

Associate professor of theoretical physics, mathematical methods and models in the Department of Physics and Astronomy, University of Catania since November 1998

Qualified as full professor for the area 02 / A2 Theoretical Physics of fundamental interactions in January 2014

Qualified as full professor for the area 02 / B2 Theoretical Physics of condensed matter in April 2017

ASN indicators of the scientific production 2018-2020

External Faculty Member of the Complexity Science Hub Vienna

Codirector of the International School on Complexity of the Ettore Majorana Foundation di Erice with A. Zichichi, G. Benedek, M. Gell-mann, C. Tsallis

Member of the Council of the Complex Systems Society

Rector's Delegate for Internationalization of the University of Catania (March 2013 - November 2016)

Erasmus coordinator of the University of Catania since (March 2013 - November 2016)

In charge of Research at the 'National Institute of Nuclear Physics (INFN)

Coordinator at the University of Catania, of the PhD course entitled "Complex systems for physical, socio-economic and life sciences"

Responsible of the INFN initiative DYNYSMATH at the Catania Infn unit

Principal Investigator of the research project of the University of Catania in 2014 FIR "Multi-Layer Networks and Efficient Decision Dynamics"

Principal Investigator of the Catania unit for the research project PRIN 2017 "Stochastic forecasting in Complex Systems"

President of the "Commissione paritetica di Dipartimento" since December 2019

Lipari co-director of the International School on Complex Systems since 2010

Member of the Editorial Board of the international journal "Physica A" since 2005

Member of the Editorial Board of "International Journal of Statistical Mechanics " since 2013

Member of the Editorial Board of the international journal "Cogent Physics" since 2014

Member of the Editorial Board of the international journal Elsevier "Heliyon" since 2015

Member of the Editorial Board of the international journal "Frontiers in Physics | Social Physics" since 2018

Member of the Editorial Board of the international journal "Entropy" since 2020

Member of the Editorial Board of the international journal "Complexity" since 2020

Member of the Italian Physical Society (SIF)

Member of the Italian Statistical Physics Society (SIFS)

Supervisor of several post-docs, PhD students and master's degree

Referee of several international journals among which Physical Review Letters, Physical Review E, Chaos, International Journal of Modern Physics, Physica A, Physica D, Journal of Statistical Physics, Europhysics Letters, Fluctuation and Noise Letters, PlosOne, European Journal of Physics B New Journal of Physics, Journal of Physics A, Entropy, Journal of complex networks, PlosOne, PNAS, Nature Scientific Reports

Training and past assignments:

High school at Liceo G. Galilei of Catania finished in 1978 with a score of 60/60

Degree in Physics from the University of Catania on 18/07/1983 with a score of 110/110 cum laude.

Fellowship at the University of Froncoforte (Germany), May-June 1984.

Fellowship at the Niels Bohr Institute in Copenhagen, September 1984 - March 1985.

Military service with the anti-aircraft artillery, April 85 - April 86 (Sabaudia - Bologna).

INFN fellowship, June 1986 - June 1988.

Fellowship at the Niels Bohr Institute of Copenhagen, September 1988 - June 1989.

Fellowship of the Institute of Nuclear Physics Sicilian Center and Structure of Matter, University of Catania, March 1990 - March 1991.

Researcher of the National Institute of Nuclear Physics, 01/05/1991 to 14/10/1998.

Associate Professor of Nuclear Physics and Sub since 14/10/1998.

Associate Professor of Theoretical Physics since 02/12/2005.

Visiting scientist at the Center of Applied Mathematical and Theoretical Physics of Maribor, Slovenia in 1997

Visiting scientist at the Center of Theoretical Physics of MIT, Cambridge, USA in 1998 and in 1999

Visiting scientist at the CBPF, Rio de Janeiro, Brazil in 2012

member of the College of Teachers of the PhD in Physics of the University 'of Catania 2004-2015

President of the Master courses in Physics and Bachelor in Physics (Struttura didattica aggregata) from 04/11/2004 to 04/11/2010

Research interests:

Complex Systems; Statistical Mechanics; Phase transitions and critical phenomena; Nuclear comminuted; Criticality 'self-organized; glassy systems; Chaos and nonlinear dynamics; fractals; Turbulence; Synchronization in many-body systems; Theory of networks and applications in informatic systems, structural and biological; Time series analysis of environmental, geophysical and biological; Numerical simulations and modeling of systems of sociological interest.

Co-author of more than 150 scientific publications in international journals

h-index **39** Number of citations greater than 5600 (see [link](#))

ISI Web of Science Research profile <http://www.researcherid.com/rid/D-2453-2014>
orcid <http://orcid.org/0000-0001-8290-8183>

Awards:

IG Nobel Prize in 2010 for Management (see www.andrea-rapisarda.it)

Recent Dissemination

- Interview (in Italian) at **TG3 Leonardo** april 13, 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, [link](#)
 - Talk at **Trivago Academy** in Dusseldorf on may 16, 2018, [link](#)
 - Intervista su Rai Radio1 nella trasmissione "Gioco a premier" del 7 maggio 2018, [link](#)
 - Intervento a Omnibus su La7 del 6 maggio 2018 [link](#)
 - Intervento a Radio3 scienza "Il caso e la capacità" del 6 marzo 2018 [link](#)
 - Intervento a Rai3 nel programma Geo del 21 settembre 2017 [link](#)
 - Talk on the Peter principle at the Swedish 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, [link](#)
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Organization of meetings and conferences:

- International workshop "HMF meeting", Catania (Italy), september 2000.

- International Conference NEXT2001, "not 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 conference "Complexity, Metastability and Nonextensivity" 20-26 July 2004, Centro E. Majorana Erice, Italy.

- International conference "Complexity, Metastability and Nonextensivity", 1-5 July 2007, Catania, Italy.

- 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-socio-economic 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
- Erice International School "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

List of some invited talks:

- International conference "Heavy Ion Collisions the Coulomb Barrier", Daresbury (U.K.) June 1990.
- International conference on "Dynamical Fluctuations and Correlations in Nuclear Collisions", March 1992 Aussois (France). - XXX International Winter Meeting on Nuclear Physics, Bormio (Italy) January 1992.
- International conference "From Classical to Quantum Chaos" Sissa, Trieste (Italy) June 1992.
- 1st joint Italian-Japanese meeting "Perspectives in Heavy-Ion Physics", Catania (Italy), June 1992.
- LXXVIII meeting SIF, October 1992 Pavia (Italy).
- International workshop "Dynamical Fluctuations in Heavy-Ion Collisions", October 1992-Caen, Caen (France).
- International conference "Dynamical features of nuclei and Finite Fermi Systems, Sitges (Spain) September 1993.
- Th Winter Meeting on Nuclear Dynamics "January 1993 Snowbird - Salt Lake City (USA).
- International workshop "Fluctuations in Nuclear Dynamics" February 1993 ECT * Trento (Italy).
- 1st joint Italian-Ingles meeting on "Problems in Nuclear Physics" March 1994 LNS-Catania (Italy).

- 1st meeting of the European network "Many-body Theory of Correlated Fermion system", may 1994, Orsay-Paris (France). - International Workshop "Applications of Chaos in Nuclear and Atomic Physics", september 1994, de Caen (France).

- VII National Seminar on Nuclear and subnuclear, september 1994 Otranto (Italy).

- 2nd Italian-Japanese joint meeting, Riken-Tokyo (Japan) june 1995.

- 210th ACS Meeting, International workshop "Hot and Expanding Nuclear Matter", august 1995, Chicago (USA).

- XXXIV International Winter Meeting on Nuclear Physics, Bormio (Italy) january 1996.

- 1st International conference CRIS, Aci Castello (Italy) may 1996. - European Research Conference on "Chaotic phenomena in nuclear physics", Aghia Pelaghia, Crete (Greece), october 1996.

- Internazionale workshop on "Chaotic dynamics and quantum many- body systems", ECT* Trento (Italy), february 1997.

- International school/conference on "Let's face chaos through nonlinear dynamics", Maribor Slovenia , july 1999.

- International Conference CRIS2000, on "Phase transitions in strong interactions: Status and perspectives ", Acicastello Italy, May 2000.

- International School/Conference on "Dynamics and Thermodynamics of systems with long-range interactions """, Les Houches, France, 17-22 february 2002.

- International Conference on "Non extensive Statistical mechanics and applications" ", Institute for Complex Systems, Santa Fe,USA, 8-12 april July 2002.

- International Los Alamos Conference on "Anomalous Distributions", Santa Fe,USA, 3-6 november 2002.

-International Conference on "Frontier Science 2003: A non-linear world, the real world", Pavia, Italy, 8-12 september 2003. -International Conference on "Trends and perspectives in extensive and non-extensive statistical mechanics", Angra dos Reis, Brazil, 19-21 november 2003.

-International Conference on "Complexity and Nonextensivity: New trends in statistical Mechanics", Yukawa Institute, Kyoto, Japan, 14-18 march 2005.

-International Symposium on " Nonlinearity, nonequilibrium and complexity: Questions and perspectives in statistical physics", Tepoztlan, Mexico , Nov. 27 - Dec 2, 2005

-London Mathematical Society Durham Symposium on Dynamical Systems and Statistical Mechanics, Durham UK, 3 July-13 July 2006 -School and conference on Complex Systems and Nonextensive statistical mechanics, ICTP Trieste, Italy 31 July - 8 August 2006

-International Conference on Chaos and Complex Systems, Monastery of Novacella, Bressanone (Brixen), Italy 9-12 October 2006.

-International Conference on "Dynamics and Thermodynamics of systems with long-range interactions: Theory and Experiments", satellite conference of StatPhys23, Assisi (PG) , Italy 4-8 July 2007. -International SPIE conference on : Complex Systems , The Australian National University, Canberra, Australia, 5-7 December 2007.

-International conference "First Mediterranean Conference on Nonlinear Dynamics and its Applications", organized by the Dipartimento di Metodi Quantitativi e Teoria Economica, Università "G. d'Annunzio" Chieti-Pescara, at Pescara, Italy, 3-8 July, 2008.

-International conference on statistical mechanics "Sigma phi 2008", Kolympary, Crete, Greece 14-18 July 2008.

-International conference on "Nonextensive Statistical Mechanics NEXT08", Iguacu, Paranà, Brazil 27-31 October 2008.

- International conference Medyfinol 2008, Punta del Este, Uruguay, 1-5 December 2008.
 - International Econophysics Colloquium 2009, Center E. Majorana, Erice, Sicily, Italy 25-31 October 2009
 - International Conference STATPHYS24, Cairns Australia, 19-23 July 2010
 - International conference "Unwinding Complexity", Port Douglas Australia, 24-26 July 2010
 - ECSS'11 European Conference on Complex Systems, Vienna, 12-16 September 2011
 - Invited talk at CBPF Rio de Janeiro, Brazil February 15, 2012
 - Invited general colloquium at Mainz University, Germany, July 3, 2012
 - Invited talk at the 7th SICC int. school "Complex networks in action", Catania, Italy, 26-28 September 2012
 - Invited talk at the international conference "Tsallis entropy and its applications", Wuhan, China, 16-18 October 2012
 - Invited talk at the international conference on Nonequilibrium statistical mechanics and nonlinear physics, Santiago, Chile, 3-7 December 2012
 - ECCS'13 European Conference on Complex Systems, September 16-20, 2013, Barcelona, Spain
 - Invited talk at the International Conference "Complex systems: foundations and applications", October 28-November 1, 2013, Rio de Janeiro, Brazil
 - 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
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- Invited talk at the "Mediterranean School on Complex Networks", June 9-13, 2014, Salina, Italy
 - Invited talk at the international conference on "Discrete models of Complex Systems", June 22-25 2014, Ljubljana, Slovenia
 - Invited talk at the international conference on Statistical Physics "Sigma Phi ", July 7-11 2014, Rhodes, Greece
 - Invited talk at Queen Mary University London, UK, March 17 2015 - Invited talk at the Karolinska Institutet, Stockholm, Sweden, March 31, 2015
 - Invited plenary talk at the conference of European Decision Sciences Institutes, EDSI2015, May 31-June 3 2015, Taormina, Italy
 - International Conference on Computational Social Science, June 8-11, 2015, Helsinki, Finland
 - Invited talk at the 7th Summer Solstice International Conference on Discrete Models of Complex Systems, June 17-19, 2015, Toronto Canada
 - Invited talk at the Latin-American School on Foundation of Complexity, October 4-30, 2015, Rio de Janeiro, Brazil
 - Invited talk at the workshop "Nonlinearity, Nonequilibrium and Complexity: Questions and Perspectives in Statistical Physics", November 29 - December 4 2015, Mexico City, Mexico
 - Invited talk at the international conference on "Challenges in Data Science", Matera, Italy, July 8-11 2016
 - Invited talk at the Lipari international School on Computational Complex and Social Systems, Lipari, Italy, July 10-17 2016.
 - Invited talk at the international conference "Econophysics Colloquium", ICTP San Paolo, Brazil, July 27-29 2016
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- Invited talk at the international workshop "Complex networks: from socio-economic systems to biology and brain", Lipari, Italy, August 28 - September 3 2016
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- Invited talk at the Dipartimento di scienza ed alta tecnologia, Università degli studi dell'Insubria, Como, February 21st, 2017

- Invited talk at the Summer Solstice International Conference on Discrete models of complex systems, Gdansk, Poland 25-27 june 2018
 - Invited talk at the Physics Department of Bari University, february 26, 2019, Bari, Italy
 - Invited talks at Conservatorio di Monopoli, february 27-28, 2019, Monopoli, Italy
 - Invited talk at Free University of Bozen, march 14, 2019, Bolzano, Italy
 - 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
 - Invited talk at the Lipari Summer School on Computational Complex and Social Systems, july 19-25, 2019, Lipari Italy
 - Invited talk at the International workshop on *Higher-Order Connectivity and Correlations in Complex Systems*, november 25-26, 2019, Complexity Science Hub Vienna, Austria
 - Invited talk at the international conference SM&FT 2019, december 11-13, 2019, Bari. Italy
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Teaching activity:

Period 2017-2020:

- Advanced Statistical Mechanics and Physics of Complex Systems il Corso for the Master Degree in Physics (totally in English) of the University Catania
- Chaos and Complex Systems for the PhD program in "Sistemi Complessi per le Scienze Fisiche, Socio-Economiche e della Vita" of the University Catania

Period 2004-2016:

- Advanced Statistical Mechanics and Physics of Complex Systems at the Bachelor / Master's Degree in Physics, University of Catania
- Physics of Complex Systems for the PhD in Physics at the University of Catania

Period 1998-2004

- General Physics at the Degree in Mathematics at the University of Catania

Period 2001-2003

- Chaos and Nonlinear Dynamics at the Scuola Superiore di Catania Excellence
