UNIVERSITÀ DEGLI STUDI DI MILANO
selezione pubblica per n.1 posto di Ricercatore a tempo determinato in tenure track (RTT) per il settore concorsuale 13/D4,
settore scientifico-disciplinare SECS-S/06 presso il Dipartimento di MATEMATICA "FEDERIGO ENRIQUES", (avviso bando pubblicato sulla G.U. n. 41 del 21/05/2024) Codice concorso 5552

Rossana Mastrandrea
CURRICULUM VITAE

INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)

COGNOME	MASTRANDREA
NOME	ROSSANA
DATA DI NASCITA	29/03/1984

TITOLI

TITOLO DI STUDIO
(indicare la Laurea conseguita inserendo titolo, Ateneo, data di conseguimento, ecc.)

Laurea Specialistica in Matematica Applicata e Supporto alla Finanza conseguita il 13/03/2009 presso l'Università degli Studi di Bari con voto 110/110 cum laude.

Laurea triennale in Matematica conseguita in12/2006 presso l'Università degli studi di Bari con voto 110/110 cum laude.

TITOLO DI DOTTORE DI RICERCA O EQUIVALENTI, OVVERO, PER I SETTORI INTERESSATI, DEL DIPLOMA DI SPECIALIZZAZIONE MEDICA O EQUIVALENTE, CONSEGUITO IN ITALIA O ALL'ESTERO
(inserire titolo, ente, data di conseguimento, ecc.)

Dottorato internazionale in Economia conseguito il 21/02/2014 presso la Scuola Superiore Sant'Anna, Pisa

CONTRATTI DI RICERCA, ASSEGNI DI RICERCA O EQUIVALENTI
(per ciascun contratto stipulato, inserire università/ente, data di inizio e fine, ecc.)

10/2023 - present Assistant Professor (rtdA), SECS-P/02, IMT School for Advanced Studies, Lucca
03/2023 - 09/2023 Research collaborator, IMT School for Advanced Studies, Lucca
03/2018 - 02/2023 Assistant Professor (rtdA). MAT/09, IMT School for Advanced Studies, Lucca
        (On maternity leave January - July 2021)
11/2015 - 02/2018 Post-Doc Researcher, IMT School for Advanced Studies, Lucca
        (On maternity leave October 2017 - March 2018)
03/2014 - 10/2015 Post Doc Researcher, Aix-Marseille University, Marseille, France

ATTIVITÀ DIDATTICA A LIVELLO UNIVERSITARIO IN ITALIA O ALL'ESTERO
(inserire periodo [gg/mm/aa inizio e fine], anno accademico, ateneo, corso laurea, numero ore, ecc.)

2023/2024, 2022/2023, 2021/2022	**Dynamics on Complex Network** (network theory and applications to economic systems, ABM, game theory on networks, 10h), IMT School for Advanced Studies, Lucca, Italy (for IMT PhD students and the National PhD in Artificial Intelligence)
2020/2021, 2019/2020, 2017/2018	**Advanced Topics in Network Theory: Dynamical Models in Network Theory** (network theory and applications to economic systems, ABM, game theory on networks, 10h), IMT School for Advanced Studies, Lucca, Italy (for IMT PhD students)
2022, 2021, 2020, 2019	**Advanced Network Science** (basic concept of network theory and applications to social and economic networks, from 4 to 8h) for Master in *Big Data Analytics & Social Mining*, Pisa, Italy
2011/2012	Teaching assistant for the course **Networks** (Use of Matlab for network analysis, 4h), Prof. Giorgio Fagiolo, Sant'Anna School for Advanced Studies, Pisa, Italy (for Sant'Anna School PhD students)

DOCUMENTATA ATTIVITÀ DI FORMAZIONE O DI RICERCA PRESSO QUALIFICATI ISTITUTI ITALIANI O STRANIERI;
(inserire anno accademico, ente, corso, periodo, ecc.)

06/2017 - 06/2017 Visiting Researcher, Medical University of Vienna, Vienna, Austria. Prof. Stefan Thurner

03/2017 - 03/2017 Visiting Researcher, Centre of Theoretical Physics, Aix-Marseille University, Marseille, France. Dr. Alain Barrat

07/2016 - 07/2016 Visiting Researcher, Centre of Theoretical Physics, Aix-Marseille University, Marseille, France. Dr. Alain Barrat

12/2015 - 12/2015 Course on Computational Neuroscience (2days), Institut de Neurosciences de la Timon, Marseille, France

04/2014 - 04/2014 Complex Network Thematic School (2 weeks), Les Houches, France

03/2013 - 06/2013 Visiting Phd Student , Institute of Theoretical Physics, Leiden University, The Netherlands. Prof. Diego Garlaschelli

10/2012 - 10/2012 FOC-CRISIS School on Complex Financial Networks (4 days), IMT Lucca, Italy

03/2012 - 06/2012 Visiting Phd Student, Institute of Theoretical Physics, Leiden University, The Netherlands. Prof. Diego Garlaschelli

08/2011 - 08/2011 Summer School on Globalization and Labour (1 week), Kiel Institute for the World Economy, Kiel,Germany.

11/2010 - 12/2010 Ecole Doctorale Augustin Cournot Winter School (1 month), Strasbourg, France.

06/2010 - 07/2010 CIdE Summer School of Econometrics (1 week), Bertinoro, Italy.

REALIZZAZIONE DI ATTIVITÀ PROGETTUALE
(indicare, data, progetto, ecc.)

2023 - 2025 Local Coordinator, PRIN 2022 project T*he Role of the Public and Private Sectors in Pharmaceutical Breakthrough Innovations (3PBI)*(CUP 2022S4EAS9, 252.000 Euros)

2022 - 2025 Researcher, *THE - Tuscany Health Ecosystem - Advanced technologies, methods and materials for human health and well-being: predictive analytics for healthcare solutions*

2021 - 2023 Researcher, *Network analysis of economic and financial resilience,* a joint research project by IMT School of Advanced Studies, Scuola Normale Superiore and Scuola Superiore Sant'Anna within the PRO3 2021-2023 University joint program.

2019 - 2023 Project Coordinator, Programma di Attività Integrata (PAI) project P*rosociality, Cognition and Peer Effect* (PRO.CO.P.E.) funded by IMT School for Advanced Studies, Lucca, Italy (ranked first by an external commission, 440.000 Euros)

2018 - 2020 Researcher, *OpenMaker - Harnessing the power of Digital Social Platforms to shake up makers and manufacturing entrepreneurs towards a European Open Manufacturing ecosystem* (main editor of the deliverable D2.4.)

ORGANIZZAZIONE, DIREZIONE E COORDINAMENTO DI GRUPPI DI RICERCA NAZIONALI E INTERNAZIONALI, O PARTECIPAZIONE AGLI STESSI
(per ciascuna voce inserire anno, ruolo, gruppo di ricerca, ecc.)

2023 - 2025 Local Coordinator, PRIN 2022 project T*he Role of the Public and Private Sectors in Pharmaceutical Breakthrough Innovations (3PBI)*(CUP 2022S4EAS9, 252.000 Euros), IMT School fro Advanced Studies and Cattolica University, Milan.

2019 - 2023 Project Coordinator, Programma di Attività Integrata (PAI) project P*rosociality, Cognition and Peer Effect* (PRO.CO.P.E.) funded by IMT School for Advanced Studies, Lucca, Italy (ranked first by an external commission, 440.000 Euros)

ATTIVITÀ DI RELATORE A CONGRESSI E CONVEGNI NAZIONALI E INTERNAZIONALI
(inserire titolo congresso/convegno, data, ecc.)

Invited talks

Economic and Financial Networks Reconstruction, resilience and recovery, February 19-20, 2024, IMT School for Advanced Studies, Lucca

Perspectives and challenges in High Order Interactions, December 6-7 2022, Institute for Advanced Studies, Amsterdam, The Netherlands

DynaMo satellite on Dynamics and Motifs at NetSci2021, June 28, 2021

Statistical Mechanics Methods for Networks satellite conference of NetSci 2020, September 17-25, 2020, Rome, Italy

Complex networks: from socio-economic systems to biology and brain, July 13-19, 2019, Lipari International School, Italy

Young Economists of Tuscan Institutions YETI 2019, Siena. Discussant for A network analysis of the migration- investment nexus

The Complex Brain, satellite meeting of CCS'16, September 20, Beurs Van Berlage, Amsterdam, The Netherlands

Complex networks: from socio-economic systems to biology and brain, August 28 -September 3,2016, Lipari International School, Italy

Séminaire de Physique Statistique & Matière Condensée, March 20, 2013, Centre de Physique Théorique, Aix-Marseille University, France

Paper presentations

AMASES 2024 - XLVIII Annual Meeting of the Italian Association for Mathematics Applied to Social and Economic Sciences, September, 5-7, Ischia, Italy (accepted oral contribution)

Econophysics Colloquium 24, June 3-5, 2024, Complexity Science Hub, Vienna, Austria

AMASES 2023 - XLVII Annual Meeting of the Italian Association for Mathematics Applied to Social and Economic Sciences, September, 20-22, Milan, Italy

NetSci 2023 - International School and Conference on Network Science, July 10-15, 2023, Vienna, Austria

Complex Networks 2022 - The 11th International Conference on Complex Networks and their Applications, November 8-10, 2022, Palermo, Italy

Econophysics Colloquium, August 24-26, 2022

Netsci 2022 - International School and Conference on Network Science, July 25-29, 2022, Shangai, China

NetsciX - International School and Conference on Network Science, February 8-11, 2022 Porto, Portugal

Complex Networks 2021 - The 10th International Conference on Complex Networks and their Applications, November 30-December 2, 2021, Madrid, Spain

Complex Networks 2019 - The 8th International Conference on Complex Networks and their Applications, December 10-12, 2019, Lisbon, Portugal

2018 Conference on Complex Systems (CCS), September 24-28, Thessaloniki, Greece

2016 Conference on Complex Systems (CCS), September 19-22, Amsterdam, The Netherlands

Complex Networks 2016, satellite meeting of StatPhys26, July 11 - 13, 2016, Marseille, France.

NetSci 2015 International School and Conference on Network Science, June 1 - 5,2015, World Trade Center, Zaragoza, Spain.

DDD 3rd International Conference on Digital Disease Detection, May 21 - 22, 2015,Fiera Exhibition Center, Florence, Italy

ECCS'14 European Conference on Complex Systems, September 22 - 26 2014, IMT,Lucca, Italy.

ECCS'13 European Conference on Complex Systems, September 16 - 20 2013, WorldTrade Centre, Barcelona, Spain.

NetSci 2013 International School and Conference on Network Science, June 3 - 7 2013,Royal Library, Copenhagen, Denmark.

Econophysics and Networks Across Scales, May 27 - 31 2013, Lorentz Center, Institute of Theoretical Physics, University of Leiden, The Netherlands.

NET 2012 International Workshop on Network models in Statistics, Economics and Social Sciences, November 8 000 9 2012, University of Trento, Italy.

W.E.H.I.A. 17th Annual Workshop on Economic Heterogeneous Interacting Agents, June 21-23, 2012, University of Pantheon-Assas, Paris, France.

ECCS'11, European Conference on Complex Systems, September 12-16, 2011, Vienna

Organizer of conferences & schools

Organizer of the Special Session "Time series models in economics, finance, and social sciences" at AMASES 2024, September 5-7, 2024, Ischia, Italy

Scientific organizer and local coordinator of the School of the Italian Statistical Physics Society (SIFS) - second edition, August - September, 2023, IMT School for Advanced Studies, Lucca, Italy

Scientific organizer and local coordinator of the First School of the Italian Statistical Physics Society (SIFS), August - September, 2022, IMT School for Advanced Studies, Lucca, Italy

Organizer and local coordinator of Complexity72h, June17-19,2019, IMT School for Advanced Studies, Lucca

Organizer and chairwoman of the Network Neuroscience Satellite at NetSci2020, September 19, 2020

Scientific organizer and local coordinator for the first International Conference on Synthetic Populations February 22-23, 2017, IMT, Lucca, Italy

CONSEGUIMENTO DI PREMI E RICONOSCIMENTI NAZIONALI E INTERNAZIONALI PER ATTIVITÀ DI RICERCA
(inserire premio, data, ente organizzatore, ecc.)

22/09/2016 Best Parallel Presentation Award for the 2016 Conference on Complex Systems, 19-22, Amsterdam, The Netherlands

TITOLI DI CUI ALL'ARTICOLO 24 COMMA 3 LETTERA A) E B) DELLA LEGGE 30 DICEMBRE 2010, N. 240
(indicare se contratto di tipologia A o B, Ateneo, data di decorrenza e fine contratto, ecc.)

1/10/2023 - present   Assistant Professor (rtdA), SECS-P/02, IMT School for Advanced Studies, Lucca

2/03/2018 - 1/03/2023 Assistant Professor (rtdA). MAT/09, IMT School for Advanced Studies, Lucca

PRODUZIONE SCIENTIFICA

PUBBLICAZIONI SCIENTIFICHE
(per ciascuna pubblicazione indicare: nomi degli autori, titolo completo, casa editrice, data e luogo di pubblicazione, codice ISBN, ISSN, DOI o altro equivalente)

1. Guidi, G., Mastrandrea, R., Facchini, A., Squartini, T. and Kennedy, C., 2024. Tracing two decades of carbon emissions using a network approach. Scientific Reports, vol.14 , no. 1, p.7251, 2024. doi: https://doi.org/10.1038/s41598-024-59779-w ISSN: 2045-2322

2. Mastrandrea, R., Boncinelli, L., & Bilancini, E. (2024). Coevolution of cognition and cooperation in structured populations under reinforcement learning. *Chaos, Solitons & Fractals*, *182*, 114799. doi: https://doi.org/10.1016/j.chaos.2024.114799.ISSN: 1873-2887

3. Mastrandrea, R., ter Burg, R., Shan, Y., Hubacek, K., & Ruzzenenti, F."Assessments of the environmental performance of global companies need to account for company size," *Communications Earth & Environment*, vol. 5, no. 1, p. 42, 2024. doi: https://doi.org/10.1038/s43247-024-01200-5. ISSN: 2662-4435

4. Mastrandrea, R., Antuofermo, G., Ovádek,M., Yeung, T-C, Dyevre, A., and Caldarelli, G. "Coalitions in international litigation: A network perspective," *Philosophical Transactions of the Royal Society A*, vol. 382, no. 2270, p. 20 230 158, 2024. doi: https://doi.org/10.1098/rsta.2023.0158. ISSN:1471-2962

5. Mastrandrea, R, Cecchetti, L, Lettieri, G, Handjaras, G, Leo, A, Papale, P, Gili, T, Martini, N, Della Latta, D, Chiappino, D, Pietrini, P, Ricciardi, E (2023). *"Information load dynamically modulates functional brain connectivity during narrative listening"* Scientific Reports, vol. 13, ISSN: 2045-2322, doi: 10.1038/s41598-023-34998-9

6. Picciolo, F, Ruzzenenti, F, Holme, P, Mastrandrea, R. (2022). *"Weighted network motifs as random walk patterns"*. New Journal Of Physics, vol. 24, ISSN: 1367-2630, doi: 10.1088/1367-2630/ac6f75

7. Cimini,G, Mastrandrea, R, Squartini, T, (2021). *"Reconstructing Networks"*. Cambridge University Press, ISBN: 9781108771030, doi: 10.1017/9781108771030

8. Mastrandrea, R, Piras, F, Gabrielli, A, Banaj, N, Caldarelli, G Spalletta, G, Gili, T (2021). *"The unbalanced reorganization of weaker functional connections induces the altered brain network topology in schizophrenia"*. Scientific Reports, vol. 11, ISSN: 2045-2322, doi: 10.1038/s41598-021-94825-x

9. Gabrielli, A, Mastrandrea, R, Caldarelli, G, Cimini, G (2019). *"Grand canonical ensemble of weighted networks."* Physical Review E, vol. 99, p. 1-6, ISSN: 2470-0053, doi: 10.1103/PhysRevE.99.030301

10. Balister P., Balogh J., Bertuzzo E., Bollobas B., Caldarelli G., Maritan A., Mastrandrea R., Morris R., Rinaldo A. (2018). *"River landscapes and optimal channel networks""*. Proceedings Of The National Academy Of Sciences Of The United States Of America, vol. 115, p. 6548-6553, ISSN: 0027-8424, doi: 10.1073/pnas.1804484115

11. Amador J., Cabral S., Mastrandrea R., Ruzzenenti F. (2018). *"Who's Who in Global Value Chains? A Weighted Network Approach"*. Open Economies Review, vol. 29, p. 1039-1059, ISSN: 0923-7992, doi: 10.1007/s11079-018-9499-7

12. Mastrandrea R, Gabrielli A, Piras F, Spalletta G, Caldarelli G, Gili T (2017). *"Organization and hierarchy of the human functional brain network lead to a chain-like core"*. Scientific Reports, vol. 7, p. 1-13, ISSN: 2045-2322, doi: 10.1038/s41598-017-04716-3

13. Duenas M., Mastrandrea R., Barigozzi M., Fagiolo G. (2017). *"Spatio-Temporal Patterns of the International Merger and Acquisition Network."* Scientific Reports, vol. 7, ISSN: 2045-2322, doi: 10.1038/s41598-017-10779-z

14. Mastrandrea R., Barrat A. (2016). "*How to Estimate Epidemic Risk from Incomplete Contact Diaries Data?*" Plos Computational Biology, vol. 12, ISSN: 1553-7358, doi: 10.1371/journal.pcbi.1005002

15. Mastrandrea R., Fournet J., Barrat A. (2015). "*Contact patterns in a high school: A comparison between data collected using wearable sensors, contact diaries and friendship surveys*". Plos One, vol. 10, ISSN: 1932-6203, doi: 10.1371/journal.pone.0136497

16. Mastrandrea R., Soto-Aladro A., Brouqui P., Barrat A. (2015). "*Enhancing the evaluation of pathogen transmission risk in a hospital by merging hand-hygiene compliance and contact data: A proof-of-concept study*" Public Health. Bmc Research Notes, vol. 8, ISSN: 1756-0500, doi: 10.1186/s13104-015-1409-0

17. Squartini, Tiziano Mastrandrea R, Garlaschelli D, 2015). "*Unbiased sampling of network ensembles*". New Journal Of Physics, vol. 17, 023052, ISSN: 1367-2630, doi: 10.1088/1367-2630/17/2/023052

18. Mastrandrea R, Squartini T, Fagiolo G, Garlaschelli D (2014). "*Enhanced reconstruction of weighted networks from strengths and degrees*". New Journal Of Physics, vol. 16, 043022, ISSN: 1367-2630, doi: 10.1088/1367-2630/16/4/043022

19. Mastrandrea R, Fagiolo G, Garlaschelli D, Squartini T (2014). "*Reconstructing the world trade multiplex: the role of intensive and extensive biases*". Physical Review. E, Statistical, Nonlinear And Soft Matter Physics, vol. 90, 062804, ISSN: 1550-2376, doi: 10.1103/PhysRevE.90.062804

Data 18/06/2024   Luogo Asciano