

CURRICULUM VITAE del Prof. **ROSARIO NUNZIO MANTEGNA**

MANTEGNA Rosario Nunzio,

Formazione:

- Laurea in Fisica presso l'Università di Palermo in data 29/6/1984. Tesi: Effetto della diffusione spettrale sulla cinetica di saturazione delle risonanze magnetiche.
- PhD in Fisica presso l'Università di Palermo 1989. Tesi: Processi stocastici e fenomeni caotici in sistemi non lineari a frequenza di microonde.

Posizione attuale

- dal 29/12/2010 professore di Fisica Applicata presso il Dipartimento di Fisica e Chimica dell'Università degli Studi di Palermo.
- dal 01/03/2016 al 28/02/2021 professore onorario presso University College London, London, UK al Department of Computer Science.
- Membro della External Faculty del Complexity Science Hub Vienna, Vienna, Austria.

Occupazioni

- dal 1/10/1989 al 31/1/1990 borsista presso l'Istituto per le Applicazioni Interdisciplinari della Fisica del Consiglio Nazionale delle Ricerche, Palermo.
- dal 1/2/1990 al 31/1/1991 Post-Doc presso il Max-Planck Institut fuer Quantenoptik Munich (Germany) con una Advanced Fellowship NATO-CNR .
- dal 14/10/1993 al 13/10/1994 Post-Doc al Center for Polymer Studies del Department of Physics di Boston University, Boston MA , U.S.A. .
- dal 17/10/1994 al 31/10/1999 Ricercatore universitario di Fisica Generale presso il Dipartimento di Energetica ed Applicazioni di Fisica dell'Università di Palermo.
- dal 1/11/1999 al 31/12/1999 professore associato of Fisica Applicata presso il Dipartimento di Energetica ed Applicazioni di Fisica dell'Università di Palermo.
- dal 1/1/2000 al 29/12/2004 professore associato di Fisica Applicata presso il Dipartimento di Fisica e Tecnologie Relative dell'Università di Palermo.
- dal 30/12/2004 professore straordinario di Fisica Applicata presso il Dipartimento di Fisica e Tecnologie Relative dell'Università di Palermo.
- dal 1/1/2007 professore ordinario di Fisica Applicata presso il Dipartimento di Fisica e Tecnologie Relative (successivamente Dipartimento di Fisica e quindi Dipartimento di Fisica e Chimica) dell'Università di Palermo.
- dal 1/11/2012 al 31/10/2016 professore ordinario di Fisica Applicata presso il Dipartimento di Fisica e Chimica dell'Università di Palermo a tempo determinato.
- dal 1/9/2012-31/08/2016 docente presso il Center for Network Science e il Department of Economics della Central European University di Budapest, Ungheria.
- dal 1/11/2016 professore ordinario di Fisica Applicata presso il Dipartimento di Fisica e Chimica dell'Università di Palermo.

Periodi di Visiting Scientist

- Visiting Scholar presso il Center for Polymer Studies di Boston University. Visite di durata settimanale effettuati durante il periodo Dicembre 1998- Novembre 1999.
- Visiting Scientist presso il MPI fuer Physik Komplexer Systeme, Dresden, Germany (Giugno-Luglio 2000 e Maggio 2001).
- Visiting Scientist presso il Santa Fe Institute, Santa Fe, New Mexico, USA, 17-23 Marzo 2001.
- Visiting Scientist presso ETH Zurich, Zurich, Switzerland, 1-21 Maggio 2011.
- Visiting professor at Department of Computer Science, UCL, London, UK, 27 June-2

July 2016 and 5-10 September 2016.

- Visiting professor at Center for Network Science, Central European University, Budapest, Hungary, January-June 2017

Associature

- Membro associato del Consiglio Nazionale delle Ricerche CNR- INFN -SOFT, Roma, Italia, 2006-2007.
- Membro associato del Consorzio Nazionale Interuniversitario per le Scienze Fisiche della Materia (CNISM) dal 2006.
- Membro associato dell' Istituto Nazionale per la Fisica della Materia (INFN) dal 1995 al 2003.
- Membro associato dell' Istituto Nazionale per la Fisica Nucleare (INFN) dal 2004 al 2006.
- Membro dell'American Physical Society dal 2000 al 2010.
- Membro dell' American Association for the Advancement of Science dal 1997 al 2010.
- Membro della Società Italiana di Fisica dal 1985 al 1991 e dal 2018.

Premi

- Santa Chiara Prize assegnato dalla Scuola Superiore Santa Chiara of the University of Siena per una Santa Chiara Chair: Multidisciplinary Teaching Award in “Econophysics”- anno accademico 2008/09.

Insegnamento:

Corsi universitari

- Modulo di Meccanica del Punto del Corso di Fisica presso la Laurea Triennale in Informatica dell'Università di Palermo. Dall'anno accademico 2018-2019.
- Corso di Econofisica presso la laurea Magistrale in Fisica e la Laurea Magistrale in Informatica dell'Università di Palermo. Dall'anno accademico 2016-2017.
- Modulo di Fisica Corso di Biochimica e Fisica presso la laurea triennale in Tecnici di laboratorio Biomedico. Anni 2014-2015 e 2018-2019.
- Corso di Fisica presso il Corso di Laurea in Odontoiatria. Dall'anno accademico 2005-2006 al 2015-2016.
- Corso di Fisica presso il Corso di Laurea in Medicina e Chirurgia. Dall'anno accademico 2002-2003 al 2005-2006 e dal 2016-2017 al 2017-2018.
- Bioinformatica applicata alla genomica e alla proteomica presso la Facoltà di Medicina di Palermo. Anni accademici dal 2003-2004 al 2008-2009.

Corsi per laureati

- Eventi rari e risk management presso il Master “Metodi quantitativi per il rischio finanziario” Palermo University 2003-2004.
- Fisica statistica presso il dottorato in Fisica Applicata Palermo University 2003-2004.
- Empirical analysis and modeling of financial complex systems presso la scuola di dottorato (Perfezionamento) in Matematica finanziaria della Scuola Normale Superiore, Pisa 2009-2010 e 2010-2011.
- Interdisciplinary Lecture Series, Freiburg Institute for Advanced Studies, Albert-Ludwigs-Universität, Freiburg, Germania, May 2010.
- Empirical Finance – Master in Economics – Central European University (2012-2013 e 2013-2014).
- Agent Based Models - Master in Economics – PhD in Network Science – Central European University (2013-2014, 2014-2015, e 2015-2016)
- Statistical Methods in Network science and Data Mining -- Master in Economics – PhD in

Network Science – Central European University (2013-2014, 2014-2015, e 2015-2016).

• Similarity Based Networks -- Master in Economics – PhD in Network Science – Central European University (2012-2013).

Coordinamento nella didattica

- Coordinatore del dottorato in Fisica Applicata dell'Università di Palermo dal 2002-2003 al 2008-2009.
- Coordinatore del Master “Metodi quantitativi per il rischio finanziario” Università di Palermo 2003-2004.
- Membro dell'International Advisory Board of the European School of Advanced Study su “Methods for Management of Complex Systems”, University of Pavia.

Attività di ricerca

Rosario N. Mantegna è uno dei pionieri nel campo dell'econofisica. egli ha iniziato a lavorare nel settore dell'analisi e modellazione dei sistemi sociali ed economici con strumenti e concetti della fisica statistica già nel 1990. Ha pubblicato il primo lavoro di econofisica in una rivista di fisica nel 1991. E' co-autore del primo lavoro di econofisica su Nature, pubblicato nel 1995. Nel 1999 ha pubblicato il primo libro in lingua inglese sull'econofisica. Nel 1999, ha fondato l'Osservatorio dei Sistemi Complessi (<http://ocs.unipa.it>), gruppo di ricerca del Dipartimento di Fisica e Chimica. Mantegna ha partecipato a diversi progetti di ricerca internazionali contribuendo all'attività di direzione e coordinamento di essi. Ne sono un esempio l'azione COST P10 "Physics of risk " e il progetto GIACS (General Integration of the Applications of Complexity in Science) che è stato una coordination action dell'Unione europea. All'interno del progetto GIACS Mantegna ha promosso la "Jerusalem Declaration on Data Access, Use and Dissemination for Scientific Research".

Principali progetti di ricerca

- Responsabile della Marie Curie Development Host fellowship MCFH-2001-00454 su Statistical physics study on non-coding DNA regions of complete genomes 2001.
- Responsabile di Unità INFN di Palermo del progetto MIUR-FISR 2001 su A new approach on “drug design”. From statistical mechanics to the screening of antiviral drugs. Responsabile nazionale prof. Paolo Carloni, Sissa, Italy.
- Responsabile di Unità INFN di Palermo del progetto FIRB su Self-organized networks and nonlinear chaotic dynamics for the modeling and control of complex systems. Responsabile nazionale prof. Luigi Fortuna, Catania University.
- Responsabile nazionale del progetto strategico MIUR, High-frequency dynamics in financial markets.
- Responsabile di Unità del progetto Europeo "Human behavior through dynamics of complex social networks: an interdisciplinary approach" (DYSONET), un progetto STREP di FP6 NEST Pathfinder. Responsabile del progetto prof. Panos Argyrakis di Thessaloniki University.
- Responsabile di Unità del progetto Europeo "General Integration of the Applications of Complexity in Science" (GIACS), una Coordination action di FP6 NEST Pathfinder. Responsabile di progetto prof. Sorin Solomon della Hebrew University.
- Responsabile di Unità del progetto PRIN 2007TKLTSR intitolato "Stylized facts and resulting strategies of market participants in real and artificial financial markets". Responsabile nazionale prof. Paolo Pellizzari, University of Venice.
- Responsabile del progetto dell' Institute for New Economic Thinking “New tools in the credit network modeling with agents’ heterogeneity”
<http://ineteconomics.org/grants/new-tools-credit-network-modeling-heterogenous-agents>

- Responsabile di Unità del progetto EU project “Complexity Research Initiative for Systemic Instabilities” (CRISIS) 2011-2013.

Mentoring

I collaboratori che ho avuto sotto la mia supervisione includono studenti, dottorandi, Post-Docs e visiting scientists: Fabio Principato, Giovanni Alberto Vacanti, Dominique Persano-Adorno, Fabrizio Patti, Giovanni Bonanno, Dr. Fabrizio Lillo, Dr. Salvatore Micciché, Ciro Minichini, Dr. Markus Kollmann, Adriana Prest Mattedi, Vincenzo Rinella, Marco Spanò, Dr. Michele Tumminello, Dr. Rudi Schaefer, Dr. Adam Ponzi, Antonios Garas, Dr. Vianney Desoutter, Prof. J. Tadeu Lunardi, Dr. Angelo Carollo, Dong-Ming Song, Dr. Luca Marotta, Dr. Davide Gurrera, Dr. Rosario Onofrio Battaglia, Federico Musciotto, Sandor Albert, Zhamilia Arzykulova, Ando Balint, Andras Borsos, Tamer Khraisha.

Management di progetti di ricerca internazionale

- Rappresentante Italiano presso il Management Committee dell'azione COST P10 “Physics of Risk” of the European Union. Chairman of the Workgroup WG1 “Physics of Risk” of the same action (2003-2005) <http://gisc.uc3m.es/COST-P10/members.html>.
- Membro dello Steering Committee di GIACS (General Integration of the Applications of Complexity in Science) coordination action dell'Unione Europea <http://www.giacs.org/>.
- Proponente della “Jerusalem Declaration on Data Access, Use and Dissemination for Scientific Research”.

Organizzazione di Scuole e Congressi Internazionali

- Chairman of the “International Workshop on Econophysics and Statistical Finance”, Palermo, Italy, Settembre 28-30, 1998.
- Member of the Scientific Committee of the European Physical Society Conference on “Applications of Physics in Financial Analysis”, Dublin 15-17 Luglio 1999, Ireland
- Co-Director of the International School, “The Mathematical Modeling of Financial Markets and Econophysics”, Siena 17-23 Marzo 2000, Italia
- Member of the Scientific Committee of the European Physical Society “Applications of Physics in Financial Analysis 2”, Liegi 13-15 Luglio 2000, Belgium.
- Chairman of the “Minisymposium on Econophysics” of the Conference “Dynamics Days Europe” Dresden 5-8 Giugno 2001, Germany.
- Member of the Scientific Committee of the European Physical Society Conference “Applications of Physics in Financial Analysis 3”, London 5-7 Dicembre 2001, UK.
- Member of the Program Committee of the “7th Workshop on Economics and Heterogeneous Interacting Agents (WEHIA)” Trieste, Italy - May 30-June 1, 2002.
- Chairman of the Session “Econophysics and Risk Management” of the Conference “INFMeeting” 2002, Bari, Italy 24-28 Giugno 2002.
- Member of the International Scientific Committee of the “International Conference on Econophysics” Nusa Dua, Bali, Indonesia 28-31 August 2002.
- Member of the Scientific Committee of the European Physical Society Conference “Applications of Physics in Financial Analysis 4”, Warsaw 13-15 Novembre 2003, Poland.
- Membro dell’Organizing Committee del COST P10 Kick Off Workshop “Physics of Riskh. Nyborg Stand Hotel, Nyborg, Denmark, April 17-20, 2004.
- Member of the Organizing Committee of the 31st Workshop of the International School of Solid State Physics, “Complexity, Metastability and Nonextensivity”, Erice, Italy 20-26 July 2004.
- Member of the Scientific Committee of the “Econophysics Colloquium”, Canberra, Australia, 14-

18 November 2005.

- Chairman of the Workshop “GRID in Finance 2006”, Palermo, Italy, 3-4 February 2006.
- Co-Chairman of the “International School of Complexity on Physics and Socio-Economic Phenomena”, 17-23 September 2006, Erice, Italy.
- Chairman of the 4-th Annual Meeting COST Action P10 -“Physics of Riskh- Palermo, Italy, 21-23 Sep 2007.
- Chairman of the Workshop “DYSONET meetingh- Palermo, Italy, 25-27 November 2007.
- Chairman of the GIACS Conference “Data in Complex Systemsh- Palermo, Italy, 7-9 April 2008.
- Co-Chairman del GIACS Focused Workshop on “Large databases in biomedical complex systems research” Jerusalem, Israel, September 15-16 2008.
- Co-Chairman del GIACS Focused Workshop on “Large databases in social and economic complex systems research” Jerusalem, Israel, September 17-18 2008.
- Proposer of the meeting “The Jerusalem Declaration and Information infrastructures”, 11 December 2008, European Commission, Avenue Beaulieu 25, 1160 Brussels, Belgium.
- Member of the Scientific Committee of the “APCTP School on Econophysics”, Pohang 24-27 August 2009, Korea.
- Member of the Scientific Committee of the Workshop “MAFIN 09, First International Workshop on Managing financial instability in capitalistic economies”, Reykjavik, Iceland September 3rd-5th, 2009.
- Member of the International Advisory Committee of the “XXIV IUPAP International Conference on Statistical Physics”, Cairns 19-23 July 2010, Australia.
- Co-Director of the “International School on Multidisciplinary Approaches to Economic and Social Complex Systems”. Siena, June 27 - July 3, 2010.
- Member of the International Advisory Committee of the “XXV IUPAP International Conference on Statistical Physics”, Seoul 22-26 July 2013, Korea.
- Member of the International Advisory Committee of the “XXVI IUPAP International Conference on Statistical Physics”, Lyon 18-22 July 2016, France.
- Co-Director della Enrico Fermi International School on “Computational Social Science and Complex Systems”. Varenna, July 16 - 21, 2018.
- Co-Chairman di “Econophysics Colloquium 2018” Palermo, Italy, September 12-14 2018.
- Member of the International Advisory Committee of the “XXVII IUPAP International Conference on Statistical Physics”, Buenos Aires 8-12 July 2019, Argentina.

Attività editoriale

- Editore associato dell' International Journal of Theoretical & Applied Finance, World Scientific Publishing (2003-2006).
- Membro dell' Editorial Board dell'International Journal of Theoretical & Applied Finance, World Scientific Publishing (dal 2007).
- Member dell'Editorial Board of Quantitative Finance, Taylor & Francis Group (dalla fondazione).
- Membro dell'Editorial Board of EPJ Data Science, a SpringerOpen Journal (dalla fondazione).
- Area Editor di “High Frequency” a Wiley Journal (dalla fondazione).

Peer review

- Peer review per i progetti del Settimo programma quadro dell'Unione Europea, per la National Science Foundation USA, Natural Sciences and Engineering Research Council of Canada, la Swiss National Science Foundation, ETH Zurich Research Commission, Volkswagen Stiftung, Czech Science Foundation, Research Corporation Tucson, Arizona USA, Academic Press, Cambridge University Press, Oxford University Press, Princeton University Press e per le riviste: Bioinformatics, BMC bioinformatics, BMC systems biology, Chaos, ComPlexUs, European Physical Journal B, Europhysics Letters, Fractals, Journal of Biological Physics, Journal of Physics A: Mathematical and General, Journal of Statistical Physics, Nature, Nature Physics, PNAS, PLoS

One, Physica A, Physica D, Physical Review A, Physical Review B, Physical Review E, Physical Review Letters, Physics Letters A, Quantitative Finance, Science.

Relazioni ad invito

1. Ultra-Slow convergence to a Gaussian: The Truncated Levy Flight. International Workshop Levy Flights and Related Phenomena in Physics, Nice, France, 26-30 June 1994.
2. Linguistic Analysis of Coding and noncoding DNA. International Workshop on Nonlinear Dynamics, Fractality and Selforganization of Complex Systems, Wurzburg, Germany, 1-3 October 1994.
3. Experimental Study of the Escape Times in a Periodically Driven Metastable State. Adriatico Research Conference on Randomness, Stochasticity and Noise, Trieste, Italy, 22-25 August 1995.
4. Scaling in Finance and Analogies (and Differences) with Turbulence, Seminario alla International School of Physics "Enrico Fermi" Course CXXXIV "The Physics of Complex Systems", Varenna, Italy, 9-19 July 1996.
5. Limit Theorems and Price Changes in Financial Markets, Minerva Workshop on Mesoscopics, Fractals and Neural Networks, Eilat, Israel 24-27 March 1997.
6. Physics Investigation of the Dynamics of a Stock Market Index, StatPhys-Taipei-1997, Taipei, Taiwan Agosto 4-11 1997.
7. Information and Hierarchical Structure in Financial Markets, Europhysics Conference on Computational Physics Modelling Collective Phenomena in Complex Systems, Granada, Spain, September 22-5, 1998.
8. Applications of statistical mechanics to finance, NATO Advanced Workshop on "Statistical physics applied to practical problems", Budapest, Hungary May 19-22, 1999.
9. Mixing of information in financial markets, International WE-Heraeus Workshop on "Facets of Universality in Complex Systems: Climate, Biodynamics and Stock Markets", Giessen, Germany, June 7-10 1999.
10. Empirical results in economics and finance obtained using statistical physics methods, "Beyond equilibrium and efficiency", 18-20 Maggio 2000, Santa Fe Institute, Santa Fe, New Mexico, USA.
11. Hierarchical structures in complex systems - from DNA to financial markets, "Euroattractor 2000", 6-15 Giugno 2000, Polish Academy of Sciences, Varsavia, Polonia.
12. Variety, volatility, and correlation of stock pairs in financial markets, "Empirical science of financial fluctuations", 15-17 Novembre 2000, Nihon Keizai Shimbun, Inc. (Nikkei), Tokyo, Japan.
13. Levels of Complexity in Financial Markets, "NATO Advanced Research Workshop on Application of Physics in Economic Modelling" 8-10 February 2001, Prague, Czech Republic.
14. Degree of coherence in linear and nonlinear regimes of stochastic resonance, "Coherent Evolution in Noisy Environments", 21-25 May 2001, Dresden, Germany.
15. Stylized facts and modeling of volatility in financial markets, "14th Marian Smoluchowski Symposium on Statistical Physics", 9-14 September 2001, Zakopane, Poland.
16. Variety of Returns in Financial Markets, "NEW - New Paradigms for the New Millennium", 13-15 September 2001, Salerno, Italy.
17. Econofisica e finanza quantitativa, "LXXXVII Congresso Nazionale Societ'a Italiana di Fisica", 24-29 September 2001, Milano, Italia.
18. Comparative genomics study of inverted repeats in prokaryotes, "CECAM Workshop- From DNA sequence to function", 27-29 September 2001, Lyon, France.
19. Levy Flights in Financial Markets, "International Congress on Estudios interdisciplinarios y complejidad", 22-26 October 2001, Mexico City, Mexico.
20. Volatility in financial markets: stochastic models and empirical results, "Horizons in Complex Systems", 5-8 December 2001, Messina, Italy.
21. Omori law after a financial market crash, "Workshop on economics with heterogeneous interacting agents (WEHIA 2002)", 30 May -1 June 2002, Trieste, Italy.

22. Dynamics of markets after a financial crash, “Workshop on Stochastic systems: from randomness to complexity”, 26 July -1 August 2002, Erice, Italy.
23. Behavior of markets at and just after a financial crash, “International Econophysics Conference”, 28-31 August 2002, Nusa Dua, Bali, Indonesia.
24. Cross-sectional correlations and variety of a stock portfolio, The second Nikkei econophysics research workshop “Toward control of economic change - Application of econophysics”, 12-14 Novembre 2002, Nihon Keizai Shimbun, Inc. (Nikkei), Tokyo, Japan.
25. Complexity in financial markets, “International Nonlinear Sciences Conference”, 7-9 Febbraio 2003, Vienna, Austria.
26. Variety of a portfolio of stocks during and just after a financial crash, “Complexity 2003”, 7-11 Maggio 2003, Aix-en-Provence, France.
27. Hierarchical Structure of a Financial Portfolio in Real and Artificial Markets, “Euro Informs Joint International Meeting”, 6-10 Luglio 2003, Istanbul, Turkey.
28. Minimal spanning tree networks in real and artificial markets, “Midterm Conference COSIN”, 1-5 Settembre 2003, Roma, Italy.
29. New stylized facts in financial markets: The Omori law and price impact of a single transaction in financial markets, “Frontier Science 2003”, 8-12 Settembre 2003, Pavia, Italy.
30. Shape of the return probability density function and extreme values statistics, “International Workshop on Risk and Regulation”, 11-13 Settembre 2003, Budapest, Hungary.
31. Cross-sectional (ensemble) analysis of asset return dynamics in generic and specialized stock portfolios, “NEXT 2003”, 22-27 Settembre 2003, Villasimius, Cagliari, Italy.
32. Complexity in financial markets, “New Materials and Complexity”, 3-7 Novembre 2003, Canberra-Kioloa, Australia.
33. Financial networks from correlation-based clustering techniques, “International Workshop on Complexity, Metastability and Nonextensivity”, 20-26 July 2004, Erice, Italy.
34. A class of RNA secondary structures in complete genomes of bacteria, “International Workshop on Noise in Condensed Matter and Complex Systems”, 26-29 July 2004, Terrasini (Palermo), Italy.
35. Emergence of complexity and non-ergodicity in financial markets, “SPHINX Econophysics Workshop”, 27-29 September 2004, Oxford, UK.
36. Filtering of economic information from financial time series, “Workshop on Volatility of financial markets: theoretical models, forecasting and trading”, 18-29 October 2004, Leiden, Netherland.
37. Financial networks from correlation-based clustering techniques, “XIII International “Tor Vergata” Conference on Banking and Finance: Transparency, governance and markets”, 1-3 December 2004, Rome, Italy.
38. Levels of complexity in financial markets, “Thirteenth annual symposium of the Society for nonlinear dynamics and econometrics”, March 31- April 1 2005, London, UK.
39. Ultrametric matrices and factor models, “13th General Conference of the European Physical Society”, 11-15 July 2005, Bern, Switzerland.
40. Hierarchically nested time series models from dendrograms, “International Workshop on Econophysics of Stock Markets and Minority Games”, 14-17 February 2006, Kolkata, India.
41. Individual decisions under risk: an investigation of observational economics, “3rd Annual meeting COST ACTION-P10 Physics of Risk”, 13-16 May 2006, Vilnius Lithuania.
42. RNA secondary structures in complete genomes of bacteria and viruses, “Biophys 06”, 6-8 September 2006, Arcidosso, Italy.
43. Ecology of trading firms in a financial market, “International School of Complexity on Physics and Socio-Economic Phenomena”, 17-23 September 2006, Erice, Italy.
44. E. Majorana’s article on “The value of statistical laws in physics and statistical sciences”, International “Conference on Ettore Majorana’s legacy and the Physics of the XXI century”, 5-6 October 2006, Catania, Italy.
45. Extreme events in correlation based clustering procedures, “International Seminar and

- Workshop on Extreme Events in Complex Dynamics”, October 23-November 02, 2006, Dresden, Germany.
46. Research carried out and applications run in the EGRID infrastructure, “The EGEE Project meets the Finance sector”, Pisa, Italy 24-26 January 2007.
 47. Ecology of firms in a financial markets, “71st Annual meeting Verhandlungen der Deutschen Physikalischen Gesellschaft”, 26-30 March 2007, Regensburg, Germany.
 48. Hierarchically nested factor model from multivariate data, “CTNEXT07: Complexity, Nonextensivity and Metastability”, 2-5 July 2007, Catania, Italy.
 49. Scaling laws, specialization of strategies and herding of heterogeneous trading firms in a financial markets, “Econophysics Colloquium and beyond”, 27-29 September 2007, Ancona, Italy.
 50. Correlation based networks in finance, “Italian-Israeli meeting: Complex Networks in Biology and Engineering. From Principles to Applications”, 24-25 October 2007, Tel Aviv, Israel.
 51. Specialization and herding behavior of trading firms in a financial market, “Workshop Networks, Complexity & Competition, 2-4 May 2008, Bled, Slovenia.
 52. Correlation, hierarchies and networks in economic complex systems, “Transdisciplinary Perspectives on Economic Complexity”, May 17,2008, James Madison University, Harrisonburg, USA.
 53. Networks in biological systems and data mining, “Calcolo Scientifico nella Fisica italiana, 27-30 Maggio 2008, Rimini, Italy.
 54. Correlation-based Networks in Finance, “International Workshop and Conference on Complex Networks and their Applications”, 23-27 June 2008, Norwich, UK.
 55. Overview of market ecology studies, “First Steps Toward Understanding Market Ecologies”, July 28- August 1 2008 SantaFe, NM, USA.
 56. Specialization, strategic and herding behavior of market members in a financial markets, “The Physics Approach to Risk: Agent-Based Models and Networks, October 27-29, 2008, ETH Zurich, Switzerland.
 57. Econofisica, “Convegno Scienze Ibride all’interno di Pianeta Galileo”, 10 Novembre 2008, Florence, Italy.
 58. Correlation-based Networks in Finance, “International Conference on Complex Networks: The Past 10 Years and Future”, 19-22 December, 2008, Seoul National University, Seoul, Korea.
 59. Correlation, Hierarchies, and Networks in Financial Markets, “APFA 7th International Conference”, 1st-5th March 2009, Tokyo, Japan.
 60. Specialization in resulting strategies and herding behavior of market members in a financial market, “The Science of Complexity”, 29 March - 1st April, 2009 Eilat, Israel.
 61. Econophysics investigation of high frequency financial data, “Modeling High Frequency Data in Finance”, Stevens Institute of Technology, 10- 12 July 2009, Hoboken, New Jersey, USA.
 62. Specialization, strategic and herding behavior of market members in a financial market, “Complexity, Mathematics and Socio-Economic Problems”, Bielefeld, Germany, August 31 - September 12, 2009.
 63. Specialization, Strategic and Herding Behavior of Market Members and Individual Investors in Financial Markets, International Workshop “Market Design and Structure”, Santa Fe Institute, 10-12 September 2009, Santa Fe, New Mexico, USA.
 64. Empirical investigation of book dynamics, first passage time and taxonomy of market members, Econophysics Colloquium, 25-31 October 2009, Erice, Italy.
 65. Empirical Investigations of Economic and Social Complex Systems, Symposium on Complex Systems and Materials, 20 November 2009, Messina, Italy
 66. Empirical investigations of economic and social complex systems 4th International Nonlinear Science Conference 2010 - Palermo 15-17 March 2010, Palermo, Italy
 67. Challenges in econophysics research Econofis’ 10 - Encontro de Econofisica 25-26 March 2010, Sao Paulo, Brasil
 68. Correlation and hierarchies in financial markets, International School of Physics ”Enrico

- Fermi”, Course CLXXVI - ”Complex materials in physics and biology” 29 June - 9 July 2010, Varenna, Italy
69. Co-occurrence networks in social and economic systems, The XXIV International Conference on Statistical Physics of the International Union for Pure and Applied Physics (IUPAP), 19-23 July, 2010, Cairns, Australia
 70. Co-occurrence of trading decisions of heterogeneous single investors acting in a financial market, Unwinding Complexity: Statistical Physics Perspectives on Complex Systems and Complex Materials 24 - 26 July, 2010, Port Douglas, Australia
 71. Investigation of the impact of news on individual trading decisions of different classes of investors, Thomson Reuters News Research Roundtable, November 12, 2010, Thomson Reuters, New York City, U.S.A.
 72. Correlation based networks in financial systems, Workshop on ”Applications of statistical mechanics to complex systems” On the occasion of the 60th birthday of Janos Kertesz, 11-13 January, 2011, Budapest, Hungary
 73. Trading decisions of heterogeneous investors acting in a financial market, Swissquote & EPFL day on quantitative finance, April 19, 2011, Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland
 74. Analysis and modeling of financial markets: The approach of Econophysics, 3rd Porto Meeting on MATHEMATICS for INDUSTRY, 28th to 30th April 2011, Porto, Portugal
 75. New approaches in the investigation of correlations of stock returns and index returns, International Conference on Econophysics, June 4-6, 2011, East China University of Science and Technology, Shanghai, China
 76. Statistically validated networks in financial and economic systems, 16th Annual Workshop on Economic Heterogeneous Interacting Agents, June 23-25 2011, Polytechnic University of Marche, Ancona, Italy
 77. Extracting similarity information from word association networks, Econophysics Colloquium, ECCS’ 2011, September 12-16 2011, Vienna, Austria
 78. Econophysics and social research with large sets of data, Focus session: Big Data, 76th Annual Meeting of the DPG and DPG Spring Meeting, March 26 2012, Berlin, Germany.
 79. Statistically validated networks of market members trading at the LSE electronic and Off-book market venues, The 4th Annual Modeling High Frequency Data in Finance, July 19-22 2012, New York, USA.
 80. Stylized facts in the credit market, Latsis Symposium 2012 “Economics on the Move”, ETH Zurich, September 11 2012, Zurich, Switzerland.
 81. Keynote: Statistically validated networks of market members trading at the LSE electronic and dealers' market, Econophysics and networks across scales, May 27-31 2013, Leiden, the Netherland.
 82. Credit markets as networked markets: the cases of bank-firm credit relationships in Japan and eMID interbank market, FNet 2013, July 17-19, Kyoto, Japan.
 83. Opening talk: Statistically validated networks of market members trading at the LSE electronic and dealers' market, Econophysics Colloquium 2013 & Asia Pacific Econophysics Conference 2013, July 29-31, Pohang, Korea.
 84. Keynote: Evolution of correlation structure of stock indices, 11th Financial Systems Engineering and Risk Management, October 18-20 2013, Shanghai, China.
 85. Special evening lecture: An overview of more than 20 years of Econophysics, Fysica 2014, annual physics conference of the Netherlands' Physical Society (NNV), April 1st 2014, Leiden, the Netherland.
 86. Bank-firm credit network in Japan: An analysis of a bipartite network, International Conference on Econophysics and Asia-Pacific Econophysics Conference, May 31-June 2 2014, Shanghai, China.
 87. Keynote: Covariance matrix estimators and portfolio optimization, Actuarial and Financial Risk

- Theory with Applications, ASCE-ICVRAM-ISUMA July 13-16 2014, Liverpool, UK.
88. Keynote: Similarity-based & Statistically Validated Networks in Finance, Financial Risk & Network Theory, Cambridge Centre for Risk Studies Seminar, September 23 2014, Cambridge, UK
 89. News and individual investment decisions, Social modeling and simulations + Econophysics Colloquium, Kobe Japan November 4-6 2014.
 90. Patterns of high-frequency trading networks at NASDAQ OMX Helsinki, Annual Financial Market Liquidity Conference 2014, Budapest November 20-21 2014.
 91. Networks in complex human systems, Italy-Israel meeting “Let the complex be simple”, Tel Aviv, Israel December 1-2 2014.
 92. Networks in Finance, Perm Winter School 2015, Perm Russia February 14-15 2015.
 93. Detecting hierarchical structures and networked relationships in complex systems systems, Complexity in Economics and Finance, 10th Tinbergen Institute Conference, Amsterdam May 18-20 2015.
 94. Proximity based networks and statistically validated networks in social and economic systems, Lipari School on Computational Complex Systems, Lipari Island, Italy July 12-18 2015.
 95. Proximity-based networks and statistically validated networks in complex systems 60th World Statistics Congress ISI 2015, 26-31 July, Rio de Janeiro, Brasil.
 96. Pattern of investment of single investors at the Nordic Stock Exchange, Eight Polish Symposium on Econo- and Sociophysics, 4-6 November 2015, Rzeszow, Poland.
 97. Proximity-based networks and filtered networks in economic and financial systems, CFE-CMStatistics 2015, 12-14 December 2015, London, UK.
 98. Financial and economic networks, Perm Winter School 2016, Perm, Russia February 4-5 2016.
 99. Heterogeneity in complex systems, Visions for complexity, Opening conference of the Complexity Science Hub Vienna, May 23 2016, Vienna, Austria.
 100. Dynamics of synchronicity of trading decisions of investors at the Nordic Stock Exchange, Econophysics Colloquium 2016 - 27-29 July 2016 Sao Paulo, Brazil.
 101. Proximity-based and statistically validated networks networks in complexity science and econometrics, Modern econometric tools and applications - 22-24 September 2016, Nizhny Novgorod, Russia.
 102. Time evolution of groups of investors with similar pattern of investment, 102nd National Congress of Italian Physical Society, 26-30 September 2016, Padova, Italy.
 103. Trading networks of market members at NASDAQ Nordic OMX exchanges, 7 High Frequency Conference, Stevens Institute of Technology, 3-5 November 2016, Hoboken, New Jersey, USA.
 104. Econophysics: concepts, results, and perspectives of a hybrid science, 2nd Workshop of the Econophysics Network, School of Business, University of Leicester, 7 March 2017, Leicester, UK.
 105. Long term temporal dynamics of trading decisions of investors of a high liquid stock: a statistically validated network approach, International Conference on Econophysics, East China University of Science and Technology, 27-29 May 2017, Shanghai, China.
 106. Core of communities in bipartite networks, 9th Summer Solstice Conference, University of Catania 21-23 June 2017, Catania, Italy.
 107. Bootstrap validation of proximity based networks, 13th Econophysics Colloquium & 9th Polish Symposium on Physics in Economy and Social Sciences, 5-7 July 2017, Warsaw, Poland.
 108. Price discovery and market liquidity at NASDAQ Nordic OMX exchanges, Statistical Physics for the Digital Economy, 11-12 July 2017, Corfù, Greece.
 109. Power-laws and heterogeneity in financial systems, Transdisciplinary extreme risk modelling workshop -- Skema – 8 September 2017, Sophia Antipolis - France
 110. Social dynamics of a financial bubble, 3rd International Conference on EconoPhysics. University of Thessaly—28-30 September 2017, Volos, Greece.
 111. Can an Anthropology of Knowledge help Complexity Science?, Complexity: Where do we go from here? - Complexity Science Hub, 24 May 2018 Vienna, Austria.

112. Social anatomy of a financial bubble, 2nd International Conference on Cliometrics and Complexity, 4-5 June 2018 Lyon, France
113. Heterogeneity in complex systems. Type of heterogeneity and global risk of the system, 2nd workshop on extreme risk modelling -- Skema – 7 September 2018, Sophia Antipolis - France
114. Keynote speaker Long-term ecology of investors in a financial market. Conference on Complex Systems 2018, Aristotle University of Thessaloniki, September 23-28, 2018, Thessaloniki, Greece.
115. Statistically validated networks in complex systems, Statistical Validation Methods for Complex Systems, Satellite meeting of the Conference on Complex Systems 2018, Aristotle University of Thessaloniki, September 27, 2018, Thessaloniki, Greece.
116. Keynote: 20 years of correlation network analysis and its impact on portfolio management, Frankfurt summit on network analysis, Frankfurt School of Finance & Management, 25 October 2018, Frankfurt am Main, Germany.
117. Long-term ecology of investors in a financial market, Evolution and Financial Markets, Norton's Woods Conference Center at the American Academy of Arts and Sciences, 26 October 2018, Cambridge MA, USA.

Publicazioni

152 articoli pubblicati su riviste internazionali censite da Web of Science di Clarivate Analytics, 3 articoli pubblicati a livello internazionale in riviste non inserite in Web of Science e 34 articoli pubblicati in atti di convegni o capitoli di libri. Le pubblicazioni indicizzate da Web di Science di Clarivate Analytics hanno ricevuto in totale 9031 citazioni (8661 senza auto-citazioni). Il valore dell'indice h è 46. L'indice h di Google Scholar è 57.

Un libro Rosario N. Mantegna e H. Eugene Stanley, *Introduction to Econophysics: Correlations and Complexity in Finance*, Cambridge University Press, Cambridge UK 2000 ISBN 0 521 62008. Tradotto in giapponese da EconomistSha editore, Inc., in polacco presso l'editore polacco PWN, in indonesiano da parte dell'editore Pearson Education Asia, in russo dall'editore URSS e in cinese dall'editore Lianjing Publishing House. Il libro ha ottenuto 4450 citazioni in Google Scholar. Editore di quattro volumi di proceedings e di una "focus review": (i) Rosario N. Mantegna editor, *Proceedings of the International Workshop on Econophysics and Statistical Finance held at University of Palermo, Italy 28-30 September 1998*, Special Issue of *Physica A* 269, 1-187 (1999), (ii) H.E. Stanley, M. Ausloos, J. Kertesz, R.N. Mantegna, J.A. Scheinkman and H. Takayasu editors, *Proceedings of the International Econophysics Conference, Bali 29-31 August 2002*, Special Issue of *Physica A* 324, 1-454 (2003), (iii) Stefano Cozzini, Stefano d'Addona and Rosario N. Mantegna editors, *Proceedings of the 1st International Workshop on Grid Technology for Financial Modeling and Simulation held in Palermo, Italy 3-4 February 2006*. PoS at Sissa ISSN 1824-8039 <http://pos.sissa.it/>, (iv) Janos Kertesz, Stefan Bornholdt and Rosario N. Mantegna editors, *Proceedings of SPIE Noise and Stochastics in Complex Systems and Finance held at Firenze, Italy 21-24 May 2007* *Proceedings of SPIE*, 0277-786X Vol. 6601 (2007), and (v) co-Editor with Janos Kertesz of the focus issue of the *New Journal of Physics* on "Focus on Statistical Physics Modeling in Economics and Finance" (2010). Quattro articoli di review. Tre recensioni di libri.

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1. R.N. Mantegna and H.E. Stanley, *Scaling behaviour in the dynamics of an economic index* *Nature* 376, 46-49 (1995). 1167 citazioni.
2. R.N. Mantegna, *Hierarchical structure in financial markets*, *Eur. Phys. J. B* 11, 193-197 (1999). 810 citazioni.
3. R.N. Mantegna and H.E. Stanley, *Stochastic Process With Ultra-Slow Convergence to a*

Gaussian: The Truncated Lévy Flight, *Physical Review Letters* 73, 2946-2949 (1994). 506 citazioni.

4. S.V. Buldyrev, A.L. Goldberger, S. Havlin, R.N. Mantegna, M.E. Matsuoka, C.-K. Peng, M. Simons and H.E. Stanley, Long-Range Correlation Properties of Coding and Noncoding DNA Sequences: GenBank analysis *Physical Review E* 51, 5084-5091 (1995). 433 citazioni.

5. M. Tumminello, T. Aste, T. Di Matteo, R.N. Mantegna, A tool for filtering information in complex systems, *Proceedings of the National Academy of Sciences of the USA* 102, 10421-10426 (2005). 296 citazioni.

Divulgazione

- Intervista radiofonica “Previsioni economiche: Fate il vostro gioco” del 27 May 2003 presso il programma Radio 3 Scienza. Sito web <http://www.radio.rai.it/radio3/terzoanello/scienza/>
- Intervista radiofonica “L’Econochè?” trasmessa 8 Luglio 2003 nel programma “Il Volo delle Oche”. Programma nazionale di Radio 24. Web site (<http://www.radio24.ilsole24ore.com/oche/trasmissioni.html>)
- Intervista radiofonica “Fai il broker? Allora l’intelligenza non è il tuo forte” trasmessa il 27 Ottobre 2003 su Radio 3 Scienza. Sito web (<http://www.radio.rai.it/radio3/terzoanello/scienza/>)
- Intervista video “Complexitat: Entrevista #6 Rosario Mantegna - November 26 2009” – Exposition: Cultures del canvi, Atoms socials i vides electròniques - Arts Santa Monica - Barcelona, Spain. (<http://www.youtube.com/watch?v=GLx2sJyYJ2s>)
- TEDx Lake Como 2010 - November 6 2010 – Aula Magna of the Politecnico di Milano, Como, Italy. <http://www.tedxlakecomo.com/>
<http://www.youtube.com/watch?v=S-C9FMHGa0c>

Varia

- Profilo biografico inserito nella 6th e 7th Edition del Marquis’s Who’s Who in Science and Engineering.
- Profilo biografico inserito nel Marquis’s Who’s Who in the World, dal 2004.

Autorizzo il trattamento dei miei dati personali ai sensi del Dlgs 196 del 30 giugno 2003 e dell’art. 13 GDPR (Regolamento UE 2016/679) ai fini delle elezioni per la Giunta di Dipartimento del Dipartimento di Fisica e Chimica del 7 Dicembre 2018.