Breve CV di Alberto Lerda

- **Titoli accademici:**

  - 1984: Laurea in Fisica - Università di Torino;
  - 1988: Ph.D. – SUNY at Stony Brook (Stony Brook, NY, USA).

- **Posizioni e incarichi accademici:**

  - 1988 – 1991: Scientific Research Associate and Staff Member - Center for Theoretical Physics, Massachusetts Institute of Technology (Cambridge, MA, USA);
  - 1990 – 1993: Ricercatore - Dipartimento di Fisica Teorica – Università di Torino;
  - 1991 – 1993: Assistant Professor of Physics - Institute for Theoretical Physics - SUNY at Stony Brook (Stony Brook, NY, USA);
  - 1993 – 1995: Professore Associato di Meccanica Quantistica – Università di Salerno;
  - 1995 – 2002: Professore Associato di Fisica Teorica – Università di Torino (sede di Alessandria) in seguito Università del Piemonte Orientale (sede di Alessandria);
  - 2002 – presente: Professore Ordinario di Fisica Teorica – Università del Piemonte Orientale (sede di Alessandria);

  - 2005 – 2011: Membro della Commissione Scientifica Nazionale di Fisica Teorica (CSN4) dell'Istituto Nazionale di Fisica Nucleare e referee nazionale per il settore di Teoria dei Campi e delle Stringhe;
  - 2006 – 2011: Responsabile del Gruppo Collegato di Alessandria dell'Istituto Nazionale di Fisica Nucleare;

  - 2001 – 2017: membro del Collegio dei Docenti del Dottorato di Ricerca in Fisica dell'Università di Torino;
  - 2010 – presente: Docente presso la Scuola di Dottorato Europeo di Amsterdam/Bruxelles/Geneve/Parigi.

  - 2011 – presente: Presidente della Commissione Scientifica Nazionale di Fisica Teorica (CSN4) dell'Istituto Nazionale di Fisica Nucleare;
  - 2011 – presente: Coordinatore del Galileo Galileo Institute di Firenze e presidente del suo Comitato Scientifico.

  - Membro del GEV 02 per la VQR 2011-2014.

  - Coordinatore Nazionale e Responsabile scientifico locale di progetti PRIN sulla teoria delle stringhe (bandi 2003, 2005, 2009)

  - Responsabile di un progetto finanziato dalla Simons Foundation (USA) presso il Galileo Galileo Institute di Firenze per il quinquennio 2015/2020.

  - Responsabile Nazionale del PRIN 2015 "Non-perturbative Aspects Of Gauge Theories And Strings" (2015MP2CX4)

- **Attività di ricerca:**

L'attività di ricerca ha riguardato vari aspetti della fisica teorica delle alte energie ed in particolare della teoria dei campi, delle teorie conformi e della teoria delle stringhe. In passato ha contribuito allo sviluppo del formalismo operatoriale BRST invariante per le ampiezze di stringa a molti loop e per teorie conformi libere bosoniche e fermioniche. Si è inoltre occupato delle particelle con statistica frazionaria (anyoni) e delle loro applicazioni ai gruppi quantici e a sistemi bidimensionali in presenza di campi magnetici. Negli ultimi anni, si è concentrato sullo studio della teoria delle stringhe, delle D-brane, della corrispondente geometria e del suo utilizzo per le teorie di gauge duali. In particolare, ha contribuito allo sviluppo del formalismo del "boundary state" per la descrizione esplicita delle D-brane, allo studio delle D-brane non-BPS e delle D-brane frazionarie e della loro geometria, e allo studio delle teorie di stringa aperta in background non banali di stringa chiusa e degli effetti istantonici con metodi di stringa. Più recentemente ha studiato sistemi di brane intersecanti e/o con flussi generalizzati e le corrispondenti teorie effettive in 4 dimensioni, interessandosi in particolare agli aspetti non-perturbativi e alle correzioni istantoniche ottenute a partire da ampiezze di diffusione di stringhe aperte con condizioni al contorno "twistate". Ha dato contributi allo sviluppo del calcolo istantonico in teorie di stringa, all'uso delle tecniche di localizzazione nella corrispondenza gauge/gravità e allo studio delle proprietà non-perturbative e delle relazioni di dualità in teorie di gauge supersimmetriche.

Il prof. A. Lerda ha tenuto conferenze, seminari e cicli di lezioni in numerose università italiane e straniere, ed è autore di oltre un centinaio di pubblicazioni scientifiche il cui elenco può essere reperito all'indirizzo http://inspirehep.net/search?ln=en&p=f+a+lerda&of=hb&action_search=Search

Curriculum Vitae

Personal Details

Name:	Alessandro Lovato	
Date and place of birth:	13 January 1985, Velletri (RM), Italy	
Citizenship:	Italian	
Residence:	1555 North Dearborn Parkway, Chicago, IL 60610, USA	
Affiliations:	INFN -TIFPA Via Sommarive, 14 38123 Trento, Italy	Argonne National Laboratory 9700 South Cass Avenue Argonne, IL 60439, USA
Email:	alessandro.lovato@tifpa.infn.it	
Researcher unique identifiers:	Researcher ID: K-9237-2017 Orcid: 0000-0002-2194-4954	

Employment

May 2017 - present:	**Researcher**, Istituto Nazionale di Fisica Nucleare at the Trento Institute for Fundamentals Physics Applications
October 2014 - present:	**Assistant Physicist**, Physics Division at Argonne National Laboratory
October 2012 - September 2014:	**Postoctoral appointee**, Leading Computing Facility and Physics Division at Argonne National Laboratory. *Project*: Green Function Monte Carlo calculation of electroweak response of Carbon-12.

Education

October 2008 - September 2012:	**Ph.D.** Astroparticle Physics, SISSA-ISAS Trieste.
October 2006 - September 2008:	**Master Degree**, Physics, University "Sapienza", Rome. *Final Mark*: 110 cum laude/110
October 2003 - November 2006:	**Bachelor Degree**, Physics, University "Sapienza", Rome *Final Mark*: 110 cum laude/110.

Publications

Journal Articles

- *Local chiral interactions and magnetic structure of few-nucleon systems*
  R. Schiavilla, A. Baroni, S. Pastore, M. Piarulli, L. Girlanda, A. Kievsky, A. Lovato, L.E. Marcucci, Steven C. Pieper, M. Viviani, R.B. Wiringa
  arXiv:1809.10180

- *Exploring density-dependent effective interactions with quantum Monte Carlo*
  P. Massella, F. Barranco, D. Lonardoni, A. Lovato, F. Pederiva, E. Vigezzi
  arXiv:1808.00518

- *Local chiral interactions, the tritium Gamow-Teller matrix element, and the three-nucleon contact term*
  A. Baroni, R. Schiavilla, L.E. Marcucci, L. Girlanda, A. Kievsky, A. Lovato, S. Pastore, M. Piarulli, Steven C. Pieper, M. Viviani, R.B. Wiringa
  arXiv:1806.10245 (Phys. Rev. C in press)

- *Quantum Monte Carlo for dynamical pions and nucleons*
  L. Madeira, A. Lovato, F. Pederiva, K. E. Schmidt
  Phys. Rev. C **98**, 034005 (2018)

- *Relativistic effects in ab-initio electron-nucleus scattering*
  N. Rocco, W. Leidemann, A. Lovato, Giuseppina Orlandini
  Phys. Rev. C **97** (2018), 055501

- *Scaling within the Spectral Function approach*
  J.E. Sobczyk, N. Rocco, A. Lovato, J. Nieves
  Phys. Rev. C **97** (2018), 035506

- *Quantum Monte Carlo calculation of neutral-current $\nu-^{12}C$ inclusive quasielastic scattering*
  A. Lovato, S. Gandolfi, J. Carlson, Ewing Lusk, Steven C. Pieper, R. Schiavilla
  Phys. Rev. C **97** (2018), 022502

- *Light-nuclei spectra from chiral dynamics*
  M. Piarulli, A. Baroni, L. Girlanda, A. Kievsky, A. Lovato, Ewing Lusk, L.E. Marcucci, Steven C. Pieper, R. Schiavilla, M. Viviani R.B. Wiringa
  Phys. Rev. Lett. **120** (2018), 052503

- *Perturbation Theory of Nuclear Matter with a Microscopic Effective Interaction*
  O. Benhar, A. Lovato
  Phys. Rev. C **96** (2017), 054301

- *Variational calculation of the ground state of closed-shell nuclei up to A=40*
  D. Lonardoni, A. Lovato, Steven C. Pieper, R.B. Wiringa
  Phys. Rev. C **96** (2017), 024326

- *Evolution of a proto-neutron star with a nuclear many-body equation of state: neutrino luminosity and gravitational wave frequencies*
  G. Camelio, A. Lovato, L. Gualtieri, O. Benhar, J. A. Pons, V. Ferrari
  Phys. Rev. D **96** (2017), 043015

- *Ground-State Properties of ^4He and ^{16}O Extrapolated from Lattice QCD with Pionless EFT*
  L. Contessi, A. Lovato, F. Pederiva, A. Roggero, J. Kirscher, U. van Kolck
  Phys. Lett. B **772** (2017), 839

- *Electromagnetic scaling functions within the Green's Function Monte Carlo approach*
  N. Rocco, L. Alvarez-Ruso, A. Lovato, J. Nieves
  Phys. Rev. C **96** (2017), 015504

- *Comparison of the electromagnetic responses of ^{12}C obtained from the Green's function Monte Carlo and spectral function approaches*
  N. Rocco, A. Lovato, O. Benhar
  Phys. Rev. C **94** (2016), 065501

- *Local chiral potentials with Δ-intermediate states and the structure of light nuclei*
  M. Piarulli, L. Girlanda, R. Schiavilla, A. Kievsky, A. Lovato, L. E. Marcucci, S. C. Pieper, M. Viviani, R. Wiringa
  Phys.Rev. C **94** (2016), 054007

- *Electromagnetic response of ^{12}C: a first-principles calculation*
  A. Lovato, S. Gandolfi, J. Carlson, Steven C. Pieper, and R. Schiavilla
  Phys. Rev. Lett. **117** (2016), 082501

- *Unified description of electron-nucleus scattering within the spectral function formalism*
  N. Rocco, A. Lovato, O. Benhar
  Phys. Rev. Lett. **116** (2016), 192501

- *Transport properties of the Fermi hard-sphere system*
  A. Mecca, A. Lovato, O. Benhar, A. Polls
  Phys. Rev. C **93**, 035802 (2016)

- *Contribution of two particle-two hole final states to the nuclear response*
  O. Benhar, A. Lovato, N. Rocco
  Phys. Rev. C **92**, 024602 (2015)

- *Towards a unified description of the electroweak nuclear response*
  A. Lovato and O. Benhar
  Int. J. Mod. Phys. E **24**, 1530006 (2015)

- *Electromagnetic and neutral-weak response functions of ^{4}He and ^{12}C*
  A. Lovato, S. Gandolfi, J. Carlson, Steven C. Pieper, and R. Schiavilla
  Phys. Rev. C **91**, 062501(R) (2015)

- *Effective interaction approach to the Fermi hard-sphere system*
  A. Mecca, A. Lovato, O. Benhar, A. Polls
  Phys. Rev. C **91**, 034325 (2015)

- *The hyperon puzzle: new hints from Quantum Monte Carlo calculations*
  D. Lonardoni, A. Lovato, S. Gandolfi, F. Pederiva
  Phys. Rev. Lett. **114**, 092301 (2015)

- *From the lightest nuclei to the equation of state of asymmetric nuclear matter with realistic nuclear interactions*
  S. Gandolfi, A. Lovato, J. Carlson, and K. E. Schmidt
  Phys. Rev. C **90**, 061306(R) (2014)

- *Neutral weak current two-body contributions in inclusive scattering from ^{12}C*
  A. Lovato, S. Gandolfi, J. Carlson, Steven C. Pieper, and R. Schiavilla
  Phys. Rev. Lett. **112**, 182502 (2014)

- *Neutral current interactions of low-energy neutrinos in dense neutron matter*
  A. Lovato, O. Benhar, S. Gandolfi, and C. Losa
  Phys. Rev. C **89**, 025804 (2013)

- *Charge Form Factor and Sum Rules of Electromagnetic Response Functions in ^{12}C*
  A. Lovato, S. Gandolfi, Ralph Butler, J. Carlson, Ewing Lusk, Steven C. Pieper, and R. Schiavilla
  Phys. Rev. Lett. **111**, 092501 (2013)

- *Weak response of cold symmetric nuclear matter at three-body cluster level*
  A. Lovato, C. Losa, O. Benhar
  Nucl. Phys. A **901**, 22 (2013)

- *Comparative study of three-nucleon potentials in nuclear matter*
  A. Lovato, O. Benhar, S. Fantoni, and K. E. Schmidt
  Phys. Rev. C **85**, 024003 (2012)

- *Density-dependent nucleon-nucleon interaction from three-nucleon forces*
  A. Lovato, O. Benhar, S. Fantoni, A. Yu. Illarionov, and K. E. Schmidt
  Phys. Rev. C **83**, 054003 (2011)

Technical reports

- *Ab-initio Reaction Calculations for Carbon-12*
  A. Lovato and Steven C. Pieper
  Early Science Project Technical Report, NTIS, DE2013-1079770

Conference proceedings

- Exotic atoms at extremely high magnetic fields: the case of neutron star atmosphere
  A. Fontana, A. Colombi, P. Carretta, A. Drago, P. Esposito, P. Gianotti, C. Giusti, D. Lonardoni, A. Lovato, V. Lucherini, F. Pederiva
  EPJ Web of Conferences **181**, 01018 (2018)

- Unified description of nuclear matter properties within the CBF effective interaction approach
  O. Benhar, A. Lovato
  J. Phys. Conf. Ser. **861 (1)**, 012009 (2017)

- Ab initio calculation of the electromagnetic and neutral-weak response functions of ^{4}He and ^{12}C
  A. Lovato, O. Benhar, J. Carlson, S. Gandolfi, Steven C. Pieper, N. Rocco, R. Schiavilla
  EPJ Web of Conferences **113**, 01010 (2016)

- *Strangeness in nuclei and neutron stars: a challenging puzzle*
  D. Lonardoni, A. Lovato, S. Gandolfi, and F. Pederiva
  EPJ Web of Conferences **113**, 07006 (2016)

- *New insights on the hyperon puzzle from quantum Monte Carlo calculations*
  F. Pederiva, F. Catalano, D. Lonardoni, A. Lovato, S. Gandolfi
  arXiv:1506.04042 (2015)

- *Density-dependent nucleon-nucleon interaction from UIX three-nucleon force*
  A. Lovato, O. Benhar, S. Fantoni, and K. E. Schmidt
  J. Phys. Conf. Ser. **336 (1)**, 012016 (2011)

Invited talks

- *Quantum Monte Carlo for neutrino-nucleus scattering*
  INT Program INT-18-2b Advances in Monte Carlo Techniques for Many-Body Quantum Systems, Seattle, WA, United States (2018)
- *Quantum Monte Carlo for neutrino-nucleus scattering*
  NUFACT 2018 - the 20th International Workshop on Neutrinos from accelerators, Blacksburg, VA, United States (2018)
- *Ab initio Calculations of Electroweak Response Functions*
  INT Program INT-18-2a Fundamental Physics with Electroweak Probes of Light Nuclei, Seattle, WA, United States (2018)
- *Electromagnetic and neutral-weak responses of light nuclei*
  ECT* workshop, Trento, Italy (2018)
- *MANYBODY Theory of nuclear quantum many-body systems*
  SM&FT 2017 High Performance Computing in Theoretical Physics University of Bari, Italy (2017)
- *Quantum Monte Carlo results for electron- and neutrino-nucleus scattering*
  MANYBODY collaboration meeting University of Torino, Italy (2017)
- *Nuclei from Lattice-QCD data*
  UK nuclear theory meeting, University of York, York, UK (2017)
- *Electron scattering within ab-initio approaches*
  XIV Conference on Theoretical Nuclear Physics in Italy, Cortona, Italy (2017)
- *Electron scattering within ab-initio approaches*
  The 19th International Workshop on Neutrinos from Accelerators NuFACT Uppsala University, Uppsala, Sweden (2017)
- *Nuclear chart from Lattice QCD*
  Workshop on Ab initio nuclear structure and electroweak response: status and prospects Jefferson Lab, Newport News, VA, United States (2017)
- *Electron scattering with ab initio approaches*
  11th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region: NuInt17 Fields Institute, Toronto, Canada (2017)
- *A unified description of the nuclear equation of state and neutrino responses*
  ECT* workshop, Trento, Italy (2017)
- *Neutrino-nucleus interaction: an ab-initio perspective*
  APS April Meeting 2017, Washington, DC, United States (Jan 2017)
- *Transverse response in the GFMC framework*
  INT Workshop INT-16-63W Theoretical Developments in Neutrino-Nucleus Scattering, Seattle, WA, United States (2016)
- *Nuclear electromagnetic response: Adelchi's PRC of 1997 and the current status*
  Elba XIV Workshop on Lepton-Nucleus Scattering, Marciana Marina, Italy, (2016)
- *First-principles calculation of the electromagnetic response of ^{12}C*
  SciDac meeting, Argonne National Laboratory, IL, United States (2016)
- *Pionless effective field theory: a quantum Monte Carlo approach.*
  INT Program INT-16-1 Nuclear Physics from Lattice QCD ECT*, Seattle, WA, United States (2016)
- *First-principles calculation of the electromagnetic response of ^{12}C*
  ECT* workshop, Trento, Italy (2016)

- *Ab initio calculation of the electromagnetic and neutral-weak response functions.*
  Two-body current contributions in neutrino-nucleus scattering, Saclay, France (2016)
- *From few to many: the effective interaction approach*
  Current problems in theoretical physics, Lloyd's Baia Hotel, Vietri sul Mare, Italy (2016)
- *Argon cross sections at low energies.*
  Supernova Physics at DUNE, Virginia Tech, Blacksburg, VA, United States (2016)
- *Results of Green's function Monte Carlo calculations in the quasi-elastic sector.*
  10th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region: NuInt15 Icho-Kaikan, Osaka University Suita Campus, Japan (2015)
- *Electromagnetic and neutral-weak response functions of light nuclei.*
  Fall Meeting of the APS Division of Nuclear Physics, Santa Fe, NM, United States (2015)
- *Pionless effective field theory: a quantum Monte Carlo approach.*
  ECT* workshop on lattice nuclei, Trento, Italy (2015)
- *Towards a unified description of the electroweak nuclear response*
  Nucleus-Nucleus 2015, Catania, Italy (2015)
- *Towards a unified description of the electroweak nuclear response*
  SciDac meeting, East Lansing, MI, United States (2015)
- *Electromagnetic and neutral-weak response functions of ^{4}He and ^{12}C*
  21st International Conference on Few-Body Problems in Physics (FB21). Crowne Plaza Chicago Metro Downtown Hotel, Chicago, IL, United States (2015)
- *Neutral current response functions from ^{12}C to neutron matter*
  Elba XIII Workshop on Electron-Nucleus Scattering, Marciana Marina, Italy, (2014)
- *Neutral current response functions from ^{12}C to neutron matter*
  SciDac meeting, Santa Fe, NM, United States (2014)
- *Quantum Monte Carlo calculations of the ^{12}C electroweak response functions*
  9th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region: NuInt14. Selsdon Park Hotel, Surrey, (UK), (2014)
- *Sum rules of electromagnetic response functions in ^{12}C*
  SciDac meeting, Bloomington, IN, United States (2013)
- *Charge Form Factor and Sum Rules of Electromagnetic Response Functions in ^{12}C*
  INT Program INT-13-2a, Seattle, WA, United States (2013)
- *Ab-initio calculations on nuclear matter properties including the effect of three-nucleon interactions*
  INFN meeting of MB-31 group, Otranto, Italy (2013)

Invited seminars

- *Quantum Monte Carlo predictions for electron- and neutrino-nucleus scattering*
  Fermilab Theory Seminar, Fermilab, Batavia, IL, United States (2017)
- *Ab initio calculations of structure and neutrino interactions of nuclei and nuclear Matter*
  IFIC, Physics Seminar, Valencia, Spain, (2016)
- *Structure and Neutrino Interactions of Nuclei and Nuclear Matter*
  GSSI, Physics Seminar, L' Aquila, Italy, (2016)
- *Towards a unified description of the electroweak nuclear response from the MeV to the GeV region*
  TRIUMF, Physics colloquium, Vancouver, BC, Canada (2015)
- *Towards a unified description of the electroweak nuclear response*
  Argonne National Laboratory Physics Colloquium, Darien, IL, United States (2015)
- *Quantum Monte Carlo calculations for neutrino-nucleus scattering*
  Università La Sapienza, Rome, Italy (2015)

- *Green's Function Monte Carlo calculations for neutrino-nucleus scattering*
  Virginia Tech University, Blacksburg, VA, United States (2014)
- *Green's Function Monte Carlo calculations for neutrino-nucleus scattering*
  Los Alamos National Laboratory, NM, United States (2014)
- *Electroweak response functions: from ^{12}C to Neutron Matter*
  Università di Trento, Trento, Italy (2014)
- *Ab initio calculations of the electroweak response functions: from ^{12}C to Neutron Matter*
  SISSA - ISAS, Trieste, Italy (2014)
- *Ab initio calculations of electroweak response functions of ^{12}C and Neutron Matter*
  University of Surrey, Guildford, UK, United Kingdom (2014)
- *Electroweak response functions: from ^{12}C to Neutron Matter*
  Los Alamos National Laboratory, NM, United States (2014)
- *Charge Form Factor and Sum Rules of Electromagnetic and Neutral–Current Response Functions in ^{12}C*
  Technische Universität Darmstadt, Darmstadt, Germany (2014)
- *Charge Form Factor and Sum Rules of Electromagnetic and Neutral–Current Response Functions in ^{12}C*
  INT (Institute for Nuclear Theory), Seattle, WA, United States (2013)
- *Charge Form Factor and Sum Rules of Electromagnetic and Neutral–Current Response Functions in ^{12}C*
  TRIUMF (Canada's national laboratory for particle and nuclear physics), Vancouver, BC, Canada (2013)
- *Charge Form Factor and Sum Rules of Electromagnetic and Neutral–Current Response Functions in ^{12}C*
  Thomas Jefferson National Laboratory, Newport News, VA, United States (2013)
- *Three-body cluster calculation of the weak response of symmetric nuclear matter*
  University of Barcelona, Barcelona, Spain (2013)
- *Weak response of cold symmetric nuclear matter at three-body cluster level*
  Los Alamos National Laboratory, NM, United States (2013)
- *Comparative study of three-nucleon potentials in nuclear matter*
  University of Barcelona, Barcelona, Spain (2011)

Conference & Workshop contributions

- *Recent progress in quantum Monte Carlo for ab initio nuclear physics*
  Midwest Theory Get-Together, Argonne, IL, (September 2015)
- *Progresses on Quantum Monte Carlo calculations for neutrino-nucleus scattering*
  INFN MB31 collaboration meeting, Rome, (January 2015)
- *A Quantum Monte Carlo study of the electroweak response functions of Carbon-12*
  Midwest Theory Get-Together, Argonne, IL, (September 2014)
- *Electroweak response functions: from Carbon-12 to Neutron Matter*
  EMMI program Halo Physics at the Neutron Drip Line,Darmstadt, Germany (February 2014)
- *Charge Form Factor and Sum Rules of Electromagnetic Response Functions in Carbon-12*
  Fall Meeting of the APS Division of Nuclear Physics, Newport News, VA, United States (October 2013)
- *Electromagnetic sum rules of Carbon-12: outline of scientific aspects*
  Early Science Program Investigators Meeting, Argonne, IL, United States (May 2013)
- *A comparative analysis of three-nucleon potentials in nuclear matter*
  Electron-Nucleus Scattering XII, Marciana Marina - Isola d' Elba, Italy, (June 2012)
- *Three-nucleon potentials in nuclear matter*
  Three-Nucleon Forces in Vacuum and in the Medium workshop, Trento, Italy, (July 2011)
- *Chiral-inspired three nucleon interaction in nuclear matter*
  Scuola di Fisica nucleare Raimondo Anni, Otranto, Italy, (May-June 2011)

- *Density dependent nucleon nucleon interaction from three nucleon forces*
  XIII Convegno di Cortona su Problemi di Fisica Nucleare Teorica, Cortona, Italy, (April 2011)

Experimental collaborations

- Member of the "JLab Hypernuclear Collaboration". The proposed experiment "An isospin dependence study of the ΛN interaction through the high precision spectroscopy of Λ-hypernuclei with electron beam (C12-15-008)" has been fully approved with grade A and scheduled at the Thomas Jefferson National Accelerator Facility (JLAB).
- Member of the "Multi-nucleon transfer reactions in inverse kinematics with Gammasphere and the FMA" experiment, which took place at the Argonne Tandem Linac Accelerator System (ATLAS) facility of Argonne National Laboratory on June 2016.

Grants/Proposals

General proposal

- CO-PI of the "Nuclear Computational Low Energy Initiative (NUCLEI)" proposal which was awarded by the United States Department of energy of 10,000,000$ to be shared by 12 research institutions across the United States for the years 2017 - 2022;
- PI of the "Italo-american Neutrino-Nucleus Network" proposal which was awarded by the INFN of 20,000 Euros over for the years 2018 - 2021;

Computing time

- PI of the "A unified computational protocol for QCD nuclei" proposal which was awarded of 37,500,000 core hours of computing time on Marconi at CINECA, Italy (2017);
- PI of the "Nuclear Spectra with Chiral Forces" ALCC proposal which was awarded of 35,000,000 core hours of computing time on Theta at Argonne National Laboratory (2017);
- Co-PI of the "Quantum Monte Carlo Calculations in Nuclear Theory" proposal which was awarded of 5 million core hours of computing time under the Theta Early Science Program, at Argonne National Laboratory (2016);
- PI of the "Quantum Monte Carlo calculations with pion-less nuclear potentials" proposal which was awarded of 750,000 core hours of computing time at NERSC under the Allocation Year 2017;

Award

On June 2013 I was awarded of the *2013 Adelchi Fabrocini Award*, recognizing the best doctoral Thesis in theoretical nuclear physics and many-body theory. The award ceremony took place in Otranto, Italy on June 1st 2013.

Organization of scientific meetings

May 2019	Organizer of the forthcoming ECT* workshop "Neutrini and nuclei, challenges and opportunities for nuclear theory", Trento (Italy)
February 2018	Organizer of the INT program "Nuclear ab-initio theories and neutrino physics", Seattle (USA)
June 2017	Convener of the 11th International Workshop on Neutrino-Nucleus Scattering in the Few-GeV Region, Toronto (Canada)
June 2018	Convener of the 12th International Workshop on Neutrino-Nucleus Scattering in the Few-GeV Region, L'Aquila (Italy)
May 2016	Organizer of the ECT* workshop "Advances in transport and response properties of strongly interacting systems", Trento (Italy)

Institutional responsabilities

January 2018- present	National representative for "calcolo teorico" of the INFN MANY-BODY specific initiative
April 2018 - present	Member of the Scientific Advisory Board of the Neutrino Theory Network, Fermi National Accelerator Laboratory, USA
July 2016 - June 2017	Chair of the Physics Colloquium committee, Physics Division, Argonne National Laboratory, USA
October 2014 - May 2015	Member of the Physics Colloquium committee, Physics Division, Argonne National Laboratory, USA
October 2012 - September 2014	Organizer of the theory seminars, Theory Group, Physics Division, Argonne National Laboratory, USA

Commissions of trust

2016 - present	Referee, Springer
2012 - present	Referee, American Physical Society
2016 - present	Referee of the US Department of Energy proposals
2016 - present	Referee of the US National Science Foundation proposals
March 2016	US National Science Foundation panel member

Membership of scientific societies

October 2012 - present	Associated member, American Physical Society

Teaching activities

November 2017	Ab-initio methods for nuclei – NuStec school, Fermilab, United States
June 2017	The correlated basis function approach – ECT* Training Program, Trento, Italy
November 2015	An introduction to quantum Monte Carlo for neutrino nucleus scattering – NuStec school, Okayama University, Japan
April 2011 - December 2011	Fisica per Scienze Naturali e Geologia (Physics for Natural Sciences and Geology) – University of Trieste, Italy.

Supervision of graduate students and postdoctoral fellows

September 2017 - present	Co-supervisor of Pietro Massella, Master student at the University of Trento
October 2015 - Present	Co-supervisor of Maria Piarulli, postdoctoral fellow in the Physics division of Argonne National Laboratory
October 2014 - October 2015	Co-supervisor of Diego Lonardoni, postdoctoral fellow in the Physics division of Argonne National Laboratory
November 2013 - present	Co-supervisor of Lorenzo Contessi, PhD student at the University of Trento
November 2012 - January 2016	Co-supervisor of Angela Mecca, PhD student at the University "La Sapienza", Rome

References

- Dr. Omar Benhar,
  INFN, Sezione di Roma. I-00185 Roma, Italy
  Dipartimento di Fisica, Università "La Sapienza", I-00185 Roma, Italy
  email: omar.benhar@roma1.infn.it
- Prof. Stefano Fantoni,
  ANVUR, National Agency for the Evaluation of Universities and Research Institutes, Piazzale Kennedy, 20, I-00144 Roma, Italy
  email: stefano.fantoni@anvur.org
- Dr. Steven C. Pieper,
  Physics Division, Argonne National Laboratory, Argonne, IL 60439, USA
  email:spieper@anl.gov

- Dr. Joseph A. Carlson,
  Los Alamos National Laboratory, Los Alamos, NM 87545, USA
  email: carlson@lanl.gov

- Prof. Kevin E. Schmidt,
  Department of Physics, Arizona State University, Tempe, AZ 85287, USA
  email: kevin.schmidt@asu.edu

MARCO TAOSO

Place of birth: Tregnago, Verona (Italy)
Date of birth: December 24, 1981
Citizenship: Italian

Contact Details:
Universitá degli Studi di Torino
Dipartimento di Fisica
Via Pietro Giuria 1
20125 Torino, Italy

Email: marco.taoso@to.infn.it

Languages: Italian (Mother tongue), English, Spanish, French.

Present position and past experiences

Since December 2017: researcher at the Istituto Nazionale di Fisica Nucleare, Sezione di Torino (Italy)

November 2015-December 2017: postdoctoral position at the Instituto de Física Teórica, CSIC, Universidad Autónoma de Madrid.

January 2013-October 2015 postdoctoral position at the Institut de Physique Théorique, CEA-Saclay.

November 2011-December 2012: Institute of Particle Physics Postdoctoral Research Fellow.
Department of Physics and Astronomy, University of British Columbia, Vancouver, Canada and TRIUMF laboratory

October 2009- October 2011: postdoctoral fellow at the Astroparticle and High Energy group, IFIC-CSIC Valencia, Spain.

May 2009- September 2009: visitor at CERN Theory-Division.

January 2006- April 2009: PhD student at the University of Padova, Italy.
Enrolled in the "International Doctorate on AstroParticle Physics" (IDAPP) programme.
(www.fe.infn.it/idapp)
Participation in the IDAPP training programme leads to a double doctoral degree according to the rules of the certification of Doctora Europaeus.
Ph.D student at Ecole Doctorale 381, Université Paris Diderot (Paris 7, France) as partecipant of the IDAPP training programme.

October 2007- December 2008: visiting student at the Institut d'Astrophysique de Paris, Université Pierre et Marie Curie, under the supervision of Dr. Gianfranco Bertone.

August 2007: visiting student at the California Institute of Technology, Theoretical Astrophysics (TAPIR) group.

Education

April 2009: PhD in Theoretical Physics at University of Padova, Italy and
at Université Paris Diderot, PARIS 7, France.
Thesis title: “Particle Dark Matter and Astrophysical constraints"
Supervisors: Prof. Antonio Masiero, Dr. Gianfranco Bertone.

2000-2005: University of Padova, Italy.
Laurea Degree in Theoretical Physics .
Thesis title: “The generation of the baryonic asymmetry in the Universe in the presence of a magnetic field”.
Supervisors: Prof. Sabino Matarrese, Dr. Antonio Riotto.

Research Interests

Astroparticle Physics, phenomenology of Physics Beyond the Standard Model,
Neutrino physics, Cosmology and Theoretical Astrophysics.

Referee for Journal of Cosmology and Astroparticle Physics (JCAP), Physics Review D, Physics Review Letters, Astronomy and Astrophysics Letters, Physics Letters B, European Physical Journal C, Advances in High Energy Physics.

References

Prof. Gianfranco Bertone
Institute for Theoretical Physics
University of Amsterdam
Science Park 904, Postbus 94485
1090 GL Amsterdam, NL
E-mail: g.bertone@uva.nl
Phone: +31 20 525 7658

Dr. Marco Cirelli
LPTHE - CNRS/UPMC (UMR 7589)
Boite 126, T13-14 4e étage,
4 place Jussieu, 75252
Paris CEDEX 05, France
E-mail: marco.cirelli@lpthe.jussieu.fr
Phone: +33 (0)1 44 27 73 94

Prof. Nicolao Fornengo
University of Torino and INFN
Via P.Giuria 1,
10125 Torino, Italy
E-mail: fornengo@to.infn.it
Phone: +39 011 670 7225

Prof. Carlos Muñoz
Instituto de Fisica Teorica
Universidad Autonoma de Madrid
C/ Nicolas Cabrera 13-15,
28049 Madrid Spain
E-mail: c.munoz@uam.es
Phone: +34 912999864

Prof. Geraldine Servant
DESY and Institute of Theoretical Physics,
University of Hamburg.
Notkestraße 85, D-22607 Hamburg, Germany.
E-mail: geraldine.servant@desy.de
Phone: +49 (0)4089981484

Prof. Kris Sigurdson
University of British Columbia
Department of Physics and Astronomy
Vancouver, BC V6T 1R9, Canada
E-mail: krs@phas.ubc.ca
Phone: 604-822-5879

Prof. Jose W. Furtado Valle
Instituto de Fisica Corpuscolar,
CSIC-University of Valencia
Edificio Institutos de Paterna
Aptdo de Correos 22085
46071 Valencia, Spain
E-mail: valle@ific.uv.es
Phone: +34 963544459

Seminars and Conference Talks

- ▷ *Seminar at IFIC* 24 July 2018, Valencia, Spain.
- ▷ *Dark Side of the Universe* 25-29 June 2018, Annecy, France.
- ▷ *Seminar at IFIC* 16 February 2018, Valencia, Spain.
- ▷ *MULTIDARK Consolider Workshop.* 26 May 2017, Madrid, Spain.
- ▷ *South American Dark Matter workshop* 10 May 2017, San Paolo, Brazil.
- ▷ *Seminar at ICTP San Paolo* 08 May 2017, San Paolo, Brazil.
- ▷ *Seminar at University of Torino* 09 March 2017, Torino, Italy.
- ▷ *Seminar at University of Padova* 30 November 2016, Padova, Italy.
- ▷ *Dark Matter from aeV to ZeV: IBS-Multidark-IPP workshop.* 21-25 November 2016, Durham, UK.
- ▷ *PASCOS 2016.* 10-16 July 2016, Quy-Nhon, Vietnam.
- ▷ *Frontier Objects in Astrophysics and Particle Physics.* 22-28 May 2016, Sicily, Italy. (Invited Plenary Speaker).
- ▷ *IBS-MULTIDARK Workshop.* 23-28 November 2015, UAM Madrid, Spain.
- ▷ *Seminar at LPT Orsay*, 15 October 2015, Paris, France.
- ▷ *TAUP 2015*, 7-11 September 2015, Torino, Italy.
- ▷ *Effective Theories and Dark Matter*, 16-20 March 2015, Mainz, Germany.
- ▷ *Seminar at SISSA*, 4 March 2015, Trieste, Italy.
- ▷ *Rencontres de Physique des Particules*, 15-16 January 2015, Paris, France.
- ▷ *GDR Terascale*, 17-21 November 2014, Heidelberg, Germany. (Invited Plenary Speaker).
- ▷ *Dark Side of the Universe*, 17-21 November 2014, Cape Town, South Africa.
- ▷ *APS workshop*, 29 September-01 October 2014, Amsterdam, Netherlands.
- ▷ *Physics Challenges in the face of LHC-14*, 22-26 September 2014, Madrid, Spain.
- ▷ *TeVPa/IDM 2014*, Astroparticle Physics 2014. 23-28 June 2014, Amsterdam, Netherlands.
- ▷ *Seminar at LAPTh*, April 2014, Annecy, France.
- ▷ *WIN 2013*, International workshop on Weak Interactions and Neutrinos. 16-21 September 2013, Natal, Brasil. (Invited speaker).
- ▷ *Hunting for Dark Matter*, 12-31 May 2013, Santa Barbara, USA. (Invited speaker).
- ▷ *APS workshop*, 25-27 March 2013, Stockholm, Sweden.
- ▷ *Seminar at Institut d'Astrophysique de Paris*, February 2013, Paris, France.
- ▷ *Seminar at IPhT-Saclay*, January 2013, Paris, France.

- ▷ *Physun 2012.* The Physics of the Sun and the solar neutrinos.
  4-5 October 2012, LNGS, Italy, (Invited Speaker).
- ▷ *Identification of Dark Matter* , 23-27 July 2012, Chicago, USA. (Invited Plenary Speaker).
- ▷ *PASCOS 2012*, 3-8 June 2012, Merida, Mexico.
- ▷ *Seminar at TRIUMF Laboratory*, November 2011, Vancouver, Canada.
- ▷ *TAUP 2011*, 5-9 September 2011, Munich, Germany.
- ▷ *FLASY 2011. Workshop on Flavour Symmetries and consequences in Accelerators and Cosmology.* 11-14 July 2011, Valencia, Spain. (Invited Plenary Speaker).
- ▷ *MULTIDARK Consolider Workshop.* 4-6 April 2011, IFT UAM/CSIC Madrid, Spain.
- ▷ *MULTIDARK Consolider Workshop.* 15-16 November, 2010, CETA-CIEMAT, Trujillo, Spain.
- ▷ *Indentification of Dark Matter.* July 2010, U. of Montpellier 2, France.
- ▷ *Pascos 2010.* July 2010, U. of Valencia-IFIC, Spain.
- ▷ *MULTIDARK Consolider Workshop.* June 2010, U. of Santander, Spain.
- ▷ *Multi3 Workshop.* U. of Padova, March 2010, Italy.
- ▷ *MULTIDARK Consolider Workshop.* January 2010, UAM Madrid, Spain.
- ▷ *Seminar at Observatory of Geneva*, June 2009, Switzerland.
- ▷ *Seminar at CERN TH-Division*, May 2009, Geneva, Switzerland, (TH cosmo meeting).
- ▷ *Seminar at University of Padova*, March 2009, Italy.
- ▷ *Seminar at IFIC (CSIC - University of Valencia)*, March 2009, Spain.
- ▷ *Cosmo 09.* September 2009, CERN, Geneva, Switzerland.
- ▷ *IDAPP meeting*, June 2008, Paris, France.
- ▷ *Identification of Dark Matter*, August 2008, Stockholm, Sweden.
- ▷ *IDAPP meeting*, May 2007, Ferrara, Italy.
- ▷ *TeV Particle Astrophysics*, September 2007, Venice, Italy.
- ▷ *IDAPP meeting*, May 2006, Ferrara, Italy.

List of Publications

1. *"Detecting the Stimulated Decay of Axions at Radio Frequencies"*
   A. Caputo, M. Regis, M. Taoso and S. Witte,
   Sent to JCAP, arXiv:1811.08436 [hep-ph].

2. *"Searches for gamma-ray lines and 'pure WIMP' spectra from Dark Matter annihilations in dwarf galaxies with H.E.S.S "*
   M. Cirelli, P. Panci, F. Sala, J. Silk, M. Taoso and HESS Collaboration
   To appear in JCAP, arXiv:1810.00995 [hep-ph].

3. *"On the merger rate of primordial black holes: effects of nearest neighbours distribution and clustering"*
   G. Ballesteros, P. D. Serpico and M. Taoso,
   JCAP 1810 (2018) no.10 043, arXiv:1807.02084 [hep-ph].

4. *"Asymmetric dark matter: residual annihilations and self-interactions "*
   I. Baldes, M. Cirelli, P. Panci, K. Petraki, F. Sala and M. Taoso,
   Scipost Phys. 4 (2018) no.6 041, arXiv:1712.07489 [hep-ph].

5. *"Primordial black hole dark matter from single field inflation "*
   G. Ballesteros and M. Taoso,
   Phys.Rev. D97 (2018) no.2, 023501, arXiv:1709.05565 [hep-ph].

6. *"Diffuse cosmic rays shining in the Galactic center: A novel interpretation of H.E.S.S. and Fermi-LAT γ-ray data "*
   D. Gaggero, D. Grasso, A. Marinelli, M. Taoso and A. Urbano,
   Phys.Rev.Lett. 119 (2017) no.3, 031101, arXiv:1702.01124 [astro-ph].

7. *"Dark Matter's secret liaisons: phenomenology of a dark U(1) sector with bound states"*
   M. Cirelli, P. Panci, K. Petraki, F. Sala and M. Taoso,
   JCAP 1705 (2017) no.05, 036, arXiv:1612.07295 [hep-ph].

8. *"Physics at a 100 TeV pp collider: beyond the Standard Model phenomena"*
   T. Golling et al.
   CERN Yellow Report (2017) no.3, 441-634, arXiv:1606.00947 [hep-ph].

9. *"Updated galactic radio constraints on Dark Matter"*
   M. Cirelli and M. Taoso
   JCAP 1607 (2016) no.07, 041, arXiv:1604.0626 [hep-ph].

10. *"Di-Photon excess in the 2HDM: hasting towards the instability and the non-perturbative regime"*
    E. Bertuzzo, P. A. N. Machado and M. Taoso
    To be published in PRD, arXiv:1601.07508 [hep-ph].

11. *"Towards a realistic astrophysical interpretation of the Galactic center excess"*
    D. Gaggero, M. Taoso, A. Urbano, M. Valli and P. Ullio
    JCAP **12** (2015) 056, arXiv:1507.06129 [astro-ph.HE]

12. *"Gamma ray tests of Minimal Dark Matter"*
    M. Cirelli, T. Hambye, P. Panci, F. Sala and M. Taoso
    JCAP **1510** (2015) 10, 026 [arXiv:1507.05519 [hep-ph]]

13. *"PPPC 4 DM secondary: A Poor Particle Physicist Cookbook for secondary radiation from Dark Matter"*
J. Buch, M. Cirelli, G. Giesen and M. Taoso
JCAP **1509** (2015) 09, 037 [arXiv:1505.01049 [hep-ph]]

14. *"Wino-like Minimal Dark Matter and future colliders"*
M. Cirelli, F. Sala and M. Taoso
JHEP **1410**, 033 (2014) [arXiv:1407.7058 [hep-ph]].

15. *"Antiproton constraints on the GeV gamma-ray excess: a comprehensive analysis"*
M. Cirelli, D. Gaggero, G. Giesen, M. Taoso and A. Urbano
JCAP **1412** (2014) 12, 045, arXiv:1407.2173 [hep-ph].

16. *"Connecting neutrino physics with dark matter"*
M. Lattanzi, R. A. Lineros and M. Taoso,
New J. Phys. **16**, 125012 (2014) [arXiv:1406.0004 [hep-ph]].

17. *"The isotropic radio background revisited"*
N. Fornengo, R. A. Lineros, M. Regis and M. Taoso
JCAP04 **04** (2014) 008 [arXiv:1402.2218 [astro-ph]].

18. *"Anti-helium from Dark Matter annihilations"*
M. Cirelli, N. Fornengo, M. Taoso and A. Vittino
JHEP **1408** (2014) 009 [arXiv:1401.4017 [hep-ph]].

19. *"Gamma Rays from Top-Mediated Dark Matter Annihilations"*
C. B. Jackson, G. Servant, G. Shaughnessy, T. M. P. Tait and M. Taoso
JCAP **1307** (2013) 006 [arXiv:1303.4717 [hep-ph]].

20. *"Gamma-ray lines and One-Loop Continuum from s-channel Dark Matter Annihilations"*
C. B. Jackson, G. Servant, G. Shaughnessy, T. M. P. Tait and M. Taoso
JCAP **1307** (2013) 021 [arXiv:1302.1802 [hep-ph]]

21. *"Main sequence stars with asymmetric dark matter."*
F.Iocco, M.Taoso, F.Leclercq, G.Meynet
Phys. Rev. Lett. **108** (2012) 061301, arXiv:1201.5387 [hep-ph.CO]

22. *"Cosmological Radio Emission induced by WIMP Dark Matter."*
N.Fornengo, R.Lineros, M.Regis, M.Taoso.
JCAP **1203** (2012) 033, arXiv:1112.4517 [hep-ph.CO]

23. *"Galactic synchrotron emission from WIMPs at radio frequencies"*
N.Fornengo, R.Lineros, M.Regis, M.Taoso.
JCAP **1201** (2012) 005, arXiv:1110.4337 [hep-ph.CO]

24. *"Gravitino dark matter and neutrino masses with bilinear R-parity violation"*
D.Restrepo, M.Taoso, J.W.F.Valle, O.Zapata.
Phys. Rev. D **85** (2012) 023523, arXiv:1109.0512 [hep-ph.CO]

25. *"Possibility of a Dark Matter Interpretation for the Excess in Isotropic Radio Emission Reported by ARCADE."*
N.Fornengo, R.Lineros, M.Regis, M.Taoso.
Phys. Rev. Lett. **107** (2011) 271302, arXiv:1108.0569 [hep-ph.CO]

26. *"Phenomenology of Dark Matter from A4 Flavor Symmetry"*
M.S.Boucenna, M.Hirsh, S.Morisi, E.Peinado, M.Taoso, J.W.F.Valle.
JHEP **1105** (2011) 037, arXiv:1101.2874 [hep-ph.CO]

27. *"Effect of low mass dark matter particles on the Sun."*
M.Taoso, F.Iocco, G.Meynet, G.Bertone, P.Eggenberger.
Phys.Rev. D **82** (2010) 083509, arXiv:1005.5711 [astro-ph.CO]

28. *"Higgs in Space!"*
C.Jackson, G.Servant, G.Shaughnessy, T.Tait and M.Taoso
JCAP **1004** (2010) 004, arXiv:0912.0004 [hep-ph]

29. *"Dark Matter Annihilation around Intermediate Mass Black Holes: an update."*
G.Bertone, M.Fornasa, M.Taoso and A.Zentner
New J.Phys. **11** (2009) 105016, [arXiv:0905.4736].

30. *"Gamma-ray and Radio Constraints of High Positron Rate Dark Matter Models Annihilating into New Light Particles."*
L.Bergstrom, G.Bertone, T.Bringmann, J.Edsjo and M.Taoso
Phys. Rev. D **79** (2009) 081303 , [arXiv:0812.3895].

31. *"Angular correlations in the cosmic gamma-ray background from dark matter annihilation around intermediate-mass black holes."*
M.Taoso, S.Ando, G.Bertone and S.Profumo
Phys.Rev.D **79** (2009) 043521, [arXiv:0811.4493].

32. *"Gamma-ray and radio tests of the $e^{\pm}$ excess from DM annihilations."*
G.Bertone, M.Cirelli, A.Strumia and M.Taoso
JCAP **0903** (2009) 009, [arXiv:0811.3744].

33. *"Dark Matter annihilations in Pop III stars".*
M. Taoso, G. Bertone, G. Meynet, S. Ekstrom.
Phys. Rev. D **78** (2008) 123510, [arXiv:0806.2681].

34. *"Dark Matter Candidates: A Ten-Point Test."*
M. Taoso, G. Bertone and A. Masiero.
JCAP **0803** (2008) 022, [arXiv:0711.4996].

35. *"Gamma-Rays from Dark Matter Mini-Spikes in M31".*
M. Fornasa, M. Taoso and G. Bertone.
Phys. Rev. D **76** (2007) 043517, [arXiv:astro-ph/0703757].

Curriculum Vitae

Personal Details

Name:	Alessandro Lovato	
Date and place of birth:	13 January 1985, Velletri (RM), Italy	
Citizenship:	Italian	
Residence:	1555 North Dearborn Parkway, Chicago, IL 60610, USA	
Affiliations:	INFN -TIFPA Via Sommarive, 14 38123 Trento, Italy	Argonne National Laboratory 9700 South Cass Avenue Argonne, IL 60439, USA
Email:	alessandro.lovato@tifpa.infn.it	
Researcher unique identifiers:	Researcher ID: K-9237-2017 Orcid: 0000-0002-2194-4954	

Employment

May 2017 - present:	**Researcher**, Istituto Nazionale di Fisica Nucleare at the Trento Institute for Fundamentals Physics Applications
October 2014 - present:	**Assistant Physicist**, Physics Division at Argonne National Laboratory
October 2012 - September 2014:	**Postoctoral appointee**, Leading Computing Facility and Physics Division at Argonne National Laboratory. *Project*: Green Function Monte Carlo calculation of electroweak response of Carbon-12.

Education

October 2008 - September 2012:	**Ph.D.** Astroparticle Physics, SISSA-ISAS Trieste.
October 2006 - September 2008:	**Master Degree**, Physics, University "Sapienza", Rome. *Final Mark*: 110 cum laude/110
October 2003 - November 2006:	**Bachelor Degree**, Physics, University "Sapienza", Rome *Final Mark*: 110 cum laude/110.

Publications

Journal Articles

- *Local chiral interactions and magnetic structure of few-nucleon systems*
  R. Schiavilla, A. Baroni, S. Pastore, M. Piarulli, L. Girlanda, A. Kievsky, A. Lovato, L.E. Marcucci, Steven C. Pieper, M. Viviani, R.B. Wiringa
  arXiv:1809.10180

- *Exploring density-dependent effective interactions with quantum Monte Carlo*
  P. Massella, F. Barranco, D. Lonardoni, A. Lovato, F. Pederiva, E. Vigezzi
  arXiv:1808.00518

- *Local chiral interactions, the tritium Gamow-Teller matrix element, and the three-nucleon contact term*
  A. Baroni, R. Schiavilla, L.E. Marcucci, L. Girlanda, A. Kievsky, A. Lovato, S. Pastore, M. Piarulli, Steven C. Pieper, M. Viviani, R.B. Wiringa
  arXiv:1806.10245 (Phys. Rev. C in press)

- *Quantum Monte Carlo for dynamical pions and nucleons*
  L. Madeira, A. Lovato, F. Pederiva, K. E. Schmidt
  Phys. Rev. C **98**, 034005 (2018)

- *Relativistic effects in ab-initio electron-nucleus scattering*
  N. Rocco, W. Leidemann, A. Lovato, Giuseppina Orlandini
  Phys. Rev. C **97** (2018), 055501

- *Scaling within the Spectral Function approach*
  J.E. Sobczyk, N. Rocco, A. Lovato, J. Nieves
  Phys. Rev. C **97** (2018), 035506

- *Quantum Monte Carlo calculation of neutral-current $\nu-^{12}C$ inclusive quasielastic scattering*
  A. Lovato, S. Gandolfi, J. Carlson, Ewing Lusk, Steven C. Pieper, R. Schiavilla
  Phys. Rev. C **97** (2018), 022502

- *Light-nuclei spectra from chiral dynamics*
  M. Piarulli, A. Baroni, L. Girlanda, A. Kievsky, A. Lovato, Ewing Lusk, L.E. Marcucci, Steven C. Pieper, R. Schiavilla, M. Viviani R.B. Wiringa
  Phys. Rev. Lett. **120** (2018), 052503

- *Perturbation Theory of Nuclear Matter with a Microscopic Effective Interaction*
  O. Benhar, A. Lovato
  Phys. Rev. C **96** (2017), 054301

- *Variational calculation of the ground state of closed-shell nuclei up to A=40*
  D. Lonardoni, A. Lovato, Steven C. Pieper, R.B. Wiringa
  Phys. Rev. C **96** (2017), 024326

- *Evolution of a proto-neutron star with a nuclear many-body equation of state: neutrino luminosity and gravitational wave frequencies*
  G. Camelio, A. Lovato, L. Gualtieri, O. Benhar, J. A. Pons, V. Ferrari
  Phys. Rev. D **96** (2017), 043015

- *Ground-State Properties of ^4He and ^{16}O Extrapolated from Lattice QCD with Pionless EFT*
  L. Contessi, A. Lovato, F. Pederiva, A. Roggero, J. Kirscher, U. van Kolck
  Phys. Lett. B **772** (2017), 839

- *Electromagnetic scaling functions within the Green's Function Monte Carlo approach*
  N. Rocco, L. Alvarez-Ruso, A. Lovato, J. Nieves
  Phys. Rev. C **96** (2017), 015504

- *Comparison of the electromagnetic responses of ^{12}C obtained from the Green's function Monte Carlo and spectral function approaches*
  N. Rocco, A. Lovato, O. Benhar
  Phys. Rev. C **94** (2016), 065501

- *Local chiral potentials with Δ-intermediate states and the structure of light nuclei*
  M. Piarulli, L. Girlanda, R. Schiavilla, A. Kievsky, A. Lovato, L. E. Marcucci, S. C. Pieper, M. Viviani, R. Wiringa
  Phys.Rev. C **94** (2016), 054007

- *Electromagnetic response of ^{12}C: a first-principles calculation*
  A. Lovato, S. Gandolfi, J. Carlson, Steven C. Pieper, and R. Schiavilla
  Phys. Rev. Lett. **117** (2016), 082501

- *Unified description of electron-nucleus scattering within the spectral function formalism*
  N. Rocco, A. Lovato, O. Benhar
  Phys. Rev. Lett. **116** (2016), 192501

- *Transport properties of the Fermi hard-sphere system*
  A. Mecca, A. Lovato, O. Benhar, A. Polls
  Phys. Rev. C **93**, 035802 (2016)

- *Contribution of two particle-two hole final states to the nuclear response*
  O. Benhar, A. Lovato, N. Rocco
  Phys. Rev. C **92**, 024602 (2015)

- *Towards a unified description of the electroweak nuclear response*
  A. Lovato and O. Benhar
  Int. J. Mod. Phys. E **24**, 1530006 (2015)

- *Electromagnetic and neutral-weak response functions of ^{4}He and ^{12}C*
  A. Lovato, S. Gandolfi, J. Carlson, Steven C. Pieper, and R. Schiavilla
  Phys. Rev. C **91**, 062501(R) (2015)

- *Effective interaction approach to the Fermi hard-sphere system*
  A. Mecca, A. Lovato, O. Benhar, A. Polls
  Phys. Rev. C **91**, 034325 (2015)

- *The hyperon puzzle: new hints from Quantum Monte Carlo calculations*
  D. Lonardoni, A. Lovato, S. Gandolfi, F. Pederiva
  Phys. Rev. Lett. **114**, 092301 (2015)

- *From the lightest nuclei to the equation of state of asymmetric nuclear matter with realistic nuclear interactions*
  S. Gandolfi, A. Lovato, J. Carlson, and K. E. Schmidt
  Phys. Rev. C **90**, 061306(R) (2014)

- *Neutral weak current two-body contributions in inclusive scattering from ^{12}C*
  A. Lovato, S. Gandolfi, J. Carlson, Steven C. Pieper, and R. Schiavilla
  Phys. Rev. Lett. **112**, 182502 (2014)

- *Neutral current interactions of low-energy neutrinos in dense neutron matter*
  A. Lovato, O. Benhar, S. Gandolfi, and C. Losa
  Phys. Rev. C **89**, 025804 (2013)

- *Charge Form Factor and Sum Rules of Electromagnetic Response Functions in ^{12}C*
  A. Lovato, S. Gandolfi, Ralph Butler, J. Carlson, Ewing Lusk, Steven C. Pieper, and R. Schiavilla
  Phys. Rev. Lett. **111**, 092501 (2013)

- *Weak response of cold symmetric nuclear matter at three-body cluster level*
  A. Lovato, C. Losa, O. Benhar
  Nucl. Phys. A **901**, 22 (2013)

- *Comparative study of three-nucleon potentials in nuclear matter*
  A. Lovato, O. Benhar, S. Fantoni, and K. E. Schmidt
  Phys. Rev. C **85**, 024003 (2012)

- *Density-dependent nucleon-nucleon interaction from three-nucleon forces*
  A. Lovato, O. Benhar, S. Fantoni, A. Yu. Illarionov, and K. E. Schmidt
  Phys. Rev. C **83**, 054003 (2011)

Technical reports

- *Ab-initio Reaction Calculations for Carbon-12*
  A. Lovato and Steven C. Pieper
  Early Science Project Technical Report, NTIS, DE2013-1079770

Conference proceedings

- Exotic atoms at extremely high magnetic fields: the case of neutron star atmosphere
  A. Fontana, A. Colombi, P. Carretta, A. Drago, P. Esposito, P. Gianotti, C. Giusti, D. Lonardoni, A. Lovato, V. Lucherini, F. Pederiva
  EPJ Web of Conferences **181**, 01018 (2018)

- Unified description of nuclear matter properties within the CBF effective interaction approach
  O. Benhar, A. Lovato
  J. Phys. Conf. Ser. **861 (1)**, 012009 (2017)

- Ab initio calculation of the electromagnetic and neutral-weak response functions of ^{4}He and ^{12}C
  A. Lovato, O. Benhar, J. Carlson, S. Gandolfi, Steven C. Pieper, N. Rocco, R. Schiavilla
  EPJ Web of Conferences **113**, 01010 (2016)

- *Strangeness in nuclei and neutron stars: a challenging puzzle*
  D. Lonardoni, A. Lovato, S. Gandolfi, and F. Pederiva
  EPJ Web of Conferences **113**, 07006 (2016)

- *New insights on the hyperon puzzle from quantum Monte Carlo calculations*
  F. Pederiva, F. Catalano, D. Lonardoni, A. Lovato, S. Gandolfi
  arXiv:1506.04042 (2015)

- *Density-dependent nucleon-nucleon interaction from UIX three-nucleon force*
  A. Lovato, O. Benhar, S. Fantoni, and K. E. Schmidt
  J. Phys. Conf. Ser. **336 (1)**, 012016 (2011)

Invited talks

- *Quantum Monte Carlo for neutrino-nucleus scattering*
  INT Program INT-18-2b Advances in Monte Carlo Techniques for Many-Body Quantum Systems, Seattle, WA, United States (2018)
- *Quantum Monte Carlo for neutrino-nucleus scattering*
  NUFACT 2018 - the 20th International Workshop on Neutrinos from accelerators, Blacksburg, VA, United States (2018)
- *Ab initio Calculations of Electroweak Response Functions*
  INT Program INT-18-2a Fundamental Physics with Electroweak Probes of Light Nuclei, Seattle, WA, United States (2018)
- *Electromagnetic and neutral-weak responses of light nuclei*
  ECT* workshop, Trento, Italy (2018)
- *MANYBODY Theory of nuclear quantum many-body systems*
  SM&FT 2017 High Performance Computing in Theoretical Physics University of Bari, Italy (2017)
- *Quantum Monte Carlo results for electron- and neutrino-nucleus scattering*
  MANYBODY collaboration meeting University of Torino, Italy (2017)
- *Nuclei from Lattice-QCD data*
  UK nuclear theory meeting, University of York, York, UK (2017)
- *Electron scattering within ab-initio approaches*
  XIV Conference on Theoretical Nuclear Physics in Italy, Cortona, Italy (2017)
- *Electron scattering within ab-initio approaches*
  The 19th International Workshop on Neutrinos from Accelerators NuFACT Uppsala University, Uppsala, Sweden (2017)
- *Nuclear chart from Lattice QCD*
  Workshop on Ab initio nuclear structure and electroweak response: status and prospects Jefferson Lab, Newport News, VA, United States (2017)
- *Electron scattering with ab initio approaches*
  11th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region: NuInt17 Fields Institute, Toronto, Canada (2017)
- *A unified description of the nuclear equation of state and neutrino responses*
  ECT* workshop, Trento, Italy (2017)
- *Neutrino-nucleus interaction: an ab-initio perspective*
  APS April Meeting 2017, Washington, DC, United States (Jan 2017)
- *Transverse response in the GFMC framework*
  INT Workshop INT-16-63W Theoretical Developments in Neutrino-Nucleus Scattering, Seattle, WA, United States (2016)
- *Nuclear electromagnetic response: Adelchi's PRC of 1997 and the current status*
  Elba XIV Workshop on Lepton-Nucleus Scattering, Marciana Marina, Italy, (2016)
- *First-principles calculation of the electromagnetic response of ^{12}C*
  SciDac meeting, Argonne National Laboratory, IL, United States (2016)
- *Pionless effective field theory: a quantum Monte Carlo approach.*
  INT Program INT-16-1 Nuclear Physics from Lattice QCD ECT*, Seattle, WA, United States (2016)
- *First-principles calculation of the electromagnetic response of ^{12}C*
  ECT* workshop, Trento, Italy (2016)

- *Ab initio calculation of the electromagnetic and neutral-weak response functions.*
  Two-body current contributions in neutrino-nucleus scattering, Saclay, France (2016)
- *From few to many: the effective interaction approach*
  Current problems in theoretical physics, Lloyd's Baia Hotel, Vietri sul Mare, Italy (2016)
- *Argon cross sections at low energies.*
  Supernova Physics at DUNE, Virginia Tech, Blacksburg, VA, United States (2016)
- *Results of Green's function Monte Carlo calculations in the quasi-elastic sector.*
  10th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region: NuInt15 Icho-Kaikan, Osaka University Suita Campus, Japan (2015)
- *Electromagnetic and neutral-weak response functions of light nuclei.*
  Fall Meeting of the APS Division of Nuclear Physics, Santa Fe, NM, United States (2015)
- *Pionless effective field theory: a quantum Monte Carlo approach.*
  ECT* workshop on lattice nuclei, Trento, Italy (2015)
- *Towards a unified description of the electroweak nuclear response*
  Nucleus-Nucleus 2015, Catania, Italy (2015)
- *Towards a unified description of the electroweak nuclear response*
  SciDac meeting, East Lansing, MI, United States (2015)
- *Electromagnetic and neutral-weak response functions of ^{4}He and ^{12}C*
  21st International Conference on Few-Body Problems in Physics (FB21). Crowne Plaza Chicago Metro Downtown Hotel, Chicago, IL, United States (2015)
- *Neutral current response functions from ^{12}C to neutron matter*
  Elba XIII Workshop on Electron-Nucleus Scattering, Marciana Marina, Italy, (2014)
- *Neutral current response functions from ^{12}C to neutron matter*
  SciDac meeting, Santa Fe, NM, United States (2014)
- *Quantum Monte Carlo calculations of the ^{12}C electroweak response functions*
  9th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region: NuInt14. Selsdon Park Hotel, Surrey, (UK), (2014)
- *Sum rules of electromagnetic response functions in ^{12}C*
  SciDac meeting, Bloomington, IN, United States (2013)
- *Charge Form Factor and Sum Rules of Electromagnetic Response Functions in ^{12}C*
  INT Program INT-13-2a, Seattle, WA, United States (2013)
- *Ab-initio calculations on nuclear matter properties including the effect of three-nucleon interactions*
  INFN meeting of MB-31 group, Otranto, Italy (2013)

Invited seminars

- *Quantum Monte Carlo predictions for electron- and neutrino-nucleus scattering*
  Fermilab Theory Seminar, Fermilab, Batavia, IL, United States (2017)
- *Ab initio calculations of structure and neutrino interactions of nuclei and nuclear Matter*
  IFIC, Physics Seminar, Valencia, Spain, (2016)
- *Structure and Neutrino Interactions of Nuclei and Nuclear Matter*
  GSSI, Physics Seminar, L' Aquila, Italy, (2016)
- *Towards a unified description of the electroweak nuclear response from the MeV to the GeV region*
  TRIUMF, Physics colloquium, Vancouver, BC, Canada (2015)
- *Towards a unified description of the electroweak nuclear response*
  Argonne National Laboratory Physics Colloquium, Darien, IL, United States (2015)
- *Quantum Monte Carlo calculations for neutrino-nucleus scattering*
  Università La Sapienza, Rome, Italy (2015)

- *Green's Function Monte Carlo calculations for neutrino-nucleus scattering*
  Virginia Tech University, Blacksburg, VA, United States (2014)
- *Green's Function Monte Carlo calculations for neutrino-nucleus scattering*
  Los Alamos National Laboratory, NM, United States (2014)
- *Electroweak response functions: from ^{12}C to Neutron Matter*
  Università di Trento, Trento, Italy (2014)
- *Ab initio calculations of the electroweak response functions: from ^{12}C to Neutron Matter*
  SISSA - ISAS, Trieste, Italy (2014)
- *Ab initio calculations of electroweak response functions of ^{12}C and Neutron Matter*
  University of Surrey, Guildford, UK, United Kingdom (2014)
- *Electroweak response functions: from ^{12}C to Neutron Matter*
  Los Alamos National Laboratory, NM, United States (2014)
- *Charge Form Factor and Sum Rules of Electromagnetic and Neutral–Current Response Functions in ^{12}C*
  Technische Universität Darmstadt, Darmstadt, Germany (2014)
- *Charge Form Factor and Sum Rules of Electromagnetic and Neutral–Current Response Functions in ^{12}C*
  INT (Institute for Nuclear Theory), Seattle, WA, United States (2013)
- *Charge Form Factor and Sum Rules of Electromagnetic and Neutral–Current Response Functions in ^{12}C*
  TRIUMF (Canada's national laboratory for particle and nuclear physics), Vancouver, BC, Canada (2013)
- *Charge Form Factor and Sum Rules of Electromagnetic and Neutral–Current Response Functions in ^{12}C*
  Thomas Jefferson National Laboratory, Newport News, VA, United States (2013)
- *Three-body cluster calculation of the weak response of symmetric nuclear matter*
  University of Barcelona, Barcelona, Spain (2013)
- *Weak response of cold symmetric nuclear matter at three-body cluster level*
  Los Alamos National Laboratory, NM, United States (2013)
- *Comparative study of three-nucleon potentials in nuclear matter*
  University of Barcelona, Barcelona, Spain (2011)

Conference & Workshop contributions

- *Recent progress in quantum Monte Carlo for ab initio nuclear physics*
  Midwest Theory Get-Together, Argonne, IL, (September 2015)
- *Progresses on Quantum Monte Carlo calculations for neutrino-nucleus scattering*
  INFN MB31 collaboration meeting, Rome, (January 2015)
- *A Quantum Monte Carlo study of the electroweak response functions of Carbon-12*
  Midwest Theory Get-Together, Argonne, IL, (September 2014)
- *Electroweak response functions: from Carbon-12 to Neutron Matter*
  EMMI program Halo Physics at the Neutron Drip Line,Darmstadt, Germany (February 2014)
- *Charge Form Factor and Sum Rules of Electromagnetic Response Functions in Carbon-12*
  Fall Meeting of the APS Division of Nuclear Physics, Newport News, VA, United States (October 2013)
- *Electromagnetic sum rules of Carbon-12: outline of scientific aspects*
  Early Science Program Investigators Meeting, Argonne, IL, United States (May 2013)
- *A comparative analysis of three-nucleon potentials in nuclear matter*
  Electron-Nucleus Scattering XII, Marciana Marina - Isola d' Elba, Italy, (June 2012)
- *Three-nucleon potentials in nuclear matter*
  Three-Nucleon Forces in Vacuum and in the Medium workshop, Trento, Italy, (July 2011)
- *Chiral-inspired three nucleon interaction in nuclear matter*
  Scuola di Fisica nucleare Raimondo Anni, Otranto, Italy, (May-June 2011)

- *Density dependent nucleon nucleon interaction from three nucleon forces*
  XIII Convegno di Cortona su Problemi di Fisica Nucleare Teorica, Cortona, Italy, (April 2011)

Experimental collaborations

- Member of the "JLab Hypernuclear Collaboration". The proposed experiment "An isospin dependence study of the ΛN interaction through the high precision spectroscopy of Λ-hypernuclei with electron beam (C12-15-008)" has been fully approved with grade A and scheduled at the Thomas Jefferson National Accelerator Facility (JLAB).
- Member of the "Multi-nucleon transfer reactions in inverse kinematics with Gammasphere and the FMA" experiment, which took place at the Argonne Tandem Linac Accelerator System (ATLAS) facility of Argonne National Laboratory on June 2016.

Grants/Proposals

General proposal

- CO-PI of the "Nuclear Computational Low Energy Initiative (NUCLEI)" proposal which was awarded by the United States Department of energy of 10,000,000$ to be shared by 12 research institutions across the United States for the years 2017 - 2022;
- PI of the "Italo-american Neutrino-Nucleus Network" proposal which was awarded by the INFN of 20,000 Euros over for the years 2018 - 2021;

Computing time

- PI of the "A unified computational protocol for QCD nuclei" proposal which was awarded of 37,500,000 core hours of computing time on Marconi at CINECA, Italy (2017);
- PI of the "Nuclear Spectra with Chiral Forces" ALCC proposal which was awarded of 35,000,000 core hours of computing time on Theta at Argonne National Laboratory (2017);
- Co-PI of the "Quantum Monte Carlo Calculations in Nuclear Theory" proposal which was awarded of 5 million core hours of computing time under the Theta Early Science Program, at Argonne National Laboratory (2016);
- PI of the "Quantum Monte Carlo calculations with pion-less nuclear potentials" proposal which was awarded of 750,000 core hours of computing time at NERSC under the Allocation Year 2017;

Award

On June 2013 I was awarded of the *2013 Adelchi Fabrocini Award*, recognizing the best doctoral Thesis in theoretical nuclear physics and many-body theory. The award ceremony took place in Otranto, Italy on June 1st 2013.

Organization of scientific meetings

May 2019	Organizer of the forthcoming ECT* workshop "Neutrini and nuclei, challenges and opportunities for nuclear theory", Trento (Italy)
February 2018	Organizer of the INT program "Nuclear ab-initio theories and neutrino physics", Seattle (USA)
June 2017	Convener of the 11th International Workshop on Neutrino-Nucleus Scattering in the Few-GeV Region, Toronto (Canada)
June 2018	Convener of the 12th International Workshop on Neutrino-Nucleus Scattering in the Few-GeV Region, L'Aquila (Italy)
May 2016	Organizer of the ECT* workshop "Advances in transport and response properties of strongly interacting systems", Trento (Italy)

Institutional responsabilities

January 2018- present	National representative for "calcolo teorico" of the INFN MANY-BODY specific initiative
April 2018 - present	Member of the Scientific Advisory Board of the Neutrino Theory Network, Fermi National Accelerator Laboratory, USA
July 2016 - June 2017	Chair of the Physics Colloquium committee, Physics Division, Argonne National Laboratory, USA
October 2014 - May 2015	Member of the Physics Colloquium committee, Physics Division, Argonne National Laboratory, USA
October 2012 - September 2014	Organizer of the theory seminars, Theory Group, Physics Division, Argonne National Laboratory, USA

Commissions of trust

2016 - present	Referee, Springer
2012 - present	Referee, American Physical Society
2016 - present	Referee of the US Department of Energy proposals
2016 - present	Referee of the US National Science Foundation proposals
March 2016	US National Science Foundation panel member

Membership of scientific societies

October 2012 - present	Associated member, American Physical Society

Teaching activities

November 2017	Ab-initio methods for nuclei – NuStec school, Fermilab, United States
June 2017	The correlated basis function approach – ECT* Training Program, Trento, Italy
November 2015	An introduction to quantum Monte Carlo for neutrino nucleus scattering – NuStec school, Okayama University, Japan
April 2011 - December 2011	Fisica per Scienze Naturali e Geologia (Physics for Natural Sciences and Geology) – University of Trieste, Italy.

Supervision of graduate students and postdoctoral fellows

September 2017 - present	Co-supervisor of Pietro Massella, Master student at the University of Trento
October 2015 - Present	Co-supervisor of Maria Piarulli, postdoctoral fellow in the Physics division of Argonne National Laboratory
October 2014 - October 2015	Co-supervisor of Diego Lonardoni, postdoctoral fellow in the Physics division of Argonne National Laboratory
November 2013 - present	Co-supervisor of Lorenzo Contessi, PhD student at the University of Trento
November 2012 - January 2016	Co-supervisor of Angela Mecca, PhD student at the University "La Sapienza", Rome

References

- Dr. Omar Benhar,
  INFN, Sezione di Roma. I-00185 Roma, Italy
  Dipartimento di Fisica, Università "La Sapienza", I-00185 Roma, Italy
  email: omar.benhar@roma1.infn.it
- Prof. Stefano Fantoni,
  ANVUR, National Agency for the Evaluation of Universities and Research Institutes, Piazzale Kennedy, 20, I-00144 Roma, Italy
  email: stefano.fantoni@anvur.org
- Dr. Steven C. Pieper,
  Physics Division, Argonne National Laboratory, Argonne, IL 60439, USA
  email:spieper@anl.gov

- Dr. Joseph A. Carlson,
  Los Alamos National Laboratory, Los Alamos, NM 87545, USA
  email: carlson@lanl.gov

- Prof. Kevin E. Schmidt,
  Department of Physics, Arizona State University, Tempe, AZ 85287, USA
  email: kevin.schmidt@asu.edu

Curriculum Vitae di Marta Orselli

Dati Personali:
Luogo di nascita: Assisi (Perugia), Italia Cittadinanza: Italiana Email: marta.orselli@pg.infn.it
Stato civile: coniugata con una figlia.

Esperienze professionali:

- **Dal 29.12.2017 ad oggi**: **Professore Associato** in Fisica Teorica presso il Dipartimento di Fisica e Geologia dell'Università degli Studi di Perugia.
- **29.12.2014 – 28.12.2017**: ricercatore a tempo determinato (RTD b) presso il Dipartimento di Fisica e Geologia dell'Università degli Studi di Perugia.
- **Dal 1.11.2015**: **Affiliated Associate Professor** presso il Niels Bohr Institute (Danimarca).
- **1.09.2014 – 28.12.2014**: ricercatore a tempo determinato (RTD a) presso il Dipartimento di Fisica e Geologia dell'Università degli Studi di Perugia.
- **1.09.2012 – 31.08.2014**: posizione da ricercatrice finanziata dal **Centro Enrico Fermi** presso il Dipartimento di Fisica e Geologia dell'Università degli Studi di Perugia.
- **1.10.2008 – 30.11.2011: Assistant Professor** presso il Niels Bohr Institute di Copenaghen (Danimarca), finanziata dal Danish Natural Science Research Council.
- **1.10.2007 – 30.09.2008**: Postdoc presso il Niels Bohr Institute (Danimarca), posizione finanziata da **Carlsberg Foundation**.
- **1.01.2006 – 30.09.2007:** European **Marie Curie RTN Postdoc position** presso **Nordita e il Niels Bohr Institute**, Copenaghen (Danimarca).
- **1.01.2003 – 31.12.2005**: Titolare di Assegno di Ricerca annuale per la collaborazione scientifica presso il Dipartimento di Fisica dell' Università degli Studi di Perugia, Italia.

Studi:

- 30.04.2005: Diploma di Specializzazione SSISS (Scuola di Specializzazione per Insegnanti di Scuola Secondaria) classe 049A, Università di Perugia.
- 10.03.2003: Dottorato in Fisica, Università di Parma.
- 28.10.1999: Laurea in Fisica, Università di Perugia. Voto: 110/110 e Lode.

Grant di ricerca, qualifiche e riconoscimenti:

- 2018: grant di 12.000 Euro conferito come finanziamento del progetto "Black holes, neutron stars and gravitational waves" per il Bando Ricerca di Base 2018.
- 2018: grant di 200.000 SEK per finanziare il Workshop "Challenges in Theoretical High Energy Physics", che si terrà presso Nordita (Stockholm) a Settembre 2019.
- 2016: grant di 12.000 Euro conferito come finanziamento del progetto HOlOgraphic description of strongly coupled SYStems (HOLOSYS) per il Bando Ricerca di Base 2015.
- 2015: grant di 7.000 Euro ricevuto da Holograv Network sponsorizzato da European Science Foundation per l'organizzazione dell'evento "International Workshop on Holography and

Condensed Matter Systems" tenutosi presso il Dipartimento di Fisica e Geologia dell' Università di Perugia in data 24 e 25 Settembre 2015.

- 2015: conferimento del titolo di Affiliated Associate Professor in Theoretical Particle Physics and Cosmology presso il Niels Bohr Institute (Danimarca) ottenuto tramite selezione attraverso un concorso competitivo.
- 2014: abilitazione scientifica nazionale in qualità di Professore Associato conferita dall'ANVUR all' unanimità con validità dal 8.01.2014 al 8.01.2020.
- 2013: partecipazione al Programma FIRB 2013 (Futuro In Ricerca) con il progetto dal titolo "Materia termica carica in olografia". Il progetto ha superato la fase di selezione ed e' stato ammesso alla fase delle audizioni.
- 2012: grant di 60.000 Euro del Centro Studi e Ricerche Enrico Fermi di durata biennale.
- 2012: grant di 4.000 DKK da Rosenfeld Foundation.
- 2011: grant di 5.000 Euro da Holograv Network sponsorizzato da the European Science Foundation come contributo per l'organizzazione del workshop "The Holographic Way: String Theory, Gauge Theory and Black Holes" presso Nordita (Stockholm).
- 2010: grant di 248.500 SEK per l'organizzazione in Ottobre 2012 del workshop "The Holographic Way: String Theory, Gauge Theory and Black Holes" presso Nordita (Stockholm).
- 2008: grant di 2.450.000 DKK da Danish Natural Science Research Council.
- 2008: Marie Curie **ERG** grant di 45.000 Euro.
- 2008: vincitrice di una borsa di studio postdoc conferita dall' INFN da usufruire presso il Niels Bohr Institute, Copenaghen, Danimarca, per il periodo 2008-2010 (a cui la sottoscritta ha rinunciato e mai usufruito).
- 2007: grant di 450.000 DKK da Carlsberg Foundation.
- 2002: grant da "Fondazione Angelo Della Riccia".

Esperienze Organizzative:

- Settembre 2019: 1-week Workshop "Challenges in theoretical High Energy Physics", Nordita (Stockholm).
- MiniWorkshop "Umbrian Meeting" tenutosi presso il Dipartimento di Fisica e Geologia dell' Università di Perugia in data 22-23 Maggio 2017.
- "Avogadro Meeting on Strings, Supergravity and Gauge Theories" tenutosi presso il Dipartimento di Fisica e Geologia dell' Università di Perugia in data 21 - 23 Dicembre 2016.
- "International Workshop on Holography and Condensed Matter Systems" tenutosi presso il Dipartimento di Fisica e Geologia dell' Università di Perugia in data 24 e 25 Settembre 2015.
- Novembre 2014: MiniWorkshop "Holoday: A short journey into the holographic correspondence", Università di Perugia (Italia).
- Ottobre 2012: Workshop "The Holographic Way: String Theory, Gauge Theory and Black Holes", Nordita (Stockholm).
- Agosto 2011: Niels Bohr Summer Institute "Strings, Gauge Theory and the LHC", Niels Bohr Institute, Copenaghen, Danimarca.
- Nov. 2010 e Nov. 2009: cofinanziamento della scuola di dottorato LACES, Galileo Galilei Institute, Firenze.

- Set. 2009 - Nov. 2010: organizzatrice dei seminari del Theoretical High Energy and Cosmology Group, Niels Bohr Institute, Copenaghen, Danimarca.
- Aprile 2009: 23rd Nordic Network Meeting "Strings, Fields and Branes", Niels Bohr Institute, Copenaghen, Danimarca.
- 2007: working group dal tema "Finite temperature supersymmetric Yang-Mills on S^3 and AdS/CFT correspondence" a RTN Winter School, Cern .
- 2006 – 2007: organizzatrice del Journal Club, Niels Bohr Institute, Copenaghen, Danimarca.

Attività didattica:

- AA 2018/2019: titolare del corso di **Teoria dei Campi Quantistica** (6 CFU) del Corso di Laurea in Fisica (Laurea Triennale), Università di Perugia.
- Dal 2016: titolare del corso di **Meccanica Quantistica** (12 CFU) in co-docenza con il Prof. Grignani presso il Corso di Laurea in Fisica (Laurea Triennale), Università di Perugia.
- Dal 2015: titolare del corso di **Relatività Generale** (6 CFU) del Corso di Laurea in Fisica (Laurea Magistrale), Università di Perugia.
- AA 2014/2015 e 2015/2016: titolare del corso di **Meccanica Quantistica - Mod. I** (6 CFU) del Corso di Laurea in Fisica (Laurea Triennale), Università di Perugia
- 2010 : titolare del corso Kvantefeltteori II (Teoria dei campi II), Niels Bohr Institute.
- AA 2003/2004 e 2004/2005: attività di didattica integrativa dei corsi di Metodi Matematici, Meccanica Statistica e Teoria dei Campi, Università di Perugia.
- 2002: titolare del corso Physics 101, University of British Columbia, (Canada).

Membro di Commissioni di Dottorato, Supervisione di studenti:

- Relatrice delle seguenti tesi di Laurea Triennale e Magistrale:

AA 2016/2017:

- Candidato: **Leo Bidussi**. Titolo della Tesi: Non-relativistic Geometries in the context of the AdS/ CFT correspondence. Data di conseguimento: 28/09/2017. Voto: 110/110 e lode.
- Candidato: **Giordano Cintia**. Titolo della Tesi: Il problema dei due corpi in relatività generale. Data di conseguimento: 28/09/2017. Voto: 110/110 e lode.
- Candidato: **Marco Olivieri Pennesi**. Titolo della Tesi: L'energia del vuoto ed effetto Casimir. Data di conseguimento: 26/04/2018. Voto: 110/110 e lode

AA 2015/2016:

- Candidato: **Tetiana Pitik**. Titolo della Tesi: Dall'entropia termodinamica all'entropia di entanglement. Data di conseguimento: 19/12/2016. Voto: 110/110 e lode.
- Candidato: **Michele Lupattelli**. Titolo della Tesi: Energia del vuoto ed effetto Casimir. Data di conseguimento: 19/12/2016. Voto: 110/110 e lode.

AA 2014/2015:

- Candidato: **Sara Fucini**. Titolo della Tesi: L'energia di vuoto ed effetto Casimir. Data di conseguimento: 10/12/2015. Voto: 104/110.

- Promotrice dell'**accordo per un Dottorato Internazionale in Fisica** tra l'Università di Perugia e il Niels Bohr Institute (Copenhagen University) che prevede sia la possibilità di co-tutorato di studenti appartenenti ad una delle due università sopra menzionate, sia la possibilità, da parte degli studenti aderenti al programma, di ottenere un doppio titolo di dottorato.

- membro di varie commissioni di Laura Triennale e Magistrale del Corso di Laurea in Fisica presso l'Università di Perugia (Da Settembre 2014 ad oggi).
- membro delle commissioni di esame per gli insegnamenti di Meccanica Quantistica (Laurea triennale) e Relativita' Generale (Laurea Magistrale).
- membro della Commissione Assegni di Ricerca dell' INFN, Sezione di Perugia.
- Membro di commissione di Bachelor e Master Degree presso il Niels Bohr Institute di Copenhagen.
- Giugno 2011: membro di commissione di dottorato ad Uppsala University, Svezia.

Citation summary da INSPIRES, **(al 27 Novembre 2018):**
- Nr. di articoli pubblicati: 35
- Citazioni totali: 1082
- Nr. di articoli con 50+ citazioni: 3
- Nr. di articoli con 100+ citazioni: 2
- h-indice: 18

Le mie pubblicazioni sono al link **http://inspirehep.net/search?ln=en&ln=en&p=f+a+orselli%2C+m&of=hb&action_search=Search&sf=earliestdate&so=d&rm=&rg=25&sc=0**

Argomenti di ricerca: AdS/CFT correspondence, Holography, Black Holes, Application of the blackfold method, Theoretical High-Energy Physics, String Theory, Quantum Field Theory, Condensed Matter theory, Force Free Electrodynamics approach to Black Hole magnetosphere.

Partecipazione in progetti internazionali: Ho fatto parte del RTN network "Constituents, fundamental forces and symmetries of the Universe" finanziato da European Community's Human Potential Program.

Collaborazioni con gruppi di ricerca internazionali: Collaboro con vari gruppi di ricerca in fisica teorica nei seguenti istituti: University of British Columbia (Canada), Nordita (Svezia), Niels Bohr Institute (Danimarca), Uppsala University (Svezia), University of Wisconsin (USA), Seoul University (Korea), MIT (Boston, USA), Università di Bari (Italia), Università di Trento (Italia), SUNY (Stony Brook, USA).

Conferenze, Workshops e Seminari: Ho partecipato in qualità di "invited speaker" a varie conferenze e workshops internazionali. Tra i workshop a cui ho partecipato, i più prestigiosi sono stati organizzati a: Nordita (Svezia), KITP (Santa Barbara, California, USA), Banff International Research Station (Canada), Galileo Galilei Institute (Firenze, Italia), KIAS, Seoul University (Korea), Institute Henry Poincare (Francia).

Referee: Sono referee di varie riviste tra cui la rivista Journal of High Energy Physics (JHEP) e la rivista Journal of International Modern Physics.

Lingue: Italiano, Inglese, Danese.

Perugia, 27 Novembre 2018

Marta Orselli