Curriculum vitae et studiorum di Roy Cerqueti

CURRENT POSITION

- **Full Professor of Statistics, Dipartimento di Scienze Sociali ed Economiche, Sapienza Universitá di Roma**
- **Director of the "Doctoral School in Social and Economic Sciences" – Sapienza Universiy of Rome**
- **Member of the Scientific Board – Association for Mathematics Applied to Social and Economic Sciences (AMASES) / Scientific co-director of the AMASES Summer Schools (with Fabrizio Lillo)**
- **Research affiliate of the GRANEM Research Center – Groupe de Recherche ANgevin en Economie et Management (University of Angers, France)**
- **Distinguished Visiting Professor – Royal Holloway University of London, UK (one year, starting from September 2024)**
- **Member of the PhD Council (PhD in Quantitative Methods for the Political Economy) – University of Macerata**

FORMER POSITIONS

- 9/12/2019 – 30/11/2022 Professor of Mathematical Methods for Economics, Finance and Operations Research, London South Bank University, London, UK
- 15/01/2020 – 31/08/2021 Associate professor of Mathematics for Economics and Finance, Sapienza University of Rome.
- 01/10/2014 – 14/01/2020 Associate professor of Mathematics for Economics and Finance, University of Macerata.
- 01/11/2007 – 30/09/2014 Assistant professor of Mathematics for Economics and Finance, University of Macerata.
- 24/03/2017 – 03/04/2019 Review Panel expert in the COST Action Proposal Submission, Evaluation, Selection and Approval procedure.
- 01/07/2006 – 01/11/2007: Research fellow at Sapienza University of Rome. Title of the project: "Semimarkovian models for communication networks".
- 01/03/2004 – 28/02/2005: Research fellow at the University of Tuscia, Viterbo. Title of the project: "Mathematical models for economics and finance".

- 01/11/2000 – 30/10/2003: PhD in "Mathematics for economical and financial applications", at the Faculty of Economics, Sapienza University of Rome. Title of the thesis (defended on 16/03/2004): "Stochastic calculus applied to finance: optimal financing policies and time series with memory properties models".

- 01/10/2001 – 31/03/2002: visiting researcher at the Ecole Nationale des Pontes et Chausses, Université de Marne La-Vallée and INRIA, Paris. Supervisors: Damien Lamberton and Bernard Lapeyre.

- 13/07/2000: Bachelor degree in Mathematics at Sapienza University of Rome. Title of the thesis: "Entropy and martingale measures in incomplete markets (Entropia e misure di martingala in mercati incompleti)".

SELECTED PUBLICATIONS

PhD thesis

1. **Stochastic calculus applied to finance: optimal financing policies and time series with memory properties models, 2004**.

International journals

2. J.-V. Andersen, R. Cerqueti, J. Riccioni, **Statistical indicators for the optimal prediction of failure times of reliability stochastic systems: a rational expectations-based approach**, *Information Sciences*, 689, 121483, (2025).

3. R. Cerqueti, A. Ramponi, S. Scarlatti, **A Compartmental Model for the Dynamic Simulation of Pandemics with a Multi-Phase Vaccination and its Application to Italian COVID-19 Data**, *Mathematics and Computers in Simulations*, 228, 124-146, (2025).

4. R. Cerqueti, C. Da Fermo, M. Nicolosi, **Probabilities of transitions among endogenous regimes in asset returns and ESG scores**, *Business Strategy and the Environment*, https://doi.org/10.1002/bse.4011, (2024).

5. R. Cerqueti, A. Palestini, **Bivariate Tail Conditional Co-Expectation for Elliptical Distributions**, *Insurance: Mathematics and Economics*, 119, 251-260, (2024).

6. J. Sanchez-Garcia, R. Mattera, S. Cruz-Rambaud, R. Cerqueti, **Measuring financial stability in the presence of energy shocks**, *Energy Economics*, 139, 107922, (2024).

7. A. Ancona, R. Cerqueti, R. Grassi, **How do partner selection strategies affect the amount of funding in collaborative research projects? Evidence using the dual-projection approach**, *Technological Forecasting and Social Change*, 208, 123744, (2024).

8. R. Cerqueti, A. Iovanella, R. Mattera, S. Storani **Improving the explainability of autoencoder factors for commodities through forecast-based Shapely values**, *Scientific Reports*, 14, 19622, (2024).

9. R. Cerqueti, V. Ficcadenti, R. Mattera, **Radar charts and Kendall correlations to include Goal For and Goal Against in soccer rankings**, *Computational Statistics*, https://doi.org/10.1007/s00180-024-01542-w, (2024).

10. R. Cerqueti, V. Ficcadenti, R. Mattera, **Investors attention and network spillover for commodity market forecasting**, *Socio-Economic Planning Sciences*, 95, 102023, (2024).

11. E. Sangiorgio, M. Cinelli, R. Cerqueti, W. Quattrociocchi, **Followers do not dictate the virality of news outlets on social media**, *PNAS Nexus*, 3(7), pgae257, (2024).

12. R. Cerqueti, M. Maggi, **Classes of probability measures built on the properties of the Benford's Law**, *AStA Advances in Statistical Analysis*, https://doi.org/10.1007/s10182-024-00505-2, (2024).

13. R. Cerqueti, F. Cesarone, V. Ficcadenti, **Portfolio decision analysis for pandemic sentiment assessment based on finance and web queries**, *Annals of Operations Research*, https://doi.org/10.1007/s10479-024-05966-x, (2024).

14. R. Cerqueti, C. Deffains-Crapsky, A.G. Quaranta, S. Storani, **Identifying minibonds issued level's determinants to empower companies' funding managerial strategies**, *Management Decision*, https://doi.org/10.1108/MD-10-2023-1755, (2024).

15. A. Arcagni, R. Cerqueti, R. Grassi, **Higher-order assortativity for directed weighted networks and Markov chains**, *European Journal of Operational Research*, 316(1), 215-227, (2024).

16. R. Cerqueti, M. Maggi, **A Rényi-type quasimetric with random interference detection**, *Knowledge and Information Systems*, 66, 3989-4009, (2024).

17. R. Cerqueti, V. Ficcadenti, **Economic keywords in political communications and financial markets**, *Annals of Operations Research*, https://doi.org/10.1007/s10479-024-05905-w, (2024).

18. M. Ausloos, G. Rotundo, R. Cerqueti, **A theory of best choice selection through objective arguments grounded in Linear Response Theory concepts**, *Physics*, 6(2), 468-482, (2024).

19. R. Cerqueti, A.G. Quaranta, F. Pampurini, S. Storani, **Risk transmission, systemic fragility of banks' interacting customers and creditworthiness assessment**, *Finance Research Letters*, 62(A), 105061, (2024).

20. F. Antonelli, R. Cerqueti, A. Ramponi, S. Scarlatti, **Probabilistic and Statistical Methods in Commodity Risk Management (Editorial)**, *Applied Stochastic Models in Business and Industry*, 40, 220-223, (2024).

21. X. Dai, R. Cerqueti, Q. Wang, L. Xiao, **Volatility forecasting: A new GARCH-type model for fuzzy sets-valued time series**, *Annals of Operations Research*, doi:10.1007/s10479-023-05746-z, (2023).

22. R. Cerqueti, E. De Santis, **Games on graphs with coalitions**, *Journal of the Operational Research Society*, doi:10.1080/01605682.2023.2290575, (2023).

23. R. Cerqueti, H. Gatfaoui, G. Rotundo, **Resilience for Financial Networks under a Multivariate GARCH Model of Stock Index Returns with Multiple Regimes**, *Annals of Operations Research*, doi:10.1007/s10479-023-05756-x, (2023).

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53. F. Shi, R. Cerqueti, **Editorial: Theories and Applications in Network Science**, *Frontiers in Applied Mathematics and Statistics*, doi: 10.3389/fams.2021.821378, (2022)

54. M. Biasin, R. Cerqueti, E. Giacomini, N. Marinelli, A.G. Quaranta, L. Riccetti, **Clusters of social impact firms. A complex network approach**, *Global Finance Journal*, 52, 100697, (2022).

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63. S. Ceptureanu, R. Cerqueti, A. Alexandru, D. Popescu, G. Dhesi, E. Ceptureanu, **Influence of blockchain adoption on technology transfer, performance and supply chain integration, flexibility and responsiveness. A case study from IT&C medium size enterprises**, *Studies in Informatics and Control*, 30(3), 61-74, (2021).

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65. A. Argentiero, R. Cerqueti, M. Maggi, **Outdoor light pollution and COVID-19: The Italian case**, *Environmental Impact Assessment Review*, 90, 106602, (2021).

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67. R. Cerqueti, M. Giacalone, R. Mattera, **Model-based fuzzy time series clustering of conditional higher moments**, *International Journal of Approximate Reasoning*, 134, 34-52, (2021).

68. N. G. Castellano, R. Cerqueti, B. M. Franceschetti, **Evaluating risks-based communities of Mafia companies: a complex networks perspective**, *Review of Quantitative Finance and Accounting*, 57, 1463-1486, (2021).

69. R. Cerqueti, M. Cinelli, L. F. Minervini, **Municipal waste management: a complex network approach with an application to Italy**, *Waste Management*, 126, 597-607, (2021).

70. R. Cerqueti, R. L. D'Ecclesia, S. Levantesi, **Preface: recent developments in financial modelling and risk management**, *Annals of Operations Research*, 299, 1-5, (2021).

71. R. Cerqueti, R. Coppier, G. Piga, **Bribes, Lobbying and Industrial Structure**, *Italian Economic Journal*, 7, 439-460, (2021).

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73. R. Cerqueti, M. Maggi, **Data validity and statistical conformity with Benford's Law**, *Chaos, Solitons and Fractals*, 144, 110740, (2021).

74. R. Castellano, R. Cerqueti, G.P. Clemente, R. Grassi, **An Optimization Model for Minimizing Systemic Risk**, *Mathematics and Financial Economics*, 15, 103-129, (2021).

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77. C. Cappelli, R. Cerqueti, P. D'Urso, F. Di Iorio, **Multiple Breaks Detection in Financial Interval-Valued Time Series**, *Expert Systems with Applications*, 164, 113775, (2021).

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125. M. Ausloos, R. Castellano, R. Cerqueti, **Regularities and Discrepancies of Credit Default Swaps: a Data Science approach through Benford's Law**, *Chaos, Solitons and Fractals*, 90, 8-17, (2016).

126. A. Argentiero, M. Bovi, R. Cerqueti, **Bayesian Estimation and Entropy for Economic Dynamic Stochastic Models: An Exploration of Overconsumption**, *Chaos, Solitons and Fractals*, 88, 143-157, (2016).

127. R. Cerqueti, R. Coppier, **A game theoretical analysis of the impact of income inequality and ethnic diversity on fiscal corruption**. *Annals of Operations Research*, 243, 71-87, (2016).

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129. R. Cerqueti, D. Marazzina, M. Ventura, **Optimal Investment in Research and Development Under Uncertainty**, *Journal of Optimization Theory and Applications*, 168(1), 296-309, (2016).

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132. R. Cerqueti, M. Ausloos, **Cross Ranking of Cities and Regions: Population vs. Income**, *Journal of Statistical Mechanics: Theory and Experiments*, 7, P07002, (2015).

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134. R. Cerqueti, P. Falbo, G. Guastaroba, C. Pelizzari, **Approximating multivariate Markov chains for bootstrapping through contiguous partitions**, *OR-Spectrum*, 37, 803-841, (2015).

135. R. Cerqueti, R. Coppier, **Corruptibility and Tax Evasion**. *European Journal of Law and Economics*, 39(2), 355-373, (2015).

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138. R. Cerqueti, G. Rotundo, **A review of aggregation techniques for agent-based models: understanding the presence of long-term memory**. *Quality and Quantity*, 49, 1693-1717, (2015).

139. R. Cerqueti, M. Ausloos, **Evidence of Economic Regularities and Disparities of Italian Regions From Aggregated Tax Income Size Data**. *Physica A: Statistical Mechanics and its Applications*, 421(1), 187-207, (2015).

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143. T.A. Mir, M. Ausloos, R. Cerqueti **Benford's law predicted digit distribution of aggregated income taxes: the surprising conformity of Italian cities and regions**. *The European Physical Journal B*, 87, 261, (2014).

144. R. Cerqueti, F. Sarnari, **Symmetries of systems with spatially bounded domains**. *Journal of Advanced Research in Dynamical and Control Systems*, 6(1), 11-25, (2014).

145. R. Cerqueti, **Exhaustion of Resources: a Marked Temporal Process Framework**. *Stochastic Environmental Research and Risk Assessment*, 28(4), 1023-1033, (2014).

146. R. Castellano, R. Cerqueti, **Mean-variance portfolio selection in presence of unfrequently traded stocks** , *European Journal of Operational Research*, 234(2), 442-449, (2014).

147. M. Bovi, R. Cerqueti, **A Quantitative View on Policymakers' Goal, Institutions and Tax Evasion**. *Quality & Quantity*, 48(3), 1493-1510, (2014).

148. R. Castellano, R. Cerqueti, R.L. D'Ecclesia, **A Disutility-Based Drift Control for Exchange Rates**, *Optimization*, 63(2), 255-269, (2014).

149. R. Cerqueti, L. Correani, G. Garofalo, **Economic Interactions and Social Tolerance: A Dynamic Perspective**. *Economics Letters*, 120(3), 458-463, (2013).

150. R. Cerqueti, P. Falbo, G. Guastaroba, C. Pelizzari, **A Tabu Search Solution in Markov Chain Bootstrapping**, *European Journal of Operational Research*, 227(2), 367-384, (2013).

151. R. Cerqueti, F. Spizzichino, **Extension of dependence properties to semi-copulas and applications to the mean-variance model**, *Fuzzy Sets and Systems*, 220, 99-108, (2013).

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154. R. Castellano, R. Cerqueti, **Optimal consumption/investment problem with light stocks: A mixed continuous-discrete time approach**, *Applied Mathematics and Computation*, 218(12), 6887-6898, (2012).

155. R. Cerqueti, R. Coppier, G. Piga, **Corruption, growth and ethnolinguistic fractionalization: a theoretical game model**, *Journal of Economics*, 106(2), 153-181, (2012).

156. R. Cerqueti, G. Rotundo, **The Role of Diversity in Persistence Aggregation**, *International Journal of Intelligent Systems*, 27(2), 176-187, (2012).

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158. R. Cerqueti, A.G. Quaranta, **The Perspective of a Bank in Granting Credits: an Optimization Model**, *Optimization Letters*, 6(5), 867-882, (2012).

159. R. Barone, R. Cerqueti, A.G. Quaranta, **Illegal financier and usurer behavior**, *European Journal of Law and Economics*, 34(2), 265-277, (2012).

160. R. Cerqueti, M. Costantini, **Testing for rational bubbles in the presence of structural breaks: Evidence from nonstationary panels**, *Journal of Banking and Finance*, 35, 2598-2605, (2011).

161. R. Castellano, R. Cerqueti, **The optimal bid/ask spread in a Specialist System**, *Economic Modelling*, 28, 2247-2253, (2011).

162. R. Cerqueti, R. Coppier, **Economic growth, corruption and tax evasion**, *Economic Modelling*, 28(1-2), 489-500, (2011).

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164. R. Cerqueti, G. Rotundo, **Options with underlying asset driven by a fractional brownian motion: crossing barriers estimates**, *New Mathematics and Natural Computation*, 6(1), 109-118, (2010).

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171. R. Cerqueti, M. Costantini, **On the asymptotic behaviour of random matrices in a multivariate statistical model**, *Statistics and Probability Letters*, 78(14), 2039-2045, (2008).

172. R. Cerqueti, G. Rotundo, **Productivity and costs for growing firms in presence of technological renewal processes**, *International Transactions in Operational Research*, 14, 521-534, (2007).

Editorial activity on books

173. R. Cerqueti (Ed.), *Polymorphic Crisis - Readings on the Great Recession of the 21st century*, EUM, Macerata, ISBN: 9788860564108, pp. 1-448, (2014).

Encyclopedia and Handbooks

174. R. Cerqueti, M. Cineli, G. Ferraro, A. Iovanella, **The Resilience of a Complex Network: Methods and Applications**, *Routledge International Handbook of Complexity Economics*, (2024, forthcoming).

175. R. Cerqueti, R. Coppier, **Political Corruption**. *Encyclopedia of Law and Economics*, Springer Science Business Media, New York, (2017, forthcoming).

176. R. Cerqueti, R. Coppier, **Optimization Problems**. *Encyclopedia of Law and Economics* Chapter No: 354-1. Springer Science Business Media, New York, (2016).

Chapter in international books

177. R. Cerqueti, **External solicitations, pollution and patterns of water stock: remarks and some modeling proposals**, *Water in Biomechanical & Related Systems*, A. Gadomski Ed., Springer, (forthcoming).

178. M. Ausloos, F. Bartolacci, N.G. Castellano, R. Cerqueti, **Simple Approaches on How to Discover Promising Strategies for Efficient Enterprise Performance, at Time of Crisis in the Case of SMEs: Voronoi Clustering and Outlier Effects Perspective**, *Simplicity of Complexity in Economic and Social Systems*, D. Grech and J. Miskiewicz Eds., Springer Proceedings in Complexity, doi: 10.1007/978-3-030-56160-4_1, (2021).

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190. R. Cerqueti, G. Rotundo, **Microeconomic modeling of financial time series with long term memory**, *PROCEEDINGS OF IEEE. International Conference on Computational Intelligence for Financial Engineering*, Hong Kong, China, pp. 191-198, (2003).

Chapters in national (Italian) books

191. R. Cerqueti, L.F. Minervini, **La gestione dei rifiuti come problema di rete**. In: *Verso l'economia circolare*, curatrice: A. Paolini. Macerata, Eum, pp. 65-78, (2018).

192. R. Cerqueti, R. Coppier, **Corruzione e disuguaglianza dei redditi**. In: *Disuguaglianze, giustizia, legalitá. Tendenze in atto e azioni possibili*, curatore: P. Ramazzotti. Roma, Aracne, pp. 123-139, (2018).

193. R. Castellano, R. Cerqueti, **Sustainability and ethic view of the future generations**. In: *Lo sviluppo sostenibile del territorio*, curatore: P. Silvestrelli. Macerata, Eum, pp. 281-288, (2015).

194. R. Cerqueti, **Il ruolo della pioggia nella finanza moderna**. In: *L'acqua: diritto per tutti o profitto per pochi?*, curatore: P. Rovati. Macerata, Eum, pp. 117-124, (2013).

195. R. Cerqueti, **L'evitabilitá dell'estinzione di una risorsa naturale**. In: *Oikos: la radice comune di economia e di ecologia*, editor: P. Rovati. Macerata, Eum, pp. 19-28, (2012).

196. R. Cerqueti, **Laghi poco profondi: un modello matematico di interazione tra economia e inquinamento**. In: *Economia, Ambiente e Societï¿½*, editor: P. Rovati. Macerata, Eum, pp. 49-54, (2011).

197. R. Cerqueti, G. Rotundo, **Processi di rinnovamento nei cluster di imprese**, lavoro invitato sul volume collettivo: *CAPITALISMO DISTRETTUALE, LOCALISMI D'IMPRESA, GLOBALIZZAZIONE*, reviewer: G. Riey. editor: G. Garofalo, Firenze University Press, pp. 129-143, (2007).

(Present or past) editorial activity

- Associate Editor: **Risks**
- Academic Editor: **PLOS ONE**
- Guest Editor: **Soft Computing** – special issue: Econophysics and complexity: methods and applications - Celebrating the 80th birthday of Marcel Ausloos
- Guest Editor: **Axioms** – special issue: Statistical Methods for Finance and Econophysics
- Guest Editor: **Frontiers in Applied Mathematics and Statistics** – special issue: Theories and Applications in Network Science Volume II
- Guest Editor: **Applied Stochastic Models in Business and Industry** – special issue: Probabilistic and statistical methods for commodity risk management
- Guest Editor: **Information Sciences** – special issue: Big Data Science and Data-Driven Methods in Finance
- Guest Editor: **International Journal of Financial Engineering and Risk Management** – special issue: Optimisation Methods and Models for Systemic Risk Assessment
- Guest Editor: **Stats** – special issue: Benford's Law(s) and Applications
- Guest Editor: **Frontiers in Applied Mathematics and Statistics** – special issue: Theories and Applications in Network Science
- Guest Editor: **Annals of Operations Research** – special issue: Recent Developments in Financial Modeling and Risk Management
- Advisory Board: **Journal of Applied Quantitative Methods (JAQM)**
- Associate Editor: **Journal of Accounting, Finance and Economics (JAFE)** (past position)
- Associate Editor: **Eastern European Business and Economics Journal (EEBEJ)**

- Review Editor: **Frontiers in Applied Mathematics and Statistics – Dynamical Systems**
- Review Editor: **Frontiers in Applied Mathematics and Statistics – Mathematical Finance**
- Scientific editorial board - EUM, Edizioni Universitá di Macerata.

Organizing activity

- September 2005: International conference for the management of risk factors in economically relevant human activites, Viterbo, Italy
- August-September 2006: MARF 2 Conference, Rome, Italy.
- August-September 2006: Prey-Predator-Like Systems Workshop, Rome, Italy.
- June 2007: Fourth Edition of the International Summer School on Risk Measurement and Control, Rome, Italy.
- June 2010: Sixth Edition of the International Summer School on Risk Measurement and Control, Rome, Italy.
- September 2010: XXXIV Convegno AMASES, Macerata, Italia.
- May 2012: 50th EWGFM, Roma, Italia.
- June 2012: Seventh Edition of the International Summer School on Risk Measurement and Control, Rome, Italy.
- Organization of seminars at the University of Macerata.
- May 2015: Conference: "Polymorphic Crisis - Un approccio interdisciplinare alla crisi", Macerata, Italy.
- Giugno 2016: IX Edition of the International Summer School on Risk Measurement and Control, Rome, Italy.

Invited talks

- INRIA, Paris: Volatility calibration via entropic methods.
- Sapienza University of Rome, Department of Mathematics: Optimal financing policies: a stochastic optimal control approach via dynamic programming.

- University of Molise, Campobasso, Italy:
  1) Panel based tests for a change in persistence: inflation and interest rate;
  2) Detecting bubbles in stock market: new international evidence.

- University of Salento, Lecce, Italy: Dynamic stochastic optimization in economics and finance.

- Univesity of Brescia, Italy: Dynamic stochastic optimization models in economics and finance.

- University of Messina, Italy: Stochastic Optimal Control: New Results and Applications.

- Univesity of Brescia, Italy: Natural Resources and Environmental Stochastic Sustainability.

- Prometeia, Bologna, Italy: Markov chains approximation for resampling and bootstrapping.

- CNR, Rome, Italy: Markov chains approximation for resampling and bootstrapping.

- 2016: Roma Tre University: Risk measurement in a network framework.

- 2017: Université Paris 1 - Sorbonne: Transition Matrices Compression for Markov Chain Bootstrapping and Simulation.

- 2017: Sapienza University of Rome: Reliability and Risk Measurement in a Network Framework.

- 2018: University of Milan - Bicocca: Reliability and Risk Measurement in a Network Framework.

- 2018: Université Paris 1 - Sorbonne: Reliability and Risk Measurement in a Network Framework.

- 2019: Universitá de Molise, Campobasso: Community structures in (socially) connected systems.

- 2019: Prometeia, Bologna: Communities in complex networks and applications in finance.

- 2020: Université Paris 1 - Sorbonne: The resilience of a complex network: methods and applications.

- 2020: Babes-Bolyai University, Cluj, Romania (online): The resilience of a complex network: methods and applications.

- 2024: University of Angers, France: The resilience of a complex network: methods and applications in finance.

Talks at the University of Macerata:

- Il ruolo della pioggia nella finanza moderna
- L'evitabilitá dell'estinzione di una risorsa naturale
- Laghi poco profondi: un modello quantitativo di economia e inquinamento
- Matematica da Nobel
- Dynamic optimization and more

Conferences

- 02/2001: "II Workshop di Finanza Matematica", Pisa, Italy
- 09/2001: "XXV Convegno AMASES", Florence, Italy.
- 12/2001: "Calcul de Malliavin appliqué a la finance", Paris (INRIA), France.
- 01/2002: "III Workshop di Finanza Matematica", Verona, Italy.
- 09/2002: "XXVI Convegno AMASES", Verona, Italy.
- 09/2002: "Stochastic processes, stochastic calculus and applications", Rome, Italy.
- 03/2003: "International Conference on Computational Intelligence for Financial Engineering", Hong Kong, China.
- 05/2003: "Eighth Viennese Workshop on Optimal Control, Dynamic Games and Nonlinear Dynamics: Theory and Applications in Economics" Vienna, Austria.
- 05/2003: "Invito alla Finanza Matematica", L'Aquila, Italy.
- 09/2003: "XXVII Convegno Amases" Cagliari, Italy.
- 06/2004: "Invito alla Finanza Matematica", University of Rome "Tor Vergata", Italy.
- 06/2004: "8th International Congress on Insurance: Mathematics and Economics", Rome, Italy.
- 07/2004: "Third World Congress of the Bachelier Finance Society", Chicago, USA.
- 09/2004: "XXVIII Convegno Amases", Modena, Italy.

- 07/2005 "Institute for Operations Research and the Management Sciences Triennal Conference", Honolulu, Hawaii, USA (SPEAKER IN AN INVITED SESSION).
- 07/2005 "Computational Intelligence for Economics and Finance", Salt Lake City, Utah, USA.
- 09/2005 "Stochastic Methods in Mathematical Finance", Rome, Italy.
- 09/2005 "XXIX Convegno Amases", Palermo, Italy.
- 09/2005 "Unit Roots and Cointegration Tests Conference", Faro, Portugal, September 2005
- 07/2006 "21st European Conference on Operational Research", Reykjavik, Iceland.
- 09/2006 "XXX Convegno AMASES", Trieste, Italy.
- 10/2006 "Convegno Metodi Matematici e Statistici per le Assicurazioni e la Finanza", Salerno, Italy.
- 01/2007: "CIDE", Rimini, Italia.
- 03/2007 "20 Years of Cointegration: theory and practice in prospect and retrospect", Rotterdam, The Netherlands.
- 05/2007: "XL EWGFM (Euro Working Group on Financial Modeling)", Rotterdam, The Netherlands. (SPEAKER IN AN INVITED SESSION)
- 05/2007: "Network, topology and dynamics", Urbino, Italia.
- 09/2007: "XXXI Convegno AMASES", Lecce, Italy.
- 01/2008: "Recent Development in Econometrics: a Conference in Memory of Carlo Giannini", Bergamo, Italy.
- 06/2008: "15th World congress of the International Economics Association", Istanbul, Turkey.
- 06/2008: "Institute for Operations Research and the Management Sciences Triennal Conference", Sandton, Johannesburg, South Africa. (SPEAKER IN AN INVITED SESSION)
- 09/2008: "XXXII Convegno AMASES", Trento, Italy.
- 02/2009: "Macroeconomic and Policy Implications of Undergroud Economy and Tax Evasion", Milan, Italy.

- 06/2009: "6th International Conference on Nonlinear Economic Dynamics (NED09)", Jonkoping, Sweden.
- 06/2009: "CORS-INFORMS International Meeting", Toronto, Canada.
- 06/2009: "XVII Scientific Conference - AIESSEC", Perugia, Italia.
- 07/2009: "Joint Statistical Meeting 2009", Washington DC, USA.
- 09/2009: "24th Annual Congress of the European Economic Association", Barcelona, Spain.
- 04/2010: "Methods for Actuarial Sciences and Finance Conference (MAF 2010)", Ravello, Italia.
- 05/2010: "Second Annual Meeting on Physics of Competitions and Conflicts", Sunny Beach, Bulgaria.
- 06/2010: "24th Mini EURO Conference on Continuous Optimization and Information-Based Technologies in The Financial Sector", Izmir, Turkey. (SPEAKER IN AN INVITED SESSION AND CHAIR)
- 09/2010: "XXXIV Convegno Amases", Macerata, Italia.
- 09/2010: "European Law and Economic Association Conference (EALE 2010)", Paris, France.
- 09/2010: "Second International Workshop on Managing Financial Instability in Capitalist Economies", Reykjavik, Iceland.
- 06/2011: "Insurance: Mathematics and Economics Conference", Trieste, Italy.
- 07/2011: "Conference in Honor of Hashem Pesaran 65th Birthday", Cambridge, UK.
- 09/2011: "XXXV Convegno Amases", Pisa, Italy.
- 02/2012: "Eighteenth International Working Seminar on Production Economics", Innsbruck, Austria.
- 07/2012: Workshop "Copulae in Mathematical and Quantitative Finance", Krakow, Poland.
- 07/2012: "25th European Conference on Operational Research", Vilnius, Lithuania. (SPEAKER IN AN INVITED SESSION)
- 05/2013: "Eastern Economic Association Conference", New York, USA. (SPEAKER IN AN INVITED SESSION)

- 05-06/2013: "5th International Conference on Risk Analysis (ICRA5)", Tomar, Portugal. (INVITED SPEAKER)
- 09/2013: "Structural Change, Dynamics and Economic Growth Conference", Livorno, Italy.
- 09/2014: "XXXVIII Convegno AMASES", Reggio Calabria, Italy
- 09/2014: "International Meeting Dyses 2014 - Dynamics of Socio-Economic Systems", Sevilla, Spain. (INVITED SPEAKER)
- 12/2014: CFE-ERCIM 2014, Pisa, Italy.
- 05/2015: IWcee15 - International Workshop on Computational Economics and Econometrics The Complexity of Economics and the Economics of Complexity, Rome, Italy.
- 07/2015: 27th European Conference on Operational Research, Glasgow, UK (SPEAKER IN AN INVITED SESSION)
- 09/2015: Workshop on Financial Literacy, Milan, Italy (INVITED SPEAKER)
- 03/2016: Workshop on Money, Uncertainty and the Macroeconomy, Galway, Ireland (INVITED SPEAKER)
- 03-04/2016: Seventh International Conference MAF 2016 - Mathematical and Statistical Methods for Actuarial Sciences and Finance, Paris, France.
- 06-07/2016: IWcee16 - IV International Workshop on Computational Economics and Econometrics, Rome, Italy.
- 07/2016: 28th European Conference on Operational Research, Poznan, Poland (SPEAKER IN AN INVITED SESSION and SESSION ORGANIZER)
- 07/2016: 20th Annual International Conference of the American Society of Business and Behavioral Sciences, Bangkok, Thailand.
- 12/2016: International Rome Conference on Money, Banking and Finance, Rome, Italy (INVITED SPEAKER).
- 12/2016: NET 2016 International Conference, Trento, Italy (INVITED SPEAKER).
- 02/2017: KnoweScape 2017, Sofia, Bulgaria (INVITES SPEAKER).
- 03/2017: Workshop Markets, flows and behaviour, Galway, Ireland (INVITED SPEAKER).

- 05/2017: Workshop Systemic Risk, Sorbonne University, Paris, France (INVITED SPEAKER).
- 05/2017: ARS 17 International Conference, Naples, Italy.
- 09/2017: IES 2017 International Conference, Naples, Italy.
- 09/2017: AMASES 2017, Cagliari, Italy.
- 12/2017: ERCIM 2017, London, UK.
- 01/2018: Workshop QF, Rome, Italy.
- 02/2018: Final Workshop COST TU1305, Milan, Italy.
- 05/2018: EBES Conference, Berlin, Germany.
- 06/2018: CEMA 2018, Rome, Italy.
- 06/2018: IWCEE 2018, Rome, Italy.
- 07/2018: EURO2018 – 29th European Conference on Operational Research, Valencia, Spain (INVITED STREAM ORGANIZER).
- 09/2018: AMASES – 42nd Annual Meeting, Naples, Italy.
- 10/2018: Workshop Dyses 2018, Sorbonne University, Paris, France (INVITED SPEAKER).
- 10/2018: IX Moscow International Conference on Operations Research (ORM2018-Germeyer100), Moscow, Russia.
- 06/2019 : JdS 2019, Nancy, France
- 06/2019: EURO2019 - 30th European Conference on Operational Research, Dublin, Ireland (INVITED STREAM ORGANIZER).
- 07/2019: IWCEE 2019, Rome, Italy
- 07/2019 : Benford's Law Conference, Stresa, Italy
- 09/2019: AMASES – 43rd Annual Meeting, Perugia, Italy
- 10/2019: ARS 2019, Vietri sul Mare, Italy
- 11/2019: NET 2019, Milano, Italy
- 12/2019: PANORisk Conference, Angers, France

- 10/2020: The 3rd International Conference on Economics and Social Sciences, Bucharest, Romania.
- 10/2020: Online International conference on tax compliance: new methodological and empirical approaches, Assisi, Italy.
- 07/2021: EURO2021 – 31st European Conference on Operational Research, Athens, Greece (INVITED STREAM ORGANIZER).
- 11/2021: 3rd International Workshop "Systemic Risk in the Financial Sector", Moskow, Russia.
- 05/2022: The 21st International Conference on Informatics in Economy (IE 2022), Bucharest, Romania.
- 06-07/2022: 10th International Workshop on Computational Economics and Econometrics (IWcee22), Rome, Italy
- 07/2022: 32nd European Operational Research Society (EURO) Conference, Helsinki, Finland (INVITED STREAM ORGANIZER).
- 07/2022: 16th International Conference on Statistical Analysis of Textual Data (JADT 2022), Naples, Italy.
- 09/2022: XLVI Congresso AMASES (Associazione per la Matematica Applicata alle Scienze Economiche e Sociali), Palermo, Italy.
- 10/2022: DySES (Dynamics of Socio-Economic Systems) 2022 Conference, Rouen, France.
- 10/2022: Conference on Complex Systems (CCS), Palma de Mallorca, Spain.
- 02/2023: Energy Finance Italia 8, Milan, Italy (INVITED SPEECH IN MEMORY OF PETER LAURENCE).
- 03/2023: Workshop "Recenti sviluppi nella gestione del rischio meteorologico mediante strumenti finanziari", Milan, Italy (INVITED SPEAKER)
- 05/2023: 67th EWGCFM, Rome, Italy
- 05/2023: The 22nd International Conference on Informatics in Economy (IE 2023), Bucharest, Romania (INVITED SPEAKER)
- 06/2023: Commodity and Energy Markets Association Annual Conference 2023 (CEMA 2023), Budapest, Hungary (INVITED SESSION ORGANIZER)
- 08/2023: IES 2023, Pescara, Italy (SESSION ORGANIZER)

- 09/2023: XLVII Congresso AMASES (Associazione per la Matematica Applicata alle Scienze Economiche e Sociali), Milan, Italy.
- 10/2023: DySES (Dynamics of Socio-Economic Systems) 2023 Conference, Almeria, Spain (INVITED SPEAKER).
- 11/2023: The 16th International Conference on Applied Statistics, Predeal, Romania (KEYNOTE SPEAKER).
- 02/2024: Energy Finance Italia 9, Bari, Italy.
- 05/2024: Workshop ”New frontiers in Big Data and Artificial Intelligence”, Aosta, Italy (KEYNOTE SPEAKER)
- 06/2024: The 52nd Scientific Meeting of the Italian Statistical Society, Bari, Italy (SESSION ORGANIZER).
- 06/2024: Commodity and Energy Markets Association Annual Conference 2024 (CEMA 2024), Boston, MA, USA
- 06-07/2024: EURO2024 – 33rd European Conference on Operational Research, Copenhagen, Denmark (INVITED SESSIONS ORGANIZER)
- 09/2024: XLVIII Congresso AMASES (Associazione per la Matematica Applicata alle Scienze Economiche e Sociali), Ischia, Italy.

Schools

- 01/2001: Cattedra Galileana ”Mathematical Models in Finance”, Prof. Marco Avellaneda (Courant Institute of Mathematical Science, New York), Pisa, Italy.
- 06/2001: Summer School: Workshop ”Fondamenti e Sviluppi della Matematica per l’ Economia”, Pozzuoli, Italy.
- 07/2003: Summer School CIME ”Stochastic Methods in Finance”, Bressanone, Italy.
- 05/2004: Summer School: ”Spring school in finance”, University of Bologna, Italy.
- 06/2005: Summer School: ”International Summer School in Risk Management and Measurement”, Rome, Italy.
- 06/2006: Summer School: ”Third International Summer School in Risk Management and Measurement”, Rome, Italy.
- 06/2008: Summer School: ”Fourth International Summer School in Risk Management and Measurement”, Rome, Italy.

Scientific associations

- SIS (Group of Statistics for the Evaluation and Quality in Services) – Reference for thematic area: Finance
- AMASES
- Energy Finance Italia
- INFORMS (Institute for Operations Research and the Management Sciences)
- European Economic Association
- Econometric Society
- Western Economic Association
- EWGFM (Euro Working Group on Financial Modelling)

Research projects

⋆ International projects:

- Management committee (MC member) - COST CA15105 European Medicines Shortages Research Network - addressing supply problems to patients (Medicines Shortages) (chair: Helena Jenzer).
- Management committee (MC substitute) - COST CA15217 Ocean Governance for Sustainability (chair: Anna Katharina Hornidge).
- Management committee (MC substitute) - COST IC1205 Computational Social Choice (chair: Ulle Endriss).
- Management committee (MC substitute) - COST TD1210 Analyzing the dynamics of information and knowledge landscapes (KNOWeSCAPE) (chair: Andrea Scharnhorst).

⋆ National grants:

- PRIN 2003: La gestione del rischio finanziario, di credito e operativo: strumenti e modelli (PI: LORENZO PECCATI, 24 months).
- PRIN 2004: Modelli stocastici in finanza matematica (PI: WOLFGANG JOHANN RUNGGALDIER, 24 months).
- PRIN 2006: Metodi di ottimizzazione e controllo per la gestione del debito pubblico; modelli statici e dinamici (PI: FAUSTO GOZZI, 24 months).

- PRIN 2006: Modelli stocastici in finanza (PI: WOLFGANG JOHANN RUNGGALDIER, 24 months).
- PRIN 2010: Dinamiche nonlineari in modelli di cambiamento strutturale (PI: NERI SALVADORI, 24 months).
- PRIN 2022: Networks: decomposition, clustering and community detection (PI: STEFANO BENATI) – Responsabile UnitÃ locale Sapienza UniversitÃ di Roma)

⋆ National grants – PI (ex 60%):

- 2022 Progetti Medi (Sapienza University of Rome): Methods and applications of generalized Poisson random variables and processes: invariance properties for spatial processes, social indicators and data-driven clustering techniques
- 2020 Progetti Medi (Sapienza University of Rome): Analysis of rankings and preference data: new methods and applications.
- FAR 2012 (Univ. Macerata): Ottimizzazione dinamica e dipendenza stocastica: teoria e applicazioni economico-finanziarie
- FAR 2011 (Univ. Macerata): Analisi di problemi economico-finanziari attraverso modelli di ottimizzazione dinamica con dipendenza stocastica e copule
- FAR 2010 (Univ. Macerata): Processi stocastici a tempo discreto e applicazioni in economia e finanza
- FAR 2009 (Univ. Macerata): Modelli economici e finanziari attraverso tecniche di controllo ottimo stocastico
- FAR 2008 (Univ. Macerata): Modelli economici e finanziari attraverso ottimizzazione dinamica e analisi della cointegrazione tra serie temporali

Visiting activity

- 2009. University of Brescia, Italy.
- 2009. University of Vienna, Austria.
- 2010. Université du Luxembourg.
- 2011. Brunel University, UK.
- 2016. University of Campobasso.
- 2017. Université Paris 1 - Sorbonne, France.

- 2018. Université Paris 1 - Sorbonne, France.
- 2019. Université de Angers, France.
- 2020. Université Paris 1 - Sorbonne, France.
- 2024. Université de Angers, France.
- 2024. Southwestern University of Finance and Economics, Chengdu, China.

Referee activity

- Reviewer per *AMERICAN MATHEMATICAL SOCIETY.*
- Reviewer per *Romanian National Council for Scientific Research - RUTE projects.*
- Reviewer per *PhD programs in Economics - University of Tor Vergata.*
- Referee per *Insurance: Mathematics and Economics*, *Economic Modelling*, *Quantitative Finance*, *Journal of Economics*, *Journal of Economic Law and Organization*, *Optimization*, *Journal of Population Economics*, *International Review of Economics and Finance, Journal of Industrial and Management Optimization, Journal of Banking and Finance, Economic Inquiry, The Energy Journal, Communications in Statistics: Theory and Methods, IMA Journal of Management Mathematics, European Journal of Operational Research, European Physical Journal B, Scientific Research and Essays, International Journal of Computational Economics and Econometrics, International Journal of Information Technology and Decision Making, Journal of Economic Growth, European Journal of Finance, Abstract and Applied Analysis, OR Spectrum, Electronic Journal of Statistics, Quality and Quantity, Journal of Economic Dynamics and Control, Technology Analysis and Strategic Management, Journal of Product Innovation Management, Physica A: Statistical Mechanics and its Applications, Computational Economics, Economics Research International, Governance, International Journal of Forecasting, Chaos Solitons and Fractals, Decision Support Systems, Human Reproduction, Central European Journal of Physics, Studies in Nonlinear Dynamics and Econometrics, International Transactions in Operations Research, Journal of International Economics, Journal of Economic Interaction and Coordination, Journal of Evolutionary Economics, BE Journal of Theoretical Economics, Applied Economics, German Economic Review, Journal of the Operational Research Society, Mathematical Problems in Engineering, Journal of Economic Studies, Technological Forecasting and Social Change, Statistics in Transition, Annals of Operations Research, Structural Change and Economic Dynamics, Journal of Economic Policy Reform, Publications, Journal of Optimization Theory and Applications, International Journal of Engineering Business Management, Total Quality Management and Business Excellence, Entropy, Economies, Social Networks, Journal of Economic Behavior and Organization, Chaos,*

Sustainability, Macroeconomic Dynamics, Helyion, Journal of Mathematical Sciences: Advances and Applications, Energies, Journal of Difference Equations and Applications, Expert Systems with Applications, Entrepreneurship Theory and Practice, International Journal of Finance and Economics, Italian Economic Journal, Physics Letters A, Soft Computing, Case Studies on Transport Policy, Journal of Economic Interaction and Coordination, Advances in Data Analysis and Classification, Journal of Public Finance and Public Choice, Journal of Business Research, Social Indicators Research, Socio-Economic Planning Sciences, Sustainable Futures, International Journal of Approximate Reasoning, Mathematics and Financial Economics, Electronic Journal of Applied Statistical Analysis, CAS Publications, Spatial Statistics, TEST, Energy Economics, Communications in Nonlinear Science and Numerical Simulation, Journal of the Royal Statistical Society: Series C, Scientific Reports, Environmental and Resource Economics.

DIDACTIC ACTIVITY

⋆ ADVANCED COURSES

- **University of Angers, France**. A.A. 2023/2024: Markov chains and applications in finance.
- **Sorbonne University – Paris 1**. A.A. 2019/2020: Markov chains and applications.
- **Sapienza University of Rome – PhD School**. A.A. 2018/2019: Mathematics for Economics.
- **University of Tor Vergata, Rome – Doctorate in Money and Finance**. A.A. 2012/2013: Continuous-time Finance.
- **Italian Government – Scuola di Formazione Intelligence e Geoeconomia**. 2011: Sfruttamento dell'ignoranza finanziaria da parte delle banche di investimento: case studies.
- **University of Macerata – Master in Quantitative Finance**. A.A. 2008/2009: Mathematical models for finance (Differential equations).

⋆ UNDERGRADUATE COURSES

→ SAPIENZA UNIVERSITY OF ROME:

  - **Metodi Quantitativi per l'Economia, A.A. 2021/22 –** .
  - **Elementi di Matematica per l'Economia, A.A. 2020/21**.
  - **Finanza Internazionale, A.A. 2017/18 –** .

- **Matematica Generale, Complementi di Matematica Generale e Introduzione alla Matematica Finanziaria, A.A. 2006/07**.
- **Matematica Generale, A.A. 2004/05**.

→ UnitelmaSapienza – University of Rome:

- **Statistica, A.A. 2021/22**.

→ University of Macerata:

- **Portfolio Theory, A.A. 2016/17 – 2019/20**
- **Analisi e Misura dei Rischi Finanziari, A.A. 2014/15 – 2018/19**
- **Laboratorio di Economia e Finanza per le Imprese di Assicurazione, A.A. 2014/2015**.
- **Laboratorio di Matematica Finanziaria, A.A. 2014/2015**.
- **Matematica Generale 2 (VS), A.A. 2011/12**
- **Matematica Finanziaria (VS), A.A. 2010/11 – 2013/14**
- **Teoria Matematica del Portafoglio Finanziario, A.A. 2006/2007 – 2019/2020**.
- **Elementi di Calcolo delle Probabilitá e Teoria Matematica del Portafoglio Finanziario, A.A. 2008/09 – 2019/20**.
- **Laboratorio di Modelli Matematici per l'Economia e la Finanza, A.A. 2008/09 – 2009/10**.
- **Laboratorio di Matematica 2, A.A. 2007/08**.

→ University of Tuscia, Viterbo, Italy:

- **Matematica Finanziaria, A.A. 2004/05 – 2005/06**.
- **Complementi di Matematica Finanziaria, A.A. 2004/2005 – 2005/2006**.

→ Catholic University, Rome, Italy:

- **Strumenti Matematici e Statistici per le Decisioni Sanitarie, A.A. 2005/06 – 2006/07**.

Rome, November 7th, 2024 Roy Cerqueti