISKS. 11 (10), 167. https://doi.org/10.3390/risks11100167

Mastroeni L., Naldi M. & Vellucci P. (2023) *Twitter and the circular economy: Examining the public discourse* Management Decision 61 (13), 192-221. DOI 10.1108/MD-03-2022-0396

Mastroeni L., Naldi M. & Vellucci P. (2023) *Who pushes the discussion on wind energy? An analysis of self-reposting behaviour on Twitter*. Quality & Quantity, 57, 1763-1789. https://doi.org/10.1007/s11135-022-01448-z

Mastroeni L., M. Naldi & P. Vellucci, (2023) *Personal Finance Decisions with untruthful advisors: an Agent-Based Model*. Computational Economics, 61, 1477-1522. https://doi.org/10.1007/s10614-022-10256-4

Mastroeni L. (2022) *Pricing Options with Vanishing Stochastic Volatility*, RISKS, 10 (9), 175.

Mastroeni L., Mazzoccoli A. & Naldi M. (2022) *Pricing cat bonds for cloud service failures*, J. Risk Financial Manag., 15 (463). https://doi.org/10.3390/jrfm15100463

Mastroeni L. & Vellucci P. (2022) *Construction of an SDE model from intraday copper futures prices*, RISKS, 10 (11), 218

Mastroeni L. & Vellucci P. (2022) *Replication in Energy Markets: Use and Misuse of Chaos Tools*. Entropy, 24 (5), 701

Mastroeni L., A. Mazzoccoli, G. Quaresima & P. Vellucci, (2022) *Wavelet analysis and energy-based measures for oil-food price relationship as a footprint of financialisation effect*. Resources Policy, 77, 102692

Bersani A. M., Falbo P. & Mastroeni L., (2022) *Is the ETS an effective environmental policy? Undesired interaction between energy-mix, emission caps and electricity prices.* Energy Economics, 110, 105981

Mastroeni L., Mazzoccoli A., Quaresima G. & Vellucci P. (2021) *Decoupling and recoupling in the crude oil price benchmarks: an investigation of similarity patterns*. Energy Economics, 94, 105036

Condemi C., Mastroeni L. & Vellucci P. (2021) *The impact of Clean Spark Spread expectations on storage hydroelectric generation*, Decisions in Economics & Finance 44, 1111−1146 https://doi.org/10.1007/s10203-021-00355-6

Condemi C., Casillas-Perez D., Jimenez-Fernandez S., Mastroeni L. & S. Salcedo-Sanz, (2021) *Prediction of Hydro-power Production Capacity with Machine Learning Regression Techniques.* Knowledge-Based Systems, 222 (2021) 107012 https://doi.org/10.1016/j.knosys.2021.107012

Benedetto F., Mastroeni L. & Vellucci P. (2021) *Extraction of Information Content Exchange in Financial Markets by an Entropy Analysis*. ACM Transactions on Management Information Systems, Vol.12, n.1, 1-16

Benedetto F., Mastroeni L. & Vellucci P. (2021) *Modeling the Flow of Information between Financial Time-Series by an Entropy-Based Approach.* Annals of Operations Research, 299, 1235-1252

Benedetto F., Mastroeni L., Quaresima G. & Vellucci P. (2020) *Does OVX affect WTI and Brent oil spot variance? Evidence from an entropy analysis*. Energy Economics, vol. 89, 104815

Condemi C., Mastroeni L. & Vellucci P. (2020) *The selection of predictive variables in aggregate hydroelectric generation models*. The Journal of Energy Markets, Vol.14, N.1, 27-60

Mastroeni L., Vellucci P. & Naldi M. (2019). *A reappraisal of the chaotic paradigm for energy commodity prices*. Energy Economics, 82, 167-178.

Mastroeni L., Mazzoccoli A.& Naldi M. (2019) *Service Level Agreement Violations in Cloud Storage: Insurance and Compensation Sustainability*. Future Internet, vol.11, 142

Mastroeni L., Vellucci P. & Naldi M. (2019) *Agent-Based Models for Opinion Forming: a Bibliographic Survey*. IEEE Access, 7 (1), 58836-58848,

Mastroeni L., Vellucci P. & Naldi M. (2018). *Co-existence of stochastic and chaotic behaviour in the copper price time series*. Resources Policy, 58, 295-302.

Benedetto F., Giunta G. & Mastroeni L. (2016) *On the Predictability of Energy Commodity Markets by an Entropy-based Computational Method*. Energy Economics, 54, 302-312

Mastroeni L. & Naldi M. (2016). *Decision criteria for the migration to cloud storage*. EJIS-European Journal of Information Systems 25, 16-28.

Benedetto F., Giunta G. & Mastroeni L. (2016) *A Maximum Entropy Method to Assess the Predictability of Financial and Commodity Markets*. Digital Signal Processing 46, 19-31

Mastroeni L. & Naldi M. (2013) *Pricing of insurance policies against cloud storage price rises*. ACM-Performance Evaluation Review, 40 (2). ISSN: 0163-5999

Mastroeni L. & Matzeu M. (2012) *Strong solutions for two-sided parabolic variational inequalities related to an elliptic part of p-laplacian type*, Zeitschrift fur Analysis und ihre Anwendungen, 31, (4), 379-391

Mastroeni L. & Naldi M. (2012) *Pricing of insurance policies against cloud storage price rises*. Performance Evaluation Review, 40 (2):42-45,

Mastroeni L. & Naldi M. (2011) *Pricing of spectrum reservation under overbooking*. Electronic Commerce Research and Applications, 10, (5), 565-575,

Mastroeni L. & Naldi M. (2011) *Options and Overbooking Strategy in the Management of Wireless Spectrum* Telecommunication Systems, 48, (1), 31-42.

Mastroeni L. & Naldi M. (2011) *Virtualization of spectrum for mobile operators: the pricing issue*. Electronic Communications of the EASST, 37.

Bersani A.M., Bersani E. & Mastroeni L. (2011) *Modeling the Action of Drugs on Cellular Enzymes by Means of Optimal Control Techniques*. Journal of Mathematical Chemistry vol.49 n.3

Mastroeni L. & Naldi M. (2010). *A Real Options Model for the Transferability Value of Telecommunications Licence*. Annals of Telecommunications, 65, (3-4), 201-210,

Book Chapters

Mastroeni L. & Vellucci P. (2020). *Chaos vs Stochastic Paradigm in Energy Markets* . In Handbook of Energy Finance: Theories, Practices and Simulations, pp. 765-786, World Scientific Publishing, ISBN: 978-981-3278-37-0 https://doi.org/10.1142/9789813278387-0030

Mastroeni L., Naldi M. & Vellucci, P., (2019) *Opinion dynamics in multi-agent systems under proportional updating and any-to-any influence*, in: Advances in Optimization and Decision Science for Society, Services and Enterprises. AIRO Springer Series 3, Springer Nature Switzerland https://doi.org/10.1007/978-3-030-34960-8-25

Mastroeni L. & Naldi M. (2017) *Insurance Pricing and Refund Sustainability for Cloud Outages*. LNCS-Lecture Notes Computer Science: Economics of Grids, Clouds, Systems, and Services, 10537, 3-17. Springer International Publishing ISBN:978-3-319-68065-1 DOI 10.1007/978-3-319-68066-8

Benedetto F., Giunta G. & Mastroeni L. (2016) *A Computational Method for Predicting the Entropy of Energy Market Time Series*. Computational Management Science, LNEMS-Lecture Notes in Economics and Mathematical Systems, 682, 39-44.Springer Ed. ISSN:978-3-3319-20430-7

Benedetto F., Giunta G. & Mastroeni L. (2015) *Signal Processing for Financial Markets: Trends, Opportunities and Associated Risks*. Encyclopedia of Information Science and Technology, IGI GLOBAL Publisher, 7339-7346 DOI: 10.4018/978-1-4666-5888-2.ch723 ISBN: 978-1-46665888-2

Mastroeni L. & Naldi M. (2011). *Compensation policies and risk in Service Level Agreements: A Value-at-Risk approach under the ON-OFF service model*. LNCS-Lecture Notes in Computer Science 6995, 2-13. Springer-Verlag Ed. DOI:10.1007/978-3-642-24547-3 2 ISBN: 978-3-642-24546-6

Proceedings (blind reviewed)

F. Benedetto, Mastroeni L. & Quaresima G. (2021). *Auction-Based Theory for Dynamic Spectrum Access: a Review*, 2021 44th International Conference on Telecommunications and Signal Processing (TSP), 2021, pp. 146-151, doi: 10.1109/TSP52935.2021.9522600.

F. Benedetto, Mastroeni L. & Quaresima G. (2019). *On the Properties of Double Action-based Models for Spectrum Management in Cognitive Radio Networks*, in: Proceedings of the 2019 42nd International Conference on Telecommunications and Signal Processing (TSP), IEEE Digital Library, pp. 500-504 DOI: 10.1109/TSP.2019.8768809

Mastroeni L., Vellucci P. & Naldi M. (2019). *An ABM model on scale-free networks for Personal Finance decisions* CEUR Proceedings of the Workshop WoA, Parma ISSN: 1613-0073

Mastroeni L., Vellucci P. & Naldi M. (2017). *Individual Competence Evolution under Equality Bias*. European Modeling Simposium-IEEE-Computer Society DOI:10.1109/EMS.2017.31

Mastroeni L. & Naldi M. (2013). *Cloud storage pricing: a comparison of current practices*. Proceedings of the HotTopiCS2013-International Workshop on Hot Topics in Cloud Services , 4th ACM/SPEC International Conference on Performance Engineering, 27-34. ISBN: 978-1-4503-2051-1 DOI: 10.1145/2462307-2462315

D'Acquisto G., Mastroeni L. & Naldi M. (2013). *Solution space size in credit risk simulation*. Proceedings of the UKSim2013- 15th International Conference on Modeling and Simulation, 101-106, IEEE-Computer Society DOI: 10.1109/UKSim.2013.11 ISBN: 978-0-7695-4994-1/13

D'Acquisto G., Mastroeni L. & Naldi M. (2012). *Simulation of correlated financial defaults through smoothed Cross-Entropy*. Proceedings of the UKSim2012- 14th International Conference on Modeling and Simulation, 129-134, IEEE-Computer Society DOI: 10.1109/UKSim.2012.27 ISBN:978-0-7695-4682-7

Mastroeni L. & Naldi M. (2011). *Network protection through insurance: premium computation for ON-OFF service model*. Proceedings of the 8th International Workshop on the Design of Reliable Communications Networks (DRCN),46-53, DOI:10.1109/DRCN.2011.6076884 ISBN:978-1-61284-124-3

Mastroeni L. & Naldi M. (2011). *Violations of service availability targets in service level agreements*. Proceedings of the 2011 Federated Conference on Computer Science and Information Systems, FedCSIS 2011, 537-540. IEEE-Computer Society. ISBN 978-83-60810-34-4

Mastroeni L. & Naldi M. (2011). *Long-range evaluation of risk in the migration to cloud storage*. Proceedings of the 13th IEEE International Conference on Commerce and Enterprise Computing CEC 2011, 260-266. IEEE-Computer Society. DOI:10.1109/CEC.2011.47 ISBN:978-1-4577-1542-6

Mastroeni L. & Naldi M. (2011). *Storage buy-or-lease decisions in cloud computing under price uncertainty*. Proceedings of the 7th EURO-NGI Conference on Next Generation Internet Networks NGI 2011, IEEE-Computer Society. ISBN: 978-1-4577-0915-9 DOI:10.1109/NGI.2011.5985868

Teaching appointments

PhD and post-graduate courses

Risk Management in Energy Markets, Master of Science Programme "Management in Energy and Environment - MEA", Roma Tre University

Mathematics For Economics, PhD Programme in "Economics", Roma Tre University

Stochastic Models for Finance, PhD Programme in Money and Finance, University of Rome Tor Vergata

Risk Management in Financial Markets, PhD program of the Dept. of Telecommunications,AGH University of Science and Technology, Krakow, (Poland)

Risk Management in Energy Markets, Master of Science Programme "Management in Energy and Environment - MEA", Roma Tre University

Optimal control theory and dynamic programming, Master of Science "Engineering and Economics for Environment", Roma Tre University

Stochastic Models for Finance, PhD Programme in Money and Finance, Tor Vergata University of Rome.

MSc and BSc courses

Mathematical Methods for Finance (BSc course in Economics and Big Data)

Derivatives and Portfolio Theory (English track, MSc course)

Mathematical Finance (English track, MSc course)

Mathematical Methods for Environmental Sciences (English track, International MSc course)

Statistical Methods for Environmental Sciences (English track, International MSc course)

Optimal Control Theory in Economics (MSc course)

Probability for Finance (MSc in Finance)

Mathematics for Economics, (BSc course)

Mathematics for Finance and Economics (MSc course)

Financial Mathematics (MSc course)

Advanced Financial Mathematics (MSc course)

Economics and Finance for Insurance (MSc course)

Probability and Stochastic Processes with Applications to Finance (MSc course)

Mathematics (BSc course)

Mathematics and Statistics for Biology (MSc course)

Last updated: April 8, 2024