CV di Andrea Rapisarda

Personal:

Born in Catania the 14th of January 1960 Italian citizen

Current position:

Full Professor of Theoretical Physics, Mathematical Models and Methods at the "Ettore Majorana" Physics and Astronomy Department of the University of Catania, Italy **Qualified as a Full Professor** in the area 02/B2 *Theoretical Physics of Condensed Matter* on April 2017 (Giudizio in Italiano)

External Faculty Member of the Complexity Science Hub Vienna

Codirector of the <u>International School on Complexity</u> at the <u>Ettore Majorana</u> <u>Foundation in Erice</u> with A. Zichichi, G. Benedek and C. Tsallis

Results for the national evaluation of research quality (in Italian) VQR 2011-2014 - VQR 2004-2010 - VQR 2015-2019

ASN indicators of the scientific production (december 2024)

Institutional Coordinator of the PhD course on Complex Systems for Physical, Socio-

economic and Life Sciences at the University of Catania since 2016

Departmental Delegate for Strategic Planning since 2018

President of the Joint Departmental Commission (2020-2023)

Rector's Delegate for Internationalization at the University of Catania march 2013 - november 2016

Erasmus Institutional Coordinator of the University of Catania march 2013 - november 2016

Associate member of Istituto Nazionale di Fisica Nucleare (INFN) since 1998
Coordinator for INFN Sezione Catania of the project DYNSYSMATH
Principal Investigator of the FIR Research Project 2014 at the University of Catania
Multi-layer Networks and Efficient Decision Dynamics

Principal Investigator for the Catania Unit of the PRIN 2017 "Stochastic forecasting of Complex Systems"

Codirector of the International *Lipari School on Complex Systems* since 2010

Member of the Advisory Editorial Board of "Physica A" since october 2005

Member of the Editorial Board of the "International Journal of Statistical Mechanics" march 2013 - july 2016

Member of the Editorial Board of the International Journal "Cogent Physics" since 2014

Member of the Editorial Board of the Elsevier journal "**Heliyon**" since may 2015 **Member** of the Review board of the international journal **Frontiers in physics | Social physics** since 2018

Member of the Editorial Advisory board of the international journal **Entropy** since 2020 **Member** of the Editorial Advisory board of the international journal **Complexity** since 2020

Specialty Chief Editor of Frontiers in Complex Systems since 2022

Member of the Italian Physical Society (SIF)

Member of the Italian Society for Statistical Physics (SIFS)

Member of the Complex Systems Society (CSS)

Coauthor of more than 180 scientific publications in international and national journals

Supervisor of several Post-docs, PhD and Master students

(Vito Latora, Antonio Causa, Salvatore Rizzo, Filippo Caruso, Alessandro Pluchino, Manlio De Domenico, Giovanna Miritello, Marco Scalisi, Dario Zappalà, Emiliano Marchese, Emanuele Sicurella, Nicola Cinardi, Valeria Mazzeo, Giulio Burgio among many others)

Referee of several international journals, including among others:

Physical Review Letters, Physical Review E, Chaos, International Journal of Modern Physics, Physica A, Physica D, Chaos Solitons and Fractals, Journal of Statistical Physics, Europhysics Letters, Fluctuation and Noise Letters, New Journal of Physics, Journal of Physics A, Entropy, Modern Physics Letters B, Journal of complex networks, PLOSONE, PNAS, Nature Scientific Reports

Research interests

Theoretical physics, Statistical Mechanics, Complex systems, Complex Networks, Social behaviour, Econophysics, Agent Based Models, Chaos, Nonlinear dynamics

Awards

Ig Nobel 2022 for Economics (see here for more info)

Ig Nobel 2010 for Management (see here for more info)

2016 Elsevier award for reviewing

h-index 44 (more than 7100 citations) (Google scholar 14.12.2023) - Scholar Plot (17.8.18)

ISI Web of Science research profile D-2453-2014

Orcid http://orcid.org/0000-0001-8290-8183

Recent Dissemination

- "Intervista ai vincitori 2022 del premio Ig Nobel per la categoria Economics", Psiquadro Sharper Night Official (26-09-2022) link
- Intervista a Radio2 Caterpillar del 16 settembre 2022 <u>link</u>
- Intervista al TG di Video Mediterraneo del 15 marzo 2021 link
- Intervista a TG3 Leonardo del 13 aprile 2020 link
- Talk (in italian) at the conference "Citizens' Assembly: una risposta alla crisi della democrazia elettorale. Esperienze internazionali e prospettive italiane", Palazzo San Macuto, Roma, july 15 2019, <u>link</u>
- Talk on the beneficial role of random strategies at Trivago Academy on may 16, 2018 in Dusseldorf <u>link</u>
- Intervento a Rai Radio 1 nella trasmissione "Gioco a premier" del 7 maggio 2018 link
- Intervento a Omnibus La7 del 6 maggio 2018 <u>link</u>
- Intervento a Radio3 Scienza "Il caso e la capacità" del 6 marzo 2018 link
- Intervento a Rai3 nel programma Geo del 21 settembre 2017 <u>link</u>
- Talk on the Peter principle at the Swedish National Television on may 22, 2015, link
- Interview live on BBC Radio 4 "How math can improve politics" april 19, 2012, link
- Intervista su Telecamere, Rai3, del 22 gennaio 2012, <u>link</u>

Some of the most cited papers

(Source Google scholar)

- Error and attack tolerance of complex networks. P. Crucitti, V. Latora, M. Marchiori, A. Rapisarda, **PHYSICA A**, (2004) vol. 340, p. 388-394. **634 citations**
- Non-Gaussian equilibium in a long-range Hamiltonian system. V. Latora, A.
 Rapisarda, C. Tsallis, PHYSICAL REVIEW E, (2001) vol. 64, p. 056134-056138. 347
 citations
- Detecting complex network modularity by dynamical clustering. S. Boccaletti, M. Ivanchenko, V. Latora, A. Pluchino, A. Rapisarda (2007). PHYSICAL REVIEW E, (2007) vol. 75, p. 045102-1-045102-4. 273 citations
- Lyapunov instability of a system with long-range forces. V. Latora, A. Rapisarda, S. Ruffo, PHYSICAL REVIEW LETTERS, (1998) vol. 80, p. 692-695. 212 citations
- Superdiffusion and out-of-equilibrium chaotic dynamics with many degrees of freedom. V. Latora, A. Rapisarda, S. Ruffo, PHYSICAL REVIEW LETTERS, (1999) vol. 83, p. 2104. 196 citations
- Vector Opinion Dynamics in a Bounded Confidence Consensus Model. S.
 Fortunato, V. Latora, A. Pluchino, A. Rapisarda, INTERNATIONAL JOURNAL OF MODERN PHYSICS C, (2005) vol. 16, p. 1535-1551. 211 citations
- The rate of entropy increase at the edge of chaos.V. Latora, M. Baranger, A. Rapisarda, C. Tsallis, PHYSICS LETTERS A, (2000) vol. 273, p. 97-103. 181 citations
- Power law time distributions of large earthquakes. M.S. Mega, P. Allegrini, P.
 Grigolini, V. Latora, L. Palatella, A. Rapisarda, S. Vinciguerra, PHYSICAL REVIEW LETTERS, (2003) vol. 90, p. 188501-188504. 166 citations

- Analysis of Self-Organized Criticality in the OFC model and in real earthquakes.F.
 Caruso, A. Pluchino, V. Latora, S. Vinciguerra, A. Rapisarda, PHYSICAL REVIEW E,
 (2007) vol. 75, p. 055101-1-055101-4. 139 citations
- The Peter Principle Revisited: A Computational Study. A.Pluchino, A. Rapisarda, C. Garofalo, PHYSICA A, (2010) vol. 389, p. 467-472. 120 citations
- Talent vs. Luck: the role of randomness in success and failure. A Pluchino, AE Biondo, A Rapisarda. Advances in Complex Systems (2018) 21 (03n04), 1850014.
 97 citations
- The Revisiting Disorder and Tsallis Statistics. V. Latora, A. Rapisarda, A. Robledo, SCIENCE 300 (5617), 249-251. 56 citations
- Coexistence of regular and chaotic scattering in heavy ion collisions. A. Rapisarda,
 M. Baldo, PHYSICAL REVIEW LETTERS 66 (1991) 2581. 42 citations

Education

Secondary school:

Liceo Scientifico G.Galilei, Catania (1973-1978). Diploma di Maturità Scientifica in july 1978 with 60/60.

University:

Degree in Physics the 18th of July 1983, 110/110 cum laude Title of the thesis:

"Spontaneous production of e+ e- pairs in heavy ion reactions" Supervisors: Prof. M. Consoli e Dott. M. Baldo.

International Schools attended:

International School on Heavy Ion Physics, Erice (Italy) july 1984, directors da R.A. Broglia and C. Dasso.

INFN School 1986-1988.

International School on Heavy Ion Physics, Erice (Italy) july 1986, directors R.A. Broglia and G. Bertsch.

CIII SIF School "Trends in Nuclear Physics", Varenna (Italy) june 1987, directors P. Kienle, R.A. Ricci and A. Rubbino.

CIV SIF School "Frontiers and Borderlines in Many-Particle Physics", Varenna(italy) july 1987, directors R.A. Broglia and J.R. Schrieffer.

CXII SIF School "Nuclear Collisions from the Mean Field into the Fragmentation Regime", Varenna (Italy) july 1989, directors C. Detraz and P. Kienle.

International School on "Nuclear Physics at the borderlines", La Rabida (Spain) june 1991, directors J.M Arias, M.I. Gallardo and M. Lozano.

CXIX SIF School "Quantum Chaos", Varenna (Italy) july 1991, directors G. Casati, I. Guarneri and U. Smilansky.

Scientific career and post-laurea activity:

Fellowship at the Frankfurt University, may - june 1984.

Fellowship at the Niels Bohr Institute of Copenhagen, september 1984 - march 1985.

Military Service (Artiglieria contraerea), april 85 - april 86 (Sabaudia - Bologna).

Fellowship INFN, june 1986 - june 1988.

Fellowship at the Niels Bohr Institute of Copenhagen, september 1988 - june 1989.

Fellowship at the Centro Siciliano di Fisica Nucleare e Struttura della Materia, University of Catania, march 1990 - march 1991.

Permanent position as INFN researcher, sezione di Catania, in the period may 1991october 1998.

Rappresentante dei ricercatori INFN sezione di Catania, july 1995- july 1998.

Associate Professor of Theoretical (14.10.1998 - 29.2.2024)

Visiting scientist at Center of Applied and Mathematical Theoretical Physics of Maribor, Slovenia.

Visiting scientist at Center of Theoretical Physics of MIT, Cambridge USA.

Coordinator of the theoretical group (Gruppo IV) at INFN sezione di Catania, may 1998 - may 2004.

Presidente Struttura Didattica Aggregata di Fisica, 04.11.2004 - 04 -11- 2010 Member of Commissione paritetica di Dipartimento (2013-2016)

Member of the National Advisory Committee for STAPHYS23 in 2007

Codirector of the Erice International Workshop "Complexity, Metastability and Nonextensivity" July 2004

Codirector of the Erice International school "New Trends in Statistical Mechanical Foundations of Complexity", july 27- august 3 2015, Erice, Italy

Organization of meetings and conferences:

- International workshop "HMF meeting", Catania (Italy), september 2000.
- International Conference NEXT2001, "Non extensive Thermodynamics and physical applications", Villasimius, Cagliari (Italy), may 2001.
- International Conference NEXT2003, "News and Expectations in Thermostatistics",
 Villasimius, Cagliari (Italy), 22-28 september 2003.
- International Workshop "Complexity, Matestability and Nonextensivity" Centre E.
 Majorana, Erice, Sicily, 20-26 July 2004.
- International Conference NEXT2005 Statistical Physics, Kolymbari, Crete (Greece),
 12-18 august 2005.
- International Conference on Ettore Majorana's Legacy and the Physics of the XXI Century in commemoration of the centennial of Majorana's birth, Catania, Italy, October 5-6, 2006. <u>Link to the online proceedings</u>
- International Conference Catania-NEXT07: Complexity, Metastability and Nonextensivity, Catania (Italy), 1-5 July 2007, satellite conference of STATPHYS23.
- International School on Social Networks, Lipari island, Sicily 3-10 July 2010
- International School on Game theoretic approach to Computational Complex Systems, Lipari island, Sicily 9-16 July 2011
- International conference "Frontiers in Statistical Physics and Complex Systems", Catania, Italy, 2-5 June 2012
- International school on "Data mining and modeling of complex techno-socioeconomic systems", Lipari island, Sicily 14-21 July 2012

- International school on "Dynamic networks and social behavior", Lipari island, Sicily, 06-13 July 2013
- International school on "Smart Cities", Lipari island, Sicily, july 26- august 2 2014
- International school on "Mapping the world", Lipari island, Sicily, 12-18 July 2015
- International school on Complexity XV Course "New Trends in Statistical Mechanical Foundations of Complexity", july 27- august 3 2015, Erice, Italy
- 9th International Summer Solstice Conference on "Discrete models of complex systems", june 21-23 2017, Catania, Italy
- International School on Complexity XVI Course "Nonextensive Statistical Mechanics, Superstatistics and Beyond: Theory and Applications in Astrophysical and other Complex Systems", july 2-8 2019, Erice, Italy
- International School on Complexity XVII Course "Stochastic forecasting in Complex Systems", august 25-31 2022, Erice, Italy

Invited and selected talks:

- 1. International Conference "Heavy Ion Interactions around the Coulomb Barrier", Legnaro, Padova (Italy), june 1987.
- 2. XXVI International Winter Meeting on Nuclear Physics, Bormio (Italy) january 1988.
- 3. International conference "Heavy-Ion Interactions around the Coulomb Barrier", june 1988, Legnaro, Padova (Italy).
- 4. "Secondo Convegno su Problemi di Fisica Nucleare Teorica", Cortona (Italy), october 1988.
- 5. International conference "Heavy Ion Collisions the Coulomb Barrier", Daresbury (U.K.) june 1990.
- 6. "Terzo Convegno di Fisica Nucleare Teorica", Cortona (Italy), october 1990.
- 7. International workshop "Intermediate-energy reaction processes and Chaos", ottober 1991, Varenna (Italy).
- 8. International conference on "Dynamical Fluctuations and Correlations in Nuclear Collisions", march 1992, Aussois (France).
- 9. XXX International Winter Meeting on Nuclear Physics, Bormio (Italy) january 1992.
- 10. International conference "From Classical to Quantum Chaos" Sissa, Trieste (Italy) june 1992.
- 11. 1st joint Italian-Japanese meeting "Perspectives in Heavy-Ion Physics", Catania (Italy), june 1992.
- 12. LXXVIII meeting SIF, october 1992, Pavia (Italy).
- 13. International workshop "Dynamical Fluctuations in Heavy-Ion Collisions", october 1992, Ganil-Caen (France).
- 14. International conference "Dynamical features of nuclei and Finite Fermi Systems, Sitges (Spain) september 1993.
- 15. "10th Winter Meeting on Nuclear Dynamics" january 1993 Snowbird Salt Lake City (USA).
- 16. International workshop "Fluctuations in Nuclear Dynamics" february 1993, ECT* Trento (Italy).

- 17. 1st joint Italian-English meeting on "Problems in Nuclear Physics" march 1994, LNS-Catania (Italy).
- 18. 1st meeting of the european network "Many-body Theory of Correlated Fermion system", may 1994, Orsay-Paris (Francia).
- 19. International workshop "Applications of Chaos in Nuclear and Atomic Physics", september 1994, Ganil (France).
- 20. VII Seminario Nazionale di Fisica Nucleare e Subnucleare, september 1994 Otranto (Italy).
- 21. "Quinto Convegno di Fisica Nucleare Teorica", Cortona (Italy), october 1994.
- 22. 2nd joint Italian-Japanese meeting, Riken-Tokyo (Japan) june 1995.
- 23. 2nd meeting of the european network "Many-body Theory of Correlated Fermion system", june 1995, Lisbon (Portugal).
- 24. 210th ACS meeting, International workshop "Hot and Expanding Nuclear Matter", august 1995, Chicago (USA).
- 25. XXXIV International Winter Meeting on Nuclear Physics, Bormio (Italy) january 1996.
- 26. 1st International conference CRIS, Aci Castello (Italy) may 1996.
- 27. European Research Conference on "Chaotic phenomena in nuclear physics", Aghia Pelaghia, Crete (Greece), october 1996.
- 28. Internazional workshop on "Chaotic dynamics and quantum many-body systems", ECT* Trento (Italy), february 1997.
- 29. International school/conference on "Let's face chaos through nonlinear dynamics", Maribor Slovenia , july 1999.
- 30. International Conference CRIS2000, on "Phase transitions in strong interactions: Status and perspectives", Acicastello Italy, May 2000.
- 31. International Conference STATPHYS 2001", Cancun Mexico, July 2001.
- 32. Int. School/Conference on "Dynamics and Thermodynamics of systems with long-range interactions", Les Houches, France, 17-22 february 2002.
- 33. International Conference on "Non extensive Statistical mechanics and applications" ", Institute for Complex Systems, Santa Fe,USA, 8-12 april July 2002.
- 34. International Los Alamos Conference on "Anomalous Distributions", Santa Fe,USA, 3-6 november 2002.
- 35. International Conference on "Frontier Science 2003: A non-linear world, the real world", Pavia, Italy, 8-12 september 2003.
- 36. Int. Conference on "Trends and perspectives in extensive and non-extensive statistical mechanics", Angra dos Reis, Brazil, 19-21 november 2003.
- 37. International Conference on "Complexity and Nonextensivity: New trends in statistical Mechanics", Yukawa Institute, Kyoto, Japan, 14-18 march 2005.
- 38. Int. Conf. on "Nonlinearity, nonequilibrium and complexity: Questions and perspectives in statistical physics", Tepoztlan, Mexico, Nov. 27 Dec 2, 2005
- 39. London Mathematical Society Durham Symposium on Dynamical Systems and Statistical Mechanics, Durham UK, 3 July-13 July 2006
- 40. School and conference on Complex Systems and Nonextensive statistical mechanics, ICTP Trieste, Italy 31 July 8 August 2006
- 41. International Conference on Chaos and Complex Systems, Monastery of Novacella, Bressanone (Brixen), Italy 9-12 October 2006

- 42. Course on Nonextensive statistical mechanics, CBPF, Rio de Janeiro, Brazil, 2-6 April 2007
- 43. Int. Conference on Dynamics and Thermodynamics of systems with long-range interactions: Theory and experiments, Assisi, Italy 4-8 July 2007
- 44. Course on Nonextensive statistical mechanics, ITAP, Turunc, Turkey, 18-21 July 2007
- 45. International SPIE Conference on Complex Systems, Canberra, Australia, 4-7
 December 2007
- 46. International Conference on Statistical Mechanics Sigma-phi 2008, Kolympary, Crete, Grece, 14-18 July 2008
- 47. International Conference on Nonextensive statistical mechanics, NEXT2008, Iguaçu, Brazil, 27-31 October 2008
- 48. International Conference Medyfinol 2008, Punta edl Este, Uruguay 1-5 December 2008
- 49. International Econophysics Colloquium 2009, Center E. Majorana, Erice, Sicily, Italy 25-31 October 2009
- 50. International Conference STATPHYS24, Cairns Australia, 19-23 July 2010
- 51. International conference "Unwinding Complexity", Port Douglas Australia, 24-26 July 2010
- 52. ECSS'11 European Conference on Complex Systems, Vienna, 12-16 September 2011
- 53. Invited talk at CBPF Rio de Janeiro, Brazil February 15, 2012
- 54. Invited general colloquium at Mainz University, Germany, July 3, 2012
- 55. Invited talk at the 7th SICC int. school "Complex networks in action", Catania, Italy, 26-28 September 2012
- 56. Invited talk at the international conference "Tsallis entropy and its applications", Wuhan, China, 16-18 October 2012
- 57. Invited talk at the international conference on Nonequilibrium statistical mechanics and nonlinear physics, Santiago, Chile, 3-7 December 2012
- 58. ECCS'13 European Conference on Complex Systems, September 16-20, 2013, Barcelona, Spain
- 59. Invited talk at the International Conference "Complex systems: foundations and applications", October 28-November 1, 2013, Rio de Janeiro, Brazil
- 60. Invited talk at the International workshop "Statistical mechanics foundation of complexity where do we stand?", May 8-10, 2014, Santa Fe Institute, Santa Fe, NM, USA
- 61. Invited talk at the "Mediterrenean School on Complex Networks", June 9-13, 2014, Salina, Italy
- 62. Invited talk at the international conference on "Discrete models of Complex Systems", June 22-25 2014, Ljubliana, Slovenia
- 63. Invited talk at the international conference on Statistical Physics "Sigma Phi", July 7-11 2014, Rhodes, Greece
- 64. Invited talk at Queen Mary University London, UK, March 17 2015
- 65. Invited talk at the Karolinska Institutet, Stockholm, Sweden, March 31, 2015
- 66. Invited plenary talk at the conference of European Decision Sciences Institutes, EDSI2015, May 31-June 3 2015, Taormina, Italy

- 67. International Conference on Computational Social Science, june 8-11, 2015, Helsinki , Finland
- 68. Invited talk at the 7th Summer Solstice International Conference on Discrete Models of Complex Systems, June 17-19, 2015, Toronto Canada
- 69. Invited talk at the Latin-American School on Foundation of Complexity, October 4-30, 2015, Rio de Janeiro, Brazil
- 70. Invited talk at the workshop "Nonlinearity, Nonequilibrium and Complexity: Questions and Perspectives in Statistical Physics", November 29 December 4 2015, Mexico City, Mexico
- 71. Invited talk at the international conference on "Challenges in Data Science", Matera, Italy, July 8-11 2016
- 72. Invited talk at the Lipari international School on Computational Complex and Social Systems, Lipari, Italy, July 10-17 2016.
- 73. Invited talk at the international conference "Econophysics Colloquium", ICTP San Paolo, Brazil, July 27-29 2016
- 74. Invited talk at the Dipartimento di scienza ed alta tecnologia, Università degli studi dell'Insubria, Como, February 21st, 2017
- 75. Invited talk at Trivago Academy, May 16, 2018, Dusseldorf, Germany
- 76. Invited talk at the Summer Solstice International Conference on Discrete Models of Complex Systems, June 25-27, 2018, Gdansk, Poland
- 77. Invited talk at the International conference "Questions and perspective in understanding complexity", September 26, 2018, Thessaloniki, Greece
- 78. Invited talk at the SISFA conference 2018, October 3-6, Messina, Italy
- 79. Invited talk at the Physics Department of Bari University, february 26, 2019, Bari, Italy
- 80. Invited talks at Conservatorio di Monopoli, february 27-28, 2019, Monopoli, Italy
- 81. Invited talk at Free University of Bozen, march 14, 2019, Bolzano, Italy
- 82. Invited talk at the conference "Citizens' Assembly: una risposta alla crisi della democrazia elettorale. Esperienze internazionali e prospettive italiane", Palazzo San Macuto, Roma, july 15 2019
- 83. Invited talk at the Lipari Summer School on Computational Complex and Social Systems, july 19-25, 2019, Lipari Italy
- 84. Invited talk at the International workshop on *Higher-Order Connectivity and Correlations in Complex Systems, november 25-26, 2019*, Complexity Science Hub Vienna, Austria
- 85. Invited talk at the international conference SM&FT 2019, december 11-13, 2019, Bari. Italy
- 86. Invited talk at the CSH Winter lectures series 22-25 march 2021
- 87. Invited talk at Workshop on Sociophysics: Social Phenomena from a Physics Perspective ICTP-SAIFR, Sao Paulo, Brazil, October 18-22, 2022
- 88. Invited talk at the International conference "Complex networks: from socioeconomic systems to biology and the brain", July 10-16 2022, Lipari, Italy
- 89. Invited talk at the international conference SM&FT 2022, december 19-21, 2022, Bari. Italy
- 90. -Invited talk at the ESO workshop on Peer Review Under Review February 6-10 2023, Garching, Germany.

- 91. -Invited talk at the International Conference "Statistical Mechanics for Complexity", 5-10 November 2023, Rio de Janeiro, Brazil
- 92. -Invited talk at the International Conference IWOSP23, 13-15 December 2023, Antofagasta , Chile
- 93. -Invited talk at the International Conference Mathematical aspects in nonequilibrium systems, October 30-November 4, 2024, Erice (Italy)
- 94. -Invited talk at the International Conference CHESP24, December 1-7, 2024, Erice (Italy)

Last update 11-12-2024