

Curriculum Vitae (Long Version)

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May 2020

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1998, May 21: Laurea in Fisica (first university degree)
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 Title of the research thesis:
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 Supervisors: Prof. P. Sodano and Dr. G. Grignani

From November 1998: Ph. D. student at Scuola Internazionale
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2001, October 26: Ph. D. at SISSA, Trieste, Italy
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 Title of the research thesis:
 "Discrete Nonlinear Dynamics
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November 2001-October 2002: University of Perugia
 November 2002-October 2004: Post-Doc "Giovani Valenti INFN" (University of Parma)
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 From January 2005: University of Perugia
 From September 2006: Researcher at SISSA, Trieste
 From September 2011: Researcher at CNR-IOM DEMOCRITOS, Trieste
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Publications

Journal Articles

- 127) T. Botzung, D. Hagenmüller, G. Masella, J. Dubail, N. Defenu, A. Trombettoni, and G. Pupillo, "Effects of energy extensivity on the quantum phases of long-range interacting systems", submitted.
- 126) R. Roy, B. Chakrabarti, and A. Trombettoni, "Quantum dynamics of few dipolar bosons in a double-well potential", submitted.
- 125) N. Defenu, A. Trombettoni, and D. Zappalà, "Topological phase transitions in four dimensions", submitted.
- 124) W. Rządowski, N. Defenu, S. Chiacchiera, A. Trombettoni, and G. Bighin, "Detecting hidden and composite orders in layered models via machine learning", submitted ([arXiv:1907.05417](https://arxiv.org/abs/1907.05417)).
- 123) M. Burrello, I. Lesanovsky, and A. Trombettoni, "Reaching the quantum Hall regime with rotating Rydberg-dressed atoms", accepted in *Phys. Rev. Res.*.
- 122) S. Hernández-Gómez, S. Gherardini, F. Poggiali, F. S. Cataliotti, A. Trombettoni, P. Cappellaro, and N. Fabbri, "Experimental test of exchange fluctuation relations in an open quantum system", accepted in *Phys. Rev. Res.*.
- 121) I. G. Márián, N. Defenu, U. D. Jentschura, A. Trombettoni, and I. Nándori, "Renormalization group running and inflationary cosmology", accepted for publication in *J. Cosmol. Astropart. Phys.*.
- 120) G. Gori and A. Trombettoni, "Geometry of bounded critical phenomena", *J. Stat Mech.*, in press.
- 119) S. Bera, S. K. Haldar, B. Chakrabarti, A. Trombettoni, and V. K. B. Kota, "Relaxation of Shannon entropy for trapped interacting bosons with dipolar interactions", *Eur. Phys. J. D* **74**, 73 (2020).
- 118) C. Baroni, G. Gori, M. L. Chiofalo, and A. Trombettoni, "Effect of interwell interactions on non-linear beam splitters for matter-wave interferometers", *Condens. Matter* **5**, 31 (2020).
- 117) N. Defenu, A. Codello, S. Ruffo, and A. Trombettoni, "Criticality of Spin Systems with Weak Long-Range Interactions", *J. Phys. A* **53**, 143001 (2020).
- 116) G. Giachetti, S. Gherardini, A. Trombettoni, and S. Ruffo, "Quantum-heat fluctuation relations in three-level systems under projective measurements", *Condens. Matter* **5**, 17 (2020).

- 115) K. Khani, E. Neri, L. Galantucci, F. Scazza, A. Burchianti, K.-L. Lee, C. F. Barenghi, A. Trombettoni, M. Inguscio, M. Zaccanti, G. Roati, and N. P. Proukakis, "Critical transport and vortex dynamics in a thin atomic Josephson junction", *Phys. Rev Lett.* **124**, 045301 (2020).
- 114) L. Dell'Anna, L. Barbiero, and A. Trombettoni, "Dynamics and correlations in Motzkin and Fredkin spin chains", *J. Stat. Mech.* 124025 (2019).
- 113) G. N. Beukam Chendjou, J. P. Nguenang, A. Trombettoni, T. Dauxois, R. Khomeriki, and S. Ruffo, "Pulse solutions of the fractional effective models of the Fermi-Pasta-Ulam lattice with long-range interactions", *J. Stat. Mech.* 104015 (2019).
- 112) S. Liberati, G. Tricella, and A. Trombettoni, "The Information Loss Problem: An Analogue Gravity Perspective", *Entropy* **21**, 940 (2019).
- 111) A. Colcelli, G. Mussardo, G. Sierra, and A. Trombettoni, "Integrable Floquet Hamiltonian for a Periodically Tilted 1D Gas", *Phys. Rev. Lett.* **123**, 130401 (2019).
- 110) G. Bighin, N. Defenu, I. Nándori, L. Salasnich, and A. Trombettoni, "BKT-paired phase in coupled XY models", *Phys. Rev. Lett.* **123**, 100601 (2019).
- 109) J. C. Pinto Barros, M. Dalmonte, and A. Trombettoni, "String tension and robustness of confinement properties of in the Schwinger-Thirring model", *Phys. Rev. D* **100**, 036009 (2019).
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- 107) A. Campa, G. Gori, V. Hovhannisyán, S. Ruffo, and A. Trombettoni, "Ising chains with competing interactions in presence of long-range couplings", *J. Phys. A* **52**, 344002 (2019).
- 106) I. G. Márián, N. Defenu, U. D. Jentschura, A. Trombettoni, and I. Nándori, "Pseudo-Periodic Higgs Inflation", *Nucl. Phys. B* **945**, 114642 (2019).
- 105) D. Giuliano, D. Rossini, and A. Trombettoni, "From Kondo effect to weak-link regime in quantum spin-1/2 spin chains", *Phys. Rev. B* **98**, 235164 (2018).
- 104) A. Colcelli, J. Viti, G. Mussardo, and A. Trombettoni, "Universal off-diagonal long-range order behaviour for a trapped Tonks-Girardeau gas", *Phys. Rev A* **98**, 063633 (2018).
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- 101) A. Colcelli, G. Mussardo, and A. Trombettoni, "Deviations from Off-Diagonal Long-Range Order and Mesoscopic Condensation in One-Dimensional Quantum Systems", *Europhys. Lett.* **122**, 50006 (2018).
- 100) L. Lepori, A. Celi, A. Trombettoni, and M. Mannarelli, "Synthesis of Majorana mass terms in low-energy quantum systems", *New J. Phys.* **20**, 063032 (2018).
- 99) S. Gherardini, M. M. Müller, A. Trombettoni, S. Ruffo, and F. Caruso, "Reconstruction of the stochastic quantum entropy production to probe irreversibility and correlations", *Quantum Sci. Technol.* **3**, 035013 (2018).
- 98) L. Lepori, A. Maraga, A. Celi, L. Dell'Anna, and A. Trombettoni, "Effective Control of Chemical Potentials by Rabi Coupling with RF-Fields in Ultracold Mixtures", *Condens. Matter* **3**, 14 (2018).
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- 96) G. N. Beukam Chendjou, J. P. Nguenang, A. Trombettoni, T. Dauxois, R. Khomeriki, and S. Ruffo, "Fermi-Pasta-Ulam chains with harmonic and anharmonic long-range interactions, topological phase transitions", *Commun. Nonlinear Sci. Numer. Simul.* **60**, 115 (2018); *ibid.* "Corrigendum to Fermi-Pasta-Ulam chains with harmonic and anharmonic long-range interactions [CNSNS 60 (2018) 115-127]", *Commun. Nonlinear Sci. Numer. Simulat.* (2018).
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- 79) F. Franchini, M. Kulkarni, and A. Trombettoni, "Hydrodynamics of local excitations after an interaction quench in $1D$ cold atomic gases", *New J. Phys.* **18**, 115003 (2016).

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- 56) F. Mancarella, A. Trombettoni, and G. Mussardo, "Statistical Interparticle Potential of an Ideal Gas of Non-Abelian Anyons", *J. Phys. A* **46**, 275001 (2013).
- 55) F. Buccheri and A. Trombettoni, "Relative Phase and Josephson Dynamics between Weakly Coupled Richardson Models", *Phys. Rev. B* **87**, 174506 (2013).
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- 11) A. Smerzi and A. Trombettoni, "Nonlinear Tight-Binding Approximation for Bose-Einstein Condensates in a Lattice", *Phys. Rev. A* **68**, 023613 (2003).
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- 4) A. Trombettoni and A. Smerzi, "Variational Dynamics of Bose-Einstein Condensates in Deep Optical Lattices", *J. Phys. B* **34**, 4711 (2001).

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- 2) A. Trombettoni and A. Smerzi, "Discrete Solitons and Breathers with Dilute Bose-Einstein Condensates", *Phys. Rev. Lett.* **86**, 2353 (2001).
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Proceedings Contributions

- 4) F. P. Mancini, P. Sodano, and A. Trombettoni, "BEC in a star-comb graph", Proceedings of the "Eleventh Training Course in the Physics of Correlated Electron Systems and High-Tc Superconductors", Vietri sul Mare, Italy, October 2006.
- 3) M. Cirillo, V. Merlo, R. Russo, M. G. Castellano, C. Cosmelli, A. Trombettoni, G. Giusiano, F. P. Mancini, and P. Sodano, "Spatial Bose-Einstein Condensation in Josephson Junction Arrays", in "Quantum Computation in Solid State Systems", B. Ruggiero, P. Delsing, C. Granata, Y. Pashkin, and P. Silvestrini eds., Springer-Verlag (2005), pg. 147.
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- 1) F. S. Cataliotti, S. Burger, C. Fort, P. Maddaloni, F. Minardi, A. Trombettoni, A. Smerzi, and M. Inguscio, "1D-Array of Josephson Junctions with Bose-Einstein Condensates", Highlights INFM 2000-2001, pg. 17.

Book Chapters

- 5) D. Giuliano, A. Trombettoni, and P. Sodano, "Emerging Majorana Modes in Junctions of One-Dimensional Spin Systems", submitted to the festschrift volume in honor of Roman Jackiw.
- 4) J. C. Pinto Barros, M. Burrello, and A. Trombettoni, "Gauge Theories with Ultracold Atoms", in "Strongly Coupled Field Theories for Condensed Matter and Quantum Information Theory", edited by A. Ferraz, K. S. Gupta, G. W. Semenoff, and P. Sodano Proceedings, International Institute of Physics, Natal (Brazil), 2-21 August 2015 (Springer Proceedings in Physics, 2020).

- 3) M. Burrello, L. Lepori, S. Paganelli, and A. Trombettoni, "Abelian gauge potentials on cubic lattices", in "Advances in Quantum Mechanics: Contemporary Trends and Open Problems", edited by G. Dell'Antonio and A. Michelangeli (Springer-INdAM series, 2017), p. 47.
- 2) A. Smerzi and A. Trombettoni, "Optical Lattices: Theory", in "Emergent Nonlinear Phenomena in Bose-Einstein Condensates: Theory and Experiment", edited by R. Carretero, D. J. Frantzeskakis, and P. G. Kevrekidis (Springer Series on Atomic, Optical, and Plasma Physics, 2007), pg. 247.
- 1) F. P. Mancini, P. Sodano, and A. Trombettoni, "On the Phase Diagram of Josephson Junction Arrays with Offset Charges", in "New Developments in Superconductivity Research", edited by R. S. Stevens, pg. 31 (Nova Science Publishers, New York, 2003)

Bibliometrics:

Journal Distribution: Science: 2 - Phys. Rev. Lett.: 9 - Phys. Rev. A: 17 - Phys. Rev. B: 15 - Phys. Rev. D: 3 - Phys. Rev. E: 6 - Sci. Rep.: 1 - Europhys. Lett.: 4 - New J. Phys.: 8 - J. High Energy Phys.: 2 - Nucl. Phys. B: 7 - J. Phys. A: 8 - J. Phys. B: 5 - Eur. Phys. J. B: 2 - Eur. Phys. J. D: 1 - Laser Phys.: 3 - Condens. Matter: 3 - Physica D: 1 - Int. J. Mod. Phys. B: 2 - Int. J. Quant. Inf.: 1 - Quantum Sci. Technol.: 1 - Phys. Lett. A: 2 - Commun. Nonlinear Sci. Numer. Simul.: 1 - Mol. Phys.: 1 - J. Chem. Phys.: 1 - Math. Comp. Simul.: 1 - Chaos: 2 - Entropy: 1 - Ann. Phys.: 1 - J. Stat. Mech.: 8 (total number: 119).

- 106 papers published in international journals, 4 proceedings, 3 book chapters
- According Web of Science <https://webofknowledge.com/> (24 July 2019):
 - 1) total number of citations: 3123
 - 2) Hirsch index: 21
 - 3) 5 papers with more than 100 citations
 - 4) Most cited papers:
 - i) A Trombettoni and A. Smerzi, Phys. Rev. Lett. **86**, 2353 (2001): 694 citations
 - ii) F. S. Cataliotti *et al.*, Science **293**, 843 (2001): 679 citations
- According Google Scholar <http://scholar.google.com> (24 July 2019):
 - 1) total number of citations: 4529

- 2) Hirsch index: 26
- 3) 6 papers with more than 100 citations
- 4) Most cited papers:
 - i) F. S. Cataliotti *et al.*, Science **293**, 843 (2001): 976 citations
 - ii) A Trombettoni and A. Smerzi, Phys. Rev. Lett. **86**, 2353 (2001): 964 citations

Invited Talks

- 76) "Ultracold atoms in one-dimensional traps", The wonders of theoretical physics - Celebrating the sixty years of Giuseppe Mussardo, Trieste (Italy), 23 October, 2019.
- 75) "Off-diagonal long-range order and Floquet engineering in 1D quantum systems", Quantum Science and Technology 2019, Taiyuan (China), 17 October, 2019.
- 74) "Geometry of Bounded Critical Phenomena", Quantum Science and Technology 2019, Xi'an (China), 12 October, 2019.
- 73) " $O(N)$ models with long-range interactions", FRGIM - Functional and Renormalization-Group methods, ECT*, Trento (Italy), 16 September, 2019.
- 72) "Integrable Floquet Hamiltonian for a Periodically Tilted 1D Gas", SuperFluctuations 2019 "Fluctuations and Highly Non Linear Phenomena in Superfluids and Superconductors", Padova (Italy), 4 September, 2019.
- 71) "Integrable Floquet Hamiltonian for a Periodically Tilted 1D Gas", AtomQT Workshop "Quantum coherent effects with ultra-cold atoms", Belgrade (Serbia), 30 August, 2019.
- 70) "Quantum devices with ultracold atoms", Trieste Junior Quantum Days 2019, Trieste (Italy), 24 July, 2019.
- 69) "Off-diagonal long-range order and Floquet engineering in 1D quantum systems", Atomtronics 2019, Benasque (Spain), 7 May, 2019.
- 68) "Il mondo delle temperature ultrafredde", Festa di Scienza e Filosofia - Virtute e Canoscenza 2019, Foligno (Italy), 13 April 2019
<http://www.festascienzafilosofia.it/events/andrea-trombettoni-il-mondo-delle-ter>
- 67) "Off-diagonal long-range order in 1D quantum systems", Mathematical physics of anyons and topological states of matter, Nordita, Stockholm (Sweden), 15 March, 2019.

- 66) "Quantum simulations and quantum devices with low-dimensional trapped ultracold atoms", Meeting Firenze-Trieste in Quantum Simulation with Ultracold Atoms", Firenze (Italy), 18 January, 2019.
- 65) "Junctions of strongly-interacting systems", Entanglement and Dynamical Systems, Stony Brook (USA), 11 December, 2018.
- 64) "Off-Diagonal Long-Range Order in One-Dimensional Quantum Systems", Entanglement and Dynamical Systems, Stony Brook (USA), 10 December, 2018.
- 63) "Off-Diagonal Long-Range Order in One-Dimensional Quantum Systems", Advances in Quantum Simulation with Ultracold Atoms, Natal (Brazil), 7 November 2018.
- 62) "Off-Diagonal Long-Range Order in One-Dimensional Quantum Systems", Workshop on Modern Aspects of Quantum Physics, Zagreb (Croatia), 4 October 2018.
- 61) "Junctions of weakly-coupled ultracold systems", Trails in Quantum Mechanics and Surroundings 2018, Torino (Italy), 28 September 2018.
- 60) "Lectures on Two-Mode Models", Summer School FOMO 2018 (Frontiers of Matter Wave Optics), Archanes, Crete (Greece), 10 September 2018.
- 59) "Criticality and Phase Diagram of Quantum Long-Range $O(N)$ models", ERG2018 - 9th International Conference on the Exact Renormalization Group, Paris (France), 11 July 2018.
- 58) "Ultracold fermions across the BCS-BEC crossover: optical lattices and Josephson effect", Workshop Mathematical Challenges of Zero Range Physics, Rome (Italy), 9 July 2018.
- 57) "Y-Junctions for Quantum Simulations & Atomtronics", AtomQT: Quo Vadis, Heraklion (Greece), 18 April 2018.
- 56) "Spin systems and the Fermi-Pasta-Ulam model with long-range interactions", FPU 2018 - Il problema di Fermi-Pasta-Ulam: stato dell'arte e prospettive, Padova, 13 April 2018.
- 55) "Criticality and Phase Diagram of Quantum Long-Range Spin Systems", Workshop on Long-Range Interactions in Atomic Systems: Magnetic Dipoles, Rydberg Atoms and Ions, São Carlos (Brazil), 6 December 2017.
- 54) "Renormalization Group Treatment of Amplitude Fluctuations in the Berezinskii-Kosterlitz-Thouless Transition", FisMat2017, Trieste (Italy), 2 October 2017.

- 53) "Criticality and Phase Diagram of Quantum Long-Range Systems", Workshop on Quantum Science and Quantum Technologies, ICTP, Trieste (Italy), 14 September, 2017.
- 52) "Junctions of strongly-interacting ultracold systems: the example of a Y-junction of three Tonks-Girardeau gases", SuperFluctuations 2017: Fluctuations and Highly Non Linear Phenomena in Superfluids and Superconductors, San Benedetto del Tronto (Italy), September 8, 2017.
- 51) "Junctions of weakly-coupled strongly-interacting ultracold systems", Program "Topological Phases in Cold Atom Systems", Nordita (Stockholm), August 1, 2017.
- 50) "Performance and comparison of guided matter-wave gyroscopes", LPHYS'17, 26nd International Laser Physics Workshop, Kazan (Russia), July 19, 2017.
- 49) "Inverse Ising problem in one dimension", Joint Weizmann-SISSA Meeting "Emergent Structures in Physics and Neuroscience", Weizmann Institute of Science, Rehovot (Israel), June 26, 2017.
- 48) "Junctions of weakly-coupled strongly-interacting ultracold systems", Workshop "From Static to Dynamical Gauge Fields with Ultracold Atoms", Galileo Galilei Institute for Theoretical Physics, Florence (Italy), May 22, 2017.
- 47) "Quantum devices based on tunneling between strongly interacting cold atomic systems", Trieste Quantum Days, February 21, 2017.
- 46) "Simulations of field theories and topological phases with ultracold atoms in optical lattices", MITP Workshop "Quantum Methods for Lattice Gauge Theories Calculations, Mainz (Germany), February 6, 2017.
- 45) "Tunneling-Based Quantum Devices with Cold Atoms", Program "Entanglement and Dynamical Systems", Simons Center for Geometry and Physics, Stony Brook (USA), November 7, 2016.
- 44) "Tunneling-Based Quantum Devices with Cold Atoms", LPHYS'16, 25nd International Laser Physics Workshop, Yerevan (Armenia), July 14, 2016.
- 43) "Josephson devices with ultracold atoms", Quantum Non-Equilibrium Phenomenon, International Institute of Physics, Natal (Brazil), 9 June 2016.
- 42) "Properties of Lattice Models with Long-Range Couplings", Winter Workshop on Ultracold Quantum Matter, Padova (Italy), 11 January 2016.
- 41) "Conductivity plateaux and fractional quantum Hall effect using ultracold atoms", Workshop on Topological effects and synthetic gauge/magnetic fields for atoms and photons, Zagreb (Croatia), 1 October 2015.

- 40) "Entanglement Entropy and Fixed Points of Two Lattice Models with Long-Range Couplings", Workshop "Strongly Coupled Field Theories for Condensed Matter and Quantum Information Theory, International Institute of Physics, Natal (Brazil), 19 August 2015.
- 39) "Superfluid flow above the critical velocity", Symposium QuASI 2015: Quantum Sensing and Atom-Surface Interactions, International Institute of Physics, Natal (Brazil), 17 August 2015.
- 38) "Dirac Fermions and Symmetry-Locked Phases with Ultracold Fermions in Optical Lattice", Cold Atoms Meet High Energy Physics, ECT*, Trento (Italy), 22 June 2015.
- 37) "Superconducting and Ultracold Josephson Devices", Summer School FOMO 2014 (Frontiers of Matter Wave Optics), Crete (Greece), 2 October 2014.
- 36) "Properties of Two Lattice Models with Long-Range Couplings", ERG2014 - 7th International Conference on the Exact Renormalization Group, Lefkada (Greece), 23 September 2014.
- 35) "Quantum Simulations & Quantum Devices with Ultracold Atoms in Optical Lattices", Conference on Quantum Engineering of States and Devices, Nordita, Stockholm (Sweden), 19 August 2014.
- 34) "Quantum Simulations of Integrable Models and Low-Dimensional Systems with Ultracold Atoms: Magnetic Chains, Y-Junctions and Defects in Chains", Integrability in Low Dimensional Quantum Systems, Tihany (Hungary), 30 June 2014.
- 33) "Properties of Two Lattice Models with Long-Range Couplings", XIX National Conference on Statistical Physics and Complex Systems with one special session dedicated to Stefano Ruffo and Angelo Vulpiani, Parma (Italy), June 27, 2014.
- 32) "Suppression of Landau Instability for Supersonic Superfluid Flows", BE-Cosmology - Workshop on non-equilibrium Bose-Einstein condensates and its application to Cosmology, Nottingham (UK), June 23, 2014.
- 31) "Quantum Simulations with Ultracold Fermions" Solid Math 2014, Trieste (Italy), June 16, 2014.
- 30) "Quantum Simulations with Ultracold Atoms: an Application of and to Quantum Integrable Models", Workshop "Quantum Integrability, Conformal Field Theory and Topological Quantum Computation", International Institute of Physics, Natal (Brazil), March 24, 2014.
- 29) "Effective models for layered ultracold Fermi gases", Correlations in Ultracold Atomic Systems, Padova (Italy), September 26, 2013.

- 28) "Anisotropic Ginzburg-Landau and Lawrence-Doniach models for layered ultracold Fermi gases", contributed talk to XCIX Congresso Nazionale della Societa' Nazionale di Fisica, Trieste (Italy), September 24, 2013.
- 27) "Relative phase and Josephson dynamics between weakly coupled ultracold Fermi systems", LPHYS'13, 22nd International Laser Physics Workshop, Prague (Czech Republic), July 16, 2013.
- 26) "Effects of and interaction and temperature on the dynamics of ultracold bosons in double well potentials", Kick-off Meeting of MatterWave, June 8, 2013, Heraklion (Greece).
- 25) "Simulation of Dirac fermions with ultracold atoms", at the Workshop "Conical Intersections in Mathematical Physics", Institut Henri Poincar, Paris (France), May 29, 2013.
- 24) School & Workshop "Advances in Quantum Technology: From Quantum Information to Quantum Devices", International Institute of Physics, Natal (Brazil), "Quantum simulations with ultracold atoms: two examples", August 31, 2012.
- 23) Programme Disordered Quantum Systems, Institute Henri Poincaré, Paris (France), "Quantum simulations with ultracold atoms", May 15, 2012.
- 22) New quantum states of matter in and out of equilibrium, Galileo Galilei Institute Workshop, Florence (Italy), "Quantum simulations with ultracold atoms", May 2, 2012.
- 21) LPHYS'11, XX International Laser Physics Workshop, Sarajevo (Bosnia and Herzegovina), "Non-abelian anyons with ultracold atoms in artificial gauge potentials", July 11, 2011.
- 20) XVI Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, con una giornata "Classical and Quantum Complexity" in onore di Mario Rasetti, Parma (Italy), "Non-abelian anyons with ultracold atoms in artificial gauge potentials", June 23, 2011.
- 19) Workshop on Emergence of New States of Matter in Magnetic Systems and Beyond, 9 July, 2010, ICTP (International Centre for Theoretical Physics), Trieste (Italy).
- 18) 8th AIMS Conference on Dynamical Systems, Differential Equations and Applications, May 27, 2010, Dresden (Germany).
- 17) Convegno Informale di Fisica Teorica, 9 June, 2009, Sestri Levante (Italy).
- 16) Exact Results in Low-Dimensional Quantum Systems: 2nd INSTANS Summer Conference, September 11, 2008, Florence (Italy).

- 15) XIII Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 23, 2008.
- 14) Workshop on Quantum Phenomena and Information: from Atomic to Mesoscopic Systems, Trieste (Italy), May 5 2008.
- 13) Statistical Field Theory of Quantum Devices, StatPhys23 Satellite Meeting, Perugia (Italy), July 16 - 19, 2007.
- 12) X Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 29 - July 1, 2005.
- 11) Conference on Higher Dimensional Quantum Hall Effect, Chern-Simons Theory and Non-Commutative Geometry in Condensed Matter Physics and Field Theory, Trieste (Italy), March 1-4, 2005.
- 10) SOLIBEC, Solitons in Bose-Einstein Condensates, Almagro (Spain), February 9-12, 2005.
- 9) VII Volterra-CIRM International School on Quantum Probability and Spectral Analysis on Large Graphs, Levico (Italy), September 19-25, 2004.
- 8) LPHYS'04, XIII International Laser Physics Workshop, Trieste (Italy), July 12-16, 2004.
- 7) 27th Workshop on Intrinsic Localized Modes and Discrete Breathers in Nonlinear Lattices, Erice (Italy), July 21-27, 2003.
- 6) Workshop on Nonlinear Dynamics in Classical and Quantum Mechanics, Sannomme' (Italy), October 10-11, 2002.
- 5) VII Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 3-5, 2002.
- 4) VI Congresso Societa' Italiana di Matematica Applicata e Industriale, Chia Laguna (Italy), May 27-31, 2002.
- 3) XXI Convegno di Fisica Teorica e Struttura della Materia, Fai della Paganella, Trento (Italy), March 21-24, 2002.
- 2) Workshop on Bose-Einstein Condensates, Salerno (Italy), December 19-20, 2001.
- 1) LPHYS'01, X International Laser Physics Workshop, Moscow (Russia), July 3-7, 2001.

Seminars

- 73) Web-Seminar "Integrable Floquet Hamiltonian for a Periodically Tilted 1D Gas", Federal University do Rio Grande do Norte, Natal (Brazil), 21 May, 2020.
- 72) "Ultracold atoms for quantum devices and quantum simulations", University of Trieste, Trieste (Italy), December 18, 2019.
- 71) "The Trieste system", Jiangsu University of Science and Technology, Zhenjiang (China), May 24, 2019.
- 70) "Junctions of weakly-coupled strongly-interacting ultracold systems", Jiangsu University of Science and Technology, Zhenjiang (China), May 24, 2019.
- 69) "Junctions of weakly-coupled strongly-interacting ultracold systems", Institute of Science and Technology Austria, Wien (Austria), May 13, 2019.
- 68) "Equilibrium and Dynamical Properties of Quantum Long-Range Spin Systems", joint seminar with N. Defenu, Stony Brook University, May 1, 2019.
- 67) "Off-diagonal long-range order in quantum systems", University of Massachusetts, Boston (USA), April 30, 2019.
- 66) "Junctions of weakly-coupled strongly-interacting ultracold systems", MIT, Boston (USA), April 26, 2019.
- 65) "Off-diagonal long-range order in 1D quantum systems", Universitat Politècnica de Catalunya (UPC), Barcelona (Spain), March 20, 2019.
- 64) "Informal discussion on Fermi superfluids", Kirchhoff-Institut für Physik, Heidelberg (Germany), February 14, 2019.
- 63) "Junctions of 1D strongly-interacting systems", CQD Heidelberg Center for Quantum Dynamics, Heidelberg (Germany), February 12, 2019.
- 62) "Atomtronics & Quantum Simulations", Discussion Session of the Workshop on Modern Aspects of Quantum Physics, Zagreb (Croatia), 4 October 2018.
- 61) "Junctions of weakly-coupled strongly-interacting ultracold systems", Vilnius University, Vilnius (Lithuania), August 7, 2018.
- 60) "Junctions of weakly-coupled strongly-interacting ultracold systems", University of Pisa, Pisa (Italy), May 30, 2018.
- 59) "Junctions of weakly-coupled strongly-interacting ultracold systems", University of Zagreb, 11 January 2018.
- 58) "Junctions of weakly-coupled strongly-interacting ultracold systems", JILA and University of Colorado, Boulder (USA), October 30, 2017.

- 57) "Junctions of weakly-coupled strongly-interacting ultracold systems", LANL (Los Alamos National Laboratory), Los Alamos (USA), October 18, 2017.
- 56) "Junctions of weakly-coupled strongly-interacting ultracold systems", University of Palermo, Palermo (Italy), July 6, 2017.
- 55) "Quantum devices based on tunneling between strongly interacting cold atomic systems", Institut de Science et d'Ingénierie Supramoléculaires, Strasbourg (France), May 10, 2017.
- 54) "Quantum devices based on tunneling between strongly interacting cold atomic systems", Queen's University Belfast, Belfast (UK), April 12, 2017.
- 53) "Simulations of field theories and topological phases with ultracold atoms in optical lattices", University of L'Aquila, L'Aquila (Italy), March 23, 2017.
- 52) "Tunneling-Based Quantum Devices with Cold Atoms", Boston University, Boston (USA), November 21, 2016.
- 51) "Tunneling-Based Quantum Devices with Cold Atoms", University of Perugia, Perugia (Italy), September 26, 2016.
- 50) "Quantum simulations with cold atoms", Trieste Quantum Days, Trieste (Italy), 22 June, 2016.
- 49) "Quantum devices with cold atoms", Trieste Quantum Days, Trieste (Italy), 22 June, 2016.
- 48) "Quantum simulations of the Kondo effect in Y-junctions of 1D waveguides with ultra-cold bosons", Analysis, Math-Phys, and Quantum Seminar, Trieste (Italy), 19 May, 2016.
- 47) "Josephson effect in fermionic superfluids across the BEC-BCS crossover", University College London, London (England), 19 April, 2016.
- 46) "Quantum Simulations of Spin Chains and Kondo Effect with Ultracold Atoms", University of St. Andrews, St. Andrews (Scotland), 14 April 2016.
- 45) "Functional Renormalization Group Portrait of $O(N)$ Models", Coimbra (Portugal), 9 December, 2015.
- 44) "Suppression of Landau instability for supersonic superfluid flows", Analysis, Math-Phys, and Quantum (AMPQ) Seminar, SISSA (Trieste), 26 March 2015.
- 43) "Interferometric Schemes", MatterWave Evaluation Meeting, Bruxelles (Belgium), 9 April, 2014.

- 42) “Gioco e scienza. La mossa del cavallo”, with Giuseppe Mussardo and Paolo Maurenig, Caffè San Marco, Trieste (Italy), 5 March, 2014.
- 41) “Dirac Fermions and Symmetry-Locked Phases with Ultracold Fermions in Optical Lattices”, University of Nottingham, Nottingham (England), 5 February, 2014.
- 40) “Ultracold atoms for quantum devices and quantum simulations”, International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), 2 December, 2013.
- 39) “Quantum simulations with ultracold fermions in optical lattices”, International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), 27 November, 2013.
- 38) “Quantum simulations with ultracold atoms in optical lattices: Two examples”, University of Debrecen, Debrecen (Hungary), 5 November, 2013.
- 37) “Quantum simulations with ultracold atoms in optical lattices”, UPC (Universitat Politècnica de Catalunya), Barcelona (Spain), 24 April, 2013.
- 36) “Gli atomi freddi: Il meraviglioso mondo delle basse temperature”, Master in Giornalismo Scientifico - SISSA, 19 December, 2012.
- 35) “Quantum simulations with ultracold atoms in optical lattices”, University of Nottingham, Nottingham (England), 9 November, 2012.
- 34) “Quantum simulations with ultracold atoms: an example”, Café com Física, University of Coimbra, Coimbra (Portugal), October 16, 2012.
- 33) “Quantum simulations with ultracold atoms: two examples”, International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), August 9, 2012.
- 32) “Quantum simulations with ultracold atoms: an example”, University of Montpellier, Montpellier (France), May 25, 2012.
- 31) “Ultracold atoms for quantum devices and quantum simulations”, SISSA Colloquium, SISSA (Trieste), July 1, 2010.
- 30) “Strongly Correlated States in Low Dimensional Bose gases”, University of Nottingham, Nottingham (England), May 5, 2010.
- 29) “Dynamics of dipolar gases in periodic potentials”, Sincrotrone - Elettra, Trieste (Italy), April 21, 2010.
- 28) “Strongly Correlated States in Low Dimensional Bose gases”, ICTP (International Centre for Theoretical Physics), Trieste (Italy), February 11, 2010.

- 27) "Ultracold Atoms in Optical Lattices", INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), December 19, 2009.
- 26) "Bose Gases in Disordered Lattices", University of Padova, Padova (Italy), April 28, 2009.
- 25) "Bose Gases in Disordered Lattices", INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), December 15, 2008.
- 24) "Bose Gases in Disordered Lattices", University of Calabria, Cosenza (Italy), December 10, 2008.
- 23) "Disorder and Interaction in Ultracold Atomic Gases", LENS (European Laboratory for Non-Linear Spectroscopy), Firenze (Italy), May 30, 2008.
- 22) "Josephson Junctions on Inhomogeneous Networks", University of Perugia, Perugia (Italy), April 11, 2008.
- 21) "Josephson Junctions on Inhomogeneous Networks", ICTP (International Centre for Theoretical Physics), Trieste (Italy), February 21, 2008.
- 20) "Possible applications of ultracold atoms for understanding mechanisms of high-temperature superconductivity", LENS (European Laboratory for Non-Linear Spectroscopy), Firenze (Italy), December 10, 2007.
- 19) "Inhomogeneity Effects in Networks of Superconducting Josephson Junctions", Heidelberg (Germany), November 12, 2007.
- 18) "Localization of Ultracold Bosons around Isolated Impurities", LENS (European Laboratory for Non-Linear Spectroscopy), Firenze (Italy), May 28, 2007.
- 17) "Inhomogeneous Networks of Bosonic and Superconducting Josephson Junctions", INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), December 20, 2006.
- 16) "Inhomogeneous Networks of Bosonic and Superconducting Josephson Junctions", SISSA, Trieste (Italy), December 12, 2006.
- 15) "Inhomogeneous Networks of Bosonic and Superconducting Josephson Junctions", Technical University, Kaiserslautern (Germany), November 29, 2006.
- 14) "Localization Around Topological Defects", Technical University, Kaiserslautern (Germany), November 28, 2006.
- 13) "Inhomogeneous Networks of Bosonic and Superconducting Josephson Junctions", Institut für Theoretische Physik, Universität Düsseldorf (Germany), November 27, 2006.

- 12) "Inhomogeneous Networks of Bosonic and Superconducting Josephson Junctions", University of Bologna, Bologna (Italy), November 10, 2006.
- 11) "Mach-Zehnder Interferometry with Bose-Einstein condensates", Heidelberg (Germany), June 26, 2006.
- 10) "Inhomogeneous Networks of Bosonic and Superconducting Josephson Junctions", Max-Planck-Institut für Quantenoptik, Garching (Germany), June 1, 2006.
- 9) "Localization Around Topological Defects", Heidelberg (Germany), January 27, 2006.
- 8) "Bosons on Inhomogeneous Networks", LENS (European Laboratory for Non-Linear Spectroscopy), Firenze (Italy), November 24, 2005.
- 7) "Signature of the Bose-Einstein Condensation on Graphs", Perugia (Italy), January 10, 2004.
- 6) "Random Walk Approach to Spectral Analysis of Inhomogeneous Networks", Rome (Italy), January 7, 2004.
- 5) "Discrete Nonlinear Dynamics of Bose-Einstein Condensates", Konstanz (Germany), January 27, 2003.
- 4) "Bose-Einstein Condensates in Optical Lattices", Trento (Italy), October 4, 2002.
- 3) "Response Functions in Inhomogeneous Networks of Josephson Junctions", Rome (Italy), July 22, 2002.
- 2) "Toward the Experimental Observation of Bose-Einstein Condensation in Inhomogeneous Josephson Arrays", Perugia (Italy), May 22, 2002.
- 1) "Discrete Nonlinear Dynamics of Bose-Einstein Condensates", Stuttgart (Germany), December 11, 2001.

Organization of Conferences

- 25) Informal Meeting FRGIM@Trieste, SISSA (Trieste), 26 September & 3 October 2019 (meeting of the Trieste winners of ACRI Fellowships within the FRGIM project).

- 24) FRGIM - Functional and Renormalization-Group methods, ECT*, 16 - 20 September 2019 (conference part of the FRGIM project). Organizers: A. Bonanno, R. Percacci, A. Trombettoni, G. P. Vacca, and L. Zambelli.
<https://indico.ectstar.eu/event/50/>
<https://web.infn.it/FRGIM/conference/>
- 23) "Trieste Junior Quantum Days 2019", University of Trieste, Trieste (Italy), 24 - 26 July 2019. Scientific Committee: A. Bassi, F. Benatti, R. Fazio, A. Michelangeli, and A. Trombettoni. Local Organizers: M. Carlesso and M. Gallone.
<http://tequantum.eu/?q=TriesteJuniorQuantumDays/2019>
- 22) Co-Advisor of Advanced School and School "Ubiquitous Quantum Physics: the New Quantum Revolution", 8 February - 1 March 2019. Directors: A. Bassi, F. Benatti, and R. Floreanini.
<http://indico.ictp.it/event/8648/material/poster/0.pdf>
- 21) Co-Organizer of the "AtomQT Workshop during the EQTC 2019", COST Workshop within the European Quantum Technologies Conference (EQTC), Grenoble, 18 - 20 February (2019).
- 20) Co-Organizer of Summer School and Conference FOMO 2018 (Frontiers of Matter Wave Optics), Crete (Greece), 10 - 21 September 2018. Steering Committee: M. Arndt, P. Bouyer, J. Close, W. Ertmer, J. Hogan, E. Rasel, W. Schleich, A. Trombettoni, W. von Klitzing, and M. Zhan.
<http://www.matterwaveoptics.eu/>
- 19) Informal Meeting on Atomtronics, School of Physics and Astronomy, St. Andrews, 7 September 2018. Organizers: A. Trombettoni, P. Krüger, and D. Cassetari.
https://people.sissa.it/~andreatr/MEETING_ATOMTRONICS_ST_ANDREWS_2018/index.htm
- 18) Trieste Junior Quantum Days, Trieste, 11 and 18 May 2018. Scientific Committee: A. Bassi, F. Benatti, A. Michelangeli, and A. Trombettoni. Local Organizers: M. Carlesso and M. Gallone.
<http://tequantum.eu/?q=TriesteQuantumDays/2018>
- 17) Conference on Frontiers in Two-Dimensional Quantum Systems, 13 - 17 November 2017. Organizers: E. Gull, M. Koehl, S. Pilati, C. Sa de Melo, and A. Trombettoni.
<http://indico.ictp.it/event/8006/>
- 16) Trieste Quantum Days 2017, Trieste, 20 - 24 February 2017. Organisers: Fabio Benatti, Gianfausto Dell'Antonio, John Goold, Alessandro Michelangeli, and A. Trombettoni.
<http://people.sissa.it/~alemiche/tsqd-2017>

- 15) Conference on Exact Renormalization Group - ERG2016, September 19 - 23 2016. Organizers: R. Percacci, A. Scardicchio, and A. Trombettoni.
<http://indico.ictp.it/event/7608/>
- 14) Co-Organizer of Summer School and Conference FOMO 2016 (Frontiers of Matter Wave Optics), Arcachon (France), 3 - 17 September 2016. Steering Committee: M. Arndt, P. Bouyer, W. Ertmer, W. von Klitzing, E. Rasel, W. Schleich, and A. Trombettoni.
<http://www.matterwaveoptics.eu/FOM02016/index.html>
- 13) Workshop "Long-range interacting many-body systems: from atomic to astrophysical scales", Satellite of STATPHYS26, July 25 - 29 2016. Organizers: M. Kastner, M. Marsili, D. Mukamel, S. Ruffo, and A. Trombettoni.
<http://indico.ictp.it/event/7612/>
- 12) CECAM Workshop "Computational Many-Body physics in the era of artificial gauge fields, Munich (Germany), 8 - 10 April, 2015. Organizers: M. Capone, L. Pollet, and A. Trombettoni.
<http://www.cecarn.org/workshop-1167.html>
- 11) Co-Organizer of Summer School and Conference FOMO 2014 (Frontiers of Matter Wave Optics), 29 September - 10 October 2014, Crete (Greece). Organizing Committee: M. Arndt, P. Bouyer, W. Ertmer, W. von Klitzing, E. Rasel, W. Schleich, and A. Trombettoni.
<http://www.matterwaveoptics.eu/FOM02014/index.html>
- 10) Co-Organizer of the ICTP Workshop "Ultracold Atoms & Gauge Theories", Trieste, May 13 - 17, 2013. Organizers: J. Dalibard, M. Lewenstein, G. Mussardo, C. Sa De Melo, and A. Trombettoni.
<http://indico.ictp.it/event/a12184>
http://people.sissa.it/~andreatr/WORKSHOP_ULTRACOLD_GAUGE_2013/
- 9) Co-Organizer of "Advances in Quantum Technology: From Quantum Information to Quantum Devices", International Institute of Physics, Natal (Brazil), August 20 - 31, 2012. Organizers: S. Bose, C. de Morais-Smith, P. Sodano, and A. Trombettoni.
<http://www.iip.ufrn.br/eventsdetail?inf===QTqNWP>
- 8) Co-Organizer of the ICTP Workshop "Quantum Simulations with Ultracold Atoms", Trieste, July 16 - 20, 2012. Organizers: I. Bloch, M. Inguscio, M. Lewenstein, G. Mussardo, and A. Trombettoni.
<http://indico.ictp.it/event/a11174>
http://people.sissa.it/~andreatr/WORKSHOP_QUANTUM_SIMULATIONS_2012/
- 7) Co-Organizer of the ICTP Workshop "Frontiers in ultracold Fermi gases", Trieste, June 6 - 10, 2011. Organizers: W. Ketterle, M. Koehl, G. Mussardo, S. Stringari, and A. Trombettoni.

<http://indico.ictp.it/event/a10146>
http://people.sissa.it/~andreatr/WORKSHOP_ULTRACOLD_FERMI_2011/

- 6) Co-Organizer of the Conference QID 2011, “From Field Theory to Quantum Information & Quantum Devices”, Perugia, January 7-8, 2011. Organizers: C. Diamantini, D. Giuliano, G. Grignani, and A. Trombettoni.
<http://www.pg.infn.it/QID2011/index.html>
- 5) Co-Chair of the ESF Conference on “Quantum Engineering of States and Devices”, Obergurgl (Austria), June 5 - 10, 2010. Organizers: P. Sodano and A. Trombettoni.
<http://www.esf.org/index.php?id=6479>
- 4) Statistical Field Theory of Quantum Devices, StatPhys23 Satellite Meeting, Perugia (Italy), July 16 - 19, 2007. Organizing Committee: A. Cappelli, F. Essler, G. Mussardo, C. Nayak, H. Saleur, and P. Sodano; Local Organizing Committee: P. Sodano, M. C. Diamantini, D. Giuliano, F. P. Mancini, and A. Trombettoni.
<http://www.pg.infn.it/StatPhys23pgsatellite/index.html>
- 3) Informal Meeting on Statistical Physics, Trieste (Italy), December 14-15, 2006. Organizing Committee: G. Mussardo, C. Micheletti, G. Santoro, R. Fazio, A. Trombettoni, S. Franz, M. Marsili, R. Zecchina, and A. Silva.
<http://www.sissa.it/he/statistical/euclid/index.html>
- 2) IX Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 22-24, 2004. Organizing Committee: R. Burioni, D. Cassi, and A. Petri; Scientific Secretariat: A. Trombettoni, A. Vezzani, and F. M. Neri.
<http://www.fis.unipr.it/stat/PARMA2004/welcome2004.htm>
- 1) VIII Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 26-27, 2003. Organizing Committee: R. Burioni, D. Cassi, and A. Petri; Scientific Secretariat: A. Trombettoni, A. Vezzani, F. M. Neri, and S. Regina.
<http://www.fis.unipr.it/stat/PARMA2003/welcome2003.htm>

Organization of Activities

- 3) Co-organizer since 2006 of ICTP-SISSA Statistical Physics Seminars: see the full list at the web page
<http://www.sissa.it/statistical/seminars/seminars.php>

A list of recorded ICTP-SISSA Statistical Physics seminars is at
<http://www.sissa.it/statistical/videos.html>

- 2) Organizer since 2009 of the SISSA Journal Club of Statistical Physics:
<http://www.sissa.it/statistical/journalclub.html>
- 1) Web master since 2006 of the web page of the Ph.D. in Statical Physics in SISSA:
<http://www.sissa.it/statistical/>

Teaching Experience

- 38) Course "Functional Renormalization Group", Ph. D. in Statistical Physics, SISSA, 2019-2020.
- 37) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2019-2020.
- 36) Course "Properties of long-range interacting systems", Ph. D. in Statistical Physics, SISSA, 2018-2019.
- 35) Course of Quantum Physics, International Master Course in Physics of Complex Systems (Torino-Trieste-Paris), 2019-2020.
- 34) Course "Functional Renormalization Group", Ph. D. in Statistical Physics, SISSA, 2018-2019.
- 33) Course "Properties of long-range interacting systems", Ph. D. in Statistical Physics, SISSA, 2018-2019.
- 32) Course of Quantum Physics, International Master Course in Physics of Complex Systems (Torino-Trieste-Paris), 2018-2019.
- 31) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2018-2019.
- 30) Co-Organizer of and Lecturer at Summer School FOMO 2018 (Frontiers of Matter Wave Optics), Archanes, Crete (Greece), 10 - 14 September, 2018.
- 29) Course "Properties of long-range interacting systems", Ph. D. in Statistical Physics, SISSA, 2017-2018.
- 28) Course of Quantum Physics, International Master Course in Physics of Complex Systems (Torino-Trieste-Paris), 2017-2018.

- 27) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2017-2018.
- 26) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2016-2017.
- 25) Course of Quantum Physics, International Master Course in Physics of Complex Systems (Torino-Trieste-Paris), 2016-2017.
- 24) Ph. D. Course of Cold Atoms in Optical Lattices, Torino Graduate School in Physics and Astrophysics, University of Torino, March 2016.
- 23) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2015-2016.
- 22) Course of Quantum Physics, International Master Course in Physics of Complex Systems (Torino-Trieste-Paris), 2015-2016.
- 21) Course on Quantum Simulations of Gauge Fields with Ultracold Atoms, School on Strongly Coupled Field Theories for Condensed Matter and Quantum Information Theory, Natal (Brazil), 2 - 14 August 2015.
- 20) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2014-2015.
- 19) Co-Organizer of Summer School FOMO 2014 (Frontiers of Matter Wave Optics), Enagron Village - Axos, Crete (Greece), 29 September - 3 October 2014.
- 18) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2013-2014.
- 17) Course of Introduction to Renormalization Group, International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), November-December 2013.
- 16) Course of Nonlinear Dynamics of Ultracold Atoms, Spring College on Physics of Complex Systems, ICTP (Trieste), May-June 2013.
- 15) Course of Superfluidity and Superconductivity, University of Trento, May 2013.
- 14) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2012-2013.
- 13) Course of Superconducting and Ultracold Josephson Devices at the School & Workshop "Advances in Quantum Technology: From Quantum Information to Quantum Devices", International Institute of Physics, Natal (Brazil), August 2012.

- 12) Course of Superfluidity and Superconductivity, University of Trento, May 2012.
- 11) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2011-2012.
- 10) Course of Introduction to Superconductivity, University of Trento, May - June 2011.
- 9) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2010-2011.
- 8) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2009-2010.
- 7) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2008-2009.
- 6) Course on "New Phenomena in Cold Atomic Physics", Ph. D. of University of Perugia, May 2008.
- 5) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2007-2008.
- 4) Lecture Series in Quantum Dynamics of Ultracold Atoms, Graduate School of Fundamental Physics, Heidelberg (Germany), November 2007.
- 3) Course of Statistical Physics of Cold Atoms, Ph. D. in Statistical Physics, SISSA, 2006-2007.
- 2) Exercitations of Quantum Mechanics, University of Perugia, 2004-2005.
- 1) Exercitations of Quantum Mechanics, University of Perugia, 2003-2004.

Advised Theses (14 PhD students, 16 undergraduate students, 3 internship students)

- 33) Advisor of the Graduation Thesis of E. G. Cinnirella (University of Trieste).
- 32) Co-Advisor, jointly with S. Ruffo and X. Leoncini, of a 3-months internship of A. Vesperini (ENS-Lyon).
- 31) Advisor of the Graduation Thesis of A. Catalano (International Master Program in the Physics of Complex Systems - PCS).
- 30) Co-Advisor, jointly with S. Liberati, of the Graduation Thesis of F. Ferro (International Master Program in the Physics of Complex Systems - PCS).

- 29) Advisor of the Ph.D. of Alessandro Galvani (SISSA).
- 28) Advisor of the Ph.D. of Guido Giachetti (SISSA).
- 27) Advisor of the Ph.D. of Pierpaolo Fontana (SISSA).
- 26) Advisor for the 3-weeks Tirocino of Caternina Zerba, undergraduate student of University of Trieste, August - September 2019.
- 25) Co-Advisor, jointly with S. Ruffo, of the Master 1 Thesis Report (ENS of Lyon and University of Geneva) of Jonathan Pham, May - June 2019.
- 24) Co-Advisor, jointly with G. Mussardo, of the Ph. D. Thesis of Andrea Colcelli (SISSA), "Low-dimensional ultracold gases".
- 23) Co-Advisor, jointly with A. Recati, of the Graduation Thesis of Xhek Turkheshi (Laurea Trento-SISSA), "Non-Markovian effects in double-well systems", Trento, 25 October 2017 [marks: 110/110 cum laude].
- 22) Co-Advisor, jointly with W. Vinci, of the Graduation Thesis of Lorenzo Buffoni (International Master Program in the Physics of Complex Systems - PCS), "Superconducting qubits for quantum annealing", Torino, 20 October 2017 [marks: 110/110 cum laude].
- 21) Co-Advisor, jointly with S. Ruffo and J.-P. Nguenang, of Chendjou Beukam Gervais Nazaire (University of Douala, ICTP and SISSA), "Fractional non-linear dynamics for FPU lattices with long-range interactions" [supported by the Sandwich Training Educational program (STEP)].
- 20) Co-Advisor, jointly with M. Dalmonte, of the Ph.D. Thesis of J. C. Pinto Barros - Ph.D. Thesis "Field and Gauge Theories with Ultracold Atoms", Trieste, 4 October 2017 [marks: approved].
- 19) Co-Advisor, jointly with M. Chiofalo and G. Gori, of the Graduation Thesis of Cosetta Baroni (University of Pisa), "Effect of interactions on the performance of ultracold quantum interferometers", Pisa, 22 September 2017 [marks: 110/110 cum laude]
- 18) Co-Advisor, jointly with G. Mussardo, of the Graduation Thesis of Riccarda Bonsignori (University of Trieste), "Lee-Yang Zeros in Integrable Field Theories", Trieste, 9 December 2016 [marks: 110/110 cum laude].
- 17) Co-Advisor, jointly with A. Codello and S. Ruffo, of the Ph.D. of Nicolò Defenu (SISSA) - Ph.D. Thesis "Applications of Functional Renormalization Group to Spin Systems and Long Range Models", Trieste, 18 October 2016 [marks: approved cum laude].
- 16) Co-Advisor, jointly with G. Mussardo, of the Graduation Thesis of Andrea Colcelli (University of Perugia), "Propriet di equilibrio di un gas di Bose in 1D", Perugia, 29 September 2016 [marks: 110/110 cum laude].

- 15) Co-Advisor, jointly with S. De Palo, of the Graduation Thesis of Andrea Tesi (Politecnico di Milano), "Theoretical Investigation of the BCS-BEC Crossover for Ultracold Fermions with Finite-Range Interactions", Milano, 27 April 2016 [marks: 110/110].
- 14) Advisor of the Graduation Thesis of Danny Laghi (University of Perugia), "Dynamical Regimes of the Generalized Gross-Pitaevskii Equation in a Double Well Trap", Perugia, 29 September 2015 [marks: 110/110 cum laude].
- 13) Co-Advisor, jointly with S. Liberati, of the Graduation Thesis of Matteo Nori (International Master Program in the Physics of Complex Systems - PCS), "Relativistic attractive Bose-Einstein Condensate as self-sustained critical system of Analogue Gravity", French Graduation: Trieste, 27 April 2015 - Italian Graduation: Torino, 31 July 2015 [marks: 110/110].
- 12) Co-Advisor, jointly with G. Gori, of the Graduation Thesis of Marco Michelangeli (International Master Program in the Physics of Complex Systems - PCS), "Long-range percolation in one dimension", French Graduation: Trieste, 27 April 2015 - Italian Graduation: Torino, 31 July 2015 [marks: 110/110].
- 11) Advisor of the Graduation Thesis of Matteo Puglini (Laurea Trento-SISSA), "Effective models for ultracold atoms in non-Abelian gauge potentials", Trento, 19 December 2014 [marks: 110/110 cum laude].
- 10) Co-Advisor, jointly with R. Tateo, of the Graduation Thesis of Martina Iori (Politecnico di Torino), "Thermodynamics of Spin-Orbit Coupled Ultracold Fermi Gases", Torino, 11 October 2013 [marks: 110/110 cum laude].
- 9) Advisor of the Graduation Thesis of Gabriel Mazzucchi (Laurea Trento-SISSA), "BCS-BEC Crossover on Layered Fermi-Hubbard Models with Dirac Points", Trieste, 28 September 2012 [marks: 110/110 cum laude].
- 8) Advisor of the Graduation Thesis of Anna Maraga (Laurea Trento-SISSA), "Study of Rabi and Josephson Coupled Ultracold Fermi Systems", Trieste, 28 September 2012 [marks: 110/110 cum laude].
- 7) Co-Advisor, jointly with G. Mussardo, of the Ph.D. of Francesco Mancarella (SISSA) - Ph.D. Thesis "On Some Aspects of Anyon Thermodynamics and Chern-Simons Theory", Trieste, 25 October 2012.
- 6) Co-Advisor, jointly with S. Fantoni, of the Ph.D. of Mauro Iazzi (SISSA) - Ph.D. Thesis "Ginzburg-Landau Description of Superfluid Layered Fermions", Trieste, 28 September 2012.
- 5) Advisor of the Ph.D. of Giacomo Gori (SISSA) - Ph.D. Thesis "Long-Range Models on Lattices: Application to Ising and Dipolar Systems", Trieste, 26 October 2011.

- 4) Advisor of the Ph.D. of Tommaso Macrì (SISSA) - Ph.D. Thesis “Dynamics of Cold Fermi Gases in Multiwell Potentials”, Trieste, 26 October 2011.
- 3) Co-Advisor, jointly with G. Mussardo, of the Ph.D. of Michele Burrello (SISSA) - Ph.D. Thesis “Topological Quantum Computation, Anyons and Non-Abelian Gauge Potentials”, Trieste, 26 September 2011.
- 2) Co-Advisor, jointly with G. Mussardo, of the Ph.D. of Luca Lepori (SISSA) - Trieste, Ph.D. Thesis “Quantum Field Theory Emerging Models in Condensed Matter Systems”, 27 September 2010.
- 1) Co-Advisor, jointly with G. Mussardo, of the Ph.D. of Enrico Fersino (SISSA) - Ph.D. Thesis “Matter-wave Solitons in One-Dimensional Bose Gases”, Trieste, 19 September 2008.

Contracts, Fellowships, Research Grants

- 16) 2020-2021: Italian PI of the Italy-Armenia Joint Project Statistical Physics of Classical and Quantum NonLocal Hamiltonians: Phase Diagrams and Renormalization Group - Armenian PI: Nerses Aninikian.
- 15) 2020-2021: Italian PI of the Italy-United Kingdom Joint Project Testing fundamental theories with ultracold atoms - UK PI: Mauro Paternostro.
- 14) 2019: Co-Recipient and CNR responsible of the ACRI Project ”Functional and Renormalization Group Methods in Quantum and Statistical Physics” sponsored by ACRI (Associazione di Fondazioni e Casse di Risparmio Spa) under the Young Investigator Training Program 2018.
<https://web.infn.it/FRGIM/scientific-project/>
- 13) 2019-2020: Co-Recipient of MISTI Global Seed Funds MIT-FVG (Friuli Venezia Giulia) Seed Fund Collaboration Grant ”NV centers for the test of the Quantum Jarzynski Equality (NVQJE)”, with P. Cappellaro (MIT) and S. Ruffo (SISSA).
- 12) 2018-2021: Italian PI of the Italy-Hungary Joint Project Strongly interacting systems in confined geometries (Accordo di Cooperazione Scientifica CNR/MTA Ungheria) - Hungarian PI: Istvan Nandori.
- 11) 2017-2021: Vice-Chair of the COST Action CA16221 ”Quantum Technologies with Ultra-Cold Atoms”.
- 10) 2013-2017: PI of the Italian node of the European STREP ”MatterWave”.

- 9) 2013-2015: Italian PI of the Italy-Hungary Joint Project Non-perturbative field theory and strongly correlated systems (Accordo di Cooperazione Scientifica CNR/MTA Ungheria) - Hungarian PI: Gabor Takacs.
- 8) 2013-2015: Financially supported by MIUR within the Research Project (P.R.I.N.) "Collective quantum phenomena: From strongly correlated systems to quantum simulators".
- 7) Visiting Scientist, LANL (Los Alamos National Laboratory), August - September, 2010.
- 6) 2007-2009: Financially supported by MIUR within the Research Project (P.R.I.N.) "Quantum Noise in Mesoscopic System".
- 5) Visiting Scientist, Heidelberg, May-June 2006.
- 4) 2005-2006: Financially supported by MIUR within the Research Project (P.R.I.N.) "Josephson Networks for Quantum Coherence and Information".
- 3) 2002-2004: Granted by the INFM Fellowship "Giovani Valenti".
- 2) 2001-2003: Financially supported by MIUR within the Research Project (P.R.I.N.) "Josephson Junction Networks in the Quantum Regime: Theoretical Aspects and Their Experimental Counterparts".
- 1) Visiting Scientist, SISSA, November 2001.

Foreign University Sojourns

- 57) MIT, Boston (USA), 24 April - 1 May, 2019.
- 56) Universitat Politècnica de Catalunya (UPC), Barcelona (Spain), 17 - 24 March, 2019.
- 55) Institute for Theoretical Physics, University Heidelberg, Heidelberg (Germany), 10 - 17 February, 2019.
- 54) International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), 27 October - 16 November, 2018.
- 53) Programme "Entanglement in Quantum Systems", Galileo Galilei Institute for Theoretical Physics, and QSTAR, Florence (Italy), April 27 - June 4, 2018

- 52) Programme "Quantum Paths", Erwin Schrödinger International Institute for Mathematics and Physics (ESI) and Atominstytut, Wien, April 19 - May 4, 2018.
- 51) LANL (Los Alamos National Laboratory), Los Alamos (USA), October 12 - 28, 2017.
- 50) Workshop "From Static to Dynamical Gauge Fields with Ultracold Atoms", Galileo Galilei Institute for Theoretical Physics, Florence (Italy), May 22 - June 11, 2017.
- 49) Institute Henri Poincaré, Paris (France), Programme on "Stochastic Dynamics Out of Equilibrium", April 24 - May 14, 2017.
- 48) ATOMKI and University of Debrecen, Debrecen (Hungary), 12 - 21 March, 2017.
- 47) Programme "Entanglement and Dynamical Systems", Simons Center for Geometry and Physics, Stony Brook (USA), October 30 - November 26, 2016.
- 46) International Institute of Physics, Natal (Brazil), June 5 - 13, 2016.
- 45) Programme "Conformal Field Theories and Renormalization Group Flows in Dimensions $d > 2$ ", Galileo Galilei Institute for Theoretical Physics, Florence (Italy), May 23 - June 4, 2016.
- 44) Programme "Mathematical Aspects of Quantum Integrable Models in and out of Equilibrium", The Isaac Newton Institute for Mathematical Sciences, Cambridge (UK), January 24 - 29, 2016.
- 43) University of Coimbra, Coimbra (Portugal), December 4 - 13, 2015.
- 42) International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), August 1 - 30, 2015.
- 41) QSTAR and LENS, Firenze (Italy), 14 April - 16 May, 2015.
- 40) Institute Henri Poincaré, Paris (France), Programme on "Disordered systems, random spatial processes and their applications", February 28 - March 22, 2015.
- 39) ATOMKI and University of Debrecen, Debrecen (Hungary), 29 November - 6 December, 2014.
- 38) QSTAR and LENS, Firenze (Italy), 18 - 24 November, 2014.
- 37) Nordita-Stint Programme on Quantum Engineering of States and Devices, Nordita, Stockholm (Sweden), 11 August - 5 September, 2014.

- 36) International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), March 22 - April 4, 2014.
- 35) International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), November 18 - December 17, 2013.
- 34) ATOMKI and University of Debrecen, Debrecen (Hungary), 2 - 10 November, 2013.
- 33) Universitat de Barcelona, Barcelona (Spain), 10 - 14 July, 2013.
- 32) University of Nottingham, Nottingham (England), 4 - 10 November, 2012.
- 31) University of Coimbra, Coimbra (Portugal), October 12 - 20, 2012.
- 30) International Institute of Physics (IIP) - Federal University do Rio Grande do Norte, Natal (Brazil), July 23 - September 16, 2012.
- 29) Institute Henri Poincaré, Paris (France), May 13 - 27, 2012.
- 28) Galileo Galilei Institute for Theoretical Physics, Florence (Italy), April 10 - May 5, 2012.
- 27) INO CNR-BEC Center, Trento (Italy), May 17 - June 2, 2011.
- 26) INO CNR-BEC Center, Trento (Italy), December 8 - 13, 2010.
- 25) LANL (Los Alamos National Laboratory), Los Alamos (USA), August 11 - September 19, 2010.
- 24) Galileo Galilei Institute for Theoretical Physics, Florence (Italy), September 14 - October 12, 2008.
- 23) University of Perugia, Perugia (Italy), May 12 - 17, 2008.
- 22) University of Heidelberg, Heidelberg (Germany), November 4 - 17, 2007.
- 21) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), December 17 - 22, 2006.
- 20) University of Heidelberg, Heidelberg (Germany), November 18 - 25, 2006.
- 19) University of Heidelberg, Heidelberg (Germany), May 1 - June 30, 2006.
- 18) Politecnico di Torino, Torino (Italy), March 14 - 22, 2006.
- 17) Politecnico di Torino, Torino (Italy), January 28 - February 4, 2006.
- 16) University of Heidelberg, Heidelberg (Germany), January 22 - 27, 2006.
- 15) ICTP (International Centre for Theoretical Physics), Trieste (Italy), November 2 - 10, 2005.

- 14) ICTP (International Centre for Theoretical Physics), Trieste (Italy), September 3 - 11, 2005.
- 13) ICTP (International Centre for Theoretical Physics), Trieste (Italy), February 28 - March 18, 2005.
- 12) LANL (Los Alamos National Laboratory), Los Alamos (USA), October 23 - December 8, 2004.
- 11) LANL (Los Alamos National Laboratory), Los Alamos (USA), October - November 2003.
- 10) University of Konstanz, Konstanz (Germany), July 6 - 13, 2003.
- 9) University of Konstanz, Konstanz (Germany), January 26 - February 1, 2003.
- 8) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), September 25 - October 9, 2002.
- 7) LANL (Los Alamos National Laboratory), Los Alamos (USA), April 14 - May 19, 2002.
- 6) Institut für Theoretische Physik, Stuttgart (Germany), December 8 - 15, 2001.
- 5) Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste (Italy), November 2001.
- 4) LANL (Los Alamos National Laboratory), Los Alamos (USA), July-August 2001.
- 3) LENS (European Laboratory for Non-Linear Spectroscopy), Florence (Italy), January - February 2001.
- 2) LENS (European Laboratory for Non-Linear Spectroscopy), Florence (Italy), September - October 2000.
- 1) Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste (Italy), August 26 - September 1, 2002.

Short Visits

- 103) Politecnico di Torino, Torino (Italy), as External Referee of the PhD Theses of Andrea Richaud and Davide Botto, February 3 - 4, 2020.

- 101) University of Debrecen and Atomki, Debrecen (Hungary), December 2 - 7, 2019.
- 100) Budapest University of Technology and Economics, Budapest (Hungary), November 29 - 2 December, 2019.
- 99) Institute of Physics, Belgrade (Serbia), August 30, 2019.
- 98) INFN, Sezione di Catania and University of Catania, Catania (Italy), June 4 - 9, 2019.
- 97) Jiangsu University of Science and Technology, Zhenjiang (China), May 24 - 26, 2019.
- 96) Institute of Science and Technology Austria, Wien (Austria), May 11 - 14, 2019.
- 95) Stony Brook University, Stony Brook (USA), May 1 - 4, 2019.
- 94) University of Sussex, Brighton (UK), September 8 - 9, 2018.
- 93) University of St. Andrews, St. Andrews (UK), September 6 - 7, 2018.
- 92) Vilnius University, Vilnius (Lithuania), August 3 - 8, 2018.
- 91) University of Pisa, Pisa (Italy), May 30, 2018.
- 90) IESL - Forth, Heraklion (Greece), April 14 - 18, 2018.
- 89) Universidad Autónoma de Madrid, Madrid (Spain), March 17 - 23, 2018.
- 88) University of Warsaw, Warsaw (Poland), March 9, 2018.
- 87) University of Padova, Padova (Italy), January 30 - 31, 2018.
- 86) University of Zagreb, January 10 - 12, 2018.
- 85) Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, December 9 - 13, 2017.
- 84) JILA and University of Colorado, Boulder (USA), October 29 - November 1, 2017.
- 83) University of Palermo (Italy), July 5 - 8, 2017.
- 82) Weizmann Institute of Science, Rehovot (Israel), June 29 - 30, 2017. May 29 - June 2, 2017.
- 81) Institut de Science et d'Ingénierie Supramoléculaires, Strasbourg (France), May 10, 2017.
- 81) Queen's University Belfast, Belfast (UK), April 10 - 13, 2017.

- 80) University of Padova, Padova (Italy), April 3, 2017.
- 79) University of L'Aquila, L'Aquila (Italy), March 21 - 24, 2017.
- 78) University of Heidelberg, Heidelberg (Germany), February 12 - 14, 2017.
- 77) University of Padova, Padova (Italy), January 16 - 17, 2017.
- 76) Boston University, Boston (USA), November 19 - 21, 2016.
- 75) University of Perugia, Perugia (Italy), September 25 - 27, 2016.
- 74) Yerevan Physics Institute, Yerevan (Armenia), July 15 - 18, 2016.
- 73) University of Padova, Padova (Italy), May 5 - 6, 2016.
- 72) Politecnico di Milano, Milano (Italy), April 26 - 28, 2016.
- 71) University of Nottingham, Nottingham (England), April 20 - 23, 2016.
- 70) University College London, London (England), April 15 - 20, 2016
- 69) University of St. Andrews, St. Andrews (Scotland), April 10 - 15, 2016.
- 68) University of Torino, Torino (Italy), March 7 - 11, 2016.
- 67) University of Cosenza, Cosenza (Italy), February 25 - 27, 2016 [as Referee for the Ph.D. Thesis of Andrea Nava].
- 66) University of Nottingham, Nottingham (England), January 22 - 24, 2016.
- 65) Uninted Kingdom Research Office, MatterWave mid-term meeting, Bruxelles (Belgium), October 5 - 8, 2015
- 64) University of Perugia (Italy), September 26 - 28, 2015.
- 63) Vienna Center for Quantum Science and Technology, Atominstitut, Technische Universität, Wien (Austria), June 8 - 10, 2015.
- 62) LENS (European Laboratory for Non-Linear Spectroscopy) and QSTAR, Firenze (Italy), March 22 - 24, 2015.
- 61) LENS (European Laboratory for Non-Linear Spectroscopy) and QSTAR, Firenze (Italy), February 25 - 27, 2015.
- 60) University of Trento, December 18 - 20, 2014.
- 59) MatterWave Evaluation Meeting, Bruxelles (Belgium), April 9, 2014.
- 58) Galileo Galilei Institute and QSTAR, Florence (Italy), February 10 - 12, 2014.

- 57) University of Nottingham, Nottingham (England), February 4 - 8, 2014.
- 56) University of Perugia, January 31 - February , 2013.
- 55) University of Torino, October 7 - 11, 2013.
- 54) University of Trento, July 7 - 8, 2013.
- 53) Institut Henri Poincar, Paris (France), May 27 - June 1, 2013.
- 52) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), May 7 - 9, 2013.
- 51) UPC (Universitat Politècnica de Catalunya), Barcelona (Spain), April 24 - 26, 2013.
- 50) ICFO (Institute of Photonic Sciences), Barcelona (Spain), April 22 - 23, 2013 [as Referee for the Ph.D. Thesis of Tobias Grass].
- 49) QSTAR, Firenze (Italy), March 6 - 9, 2013.
- 48) University of Nottingham, Nottingham (England), February 18 - 22, 2013 [as Referee for the Ph.D. Thesis of Joe Shearring].
- 47) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), July 5 - 6, 2012.
- 46) ANVUR, Rome (Italy), June 11 - 12, 2012.
- 45) University of Montpellier, Montpellier (France), May 24 - 25, 2012.
- 44) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), May 8 - 10, 2012.
- 43) LENS (European Laboratory for Non-Linear Spectroscopy) and CNR-INO, Firenze (Italy), September 29 - 30, 2011.
- 42) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), July 1 - 2, 2011.
- 41) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), February 27 - March 1, 2011 [as Referee for the Ph.D. Thesis of Francesco Piazza].
- 40) University of Calabria, Cosenza (Italy), November 15 - 19, 2010.
- 39) University of Nottingham, Nottingham (England), May 3 - 7, 2010.
- 38) University of Bologna, Bologna (Italy), March 26, 2010.
- 37) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), December 18 - 19, 2009.

- 36) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), November 18 - 21, 2009 [as Referee for the Ph.D. Thesis of Ingrid Bausmerth].
- 35) University of Calabria, Cosenza (Italy), June 10 - 13, 2009.
- 34) University of Perugia, Perugia (Italy), June 3 - 6, 2009.
- 33) University of Padova, Padova (Italy), April 28, 2009.
- 32) University of Perugia, Perugia (Italy), January 13 - 16, 2009.
- 31) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), December 14 - 18, 2008.
- 30) University of Calabria, Cosenza (Italy), December 9 - 13, 2008.
- 29) University of Perugia, Perugia (Italy), November 19 - 23, 2008.
- 28) Galileo Galilei Institute for Theoretical Physics, Florence (Italy), October 23, 2008.
- 27) LENS (European Laboratory for Non-Linear Spectroscopy), Firenze (Italy), October 22, 2008.
- 26) University of Perugia, Perugia (Italy), June 18-21, 2008.
- 25) LENS (European Laboratory for Non-Linear Spectroscopy), Firenze (Italy), May 29-31, 2008.
- 24) University of Perugia, Perugia (Italy), April 10-12, 2008.
- 23) LENS (European Laboratory for Non-Linear Spectroscopy), Firenze (Italy), December 10-12, 2007.
- 22) Max-Planck-Institut für Physik Komplexer Systeme, Dresden (Germany), November 1 - 4 (2007).
- 21) University of Bologna, Bologna (Italy), October 1, 2007.
- 20) University of Salerno, Salerno (Italy), September 20 - 24, 2007.
- 19) Institut Henri Poincaré, Paris (France), June 23 - July 1, 2007.
- 18) LENS (European Laboratory for Non-Linear Spectroscopy), Firenze (Italy), May 28 - 30, 2007.
- 17) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), April 11 - 13, 2007.
- 16) Technical University, Kaiserslautern (Germany), November 28 - 29, 2006.

- 15) Institut für Theoretische Physik, Universität Düsseldorf (Germany), November 25 - 28, 2006.
- 14) University of Salerno, Salerno (Italy), November 13 - 14, 2006.
- 13) University of Bologna, Bologna (Italy), November 9 - 10, 2006.
- 12) Politecnico di Torino, Torino (Italy), June 2 - 4, 2006.
- 11) Max-Planck-Institut für Quantenoptik, Garching (Germany), May 31 - June 1, 2006.
- 10) Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste (Italy), April 18 - 20, 2005.
- 9) ISI (Institute for Scientific Interchange), Torino (Italy), July 3 - 5, 2005.
- 8) Dipartimento di Ingegneria dell'Informazione, Napoli (Italy), April 13 - 15, 2005.
- 7) ISI (Institute for Scientific Interchange), Torino (Italy), February 10-11, 2004.
- 6) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), June 23 - 25, 2003.
- 5) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), June 5 - 8, 2003.
- 4) INFN Research and Development Center on Bose-Einstein Condensation, Trento (Italy), March 23 - 26, 2003.
- 3) University of Napoli, Napoli (Italy), January 10 - 12, 2003.
- 2) ISI (Institute for Scientific Interchange), Torino (Italy), November 20 - 23, 2002.
- 1) University of Napoli, Napoli (Italy), November 13 - 16, 2002.

Reviewer for:

Physical Review Letters
Physical Review **A**
Physical Review **B**
Physical Review **E**
Chaos

Journal of Physics **B**
Optics Communications
Physica D
J. Stat. Mech.

Participation to Workshops and Schools

- 144) Quantum Technologies within INFN: status and perspectives, Padova (Italy), 20 - 21 January, 2020.
- 143) Fourth Management Committee of the COST Action "Quantum Technologies with Ultra-Cold Atoms", Sarajevo (Bosnia and Herzegovina), 30 - 31 October, 2019.
- 142) The wonders of theoretical physics - Celebrating the sixty years of Giuseppe Mussardo, Trieste (Italy), 23 - 25 October, 2019.
- 141) Quantum Science and Technology 2019, Taiyuan (China), 15 - 22 October, 2019. Quantum Science and Technology 2019,
- 140) Quantum Science and Technology 2019, Xi'an (China), 9 - 13 October, 2019.
- 139) FRGIM - Functional and Renormalization-Group methods, ECT*, Trento (Italy), 16 - 20 September, 2019.
- 138) SuperFluctuations 2019 "Fluctuations and Highly Non Linear Phenomena in Superfluids and Superconductors", Padova (Italy), 2 - 4 September, 2019.
- 137) AtomQT Workshop "Quantum coherent effects with ultra-cold atoms", organized by the Cost Action CA16221 "Quantum Technologies with Ultra-Cold Atoms", Belgrade (Serbia), 29 - 30 August, 2019.
- 136) Gravity and Other Fields Under the Volcano, Catania (Italy), 10 June (2019).
- 135) Atomtronics 2019, Benasque (Spain), 6 - 10 May, 2019.
- 134) Festa di Scienza e Filosofia - Virtute e Canoscenza 2019, Foligno (Italy), 11 - 14 April (2019).
- 133) Mathematical physics of anyons and topological states of matter, Nordita, Stockholm (Sweden), 11 - 16 March (2019).
- 132) Meeting Firenze-Trieste in Quantum Simulation with Ultracold Atoms", 17 - 18 January, 2019.

- 131) Entanglement and Dynamical Systems, Stony Brook (USA), 10 - 14 December, 2018.
- 130) Advances in Quantum Simulation with Ultracold Atoms, Natal (Brazil), 29 October - 9 November, 2018.
- 129) Workshop on Modern Aspects of Quantum Physics, Zagreb (Croatia), 3 - 5 October, 2018.
- 128) Trails in Quantum Mechanics and Surroundings 2018, Torino (Italy), 27 - 29 September, 2018.
- 127) Conference FOMO 2018 (Frontiers of Matter Wave Optics), Orthodox Academy of Crete - Kolymbari, Crete (Greece), 17 - 21 September, 2018.
- 126) Summer School FOMO 2018 (Frontiers of Matter Wave Optics), Archanes, Crete (Greece), 10 - 14 September, 2018.
- 125) Informal Meeting on Atomtronics, School of Physics and Astronomy, St. Andrews, 7 September, 2018.
- 124) Humboldt Kolleg "Controlling quantum matter: From ultracold atoms to solids", Vilnius (Lithuania), 29 July - 2 August, 2018.
- 123) ERG2018 - 9th International Conference on the Exact Renormalization Group, Paris (France), 10 - 13 July, 2018.
- 122) Workshop Mathematical Challenges of Zero Range Physics, Rome (Italy), 9 July, 2018.
- 121) AtomQT: Quo Vadis, Heraklion (Greece), 16 - 18 April, 2018.
- 120) FPU 2018 - Il problema di Fermi-Pasta-Ulam: stato dell'arte e prospettive, Padova, 12 - 13 April 2018.
- 119) COST Connect - Quantum: Where will the next jump go?, Warsaw (Poland), 8 - 9 March, 2018.
- 118) Workshop on Long-Range Interactions in Atomic Systems: Magnetic Dipoles, Rydberg Atoms and Ions, São Carlos (Brazil), 5 - 8 December, 2017
- 117) FisMat2017, Trieste (Italy), 1 - 5 October, 2017.
- 116) Workshop on Quantum Science and Quantum Technologies, ICTP, Trieste (Italy), 11 - 15 September, 2017.
- 115) SuperFluctuations 2017: Fluctuations and Highly Non Linear Phenomena in Superfluids and Superconductors, San Benedetto del Tronto (Italy), 6 - 8 September, 2017.

- 114) Program "Topological Phases in Cold Atom Systems", Nordita (Stockholm), 31 July - August 6, 2017.
- 113) LPHYS'17, 26nd International Laser Physics Workshop, Kazan (Russia), 17 - 21 July, 2017.
- 112) Joint Weizmann-SISSA Meeting "Emergent Structures in Physics and Neuroscience", Weizmann Institute of Science, Rehovot (Israel), 25 - 28 June, 2017.
- 111) Conference "Quantum science approaches to strongly correlated systems: from ultracold atoms to high-energy and condensed matter physics", Galileo Galilei Institute for Theoretical Physics, Florence (Italy), May 29 - June 2, 2017.
- 110) Workshop "Quantum Thermodynamics and Resource Theory", Paris (France), 9 - 11 May, 2017.
- 109) Institute Henri Poincaré, Paris (France), Workshop "Numerical aspects of nonequilibrium dynamics", 25 - 27 April, 2017.
- 108) MITP Workshop "Quantum Methods for Lattice Gauge Theories Calculations, Mainz (Germany), 6 - 10 February, 2017.
- 107) Conference FOMO 2016 (Frontiers of Matter Wave Optics), Arcachon (France), 11 - 17 September, 2016.
- 106) LPHYS'16, 25nd International Laser Physics Workshop, Yerevan (Armenia), July 11 - 15, 2016.
- 105) Trieste Quantum Days, Trieste (Italy), June 21 - 23, 2016.
- 104) Quantum Non-Equilibrium Phenomena, International Institute of Physics, Natal (Brazil), June 6 - 13, 2016.
- 103) Frontiers in Ultracold Fermi Gases, 90 years after the "birth" of fermions in Florence, Firenze (Italy), March 21 - 23, 2016.
- 102) Winter Workshop on Ultracold Quantum Matter, Padova (Italy), January 11, 2016.
- 101) Informal Workshop on Statistical Field Theory and Related Topics, SISSA, Trieste (Italy), October 9 - 10, 2015.
- 100) Workshop on Topological effects and synthetic gauge/magnetic fields for atoms and photons, Zagreb (Croatia), September 29 - October 1, 2015.
- 93) Workshop "Non-interferometric Tests of the Quantum Superposition Principle", Trieste (Italy), September 17 - 18, 2015.

- 92) Workshop "Strongly Coupled Field Theories for Condensed Matter and Quantum Information Theory, Natal (Brazil), August 17 - 21, 2015.
- 91) Symposium QuASI 2015: Quantum Sensing and Atom-Surface Interactions, Natal (Brazil), August 16 - 18, 2015.
- 90) School "Strongly Coupled Field Theories for Condensed Matter and Quantum Information Theory, Natal (Brazil), August 2 - 14, 2015.
- 89) XX National Conference on Statistical Physics and Complex Systems, Parma (Italy), June 29 - July 1, 2015.
- 88) "Cold Atoms Meet High Energy Physics", ECT*, Trento (Italy), 22 - 25 June, 2015.
- 87) "What next-Fisica Fondamentale: Antimatter, Axions, Cold Gases, Quantum Simulations" - INFN Meeting, Florence (Italy), 4 - 6 May, 2015.
- 86) "Quantum gases: present and future perspectives" - Firenze/Trento meeting, Florence (Italy), 24 April, 2015.
- 85) CECAM Workshop "Computational Many-Body physics in the era of artificial gauge fields, Munich (Germany), 8 - 10 April, 2015.
- 84) Workshop "Interacting particles systems and non-equilibrium dynamics", Institut Henri Poincar, Paris (France), March 9 - 13, 2015.
- 83) Conference FOMO 2014 (Frontiers of Matter Wave Optics), Orthodox Academy of Crete - Kolymbari, Crete (Greece), 6 - 10 October, 2014.
- 82) Summer School FOMO 2014 (Frontiers of Matter Wave Optics), Enagron Village - Axos, Crete (Greece), 29 September - 3 October, 2014.
- 81) ERG2014 - 7th International Conference on the Exact Renormalization Group, Lefkada (Greece), 22 - 26 September, 2014.
- 80) Conference on Quantum Engineering of States and Devices, Nordita, Stockholm (Sweden), August 18 - 23, 2014.
- 79) Integrability in Low Dimensional Quantum Systems, satellite meeting of the workshop on "Finite-size Technology in Low Dimensional Quantum Systems (VII)", Budapest - Tihany (Hungary), June 30 - July 4 , 2014.
- 78) XIX National Conference on Statistical Physics and Complex Systems with one special session dedicated to Stefano Ruffo and Angelo Vulpiani, Parma (Italy), June 25 - 27, 2014.
- 77) BECCosmology - Workshop on non-equilibrium Bose-Einstein condensates and its application to Cosmology, Nottingham (UK), June 23 - 24, 2014.

- 76) Solid Math 2014, Trieste (Italy), June 16 - 18, 2014.
- 75) Workshop "Quantum Integrability, Conformal Field Theory and Topological Quantum Computation", International Institute of Physics, Natal (Brazil), March 23 - April 6, 2014.
- 74) Frontiers in the Quantum World - Symposium in honour of Ennio Arimondo, (Italy), March 10, 2014.
- 73) Correlations in Ultracold Atomic Systems, Padova (Italy), September 26 - 27, 2013.
- 72) XCIX Congresso Nazionale della Societa' Nazionale di Fisica, Trieste (Italy), September 23 - 27, 2013.
- 71) LPHYS'13, 22nd International Laser Physics Workshop, Prague (Czech Republic), July 15 - 19, 2013.
- 70) Workshop in honor of Lev Pitaevskii's 80th birthday, Trento (Italy), July 6, 2013.
- 69) Kick-off Meeting of MatterWave, June 7 - 8, 2013, Heraklion (Greece).
- 68) Workshop "Conical Intersections in Mathematical Physics", Institut Henri Poincar, Paris (France), May 29 - 31, 2013.
- 67) School & Workshop "Advances in Quantum Technology: From Quantum Information to Quantum Devices", International Institute of Physics, Natal (Brazil), August 20 - 31, 2012.
- 66) ICTP Workshop "Quantum Simulations with Ultracold Atoms", Trieste (Italy), July 16 - 20, 2012.
- 65) Programme Disordered Quantum Systems, Institute Henri Poincaré, Paris (France), May 13 - 27, 2012.
- 65) Workshop on New quantum states of matter in and out of equilibrium, Galileo Galilei Institute for Theoretical Physics, Florence (Italy), April 10 - May 5, 2012.
- 64) Kickoff Meeting of QIBEC, February 2 - 3, 2012, Firenze (Italy).
- 63) Sasha Gogolin Memorial Meeting, ICTP (International Centre for Theoretical Physics), November 10 - 11, 2011, Trieste (Italy).
- 62) Bose-Einstein Condensation 2011 - Frontiers in Quantum Gases, September 10 - 16, 2011, Sant Feliu de Guixols (Spain).
- 61) LPHYS'11, XX International Laser Physics Workshop, Sarajevo (Bosnia and Herzegovina), July 11 - 15, 2011.

- 60) XVI Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, con una giornata "Classical and Quantum Complexity" in onore di Mario Rasetti, Parma (Italy), June 22 - 24, 2011.
- 59) Workshop on Quantum Science and Technologies, May 9 - 12, 2011, Rovereto (Italy).
- 58) QID 2011 - From Field Theory to Quantum Information & Quantum Devices, January 7 - 8, 2011, Perugia (Italy).
- 57) Workshop on Emergence of New States of Matter in Magnetic Systems and Beyond, ICTP (International Centre for Theoretical Physics), July 5 - 9, 2010, Trieste (Italy).
- 56) ESF Conference on "Quantum Engineering of States and Devices", June 5 - 10, 2010, Obergurgl (Austria), .
- 55) 8th AIMS Conference on Dynamical Systems, Differential Equations and Applications, May 25 - 28, 2010, Dresden (Germany).
- 54) Frontiers in Atomic Physics, On the occasion of the 60th birthday of Massimo Inguscio, April 9 - 10, 2010, Florence (Italy).
- 53) Italian Quantum Information Science Conference 2009, November 5 - 8, 2009, Pisa (Italy).
- 52) Bose-Einstein Condensation 2009 - Frontiers in Quantum Gases, Sant Feliu de Guixols (Spain), September 5 - 10, 2009.
- 51) Convegno Informale di Fisica Teorica, 8 - 10 June, 2009, Sestri Levante (Italy).
- 50) Conference on Research Frontiers in Ultra-Cold Atoms, May 4 - 8, 2009, Trieste (Italy).
- 49) Italian Quantum Information Science Conference 2008, October 24 - 29, 2008, Camerino (Italy).
- 48) Mini-Workshop on Quantum transport, October 1, 2008, Florence (Italy).
item[47] Workshop on Low-dimensional Quantum Field Theories and Applications, Galileo Galilei Institute for Theoretical Physics, Florence (Italy), September 14 - October 12, 2008.
- 46) Exact Results in Low-Dimensional Quantum Systems: 2nd INSTANS Summer Conference, September 8 - 12, 2008, Florence (Italy).
- 45) LPHYS'08, XVII International Laser Physics Workshop, Trondheim (Norway), June 30 - July 4, 2008.

- 44) XIII Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 23 - 25, 2008.
- 43) Theory of Quantum Gases and Quantum Coherence, Fourth International Workshop, Grenoble (France), June 3 - 7, 2008.
- 42) Workshop on Quantum Phenomena and Information: from Atomic to Mesoscopic Systems, Trieste (Italy), May 5 - 16, 2008.
- 41) Coherence, Squeezing, and Entanglement for Precision Measurements with Quantum Gases, Levico Terme (Italy), April 3 - 5, 2008.
- 40) Renormalization Group Methods in Physics - Bolyai Intensive Course, Budapest (Hungary), March 10 - 14, 2008.
- 39) Bose-Einstein Condensation 2007 - Frontiers in Quantum Gases, Sant Feliu de Guixols (Spain), September 15 - 20, 2007.
- 38) INSTANS Summer School 2007, Oxford (England), August 26 - September 2, 2007.
- 37) Statistical Field Theory of Quantum Devices, StatPhys23 Satellite Meeting, Perugia (Italy), July 16 - 19, 2007.
- 36) Recent Progress in the Studies of Quantum Gases, Institut Henri Poincaré, Paris (France), June 27 - 30, 2007.
- 35) Renormalization Group and Effective Field Theory Approaches to Many-Body Systems, ECT* (European Centre for Theoretical Studies in Nuclear Physics and Related Areas), Trento (Italy), February 27 - March 10, 2006.
- 34) Theory of Quantum Gases and Quantum Coherence, Third International Workshop, Cortona (Italy), October 29 - November 2, 2005.
- 33) X Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 29 - July 1, 2005.
- 32) Field Theories for Quantum Coherent Devices, Capri (Italy), June 6-10, 2005.
- 31) Nonlinear Physics: Condensed Matter, Dynamical Systems and Biophysics, A 60th Birthday Symposium in Honor of Serge Aubry, Paris (France), May 30-31, 2005.
- 30) Problemi Attuali di Fisica Teorica: Meccanica Quantistica e Computazione Quantistica, Vietri sul Mare (Italy), March 18-20, 2005.
- 29) Conference on Higher Dimensional Quantum Hall Effect, Chern-Simons Theory and Non-Commutative Geometry in Condensed Matter Physics and Field Theory, Trieste (Italy), March 1-4, 2005.

- 28) SOLIBEC, Solitons in Bose-Einstein Condensates, Almagro (Spain), February 9-12, 2005.
- 27) VII Volterra-CIRM International School on Quantum Probability and Spectral Analysis on Large Graphs, Levico (Italy), September 19-25, 2004.
- 26) LPHYS'04, XIII International Laser Physics Workshop, Trieste (Italy), July 12-16, 2004.
- 25) IX Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 22-24, 2004.
- 24) IV International Workshop on Macroscopic Quantum Coherence and Computing, Napoli (Italy) June 7-10, 2004.
- 23) XXIII Convegno di Fisica Teorica e Struttura della Materia, Fai della Paganella, Trento (Italy), April 18-21, 2004.
- 22) Workshop on Ultracold Fermi Gases, Levico (Trento, Italy), March 4-6, 2004.
- 21) 27th Workshop on Intrinsic Localized Modes and Discrete Breathers in Nonlinear Lattices, Erice (Italy), July 21-27, 2003.
- 20) VIII Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 26-27, 2003.
- 19) Euro Summer School on Quantum Gases in Low Dimensions, Les Houches (France), April 15-25, 2003.
- 18) XXII Convegno di Fisica Teorica e Struttura della Materia, Fai della Paganella, Trento (Italy), March 20-23, 2003.
- 17) Inauguration Meeting & Celebration of Lev Pitaevskii's 70th Birthday, Trento (Italy), March 14-15, 2003.
- 16) Workshop on Quantum Information and Quantum Computation, International Center for Theoretical Physics, Trieste (Italy), October 14-25, 2002.
- 15) Workshop on Nonlinear Dynamics in Classical and Quantum Mechanics, Sannomme' (Italy), October 10-11, 2002.
- 14) XI Scuola Nazionale di Fisica Teorica (dir. Prof. E. Onofri), Parma (Italy), September 2002.
- 13) Quantum Computation, Villa Gualino (Italy), Torino, June 9-23, 2002.
- 12) VII Convegno Nazionale di Fisica Statistica e dei Sistemi Complessi, Parma (Italy), June 3-5, 2002.

- 11) VI Congresso Societa' Italiana di Matematica Applicata e Industriale, Chia Laguna (Italy), May 27-31, 2002.
- 10) XXI Convegno di Fisica Teorica e Struttura della Materia, Fai della Paganella, Trento (Italy), March 21-24, 2002.
- 9) Workshop on Bose-Einstein Condensates, Salerno (Italy), December 19-20, 2001.
- 8) LPHYS'01, X International Laser Physics Workshop, Moscow (Russia), July 3-7, 2001.
- 7) Theory of Quantum Gases and Quantum Coherence, First International Workshop, Salerno (Italy), June 3-5, 2001.
- 6) INFMeeting, National Conference on Physics of Matter, Genova (Italy), June 12-16, 2000.
- 5) XIX Convegno di Fisica Teorica e Struttura della Materia, Fai della Paganella, Trento (Italy), March 26-29, 2000.
- 4) Macroscopic Quantum Coherence Phenomena, SISSA, Trieste (Italy), July 5-9, 1999.
- 3) INFMeeting, National Conference on Physics of Matter, Catania (Italy), June 14-18, 1999.
- 2) XVIII Convegno di Fisica Teorica e Struttura della Materia, Fai della Paganella, Trento (Italy), March 28-31, 1999.
- 1) VII Scuola Nazionale di Fisica Teorica (dir. Prof. E. Onofri), Parma (Italy), September 1998.