Piero Mazzarisi

University of Siena
Piazza San Francesco, 7/8
Siena (SI) 53100, Italy

Personal Info
March, 12, 1988
piero.mazzarisi@unisi.it
piero.mazzarisi@sns.it
p.mazzarisi@ucl.ac.uk
p.mazzarisi@gmail.com
gscholar://pieromazzarisi
wp://pieromazzarisi
rg://pieromazzarisi
in://p.mazzarisi
github://pieromazzarisi

Research topics: Quantitative Finance, Financial Networks, Systemic Risk, Time Series Analysis, Machine Learning.

CURRENT POSITION

Associate Professor (SSD: STAT-04/A, ex SECS-S/06) 1 Oct. 2025 – present
Organization: University of Siena, Department of Economics and Statistics, Siena, Italy.

PREVIOUS POSITIONS

Tenure-track Assistant Professor (RTD-B, SSD: STAT-04/A, ex SECS-S/06) 1 Oct. 2022 – 30 Sept. 2025
Organization: University of Siena, Department of Economics and Statistics, Siena, Italy.
Adjunct Professor 1 Oct. 2022 – 30 Sept. 2025
Organization: Scuola Normale Superiore, Pisa, Italy.
Adjunct Lecturer 1 May 2025 – 31 May 2025
Organization: University College London, Institute of Finance & Technology, London, UK.
Adjunct Lecturer 1 May 2024 – 31 May 2024
Organization: University College London, Institute of Finance & Technology, London, UK.
Adjunct Lecturer 1 Jan. 2023 – 30 Apr. 2023
Organization: University College London, Institute of Finance & Technology, London, UK.
Fixed-Term Assistant Professor (RTD-A, SSD: SECS-S/06) 27 Dec. 2021 – 30 Sep. 2022
Organization: Scuola Normale Superiore, Class of Science, Pisa, Italy.
Post-doc Research Fellow 1 Feb. 2020 – 26 Dec. 2021
Organization: Scuola Normale Superiore, Class of Science, Pisa, Italy.
Post-doc Research Fellow 1 May 2018 – 30 Nov. 2019
Organization: University of Bologna, Department of Mathematics, Bologna, Italy.

EDUCATION

Ph.D. in Financial Mathematics 4 Nov. 2014 – 30 Apr. 2018
Organization: Scuola Normale Superiore, Class of Science, Pisa, Italy
Doctoral thesis: Dynamic network models with applications to finance
Supervisors: Prof. Fabrizio Lillo (SNS, Pisa, Italy), Prof. Stefano Marmi (SNS, Pisa, Italy)

Thesis defense: 24 Oct. 2019
Score: 70/70 cum Laude

M.Sc. in Physics 1 Oct. 2010 – 29 Sep. 2014
Organization: University of Pisa, Department of Physics, Pisa, Italy
Thesis: A dynamical systems approach to systemic risk
Supervisors: Prof. Fabrizio Lillo (SNS, Pisa, Italy)
Score: 110/110 cum Laude

B.Sc. in Physics 1 Oct. 2007 – 18 Nov. 2010
Organization: University of Catania, Department of Physics, Catania, Italy
Thesis: Transizione ordine-disordine in quasicristalli unidimensionali
Supervisors: Prof. Giuseppe Angilella (Univ. of Catania, Italy)
Score: 110/110 cum Laude

TEACHING EXPERIENCE

- **2025-2026**
  - **University of Siena**: *Principles of Mathematics* (66h) B.Sc. course (**EN**), *Machine learning for finance* (44h) M.Sc. course (**EN**), *Mathematics* (10h) Ph.D. Course (**EN**)
  - **Scuola Normale Superiore**: *Statistical and Machine Learning models for Time Series Analysis* (15h) Ph.D. Course (**EN**)
- **2024-2025**
  - **University of Siena**: *Matematica finanziaria* (60h) B.Sc. course (**IT**), *Machine learning for finance* (40h) M.Sc. course (**EN**), *Mathematics* (6h) Ph.D. Course (**EN**)
  - **Scuola Normale Superiore**: *Statistical and Machine Learning models for Time Series Analysis* (15h) Ph.D. Course (**EN**)
  - **UCL, Institute of Finance & Technology**: *Financial Analytics and Machine Learning* (40h) M.Sc. Course (**EN**)
- **2023-2024**
  - **University of Siena**: *Matematica finanziaria* (60h) B.Sc. course (**IT**), *Machine learning for finance* (40h) M.Sc. course (**EN**), *Mathematics* (8h) Ph.D. Course (**EN**)
  - **Scuola Normale Superiore**: *Statistical and Machine Learning models for Time Series Analysis* (15h) Ph.D. Course (**EN**)
  - **UCL, Institute of Finance & Technology**: *Financial Analytics and Machine Learning* (40h) M.Sc. Course (**EN**)
- **2022-2023**
  - **University of Siena**: *Matematica finanziaria* (60h) B.Sc. course (**IT**)
  - **Scuola Normale Superiore**: *Quantitative Finance* (15h) Ph.D. Course (**EN**), *Statistical and Machine Learning models for Time Series Analysis* (15h) Ph.D. Course (**EN**)
  - **UCL, Institute of Finance & Technology**: *Financial Analytics and Machine Learning* (40h) M.Sc. Course (**EN**)
- **2021-2022**
  - **Scuola Normale Superiore**: *Statistical and Machine Learning models for Time Series Analysis* (10h) Ph.D. Course (**EN**), *Mathematical Models for Quantitative Finance: Market Microstructure, Networks, and Systemic Risk* (6h) Ph.D. Course (**EN**)
- **2018-2019**
  - **University of Bologna**: *Crash course in Mathematics* (34h) Undergraduate Course (**LC**, **EN**)

GRANTS

- **Principal Investigator** of the grant n. P20229CJRS "Climate Change, Uncertainty and Financial Risk: Robust Approaches based on Time-Varying Parameters" financed within the program PRIN2022PNRR of the Italian Ministry of Education and Research. Total amount financed: 269.315,00 Euro.
- **Local Coordinator** of the grant n. 2022MRSYB7 "Realized Random Graphs: A New Econometric Methodology for the Inference of Dynamic Networks" financed within the program PRIN2022 of the Italian Ministry of Education and Research. Total amount financed: 217.235,00 Euro.

ROLES AND QUALIFICATIONS

- **Delegate** for university orientation and tutoring at the University of Siena (May 2025 - present)
- **ASN** Italian qualification for Associate Professorship **13-D4**, Mathematical Methods of Economics, Actuarial and Financial Sciences
- **Member** of the teaching committee of the Ph.D. program "Economics" at the University of Siena (30 May 2024 - present).
- **Member** of the project "Network analysis of economic and financial resilience" within the Pro3 Italian program (Mar. 2022 - Dec. 2023).
- **Member** of the project "Dynamic models for a fast changing world: An observation-driven approach to time-varying parameters" within the Italian PRIN2020 program (Mar. 2022 - Feb. 2025)
- **Member** of the Italian project "Percorso di formazione su data analysis, network science, artificial intelligence e big data per gli abusi di mercato" founded by the Commissione Nazionale per le Società e la Borsa (CONSOB) (Sep. 2021 - Feb. 2023).
- **Member** of the EU project H2020 SoBigData++: European Integrated Infrastructurefor Social Mining and Big Data Analytics (Jan. 2020 – Dec. 2023).
- **Research Fellowship** at Scuola Normale Superiore co-funded by EU project H2020 SoBigData and Unicredit S.p.a (Feb. 2020–Feb. 2022).
- **Member** of the EU project H2020 DOMINO: Novel tools to evaluate ATM systems coupling under future deployment scenarios (May 2018 – Dec. 2019).
- **Visiting Researcher fellowship** at the Queen Mary University of London, School of Mathematical Science (working with Prof. Vito Latora).
- **Ph.D. scholarship** at Scuola Normale Superiore financed by the Ministry of Education, University and Research – MIUR (Nov. 2014 – May 2018).

SCHOOLS AND COURSES

Organized

- Third edition of the "School in Machine Learning of Dynamic Processes and Time Series Analysis", September 24-26, 2025, Pisa, Scuola Normale Superiore. Co-organized with Prof. Giulia Livieri, Prof. Fabrizio Lillo, Prof. Stefano Marmi, and Dr. Giorgio Rizzini.
- AMASES summer school in "Machine learning methods for Finance", July 14-19, 2024, Bertinoro (Forlì-Cesena), Italy. Co-organized with Prof. Giacomo Bormetti, Dr. Giorgio Rizzini, Dr. Manuel Naviglio.
- Second edition of the "School in Machine Learning of Dynamic Processes and Time Series Analysis", November 9-10, 2022, Pisa, Scuola Normale Superiore. Co-organized with Dr. Giulia Livieri, Prof. Fabrizio Lillo, Prof. Stefano Marmi.

- “School in Machine Learning of Dynamic Processes and Time Series Analysis”, Nov. 26-27, 2020, Pisa, Scuola Normale Superiore. Co-organized with Dr. Giulia Livieri, Prof. Fabrizio Lillo, Prof. Stefano Marmi.

Participation

- 1*st* edition of the School on Mathematical and Computational aspects of Machine Learning, Pisa, Scuola Normale Superiore (2019).
- 2*nd* edition of the Lake Como School of advanced studies in Complex Networks: theory, methods and applications, Como, Villa del Grumello (2016).
- 8*th* European summer school in Financial Mathematics, Le Mans (2015).

VISITING PERIOD

King’s College London (September 2025, one week); London School of Economics (January 2025, one week; May 2025, one week); University College London (January-March 2023; May 2024); Baruch College, New York (June 2022, one week) University of Westminster, London (June 2019, one week); Queen Mary University, London (May 2017 – Jul. 2017, three months).

ORGANIZATION OF WORKSHOPS AND CONFERENCES

- “Networks, Big Data, and Artificial Intelligence in Economics, Finance, and Social Sciences”, Sept. 11-13, 2024, parallel session of the annual meeting of A.M.A.S.E.S. XLVIV. Co-organized with Prof. Fabrizio Lillo, Prof. Michele Tumminello, and Dr. Giorgio Rizzini.
- “Time series models in Economics, Finance, and Social Sciences”, Sept. 5-7, 2024, parallel session of the annual meeting of A.M.A.S.E.S. XLVIII. Co-organized with Dr. Rossana Mastrandrea, Dr. Giorgio Rizzini.
- “Networks, Big Data, and Artificial Intelligence in Economics, Finance, and Social Sciences”, Sept. 5-7, 2024, parallel session of the annual meeting of A.M.A.S.E.S. XLVIII. Co-organized with Prof. Fabrizio Lillo, Prof. Michele Tumminello.
- “Quantitative Methods and Artificial Intelligence for Regulators and Policy Makers”, Sept. 20-22, 2023, parallel session of the annual meeting of A.M.A.S.E.S. XLVII. Co-organized with Prof. Fabrizio Lillo, Prof. Michele Tumminello.
- “Networks, Big Data, and Artificial Intelligence in Economics, Finance, and Social Sciences”, Sept. 20-22, 2023, parallel session of the annual meeting of A.M.A.S.E.S. XLVII. Co-organized with Prof. Fabrizio Lillo, Prof. Michele Tumminello.
- “Networks, Big Data, and Artificial Intelligence in Economics, Finance, and Social Sciences”, Sept. 22-24, 2022, parallel session of the annual meeting of A.M.A.S.E.S. XLVI. Co-organized with Prof. Fabrizio Lillo, Prof. Michele Tumminello.
- “Networks, Big Data, and Artificial Intelligence in Economics, Finance, and Social Sciences”, Sept. 13-18, 2021, parallel session of the annual meeting of A.M.A.S.E.S. XLV. Co-organized with Prof. Fabrizio Lillo, Prof. Michele Tumminello.
- SMMN satellite on “Statistical Mechanics Methods for Networks”, satellite conference of NetSci2020, Sep. 17, 2020, Roma (online). Co-organized with Dr. Mateusz Wilinski.

SUPERVISION OF STUDENTS

M.Sc. students

- Tadej Sovdat, M.Sc. in Finance at the University of Siena, Jan. 2024 - Sep. 2024. "Exploring Hedging Opportunities of Gold With Volatility Forecasting". 110/110 cum Laude.
- Gabriele Poidomani, M.Sc. in Physics at the University of Pisa, Oct. 2021 - Sep. 2022. "A Statistical Mechanics approach to Hypergraph reconstruction". 101/110 (then Ph.D. candidate at IMT School for Advanced Studies Lucca)
- Federico Paltrinieri, M.Sc. in Physics at the University of Bologna, jointly with Prof. Fabrizio Lillo, Jan. 2019 – Sep. 2019. "Modeling temporal networks with dynamic stochastic block models". 110/110 cum Laude.
- Elena Stella, M.Sc. in Economics at the University of Pisa and Sant'Anna School of Advanced Studies, jointly with Prof. Giorgio Fagiolo and Prof. Fabrizio Lillo, Apr. 2018 – Dec. 2018. "A discrete autoregressive model for preferential lending, Network analysis of the e-MID interbank market". 110/110 cum Laude (then Ph.D. candidate at the Kellogg School of Management at Northwestern University, Chicago, Illinois).

Ph.D. students

- Leonardo Brogi, PhD in Economics at University of Siena, Apr. 2025 – .
- Federico Gatta, Ph.D. in Computational Methods and Mathematical Models for Sciences and Finance at Scuola Normale Superiore, jointly with Prof. Fabrizio Lillo, Nov. 2023 – .
- Millie Deng, Ph.D. at IFT, University College London (UCL), jointly with Profs. Francesca Medda and Maurizio Fiaschetti, May 2023 – .
- Adele Ravagnani, Ph.D. in Computational Methods and Mathematical Models for Sciences and Finance at Scuola Normale Superiore, jointly with Prof. Fabrizio Lillo, Nov. 2020 – .
- Ioanna-Yvonni Tsaknaki, Ph.D. in Mathematics at Scuola Normale Superiore, jointly with Prof. Fabrizio Lillo, Nov. 2020 – .
- Valentina Macchiati, Ph.D. in Data Science at Scuola Normale Superiore, jointly with Prof. Diego Garlaschelli, Nov. 2020 – Oct. 2024.
- Andrey Shternshis, Ph.D. in Computational Methods and Mathematical Models for Sciences and Finance at Scuola Normale Superiore, jointly with Prof. Stefano Marmi, Nov. 2020 – Oct. 2023.

ACADEMIC ACTIVITIES

- **Joint Committee (Teachers and Students)** for the School of Economics and Management at the University of Siena (Oct. 2024 - present)
- **Ph.D. Committees:** Dr. Ioanna-Yvonni Tsaknaki, Ph.D. in Mathematics, Scuola Normale Superiore, Pisa (2025). Dr. Adele Ravagnani, Ph.D. in Computational methods and mathematical models for sciences and finance, Scuola Normale Superiore, Pisa (2025). Dr. Giulio Virginio Clemente, Ph.D. in Systems Science, IMT School of Advanced Studies, Lucca (2024). Dr. Anna Pirogova, Ph.D. in Economics, Universities of Florence, Pisa, and Siena, joint Ph.D. program (2023). Dr. Domenico Di Gangi, Ph.D. in Financial Mathematics, Scuola Normale Superiore (2022). Dr. Tonio Möllmann, Ph.D. in Financial Mathematics, Scuola Normale Superiore (2022). Dr. Danilo Vassallo, Ph.D. in Financial Mathematics, Scuola Normale Superiore (2022).
- **Representative** of Post-Doc Researchers at Scuola Normale Superiore (May 2021 - Dec. 2021).

EDITORIAL ACTIVITIES

- **Referee** for European Journal of Operational Research, Quantitative finance, Journal of Economic Dynamics and Control, Chaos, Solitons & Fractals, Journal of Economic Behavior and Organization, Scientific Reports, Journal of Complex Networks, Journal of Statistical Mechanics: Theory and Experiment, Journal of Economic Interaction and Coordination, Computational Economics, Computational Statistics, Journal of Risk.

PUBLICATIONS

In preparation

- Gatta, F., Lillo, F., & **Mazzarisi, P.** (2025). A high-frequency approach to realized risk measures.

Working papers

- Lillo, F., **Mazzarisi, P.**, & Tsaknaki, I. Y. (2025). Tackling estimation risk in Kelly investing using options. arXiv preprint arXiv:2508.18868.
- **Mazzarisi, P.**, Muscillo, A., Pacati, C., & Pin, P. (2024). The rise and fall of ideas' popularity. arXiv preprint arXiv:2411.18541.
- Gatta, F., Lillo, F., & **Mazzarisi, P.** (2024). CAESar: Conditional Autoregressive Expected Shortfall. arXiv preprint arXiv:2407.06619.
- Ravagnani, A., Lillo, F., Deriu, P., **Mazzarisi, P.**, Medda, F., & Russo, A. (2024). Dimensionality reduction techniques to support insider trading detection. arXiv preprint arXiv:2403.00707.

Peer-reviewed Publications

- Deng, G., Fiaschetti, M., **Mazzarisi, P.**, & Medda, F. (2025). Optimizing investment period length and strategies for later stage venture capital staged financing portfolio. *The European Journal of Finance*, 31(12), 1576–1598.
  DOI:10.1080/1351847X.2025.2532548
  ISSN: 1351-847X
- Macchiati, V., Marchese, E., **Mazzarisi, P.**, Garlaschelli, D., & Squartini, T. (2025). Spectral signatures of structural change in financial networks. *Chaos, Solitons & Fractals*, 193, 116065.
  DOI: 10.1016/j.chaos.2025.116065
  ISSN: 0960-0779
- Tsaknaki, I. Y., Lillo, F., & **Mazzarisi, P.** (2024). Bayesian autoregressive online change-point detection with time-varying parameters. *Communications in Nonlinear Science and Numerical Simulation*, 108500.
  DOI: 10.1016/j.cnsns.2024.108500
  ISSN:1007-5704
- **Mazzarisi, P.**, Ravagnani, A., Deriu, P., Lillo, F., Medda, F., & Russo, A. (2024). A machine learning approach to support decision in insider trading detection. *EPJ Data Science*, 13, 66.
  DOI:10.1140/epjds/s13688-024-00500-2
  ISSN: 2193-1127
- Buccheri, G., & **Mazzarisi, P.** (2024). Realized Random Graphs, with an application to the interbank network. *Journal of Financial Econometrics*, nbae024.
  DOI: 10.1093/jjfinec/nbae024
  ISSN: 1479-8409

- Macchiati, V., **Mazzarisi, P.**, & Garlaschelli, D. (2024). Interbank network reconstruction enforcing density and reciprocity. *Chaos, Solitons & Fractals*, 168 - 115279.
  DOI: 10.1016/j.chaos.2024.115279
  ISSN: 0960-0779
- Tsaknaki, I. Y., Lillo, F., & **Mazzarisi, P.** (2024). Online learning of order flow and market impact with Bayesian change-point detection methods. *Quantitative Finance*, 1-16.
  DOI: 10.1080/14697688.2024.2337300
  ISSN: 1469-7688
- Shternshis, A., **Mazzarisi, P.** (2024). Variance of entropy for testing time-varying regimes with an application to meme stocks. *Decisions in Economics and Finance*.
  DOI: 10.1007/s10203-023-00427-9
  ISSN: 1129-6569
- Shternshis A., **Mazzarisi, P.**, and Marmi, S. (2022). Efficiency of the Moscow Stock Exchange before 2022. *Entropy* 2022,24,1184.
  DOI: 10.3390/e24091184
  ISSN: 1099-4300
- Shternshis A., **Mazzarisi, P.**, and Marmi, S. (2022). Sources of inefficiency in financial time series. *Chaos, Solitons & Fractals*, 162, 112403.
  DOI: 10.1016/j.chaos.2022.112403
  ISSN: 0960-0779
- Williams, O.E., **Mazzarisi, P.**, Lillo, F., and Latora, V. (2022). Non-Markovian temporal networks with auto- and cross-correlated link dynamics. *Physical Review E*, 105(3), 034301.
  DOI: 10.1103/PhysRevE.105.034301
  ISSN: 2470-0053
- Delgado, L., Gurtner, G., **Mazzarisi, P.**, Zaoli, S., Valput, D., Cook, A., and Lillo, F. (2021). Network-wide assessment of ATM mechanisms using an agent-based model. *Journal of Air Transport Management*, 95, 102108.
  DOI: 10.1016/j.jairtraman.2021.102108
  ISSN: 0969-6997
- Campajola, C., Lillo, F., **Mazzarisi, P.**, and Tantari, D. (2021). On the equivalence between the Kinetic Ising Model and discrete autoregressive processes. *Journal of Statistical Mechanics: Theory and Experiment*, 2021(3), 033412.
  DOI: 10.1088/1742-5468/abe946
  ISSN: 1742-5468
- Zaoli, S., **Mazzarisi, P.**, and Lillo, F. (2021). Betweenness centrality for temporal multiplexes. *Scientific reports*, 11(1), 4919, 1-9.
  DOI: 10.1038/s41598-021-84418-z
  ISSN: 2045-2322
- **Mazzarisi, P.**, Zaoli, S., Campajola, C., and Lillo, F. (2020). Tail granger causalities and where to find them: Extreme risk spillovers vs spurious linkages. *Journal of Economic Dynamics and Control*, 121, 104022.
  DOI: 10.1016/j.jedc.2020.104022
  ISSN: 0165-1889
- **Mazzarisi, P.**, Barucca, P., Lillo, F., and Tantari, D. (2020). A dynamic network model with persistent links and node-specific latent variables, with an application to the interbank market. *European Journal of Operational Research*, 281(1), 50–65.

DOI: 10.1016/j.ejor.2019.07.024
ISSN: 0377-2217

- **Mazzarisi, P.**, Zaoli, S., Lillo, F., Delgado, L., and Gurtner, G. (2020). New centrality and causality metrics assessing air traffic network interactions. *Journal of Air Transport Management*, 85, 101801.
  DOI: 10.1016/j.jairtraman.2020.101801
  ISSN: 0969-6997
- Zaoli, S., **Mazzarisi, P.**, and Lillo, F. (2019). Trip centrality: Walking on a temporal multiplex with non-instantaneous link travel time. *Scientific reports*, 9(1), 10570, 1–11.
  DOI: 10.1038/s41598-019-47115-6
  ISSN: 2045-2322
- Wilinski, M., **Mazzarisi, P.**, Tantari, D., and Lillo, F. (2019). Detectability of macroscopic structures in directed asymmetric stochastic block model. *Physical Review E*, 99(4), 042310.
  DOI: 10.1103/PhysRevE.99.042310
  ISSN: 2470-0053
- **Mazzarisi, P.**, Lillo, F., and Marmi, S. (2019). When panic makes you blind: A chaotic route to systemic risk. *Journal of Economic Dynamics and Control*, 100, 176–199.
  DOI: 10.1016/j.jedc.2018.12.009
  ISSN: 0165-1889
- Barucca, P., Lillo, F., **Mazzarisi, P.**, and Tantari, D. (2018). Disentangling group and link persistence in dynamic stochastic block models. *Journal of Statistical Mechanics: Theory and Experiment*, 2018(12), 123407.
  DOI: 10.1088/1742-5468/aaeb44
  ISSN: 1742-5468

Conference Proceedings

- **Mazzarisi, P.**, Zaoli, S., Delgado, L., Gurtner, G., Cook, A., and Lillo, F. (2019). Network-wide assessment of 4d trajectory adjustments using an agent-based model, *SESAR*.
  https://westminsterresearch.westminster.ac.uk/sesar1
- **Mazzarisi, P.**, Zaoli, S., Lillo, F., Delgado, L., and Gurtner, G. (2018). Towards new metrics assessing air traffic network interactions. *SESAR*.
  https://westminsterresearch.westminster.ac.uk/sesar2

Books and Chapters

- **Mazzarisi, P.**, and Lillo, F. (2017). Methods for reconstructing interbank networks from limited information: A comparison, In *Econophysics and sociophysics: Recent progress and future directions*. Springer.
  DOI: 10.1007/978-3-319-47705-3_15
  ISBN: 978-3-319-47705-3

SEMINARS, INVITED AND CONTRIBUTED TALKS

- Invited speaker for a seminar talk at the Queen Mary University of London, $18th$ Sept. 2025
- Invited speaker for a seminar talk at the King's College London, $16th$ Sept. 2025
- Invited speaker at "Dynamics & Complexity" (DCP25), University of Pisa, Pisa, $9th$ Jul. 2025.
- Accepted contribution to the 12th General AMaMeF Conference, University of Verona, Jun. 23-27, 2025.

- Accepted contribution to the XXVI Workshop on Quantitative Finance (QFW2025), University of Palermo, Apr. 15-17, 2025.
- Accepted contribution at the International Fintech Research Conference, University of Perugia, Jan. 30-31, 2025.
- Invited speaker for a research seminar at the University of Perugia, Perugia, $26th$ Nov. 2024
- Accepted contribution at the Quantitative Finance and Risk Analysis Symposium (QFRA 2024), Monash Business School, Santorini, Greece, Jun. 27-29, 2024.
- Accepted contribution at the XXV Workshop on Quantitative Finance (QFW2024), University of Bologna, Apr. 11-13, 2024.
- Invited speaker at the Workshop "Machine Learning and Financial Econometrics" at the Oxford-Man Institute of Quantitative Finance, Oxford, UK, Dec. 12-13, 2023.
- Invited speaker at the "Conference on Dynamics and Finance: from KAM Tori to ETFs" at ICTP, Trieste, Italy, Oct. 9-13, 2023.
- Invited speaker at "Dynamics & Complexity" (DCP23), University of Pisa, Pisa, 9*th* Jun. 2023.
- Invited speaker for a research seminar at the University of Milano-Bicocca, Milano, 28*th* Feb. 2023.
- Invited speaker at the plenary meeting of "SoBigData++" H2020 research infrastructure, University of Amsterdam, Amsterdam, Netherlands, June 28-29, 2022.
- Accepted contribution to the 28^{th} International Conference on "Computing in Economics and Finance" (CEF2022) by the Society for Computation Economics, Southern Methodist University, Dallas, Texas, USA, June 17-19, 2022.
- Accepted contribution to the XXIII Workshop on Quantitative Finance (QFW2022), School of Economics of the University of Rome Tor Vergata, Mar. 2022.
- Accepted contribution to the 10^{th} International Conference on Complex Networks and their Applications, INEF-UPM Universidad Politécnica de Madrid, Nov. 2021 (online).
- Invited speaker at the cycle of "Research Seminaries", IMT School for Advanced Studies, Lucca, 8*th* Nov. 2021.
- Accepted contribution to the session "Networks, Big Data, and Artificial Intelligence in Economics, Finance, and Social Sciences" of the AMASES Annual Conference 2021, online, Sep. 2021.
- Invited speaker at the Summer School of Mathematics for Economic and Social Sciences "An introduction to random dynamical systems and their perturbations", Centro De Giorgi and Scuola Normale Superiore, Pisa, Sep. 2019.
- Accepted contribution to the Italian satellite of the "Conference on Complex Systems" CSS/Italy, at Fondazione Bruno Kessler, Trento, Jul. 2019.
- Accepted contribution to the "Workshop on Economic Science with Heterogeneous Interacting Agents" (WEHIA), at City University of London, Jun. 2019.
- Accepted contribution to the 29*th* annual conference of the European Association for Evolutionary Political Economy (EAEPE), at the Corvinous University, Budapest, Oct. 2017.
- Accepted contribution to the 41*st* Annual Meeting of the Association for Mathematics Applied to Social and Economic Sciences (AMASES), at the University of Cagliari, Sep. 2017.
- Accepted contribution to the XVIII Workshop on Quantitative Finance "QFW2017", at the University of Milano-Bicocca, Milano, Jan. 2017.
- Accepted contribution to the satellite meeting of STATPHYS26, "Statistical Physics of Financial and Economic Networks", at the Paris 1 Panthéon-Sorbonne University, Paris, Jul. 2016.

SPECIAL SKILLS

- **Computer skills**: Matlab, Python, C, Mathematica, LaTeX, MySQL.
- **Languages**: English (fluent), Aramaic (grammar).

RESEARCH INTERESTS

- **Quantitative finance**: Systemic risk, Interbank markets, Financial contagion on interbank networks, Value at Risk and other risk measures, Shannon entropy and market efficiency, Regimes of volatility and trading volume in financial markets, Insider trading and market manipulation.
- **Network models**: Exponential Random Graphs, State-space models, Stochastic Block Models, Dynamic Factor Models for networks.
- **Statistical Inference**: Likelihood methods, Iterative Proportional Fitting methods, Expectation-Maximization algorithms, Indirect inference, Simulation-based estimations.
- **Time Series Analysis**: Autoregressive models, Discrete Autoregressive processes, Quantile regressions, Granger causality, Statistical hypothesis testing, PCA, Kalman filter.
- **Machine Learning**: Recurrent Neural Networks, Reservoir Computing, and Statistical learning methods applied to inferential and prediction problems.

October 5, 2025