

CURRICULUM VITAE

Lorenzo FORTUNATO

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Personal data:

Name: Lorenzo
Surname: Fortunato
Date of birth: 2 August 1976
Place of birth: Gattinara (VC), Italy
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Current positions and address

1) Associate Professor (Professore di II fascia, SSD: FIS/04, Fisica Nucleare e Subnucleare, Settore 02/A2) of the University of Padova. Permanent position from May 2015

2) Associate research fellow, I.N.F.N.- Sez. di Padova

Dipartimento di Fisica e Astronomia "G.Galilei" - Univ. Padova
via Marzolo,8 I-35131, PADOVA (ITALY).

Education

High School "Diploma di maturità scientifica", Liceo Scientifico G.Ferraris, BORGOSIESIA (VC), ITALY in 1995 (Scientific high school degree): 60/60.

Degree "Laurea in Fisica", Università di Torino, 15 July 2000 (Degree in physics [corresponding to B.Sc+M.Sc.] Turin, ITALY: 110/110 *cum laude et honore*)

PhD "Dottorato in Fisica" (Ph.D.) obtained from "Università di Padova" (Padua, Italy), 2 Dec. 2003.

Past activities within research in physics:

Jul 2000 - Oct 2000 Undergraduate work for master thesis (Aug 1999 - Jul 2000) plus four months graduate work in the Theoretical Nuclear Physics Group in Turin (Italy).

Oct 2000 - Oct 2003 Ph.D. in Theoretical Nuclear Physics Group in Padova (Italy). Three months (April to June 2003) spent in Sevilla (Spain) to work in the department of nuclear, atomic and molecular physics as a part of the Ph.D. training under the Italian-Spanish scientific agreement (Azione Integrata).

Nov 2003 - Jan 2004 Three months Project Contract position (ex Co.Co.Co. contract), University of Padova (Theoretical Nuclear Physics Group).

Mar 2004 - Feb 2005 Post-doc grant from FWO in Ghent University (Belgium).

Apr 2005 - Nov 2005 Research Grant position within University of Padova (Italy).

Nov 2005 - May 2008 Research contract (fixed terms) within I.N.F.N.-section of Padova.

Jun 2008 - Aug 2009 Research Grant position within University of Padova (Italy).

Sep 2009 - Aug 2011 Junior Research Associate position at the ECT*, Trento.

2011 - 2015 Researcher (Ricercatore Universitario) of the University of Padova. Permanent position. Professore Aggregato (AA. 2010/11, 2011/12, 12/13, 13/14, 14/15) renewed yearly.

Past activities outside research in physics:

1) Teacher of basic computer courses in the "BaudHaus Association for the development and spreading of computer culture" in Turin from 1999 to 2000.

Teaching:

Undergraduate

Substitute teacher Course of Physics for Molecular Biologists, Un. of Padova, Jan. 2004 (8h).

Teacher Course of Introductory Physics for Pharmacy, Un. Padova: Sep. 2005 (9h, substitute teacher); Sep. 2007 (10h) ; Sep. 2008 (10h).

Teacher course of Physics for Radiology, Un. Padova (Treviso): Dec 2005-Feb 2006 (25h); Oct 2006-Jan 2007 (18h).

Assistant Teacher course of Physics I for Mathematics, Un.Padova: Mar 2011-Jun 2011 (24h).

Teacher course of Physics II for Chemistry, Un.Padova: Oct 2011-Jan 2012 (50h); Oct 2012-Jan 2013 (50h); Oct 2013-Jan 2014 (50h); Oct 2014-Jan 2015 (50h); Oct 2015-Jan 2016 (50h); Oct 2016-Jan 2017 (50h)

Teacher course of Physics I for Engineering, Un.Padova: Mar 2015-Jun 2015 (74h)

Teacher Teacher, course of Physics II for Information Engineering, Un.Padova: Oct 2017-Jan 2018 (80h); Oct 2018-Jan 2019 (80h)

Teacher course of Physics for Chemistry and Pharmaceutical Technology, Un.Padova: Mar 2016-Jun 2016 (48h);Mar 2017-Jun 2017 (48h)

Teacher course of Introductory Nuclear Physics for Physics, Un.Padova: Mar-Apr 2016 (24h);Mar-Apr 2017 (32h); Mar-Apr 2018 (32h); Mar-Apr 2019 (32h); Mar-Apr 2020 (32h); Mar-Apr 2021 (32h); Mar-Apr 2022 (32h); Mar-Apr 2023 (32h); Mar-Apr 2024 (32h); Mar-Apr 2025 (32h)

Teacher course of Physics II for Electronic Engineering, Un.Padova: Oct 2019-Jan 2020 (80h);Oct 2020-Jan 2021 (80h); Oct 2021-Jan 2022 (80h); Oct 2022-Jan 2023 (80h); Oct 2023-Jan 2024 (80h); Oct 2024-Jan 2025 (80h);

Teacher course of Advanced Topics in Physics (Heavy Ion Interactions) for Master Degree in Physics, Un.Padova: Mar-Apr 2021 (24h);

Theses, PhD and post-doc supervisor:

Assistant supervisor 1- degree thesis (4 years, old rules) of S.Montagnani, Padova (February 2003, Advisor A.Vitturi).
2- Ph.D. thesis of A.Mason, Padova (January 2009, Advisor A.Vitturi).

Supervisor B.Sc. Diploma (3 years = B.Sc.) theses in Physics:

1) Agnese Tucci (28/9/2012), 2) Nicola Valé (9/10/2012), 3) Gianluca Stellin (13/12/2012), 4) Jacopo Schiavon (11/12/2014), 5) Marco Vitti (15/04/2015), 6) Andrea Marangoni (6/10/2015), 7) Nicola Dragoni (6/12/2016), 8) Marco Trenti (2017), 9) Marco Bocconcello (2017), 10) Mario Giacobbo (18/07/2018), 11) Giulio Malenza (25/09/2018), 12) Francesco Addari (2018), 13) Micol D'Arcangelo (2018), 14) Riccardo Masarotti (2019), 15) Andrea Andreini (2019), 16) Buonocore Edoardo (2019), 17) Dalla Valle Gabriele (2020), 18) Baron Chiara (2020), 19) Pietro Sisti (2021), 20) Albertin Giulio (2022), 21) Italiano Antonio Pio (2023), 22) Sogus Francesca (2023), 23) Torresan Mirko (2023), 24) Bellotto Marco (2023), 25) Bonsembiante Tommaso (2024), 26) Dalle Molle MARCO(2024), 27) Malfatti Irene (2024), 28) Questari Alessandro (2025), 29) Perina Luca (2025), 30) 30) Ghiotto Marco (2025)

Supervisor M.Sc. Master theses (3+2 years = M.Sc.) in Physics:

1) Fabrizio Ferrari-Ruffino(24/04/2013), 2) Gianluca Stellin (21/10/2015), 3) Andres Felipe Lopez Loaiza (18/09/2023)

Supervisor PhD 1) Jagjit Dhindsa Singh, Cariparo student grant, Padova (01/2013 - 01/2016)

Post-doc supervisor 1) José Antonio Lay Valera, Marie Curie PISCOPIA fellow, research grant Un. Padova (11/2014-08/2016)

2) Tomohiro Oishi, IN:Theory (PRAT 2015 Project), research grant Un. Padova (09/2016-08/2018)

3) Gagandeep Singh, (PRD 2019 Project), research grant Un. Padova (09/2020- 06/2022)

Visiting fellows/Ph.D. 1) Motahharez Alimohammadi, Shahrood Univ., Iran, ICU 2018 -Padova (02/09/2018 - 02/11/2018)

2) Yamil Khalouf Rivera, Univ. Huelva, Spain, Erasmus Ph.D. (23/07/2019 - 28/02/2020) 3)

Salvatore Simone Perrotta, Univ. Catania (Italy) and Univ. Seville, Spain, TNP Visiting PhD Programme (30/04/2021 - 29/05/2021) 4) Zeinab Ranjbar, Univ. Shiraz (Iran), TNP Visiting PhD Programme (10/01/2022 - 12/03/2022) 5) Xin Zhang, Univ. Sichuan (China), visiting CSC student (01/2025- 05/2025)

Lectures for graduate and Ph.D. students:

Teacher Course of Nuclear Structure (Algebraic models and shape phase transitions) for Ph.D. in Physics (10h with R.Fossion)

Lecturer "Simmetrie dinamiche ed IBM" at the National School of Nuclear Physics "Scuola di Fisica Nucleare R.Anni", Otranto, Italy (3h)

Lecturer "Algebraic Approaches and Dynamical Symmetries in Quantum Many-Body Systems" at the University of Oslo, Norway (29-30 Jan. and 2-3 Feb. 2009, 4h)

Lecturer "Algebraic Approaches and Dynamical Symmetries in Quantum Many-Body Systems" at the Doctoral Training Programme, ECT*, Trento, Italy (22-23 Apr. 2010, 4h)

Lecturer "Teoria dei gruppi e algebre di Lie" part of the course "Meccanica quantistica avanzata", University of Trento, Italy (Dec. 2010, 6h)

Tutor Summer School "Re-writing Nuclear Physics Textbooks: 30 years of exotic nuclei", 21-24 July 2015, University of Pisa, Italy

Lecturer for graduate students “Symmetries in alpha-conjugate nuclei and their experimental signatures”, Sep. 2015, Sendai University, Japan

Lecturer “Algebraic models in quantum mechanics: Atomic, molecular, nuclear, and subnuclear physics”, Topical Lecture Week, T.U. Darmstadt (20-22 Nov. 2024, 12h)

Skills

Language Mother tongue: Italian
 Other languages: English (very well-known), Spanish (well-known), (Netherlands, German and French, very elementary knowledge).

Computer OS: Linux, Unix, DOS and Windows.
 Computer languages: BASIC and FORTRAN 77 (well-known).
 Software: Mathematica, Maple.
 Other: HTML, LaTeX, xmgrace, gnuplot, gimp, Python, GAP4.
 Familiar with many other tools and Internet.

Collaborations (past and present, only direct collab.):

ITALY: A.Vitturi, J. Casal, C.Signorini, M.Mazzocco, A.Mason, L.Sartori, J.A.Lay, G. Singh, J.Singh, Y.Kucuk, T.Oishi, D. Mengoni (Padova), A.Torrielli (Padova & Helmholtz Un., Berlino, Germany), A.Molinari, M.B. Barbaro, M.R.Quaglia (Torino, Italy), W.de Graaf (Trento), A.Saltarelli, S.DasGupta, A.Guerro (Camerino), N.Biasi (Milano), J.J.Valiente-Dobon (LNL), A.Giannatiempo (Firenze), F.Cappuzzello, D.Carbone, M.Cavallaro, M.Bondi, M.Colonna, S.S.Perrotta (Catania-LNL), C.Spitaleri, E.G. Lanza, M. Colonna (Catania), S.Leoni (Milano), E. Vardaci (Napoli), E.Fragiacomo (Trieste)

ARGENTINA: H.M.Sofia (Buenos Aires)

BELGIUM: K.Heyde, S. De Baerdemacker, V.Hellemans, R.Fossion (Gent)

BRAZIL: C.A.Bertulani(Texas A&M), J.Lubian (Rio de Janeiro)

BULGARIA: D.Balabanski (Sofia)

CHINA: Tao Wang (Tonghua Normal University), Yu Zhang (Dalian)

FRANCE: F.Azaiez, E.Khan (Orsay)

GERMANY: W.von Oertzen (Berlin), R.Krucken (München)

INDIA: R.Chatterjee (IIT-Roorkee)

IRAN: M.Alimohammadi (Shahrood Univ.), Z. Ranjbar (Shiraz Univ.)

JAPAN: K.Hagino (Sendai), W.Horiuchi, H. Moriya (Hokkaido), T.Otsuka, Y.Tsunoda, T.Togashi (Tokyo), M.Kimura

ROMANIA: P.Buganu (Bucharest)

SPAIN: C.H.Dasso, E.G.Lanza, C.E.Alonso, J.M.Arias (Sevilla), F.Pérez-Bernal, J.E.Garcia-Ramos, Y.Khalouf-Rivera (Huelva)

TURKEY: I.Inci (Kayseri & Padova-Italy), M.Böyükata (Kirikkale)

USA: J.L.Wood (Georgia Inst. Tech.), R.M.Clark, A.O.Macchiavelli (Berkeley), C.A.Bertulani (Texas A&M)

List of publications in chronological order:

Peer Reviewed papers:

- 1 "The pairing Hamiltonian for one pair of identical nucleons bound in a potential well"
M.B.Barbaro, L.Fortunato, A.Molinari, M.R.Quaglia, **Phys. Rev. C** **64:011302, (2001)**
- 2 "Enhanced excitation of Giant Pairing Vibrations in heavy-ion reactions induced by weakly bound projectiles"
L.Fortunato, W.von Oertzen, H.M.Sofia, A.Vitturi, **Eur.Phys.J. A** **14 (2002) 1, 37-42**
- 3 "Analytically solvable potentials for gamma-unstable nuclei"
L.Fortunato and A.Vitturi, **J.Phys.G** **29 (2003) pp. 1341-1349**
- 4 "On the Excitation of Double Giant Resonances in Heavy Ion Reactions"
C.H.Dasso, L.Fortunato, E.G.Lanza, A.Vitturi, **Nucl. Phys. A** **724 (2003), issue 1-2, 85-98.**
- 5 "Excitation of ${}^6\text{Li}$ above the breakup threshold in the ${}^6\text{Li} + {}^{208}\text{Pb}$ system around the Coulomb barrier"
M.Mazzocco, P.Scopel, C.Signorini, L.Fortunato, et al., **Eur. Phys. J. A** **18 (2003) 583**
- 6 "New analytic solutions of the collective Bohr hamiltonian for a beta-soft, gamma-soft axial rotor"
L.Fortunato and A.Vitturi, **J.Phys.G** **30 (2004) pp. 627-635**
- 7 "Soft Rotovibrational motion in the vicinity of $\gamma = \pi/6$ "
L.Fortunato, **Phys.Rev. C** **70, 011302(R) (2004)**
- 8 "Soft triaxial rotor in the vicinity of $\gamma = \pi/6$ and its extensions"
L.Fortunato, S. De Baerdemacker and K.Heyde, **Eur.Phys.J. A** **25, s01, 439-440 (2005).**
- 9 "Comment on "Anomalously hindered E2 strength $B(E2; 2_1^+ \rightarrow 0^+)$ in ${}^{16}\text{C}$ " "
K.Heyde, L.Fortunato and J.L.Wood, **Phys.Rev.Lett.** **94, 199201 (2005).**
- 10 "Theory of light emission in sonoluminescence based upon transitions in confined atoms"
L. Fortunato and A. Torrielli, **Eur.Phys.J. D** **33 (3),315-322 (2005).**
- 11 " Electromagnetic response and break-up of light weakly-bound nuclei in a dicluster model"
L.Fortunato and A.Vitturi, **Eur.Phys.J. A** **26, 33-40 (2005).**
- 12 "Solutions of the Bohr hamiltonian, a compendium"
L.Fortunato, **Eur.Phys.J. A** **26, s01, 1-30 (2005).**
- 13 "Phase transitions in the interacting boson-fermion model: the γ -unstable case"
C.E.Alonso, J.M.Arias, L.Fortunato and A.Vitturi, **Phys.Rev.C,** **72,061302 (2005).**
- 14 "Critical-point description of the transition from vibrational to rotational regimes in the pairing phase"
R.M.Clark, A.O.Macchiavelli, L.Fortunato and R.Krucken, **Phys. Rev. Lett.** **96, 032501 (2006).**
- 15 "Solution of the Bohr Hamiltonian for a periodic potential with minimum at $\gamma = \pi/6$ "
S.DeBaerdemacker, L.Fortunato, K.Heyde and V.Hellemans, **Nucl.Phys. A** **769, 16-34 (2006).**
- 16 "Solution of the Bohr Hamiltonian for soft triaxial nuclei"
L.Fortunato, S.DeBaerdemacker and K.Heyde, **Phys.Rev. C** **74, 014310 (2006).**
- 17 "Shape-phase transitions and two-particle transfer intensities"
R.Fossion, C.E.Alonso, J.M.Arias, L.Fortunato, and A.Vitturi, **Phys. Rev. C** **76, 014316 (2007).**
- 18 "Role of higher multipole excitations in the electromagnetic dissociation of one-neutron halo nuclei"
R. Chatterjee, L. Fortunato and A. Vitturi, **Eur. Phys. J. A** **35 2 (2008) 213-220 .**
- 19 "Population of mixed-symmetry states via α transfer reactions"

- C.E.Alonso, J.M.Arias, L.Fortunato, N.Pietralla and A.Vitturi, **Phys. Rev. C** **78**, 017301 (2008).
- 20 "Electric and magnetic response to the continuum for $A = 7$ isotopes in a dicluster model"
A.Mason, R. Chatterjee, L. Fortunato and A. Vitturi **Eur. Phys. J. A** **39**, 107-116 (2009).
- 21 "Nuclei 'at the top of their shape' "
L. Fortunato, **Europhysics News** **40/2**, 27-31 (2009)
- 22 " $U^{BF}(5)$ to $SU^{BF}(3)$ shape phase transition in odd nuclei for $j=1/2, 3/2$, and $5/2$ orbits: the role of the odd particle at the critical point"
C.E.Alonso, J.M.Arias, L.Fortunato and A.Vitturi, **Phys. Rev. C** **79**, 014306 (2009).
- 23 "Coherent state approach to the interacting boson model: Test of its validity in the transitional region"
I.Inci, C.E.Alonso, J.M.Arias, L.Fortunato and A.Vitturi, **Phys. Rev. C** **80**, 034321 (2009).
- 24 "Detailed analysis of quantum phase transitions within the $u(2)$ algebra"
L.Fortunato and L.Sartori, **Comm.Theor.Phys.** **54** (2010) p. 589-593.
- 25 "All coordinates transformations that separate the center of mass kinetic energy, their group structure and geometry"
L.Fortunato, **J.Phys.A : Math. Theor.** **43** (2010) 065301
- 26 "Shape phase transition in odd-even nuclei: from spherical to deformed gamma-unstable shapes"
M.Böyükata, C.E.Alonso, J.M.Arias, L.Fortunato and A.Vitturi, **Phys. Rev. C** **82**, 014317 (2010).
- 27 "Reaction dynamics for the system $17F + 58Ni$ at near-barrier energies"
M. Mazzocco, C. Signorini, D. Pierroutsakou, T. Glodariu, A. Boiano, C. Boiano, F. Farinon, P. Figuera, D. Filipescu, L. Fortunato, A. Guglielmetti, G. Inghima, M. La Commara, M. Lattuada, P. Lotti, C. Mazzocchi, P. Molini, A. Musumarra, A. Pakou, C. Parascandolo, N. Patronis, M. Romoli, M. Sandoli, V. Scuderi, F. Soramel, L. Stroe, D. Torresi, E. Vardaci, and A. Vitturi, **Phys. Rev. C** **82**, 054604 (2010)
- 28 "Angular momentum non conserving symmetries in bosonic models"
L.Fortunato and W.A. de Graaf, **J.Phys.A : Math. Theor.** **44**, 145206, (2011)
- 29 "Phase diagram for a cubic-Q interacting boson model Hamiltonian: Signs of triaxiality"
L.Fortunato, A.Vitturi, C.E.Alonso, J.M.Arias and J.E.Garcia-Ramos, **Phys. Rev. C** **84**, 014326 (2011)
- 30 "Phase diagram of coupled benders within a $U(3) \times U(3)$ algebraic approach"
F.B.Pérez-Bernal and L.Fortunato, **Phys.Lett. A**, **367** (2012), pp. 236-244
- 31 "Spherical to prolate axially symmetric shape transition, $U_{\pi\nu}(5) \rightarrow SU_{\pi\nu}(3)$, in the interacting boson IBA-2 model"
A.Giannatiempo, L.Fortunato and A.Vitturi, **Phys. Rev. C** **86**, 034311(2012)
- 32 "E0 decay from the first excited 0^+ state in $162Yb$ "
N.Blasi, L.Guerro, A.Saltarelli, O.Wieland and L.Fortunato **Phys. Rev. C** **88** 014318 (2013)
- 33 "Investigating nuclear pairing correlations via microscopic two-particle transfer reactions: The cases of ^{112}Sn , ^{32}Mg , and ^{68}Ni "
J.A.Lay, L.Fortunato and A.Vitturi, **Phys. Rev. C** **89** , 034618 (2014)
- 34 "Pairing in the continuum: The quadrupole response of the Borromean nucleus 6He "
L.Fortunato, R.Chatterjee, Jagjit Singh and A.Vitturi, **Phys. Rev. C** **90**, 064301 (2014)
- 35 "Signatures of the Giant Pairing Vibration in the $14C$ and $15C$ atomic nuclei "
F. Cappuzzello, D. Carbone, M. Cavallaro, M. Bondi, C. Agodi, F. Azaiez, A. Bonaccorso, A.

- Cunsolo, L. Fortunato, A. Foti, S. Franchoo, E. Khan, R. Linares, J. Lubian, J. A. Scarpaci, A. Vitturi, **Nat. Commun.** **6**, 6743 (2015)
- 36 “The electron screening puzzle and nuclear clustering”
C.Spitaleri, C.A.Bertulani, L.Fortunato and A.Vitturi, **Physics Letters B** **755** (2016) 275-278
- 37 “Recent approaches to quadrupole collectivity: models, solutions and applications based on the Bohr hamiltonian”
P.Buganu and L.Fortunato, **J.Phys. G** **43** (9), 093003 (2016) [Cover image](#)
- 38 “Continuum discretized BCS approach for weakly bound nuclei”
J.A.Lay, L.Fortunato and A.Vitturi, **J.Phys. G** **43**, 085103 (2016)
- 39 “Electromagnetic selection rules in the triangular alpha-cluster model of ^{12}C ”
G.Stellin, L.Fortunato and A.Vitturi, **J.Phys. G** **43**, 085104 (2016)
- 40 “Electric multipole response of the halo nucleus ^6He ”
Jagjit Singh, L.Fortunato, A.Vitturi and R.Chatterjee, **Eur. Phys. J. A** (2016) **52**: 209
- 41 “Algebraic theory of endohedrally confined diatomic molecules: application to $\text{H}_2@C_{60}$ ”
L.Fortunato and F.Pérez-Bernal, **Phys. Rev. A** **94**, 032508 (2016)
- 42 “TFF (v.4.1): a Mathematica notebook for calculation of one- and two-neutron stripping and pick-up nuclear reactions.”,
L.Fortunato, I.Inci, J.A.Lay and A.Vitturi, **Computation** (2017) **5**(3), 36
- 43 Two-fermion emission from spin-singlet and triplet resonances in one dimension”
T.Oishi, L. Fortunato and A.Vitturi, **J.Phys. G** **45**, iss. 10, 105101 (2018) [Cover image](#)
- 44 “GCM solver (ver. 3.0): a Mathematica notebook for diagonalization of the Geometric Collective Model (Bohr Hamiltonian) with generalized Gneuss-Greiner potential.”,
F. Ferrari-Ruffino, L.Fortunato, **Computation** (2018) **6**(3), 48
- 45 “Two-neutron correlations in a Borromean $20\text{C}+n+n$ system: Sensitivity of unbound subsystems”
Jagjit Singh, W. Horiuchi, L.Fortunato, A.Vitturi, **Few-Body Systems** **60**:50 (2019)
- 46 “Establishing the geometry of α -clusters in ^{12}C through patterns of polarized γ -rays”
L.Fortunato, **Phys. Rev. C** **99**, 031302(R) (2019) [Editors' Suggestion](#).
- 47 “Is ^{198}Hg a soft triaxial nucleus with $\gamma = 30^\circ$?”
M. Alimohammadi, L. Fortunato, A. Vitturi, **Eur. Phys. J. Plus** **134** (11), 570 (2019)
- 48 “An overview of the scientific contribution of Andrea Vitturi to Nuclear Physics”
L.Fortunato, C.E. Alonso, J.M. Arias, J. Casal, K. Hagino, J.A. Lay, E.G Lanza, S. Lenzi, J. Lubian, T. Oishi, F. Pérez-Bernal **Eur.Phys.J. A** **56**, 49 (2020) [Invited paper](#).
- 49 “Transition densities and form factors in the triangular α -cluster model of ^{12}C with application to $^{12}\text{C}+\alpha$ scattering”
A. Vitturi, J. Casal, L.Fortunato, E.G. Lanza, **Phys. Rev. C** **101**, 014315 (2020)
- 50 “Exploring two-neutron halo formation in the ground state of ^{29}F within a three-body model”
Jagjit Singh, J. Casal, W. Horiuchi, L. Fortunato and A. Vitturi, **Phys. Rev. C** **101**, 024310 (2020)
- 51 “The ^{29}F nucleus as a lighthouse on the coast of the island of inversion”
L. Fortunato, J. Casal, W. Horiuchi, Jagjit Singh, and A. Vitturi, **Commun. Phys.** **3**, 132 (2020)
- 52 “Electric dipole response of low-lying excitations in the two-neutron halo nucleus ^{29}F ”
J. Casal, Jagjit Singh, L. Fortunato, W. Horiuchi and A. Vitturi, **Phys. Rev. C** **102**, 064627 (2020)
- 53 “Unexpected transitional paths in the prolate to oblate shape phase transitions for Bose-Fermi

- systems”
M. Böyükata, C.E. Alonso, J.M. Arias, L. Fortunato and A. Vitturi, **Eur. Phys. J. A** (2021) **57:33**
- 54 “Review of shape phase transition studies for Bose-Fermi systems: The effect of the odd-particle on the bosonic core”
M. Böyükata, C.E. Alonso, J.M. Arias, L. Fortunato and A. Vitturi, **Symmetry** (2021), **13(2)**, 215
- 55 “Study of the threshold anomaly effect in the reaction $7\text{Li}+208\text{Pb}$ at energies around the Coulomb barrier”
E. Vardaci, P. K. Rath, M. Mazzocco, A. Di Nitto, G. La Rana, C. Parascandolo, D. Pierroutsakou, M. Romoli, A. Boiano, A. Vanzanella, M. Cinausero, G. Prete, N. Gelli, F. Lucarelli, C. Mazzocchi, M. La Commara, L. Fortunato, A. Guglielmetti, F. Soramel, L. Stroe, C. Signorini **Eur. Phys. J. A** **57, 95** (2021)
- 56 “Quantum phase transitions in algebraic and collective models of nuclear structure” L. Fortunato, **Progress in Particle and Nuclear Physics** **121**, (2021), **103891** *Invited review paper.*
- 57 “Alpha-induced inelastic scattering and alpha-transfer reactions in ^{12}C and ^{16}O within the Algebraic Cluster Model”
J. Casal, L. Fortunato, E.G. Lanza, A. Vitturi **Eur. Phys. J. A** **57, 95** (2021)
- 58 “Exploring the halo character and dipole response in the dripline nucleus ^{31}F ”
G. Singh, Jagjit Singh, J. Casal and L. Fortunato, **Phys. Rev. C** **105**, **014328** (2022)
- 59 “Pairing enhancement in a two-neutron transfer process through the continuum”
G. Singh, L. Fortunato and A. Vitturi, **Phys. Lett. B** **834**, **137413** (2022)
- 60 “Prolate-oblate shape phase transition in odd mass nuclei for $j=1/2, 3/2$ and $5/2$ orbits within the SUBF(3) limit of the Interacting Boson-Fermion model”
Z. Ranjbar, L. Fortunato and M. Ghahramany, **Eur. Phys. J. Plus**, (2022) **137**: 1164
- 61 “Three- α configurations of the second $J^\pi = 2^+$ states in ^{12}C ”
H. Moriya, W. Horiuchi, J. Casal, and L. Fortunato, **Eur. Phys. J. A** **59**: 37 (2023)
- 62 “Two-particle transfer processes as a signature of shape phase transition in Zirconium isotopes”
J. A. Lay, A. Vitturi, L. Fortunato, Y. Tsunoda, T. Togashi, T. Otsuka, **Phys. Lett. B**, **838**, **137719** (2023)
- 63 “Emerging γ -softness in ^{196}Pt in the SU3-IBM” , Tao Wang, Bing-cheng He, Chun-xiao Zhou, Dong-kang Li, Lorenzo Fortunato, **Chin. Phys. C** **48**, **094102** (2024)
- 64 “Triaxial rotor in the O(6) limit of the interacting boson model”
Wei Teng, Sheng-Nan Wang, Yu Zhang, and Lorenzo Fortunato, **Phys. Scr.** **99** (2024) **015305**
- 65 “Bending the Riemann critical strip to a lunula: no zeroes in $1/2 < \text{Re}(z) < 1$ ”
Lorenzo Fortunato (2024). Qeios. <https://doi.org/10.32388/UJYJ6R.2>
- 66 “One-proton emission from ^{102}Sb and its sensitivity to the proton-neutron interaction”
T. Oishi, M. Kimura, L. Fortunato, **Phys. Rev. C** **111**, **034307** (2025)

Proceedings (some are peer-reviewed and on international journals), and non-peer reviewed papers, etc.:

- P1/67 “The pairing Hamiltonian for one pair of nucleons bound in a potential well”,
M.B. Barbaro, L. Fortunato, A. Molinari, M.R. Quaglia, Acc. Sc. Torino, Atti Sc. Fis. Vol 135 (2001)
p 67-84
- P2/68 “Giant Pairing Vibration excited with weakly-bound neutron-rich nuclei”,

- in Proceedings of the 9th conference "Theoretical nuclear physics in Italy" (World Scientific Co. LTD.), Cortona (Italy), 2002. ISBN: 981-238-352-2
- P3/69 "Break-up and electromagnetic response of light weakly-bound dicluster systems", Acta Phys. Hung. vol. 18 (2-4), 155-156 (2003) and Proceedings of "Symposium on Nuclear Clusters: from Light Exotic to Superheavy Nuclei", 284 WE-Heraeus-Seminar,(EP Systema) Marburg, 2002
- P4/70 "Study of Giant Pairing Vibrations with neutron-rich nuclei", **Physics of Atomic Nuclei, vol. 66, Issue 8, pp 1445- 1449 (2002)** and proceedings Dubna 2002
- P5/71 "Collective modes in nuclear systems far from stability", L.Fortunato and A.Vitturi, Proceedings of "Frontiers of collective motions (CM2002)" conference, ed. H.Sagawa, H.Iwasaki, World Scientific Co. LTD. (2003). ISBN: 981-238-198-8
- P6/72 "Excitation of ${}^6\text{Li}$ above the breakup threshold in the ${}^6\text{Li} + {}^{208}\text{Pb}$ system at Coulomb barrier energies", P.Scopel *et al.*, Annual Report 2002, Legnaro Laboratories.
- P7/73 "Excitation of collective modes in nuclear systems far from stability", L.Fortunato and A.Vitturi, **Nucl. Phys. A 722 (2003) 85c-91c**
- P8/74 "Analytical solutions of Bohr collective hamiltonian with γ -instability", L.Fortunato and A.Vitturi, Proceedings of the Erice conference 'Symmetries in Nuclear Structure', World Scientific Publ. Co., Singapore, (2004). ISBN 981-238-812-5
- P9/75 " ${}^6\text{Li}$ breakup from 208Pb target at Coulomb barrier energies: doorway to reaction mechanism induced by loosely bound/halo nuclei", M.Mazzocco, P.Scopel, C.Signorini, L.Fortunato, F.Soramel *et al.*, Proceedings of 'Radioactive Nuclear Beams 6 (RNB6)', Argonne, USA , September 22-26 and **Nucl. Phys. A746 (2004), 497c-500c.**
- P10/76 "Exact Solutions of the Bohr Hamiltonian and Symmetries of the Collective model", L.Fortunato, Proceedings of the XXIV International Workshop on Nuclear Theory, Rila, Bulgaria (2005).
- P11/77 "Remarks on the U(5)-O(6) shape phase transition", L.Fortunato and A.Vitturi, Proceedings International Workshop Camerino (2006).
- P12/78 "Shape phase transitions in odd nuclei. The Interacting Boson Fermion Model and the transition from spherical to gamma-unstable case", A.Vitturi, C.E.Alonso, J.M.Arias and L.Fortunato, Proceedings International Workshop Camerino (2006).
- P13/79 "Study of break-up reactions of light dicluster nuclei", L.Fortunato and A.Vitturi, Proceedings International Conference "Fusion '06", Venezia (2006). Also in **AIP Conf. Proc. 853: 390-395 (2006)**
- P14/80 "Probing the pairing-phase transition with pair-transfer reactions in unstable nuclei", L.Fortunato, R.M.Clark, A.O.Macchiaveli and R.Kruecken, **Eur.Phys.J. ST 150 (2007) 107-108.**
- P15/81 "Critical point description of the pairing phase transition in nuclei", R.Kruecken, R.M.Clark, A.O. Macchiavelli, L.Fortunato, Verhandlungen der Deutschen Physikalischen Gesellschaft 41(3) (2006)
- P16/82 "Elastic scattering for the system Be-11+Bi-209 at Coulomb barrier energies", Mazzocco M, Signorini C, Romoli M, *et al.*, **Eur.Phys.J. ST 150 (2007) 37-40.**
- P17/83 "Transition from vibrational to rotational regimes in the pairing phase", Clark RM, Macchiavelli AO, Fortunato L, *et al.* **Nucl. Phys. A787: 524C-531C (2007)**
- P18/84 "Supersymmetric classification of cluster states in light nuclei" L.Fortunato, **J. Phys.: Conf.Ser. 111 (2008) 012042**
- P19/85 "Dynamical Symmetries of BEC : exact energy formulas and an application to alpha-conjugate

- nuclei" L.Fortunato, **Int.J.Mod.Phys.E: v.17 no.10 (2008) pp. 2124-2128**
- P20/86 "Electromagnetic properties and response for dicluster nuclei ${}^7\text{Li}$ and ${}^7\text{Be}$ " A.Mason, R.Chatterjee, L.Fortunato and A.Vitturi, **Int.J.Mod.Phys.E: v.17 no.10 (2008) pp. 2310-2314**
- P21/87 "Shape phase transitions in odd-A nuclei", C. E. Alonso, J. M. Arias, L. Fortunato, and A. Vitturi, **AIP Conf. Proc. Volume 1072, pp. 9-14 (2008)**
 Proceedings of the conference NUCLEAR PHYSICS AND ASTROPHYSICS: From Stable Beams to Exotic Nuclei Cappadocia (Turkey), 25-30 June 2008 (spokesperson A.Vitturi)
- P22/88 "Shape transitions and critical points",
 CE Alonso, JM Arias, L Fortunato and A Vitturi, **AIP Conf. Proc. 1120, pp.64-69 (2009)**,
 "Perspectives in Nuclear Physics- Proceedings of the 6th Japan-Italy Symposium on heavy-ion physics", Tokai, Japan, 11-15 November 2008, Ed.: Sun-Chan Jeong et al.
- P23/89 "Remarks on shape phase transitions in nuclei",
 L.Fortunato, A.Vitturi, C.E.Alonso, J.M.Arias, **Journal of Physics: Conference Series 168 (2009) 012011** (Proceedings of the "XII Convegno su Problemi di Fisica Nucleare Teorica", Cortona 2008)
- P24/90 "Scattering of ${}^{17}\text{F}$ from a ${}^{58}\text{Ni}$ target at energies around the Coulomb barrier",
 M.Mazzocco, A.Boiano, C.Boiano, A.Di Pietro, F.Farinon, P.Figuera, D.Filipescu, L.Fortunato, et al., Proceedings of the Nucleus-Nucleus Collision Conference (2009)
Nucl. Phys. A 834 (2010) 1-4 p.488c
- P25/91 "Lost chains in algebraic models",
 L.Fortunato and W.A.de Graaf, **J. Phys.: Conf.Ser. 284, 012025, (2011)**
- P26/92 "Odd nuclei and shape phase transitions: the role of the unpaired fermion",
 L.Fortunato, C.E.Alonso, J.M.Arias, M.Böyükata and A.Vitturi, **Int.J.Mod.Phys.E: v.20, iss.2, p.207-212 (2010)**
- P27/93 "Strong reaction channels for the system F-17 + Ni-58 at Coulomb barrier energies. ", M. Mazzocco, C. Signorini, D. Pierroutsakou, T. Glodariu, A. Boiano, C. Boiano, F. Farinon, P. Figuera, D. Filipescu, L. Fortunato, et al., **J.Phys.Conf.Ser. 312 (2011), 082032**
- P28/94 'E0 decay and lifetimes of 0+2 states in the rare-earth region: the case of 156Dy and 160Er', Balabanski, D. L.; Lo Bianco, G.; Atanasova, L.; Blasi, N.; Das Gupta, S.; Detistov, P.; Gladnishki, K.; Fortunato, L.; Kusoglu, A.; Nardelli, S.; Saltarelli, A. , Nuclear Theory 30 2011, 247, eds. A. Georgieva and N. Minkov (Heron Press, Sofia)
- P29/95 "X (5) critical-point symmetries in 138Gd", MG Procter, DM Cullen et al., **Journal of Physics: Conference Series 381, no.1, (2012) 012062**
- P30/96 "Symplectic sp(4) spectrum generating algebra for a large class of quantum three-body problems"
 L. Fortunato, **AIP Conf. Proc. 1488, 366 (2012)**; doi: 10.1063/1.4759419
- P31/97 "Coupled molecular benders modeling within the vibron model 2D limit" F. Pérez-Bernal and L.Fortunato, **AIP Conf. Proc. 1488, 350 (2012)**; doi: 10.1063/1.4759417
- P32/98 "Review of critical point symmetries and shape phase transitions within algebraic and collective models", L. Fortunato, C.E. Alonso, J.M. Arias, A. Vitturi, Proceedings of the DAE Symposium on Nuclear Physics, New Dehli (2012)
- P33/99 "Quantum shape phase transitions from spherical to deformed for bose-fermi system and effect the odd particle around the critical point", M. Böyükata, C. E. Alonso, J. M. Arias, L. Fortunato and A. Vitturi, **EPJ Web of Conferences 66, 02014 (2014)**; DOI: 10.1051/epjconf/20146602014
- P34/100 "Quantum phase transitions in odd-a nuclei: The effect of the odd particle along the spheri-

- cal to oblate shapes", M. Büyükat, C. E. Alonso, J. M. Arias, L. Fortunato and A. Vitturi, **J.Phys.Conf.Ser.** **580 (2015), 012047**
- P35/101 "Multipolarity analysis for ^{14}C high-energy resonance populated by $(^{18}\text{O},^{16}\text{O})$ two-neutron transfer reaction", F. Cappuzzello, D. Carbone, M. Cavallaro, M. Bondi, C. Agodi, F. Azaiez, A. Bonaccorso, A. Cunsolo, L. Fortunato, A. Foti, S. Franchoo, E. Khan, R. Linares, J. Lubian, J. A. Scarpaci, A. Vitturi, **AIP Conf.Proc.** **1681, 060004 (2015)**
- P36/102 "New experiments demand for a more precise analysis of continuum spectrum in ^6He ", J.Singh and L.Fortunato **Acta Phys. Pol.** **B47, No.3 (2016) 833-840**
- P37/103 "Importance of the single-particle continuum in BCS pairing with a pseudostate basis", J.A. Lay, C.E. Alonso, L. Fortunato and A. Vitturi **EPJ Web of Conferences** **117, 06018 (2016)**
- P38/104 "Electromagnetic selection rules for ^{12}C in a 3α cluster model", L. Fortunato, G. Stellin and A. Vitturi **Few-Body Systems** **58, 19 (2017)**
- P39/105 "Vibrations and potential energy surfaces (with Argonne V18) of ^4He and ^3He ", L. Fortunato, **J.Phys.Conf.Ser.** **876 (2017) 012009**
- P40/106 "Applications of nuclear physics to a wider context: from molecules to stars passing through hypernuclei", L. Fortunato, **J.Phys.Conf.Ser.** **981 (2018) 012001**
- P41/107 "Vibrational modes of light nuclei", L. Fortunato, **Eur.J.Phys. Web of Conferences** **178, 02017 (2018)**
- P42/108 "A tale of two allotropes", F. Pérez-Bernal, L. Fortunato, **AIP Conference Proceedings** **2150, 020006 (2019)**
- P43/109 "The algebraic molecular model in ^{12}C and its application to the $\alpha+^{12}\text{C}$ scattering: from densities and transition densities to optical potentials and transition formfactors", A. Vitturi, J. Casal, L. Fortunato, E. G. Lanza, **AIP Conference Proceedings** **2150, 040006 (2019)**
- P44/110 "Three-body description of ^{12}C : From the hyperspherical formulation to the algebraic cluster model and its application to $\alpha+^{12}\text{C}$ inelastic scattering", J. Casal, L. Fortunato, A. Vitturi, E. G. Lanza, **EPJ Web of Conferences** **223, 01008 (2019)**
- P45/111 "Depolarization ratio of gamma rays as a tool to untangle the shape of alpha-clustered nuclei", L. Fortunato, **(2019)**
- P46/112 "How to determine the shape of nuclear molecules with polarized gamma-rays", L. Fortunato, **SciPost Phys. Proc.** **3, 035 (2020)**, Proceedings of the 24th edition of European Few Body Conference, Surrey, UK, 2-4 September 2019
- P47/113 "Description of continuum structures in a discrete basis: Three-body resonances and two-nucleon decays" J. Casal, M. Rodríguez-Gallardo, J. M. Arias, J. Gómez-Camacho, L. Fortunato, A. Vitturi, **SciPost Phys. Proc.** **3, 036 (2020)**, Proceedings of the 24th edition of European Few Body Conference, Surrey, UK, 2-4 September 2019
- P48/114 "Three-body Description of 2n-Halo and Unbound 2n-Systems: ^{22}C and ^{26}O ", Jagjit Singh, W. Horiuchi, L. Fortunato, and A. Vitturi, **JPS Conf. Proc.** **32, 010029 (2020)**
- P49/115 "Three-alpha configurations in the 0^+ states of ^{12}C ", H. Moriya, W. Horiuchi, J. Casal and L. Fortunato **Few Body Syst.** **62, (2021) 46**
- P50/116 "Analyzing the halo nature of ^{31}F within a three-body approach", G. Singh, J. Singh, J. Casal, L. Fortunato, Proceedings of the DAE Symp. on Nucl. Phys 65 (2021) 311
- P51/117 "Role of Li 6 non-sphericity in nuclear reactions below the Coulomb barrier", S.S. Perrotta, M. Colonna, L. Fortunato and J. A. Lay, **Il Nuovo Cimento** **45 C (2022) 123**
- P52/118 "Advances on clusters and correlations in nuclear structure and reactions", L. Fortunato, J. Casal,

- W. Horiuchi, E.G. Lanza, G. Singh, J. Singh, A. Vitturi, INPC-2022, **J.Phys.Conf.Ser.2586 (2023) 012030**
- P52/119 "The quantification of pairing interaction in a two-neutron transfer through the intermediary continuum", G. Singh, L. Fortunato, A. Vitturi, INPC-2022, **J.Phys.Conf.Ser. 2586 (2023) 012041**
- P52/120 "Sub-Coulomb barrier penetration for a Li6 with a clustered and deformed ground-state", Salvatore Simone Perrotta, Lorenzo Fortunato, José Antonio Lay, and Maria Colonna, **EPJ Web of Conferences 275, 02011 (2023)**
- P53/121 "Nuclear Physics Midterm Plan in Italy: Introduction to the Series", M. La Cognata, R. Nania, G. Benzoni, D. Bettoni, F. Bossi, M. Colonna, A. Di Leva, E. Fioretto, A. Formicola, L. Fortunato, S. Gammino, F. Gramegna, C. Gustavino, M. Junker, I. Lombardo, S. Pisano, E. Previtali, S. Romano, P. Russotto, F. Soramel, **Eur. Phys. J. Plus (2023) 138:526**
- P54/122 "Detailed studies of ^{12}C structure and reactions", L. Fortunato, **Few-body Syst. (2024) 65:1**
- P55/123 "Algebraic model studies of the structure and reactions of ^{12}C and ^{16}O ", L. Fortunato, **EPJ Web of Conferences 311, 00015 (2024)**
- P56/124 "Reviving Nuclear Fusion Reaction Cycles in Solido", L. Fortunato, **Nucl.Phys. A (2024)**

Books and book chapters:

- 125-126 2 Booklets in italian for undergraduate students :
Formule e Teoremi fondamentali della fisica
Formule e Teoremi fondamentali della matematica
 CLU editore, Genova, Italy (2000).
- 127 "Phase transitions in nuclear shape" P.G.Bizzeti, L.Fortunato and A.Vitturi, chapter 9 of the book "*Algebraic approaches in nuclear, molecular and hadron physics: the Italian contribution*", Padova, (2003).
- 128 "Excitations to the continuum in reactions with unstable nuclei" - Ph.D. thesis, LAP-Lambert Academic Publishing (13 Oct. 2010)
 ISBN-13: 978-3-8433-6658-8
- 129 "Come affrontare i corsi di Fisica Generale, come impostare il metodo di studio e come risolvere gli esercizi", ilmiolibro.it - Gruppo Editoriale L'Espresso Spa (21 Feb. 2013)
- 130 "Come affrontare i corsi di Fisica Generale, come impostare il metodo di studio e come risolvere gli esercizi. 2a edizione", ilmiolibro.it - Gruppo Editoriale L'Espresso Spa (12 Jan. 2016)
- 131 "Appunti di Fisica Nucleare", ilmiolibro.it - Gruppo Editoriale L'Espresso Spa (Jan. 2018)
- 132 "Appunti di Fisica Nucleare 2a Ed.", ilmiolibro.it - Gruppo Editoriale L'Espresso Spa (Jan. 2019)
- 133 "Appunti di Fisica Nucleare 3a Ed.", ilmiolibro.it - Gruppo Editoriale L'Espresso Spa (Jan. 2023)
- Other:
- 134 "Esplorazione della Terra incognita della fisica nucleare: nuclei con alone, nuclei a grappoli, nuclei borromei e altre stranezze esotiche!" [in Italian], arXiv:1104.0482 [physics.pop-ph]
- 135 "Easter eggs, myths and jokes in famous physics books and papers", arXiv:1703.10490 [physics.pop-ph]
- 136 L. Fortunato and S. Lenzi, "In Memoriam: Andrea Vitturi (1949 - 2024)", Nuclear Physics News, 34(4), 39 (2024)

Research Data in repository

- 1 Transfer Form Factor v.4.1: a Mathematica code for calculation of one- and two-neutron transfer form factors and cross-sections. File: TFF_v4.1.zip DOI: 10.25430/researchdata.cab.unipd.it.00000041
- 2 Reaction Network Calculator v.2.4: a general purpose nuclear reaction network calculator. File RNC_v2.4.zip DOI:

Contributions to national and international meetings:

- 1 Euro Summer School on Exotic Beams 2001. Jyväskylä (Finland), Jun 2001. Oral contrib.
- 2 57mo Congresso Naz. Società Italiana di Fisica. Milano (Italy), Sep. 2001. Oral contrib.
- 3 Workshop on Nuclear Collective Dynamics at Extreme Conditions. Trento (Italy), Feb. 2002. Oral contrib.
- 4 VII International School-Seminar on Heavy-Ion Physics. Dubna (Russia), May 2002. Oral and written contrib.
- 5 284-WE-Heraeus Seminar. Symposium on Nuclear Clusters. Marburg (Germany), Aug. 2002. Oral and written contrib.
- 6 Euro Summer School on Exotic Beams 2002.CERN + Les Houches (France). Oral contrib.
- 7 Nuclear Structure with large Gamma Array - NS2002. Legnaro (Italy), Sep. 2002. Poster.
- 8 IX Seminario Nazionale di Fisica Teorica Nucleare. Cortona (Italy), Oct. 2002. Oral and written contrib.
- 9 Symmetries in Nuclear Structure (Franco Iachello's 60th birthday). Erice (Italy), Mar. 2003. Oral and written contrib.
- 10 VIII Hispalensis summer school on Exotic Nuclear Physics (Oromana, Spain), Jun. 2003. Oral contrib.
- 11 International Nuclear Physics Conference INPC 2004 (Göteborg, Sweden), Jun-Jul 2004. Poster contrib.
- 12 IV International Conference on Exotic Nuclei and Atomic Masses - ENAM04 (Callaway Gardens, Pine Mountain, Georgia, USA), Sep. 2004. Poster, Oral and Written contrib.
- 13 Workshop on 'New descriptions of transitional nuclei' (Berkeley, California, USA), Oct. 2004. Oral contrib.
- 14 FANTOM Study week 'Symmetries and symmetry violation', (Gent, Belgium) Nov. 2004. Oral contrib.
- 15 XXIV International Workshop on Nuclear Theory (Rila Mountain, Bulgaria), Jun 2005. Oral and written contrib.
- 16 International Workshop on Symmetries and low-energy phase transition in nuclear-structure physics (Camerino, Italy), Oct. 2005. Oral and written contrib.
- 17 International conference FUSION'06 on 'Reaction Mechanisms and Nuclear Structure at the Coulomb Barrier' (S.Servolo, Venezia, Italy), Mar. 2006. Oral and written contrib.
- 18 Radioactive Nuclear Beams 7, RNB7 (Cortina d'Ampezzo, Italy), Jul. 2006. Oral-poster and written contrib.
- 19 3rd Workshop on Shape Phase Transitions and Critical Point Phenomena in Nuclei (Athens, Greece), Nov. 2006. Oral contrib.

- 20 NS'07 (Kyoto, Japan), June 2007. Poster contrib.
- 21 Cluster '07 (Stratford-upon-Avon, UK), Sept. 2007. Oral contrib.
- 22 SOTANCP'08 First Workshop on State of the Art in Nuclear Cluster Physics (Strasbourg, France), May 2008. Oral contrib.
- 23 SPES workshop, Legnaro National Laboratories, Legnaro, PD (Italy, Oct. 2008). Oral contrib.
- 24 XII Seminario Nazionale di Fisica Teorica Nucleare. Cortona (Italy), Oct. 2008. Oral and written contrib.
- 25 Workshop on Algebraic Lie Theory with application in Physics, Isaac Newton Institute, Cambridge, UK, March 2009. Poster presentation.
- 26 7th biennial Workshop on Nuclear Structure Physics Near the Coulomb barrier, June 18-20 (2009), Yale University, New Haven, CT (USA). Oral contrib.
- 27 Gordon Conference on Nuclear Chemistry, Colby-Sawyer College, New London, NH (USA), June 2009. Poster presentation.
- 28 Workshop on Quantum Phase Transitions in Molecular and Nuclear Structure, Huelva (Spain), May 2010. Oral contrib.
- 29 International Colloquium on Group theoretical Methods in Physics, ICGTMP, GROUP '28, Newcastle upon Tyne (UK) July 2010. Oral and written contrib.
- 30 17th Nuclear Physics Workshop "Marie and Pierre Curie" (Symmetry and symmetry breaking in nuclear physics), Kazimierz Dolny (Poland) Sept. 2010. Oral and written contrib.
- 31 Workshop on "Effective theories and the nuclear many-body problem", ECT*-Trento (Italy) Mar. 2011. Oral contrib.
- 32 6th Workshop on Quantum Shape Phase Transitions, Darmstadt (Germany) Feb. 2012. Oral contrib.
- 33 "Beauty in Physics: Theory and Experiment" in honor of F. Iachello's 70th birthday, Cocoyoc, Mor. (Mexico), May 2012. Oral and written contrib.
- 34 DAE Symposium on Nuclear Physics, New Delhi (India), 3-7 Dec. 2012. Plenary talk. Oral and written contrib.
- 35 Workshop "From nuclear structure to particle-transfer reactions and back", ECT*-Trento (Italy) 4-8 Nov. 2013. Oral contrib.
- 36 Workshop "Low-Energy Reaction Dynamics of Heavy-Ions and Exotic Nuclei", ECT*-Trento (Italy) 26-30 May 2014. Oral contrib.
- 37 Nuclear Structure 2014, TRIUMF, Vancouver B.C. (Canada), 21-25 July, 2014
- 38 VII. International Workshop on Nuclear Structure Properties, Sinop (Turkey), 27-29 Oct. 2014. Invited Speaker.
- 39 Workshop "From nuclear structure to particle-transfer reactions and back II", ECT*-Trento (Italy) 10-14 Nov. 2014. Oral contrib.
- 40 Workshop, Napoli (Italy) 16-17 Apr. 2015. Oral contrib.
- 41 European Nuclear Physics Conference 2015, Groningen (Netherlands), 31/08- 04/09 2015. Oral contrib.
- 42 Physics with MUGAST - Meeting. 18-19 Jan 2016, Padova (Italy)
- 43 TNPI2016 - XV Conference on Theoretical Nuclear Physics in Italy, 20-22 Apr 2016, Pisa (Italy). Invited talk.
- 44 QPTN-8, Quantum Phase Transitions Nuclei 6-9 Jun 2016, Prague (Czech Rep.). Oral contrib.

- 45 EFB23 2016, European Few-Body Conference 23, 7-12 Ago 2016, Aarhus (Denmark). Oral contrib.
- 46 102mo Congresso Nazionale Società Italiana di Fisica. Padova (Italy), Sep. 2016. Oral contrib.
- 47 "40th Symposium on Nuclear Physics", 4-7 Jan 2017, Cocoyoc, Morelos (Mexico). Invited.
- 48 Workshop "Unraveling the complexity of nuclear systems: single-particle and collective aspects through the looking glass", ECT*-Trento (Italy) 6-10 Feb. 2017. Oral contrib.
- 49 Workshop "Open Quantum Systems: From atomic nuclei to ultracold atoms and quantum optics", ECT*-Trento (Italy) 10-14 Jul. 2017. Oral contrib.
- 50 International conference "Sixteenth International Symposium on Capture Gamma-Ray Spectroscopy and Related Topics", Shanghai (China) 18-22 Sep. 2017. Oral contrib.
- 51 International workshop "Mini-workshop on new perspectives on nuclear collective structure", Dalian (China) 24-25 Sep. 2017. Invited Oral contrib.
- 52 Workshop "Recent advances and challenges in the description of nuclear reactions at the limit of stability", ECT*-Trento (Italy) 6-9 Mar. 2018. Oral contrib.
- 53 "XXII International Conference on Few-Body Problems in Physics (FB22)" Caen, (France) 9-13 Jul. 2018 Oral contrib.
- 54 "IV Incontro Nazionale di Fisica Nucleare INFN" Catania, (Italia) 7-10 Nov. 2018. Invited talk.
- 55 "24th European conference on few-body problems in physics, EFB24" Guildford (UK) 2-6 Sep. 2019. Oral contrib.
- 56 "XXVI NUCLEAR PHYSICS WORKSHOP 2019" Kazimierz Dolny (Poland) 24-29 Sep. 2019. Invited talk.
- 57 "Quantum Phase Transitions QPT-10" Dubrovnik, Croatia, 11-16 July 2022. Convener of a session and oral contributions.
- 58 "INPC 2022 - The 28th International Nuclear Physics Conference (INPC 2022)" Cape town, South Africa, 10-16 Sep. 2022. Oral contributions.
- 59 "Selected Topics in Atomic and Nuclear Physics", Fiera di Primiero, Italy 25-30 Sep. 2022. Oral contribution.
- 60 "Workshop MONSTRE initiative (INFN)", Milano, Italy 11-12 May 2023. Oral contribution.
- 61 "25th European Conference on Few-body Problems in Physics", Mainz, Germany 20 Lug- 4 Ago 2023. Oral contribution.
- 62 "Nuclear Photonics 2023", Durham, USA, 11-15 Sep 2023. Oral Contribution.
- 63 "VI Incontro Nazionale di Fisica Nucleare", Trento, Italy, 26-28 Feb 2024. Oral Contribution.
- 64 "Fifth International Workshop on State Of The Art in Nuclear Cluster Physics", SOTANCP 5, Hvar (Croatia) - June 2024. Oral contribution.
- 65 "The 14th International Conference on Nucleus Nucleus Collisions (NN2024)", Whistler (Canada) - Aug 2024. Oral contribution.

Invited seminars

- 1 Università di Torino (Italy). Nov 2002
Seminar: Giant Pairing Vibrations.
- 2 University of Surrey (UK). Jan 2003
Seminar: Breakup of ${}^7\text{Li}$ in a dicluster model.
- 3 Universidad de Huelva (Spain). May 2003

- Seminar: Analytic solutions of Bohr collective hamiltonian.
- 4 Università di Padova (Italy). Feb 2004
Seminar: Soluzione analitica dell'hamiltoniano di Bohr nei casi di gamma instabilità, del rotore assiale e del rotore triassiale 'soft'.
 - 5 Università di Padova (Italy). Feb 2004
Seminar: Struttura del continuum e break-up di nuclei leggeri debolmente legati: litio 6 e 7.
 - 6 YALE University (Connecticut, USA). Oct. 2004
Seminar: Soft triaxial solutions of the Bohr collective hamiltonian
 - 7 University of Stony Brook (New York, USA). Oct. 2004
Seminar: Soft triaxial solutions of the Bohr collective hamiltonian
 - 8 Università di Padova (Italy). Dec. 2004
Seminar: Report on the Workshop: "New descriptions of transitional nuclei"
 - 9 Universiteit Gent (Belgium). Jan. 2005
Seminar: The quadrupole degree of freedom of nuclei explored with the collective model: new solutions to an old problem
 - 10 Laboratori Nazionali di Legnaro (Italy). May 2005
Seminar: New analytic solutions of the Bohr hamiltonian: their role as benchmarks in nuclear spectroscopy and the relations between theory and experiments
 - 11 Università di Padova (Italy). Oct. 2006
Seminar: Deformed $Su(2)$ Lie Algebra As A Toy-Model For Interacting Bosons
 - 12 Universiteit Gent (Belgium). Dec. 2006
Seminar: Deformed $Su(2)$ Lie Algebra As A Toy-Model For Interacting Bosons
 - 13 School of Nuclear Physics "R.anni", Otranto (Italy), Jun. 2007
Lectures: Simmetrie dinamiche nei nuclei: il modello a bosoni interagenti (IBM) e sue estensioni
 - 14 Institute of Nuclear Theory - INT - Seattle (USA), Oct. 2007
Seminar: Bosonic Symmetries of BEC
 - 15 Universidad de Sevilla (Spain) Feb. 2008
Seminar: Bosonic Symmetries of BEC in nuclei
 - 16 University of Oslo (Norway) Jan. 2009
Seminar: Shape Phase Transitions in even and odd systems: recent theoretical developments
 - 17 University of Oslo (Norway) Jan. 2009
Lectures: Algebraic Approaches and Dynamical Symmetries in Quantum Many-Body Systems
 - 18 University of Padova (Italy) - Mar. 2009
Seminar: Le simmetrie dinamiche
 - 19 University of Trento (Italy) - Dep. Mathematics Oct. 2009
Seminar: Applications of Lie algebras to physical problems: Dynamical Symmetries at the crossroad between mathematics and physics
 - 20 ECT*, Trento (Italy)- Jan. 2010
Seminar: Interacting Boson approximations in nuclear many-body models
 - 21 ECT*, Trento (Italy)- Jan. 2010
Seminar: Lost chains in algebraic models
 - 22 University of Milano (Italy)- Mar. 2010
Seminar: Shape phase transitions & critical points: $X(5)$, related models and E0-transitions
 - 23 ECT*, Trento (Italy) - Apr. 2010

- Lectures: Algebraic Approaches and Dynamical Symmetries in Quantum Many-Body Systems
- 24 University of Trento (Italy) - Dic. 2010
Lectures: Teoria dei gruppi e algebre di Lie
 - 25 University of Camerino (MC) (Italy) - May 2011
Lecture: Introduzione ai modelli collettivi (ed algebrici) del nucleo atomico
 - 26 University of Trento (Italy) - Mar. 2012
Seminar: Role of Lie algebras in physics
 - 27 University of Padova (Italy) - Oct. 2012 - Workshop DFA
Seminar: Struttura e reazioni nucleari, teoria e fenomeni
 - 28 Indian Institute of Technology- Roorkee (India) - Dec. 2012
Seminar: Venturing into an unknown land: the energy continuum
 - 29 University of Padova (Italy) - Jan. 2014 - Nuclear Cookies Seminars
Seminar: A new circular nuclear reaction scheme: an open proposal
 - 30 University of Sendai (Japan) - Sep. 2015 - Sendai Nuclear Science Colloquium (No. 270)
Seminar: Role of pairing and continuum in ^5He and ^6He
 - 31 NICPB-KBFI, Tallinn (Estonia) - 27 Feb. 2017 - CoE EQUITANT Seminar
Lecture: The algebraic way to molecular structure
 - 32 NICPB-KBFI, Tallinn (Estonia) - 28 Feb. 2017 - CoE EQUITANT Seminar
Seminar: The algebraic approach to endohedral molecules
 - 33 KTH, Stockholm (Sweden) - 7 Dec. 2018
Seminar: Pairing vibrations, rotations and correlations in nuclear structure and reactions
 - 34 University of Padova (Italy) - 28 Jan. 2019 - Nuclear Cookies Seminars
Seminar: Polarized gamma-ray nuclear fluorescence and alpha-clusters in light nuclei
 - 35 University of Huelva (Spain) - Feb. 2019
Seminar: Polarized gamma-ray nuclear fluorescence and alpha-clusters in light nuclei
 - 36 Tohoku University, Sendai (Japan) - 29 May 2019
GPPU Seminar: Alpha-clustering and discrete point-group symmetries in nuclei: How to assess the role of alpha-clustering in Carbon-12
 - 37 Hokkaido University, Sapporo (Japan) - 3 June 2019
Lecture: Symmetries in alpha-conjugate nuclei and their experimental signatures
 - 38 Hokkaido University, Sapporo (Japan) - 5 June 2019
Seminar: Polarized γ -ray nuclear fluorescence and α -clusters in light nuclei
 - 39 INFN Legnaro National Laboratory, Legnaro (Italy) - 25 March 2021
Webinar: Recent results on clusters and correlations in nuclear structure and reactions
 - 40 Tongji University, Shanghai (China) - 25 Nov. 2021
Webinar: Clusters and correlations in nuclear structure and reactions
 - 41 Yeshiva University, New York (USA) - 7 Dec. 2021
Webinar: The many facets of symmetry and Lie algebras in quantum systems
 - 42 Rutgers University, Piscataway, NJ (USA) - 13 Dec. 2021
Webinar: Clusters and correlations in nuclear structure and reactions
 - 43 Oak Ridge National Laboratory, Oak Ridge, TN (USA) - 2 June 2022
Seminar: Clusters correlations in nuclear structure and reactions
 - 44 Univ. Camerino, MC (Italy) - 20 Feb. 2023
Seminar: Il clustering alfa in fisica e astrofisica nucleare

- 45 Univ. Camerino, MC (Italy) - Apr.-May 2023 (10h)
Seminar cycle: Simmetrie e loro applicazioni in Meccanica quantistica e fisica nucleare.
- 46 Univ. Manchester (U.K.) - 8 May 2024
Seminar: Alpha-clustering and molecular models in the structure and reactions of ^{12}C
- 47 Tech.Univ. Darmstadt (Germany) - 3-6 June 2024
Seminar: Some γ -ray scattering processes and polarization in nuclei, a simple theoretical perspective

Public lectures and popularization/divulgateion

- 48 Liceo Scientifico "G.Ferraris", Borgosesia (Italy) - 2001
Seminar: set of four lectures on modern physics
- 49 Istituto Barbarigo, Padova (Italy) - 25 Sept. 2014
Seminar: La fisica nucleare: una scienza fondamentale che entra nella vita di tutti
- 50 Galileo settimana della scienza e dell'innovazione, galileofestival, Padova (Italy) - 12 Oct. 2021
Seminar: Fisica nucleare: una scienza fondamentale che entra nella vita di tutti
- 51 "Selected Topics in Atomic and Nuclear Physics", Fiera di Primiero (Italy) - Sep. 2022
Seminar: La fisica della chitarra elettrica / Physics of the Electric Guitar

Referee & Editorial activity

Member of the Editorial board :

AHEP Advances in High Energy Physics (Mar. 2018 - Jun. 2019)
EPJ Plus European Physical Journal Plus (May 2019 - ... **Current**)

Referee for the following journals (21):

AHEP Advances in High Energy Physics	JPG Journal of Physics G: Nuclear and Particle Physics
AOP Annals of Physics - Recognized reviewer (Certificate, Sep. 2016)	MPLA Modern Physics Letters A
CPC Chinese Physics C	NATC Nature Communications
EPJA European Physical Journal A	NPA Nuclear Physics A - Recognized reviewer (Certificate, Nov. 2016)
EPJ Plus European Physical Journal Plus	PLB Physics Letters B - Recognized reviewer (Certificate, July 2016)
EPJ ST European Physical Journal Special Topics	PRC Physical Review C (>10)
FBS Few-body Systems	PRL Physical Review Letters
IJMPA International Journal of Modern Physics A	PS Physica Scripta
IJMPE International Journal of Modern Physics E	PTEP Progress in Theoretical and Experimental Physics
JPA Journal of Physics A: Mathematical and General	TJP Turkish Journal of Physics
JPB Journal of Physics B: Atomic, Molecular and Optical Physics	

technical/expert reviewer for 1) U.S. DEPARTMENT of ENERGY (DoE, USA), 2) GACR (Czech Rep.), 3) MIUR, VQR 2011-2014 (Italy), 4) Israel Science Foundation, ISF, (Israel, 2023).

Project participation

National:

I.N.F.N. Iniziative specifiche CT31 and PI32, 2001-2014

Prin 2009 Progetti di Ricerca di Interesse Nazionale: Structure and dynamics of nuclei far from the stability valley. Participant, 10/2011-10/2013

I.N.F.N. Iniziativa specifica STRENGTH, from 2014

PRAT Progetti di Ricerca di Ateneo: "Interdisciplinary applications of Nuclear theory: from atoms and molecules to stars". **Principal Investigator**, 02/2016 - 08/2018

PRD/SID Progetti di Ricerca Dipartimentali: "Limits of nuclear stability: Physics beyond the driplines" CASA.SID19_1, P.I. Jesús Casal, 10/2019 - 09/2021

International:

SARFEN Structure And Reactions For Exotic Nuclei (within NupNET) coordinated by M.Ploszajczak (Ganil), Mar. 2012- Mar. 2015

Project management, funding, grants and fellowships

- Local coordinator of the INFN-MEC (now called FAI-MICINN) collaboration between Padova and Huelva (Spain) with title: "Algebraic Methods in Nuclear and Molecular Systems", funded in : 2009 (3k€), 2011 (3k€), 2013 (1k€).
- supported participant I.N.T. -Seattle 2007 (1k€)
- host for the "Visiting scientist 2011-2012" attributed to Prof. K.Heyde (Ghent University) 2012 (1 month, 3.5k€)
- winner of local call for exchange of researchers with partner universities -2012. Chosen partner: Charles University, Prague (1 week, ~ 0.5 k€)
- winner of local call for "Iniziative cooperazione universitaria -2012" (1.5 k€). Visit to Indian Institute of Technology, Roorkee, India (3 weeks)
- winner of local call for "Iniziative cooperazione universitaria -2015" (1.5 k€). Visit to Tohoku University, Sendai, Japan (1 week)
- **Principal Investigator** (Responsabile scientifico) of PRAT (Progetto di Ricerca di Ateneo), Padova Univ. 2015. Title: "Interdisciplinary Applications of Nuclear Theory: from atoms and molecules to stars" (67 k€). Number of researchers in the unit: 9 + visitors. Biannual project 2016-18.
- **Unit Coordinator** of the INFN national initiative STRENGTH (Responsabile locale Iniziativa Specifica STRENGTH) , 2018-2020. Amount of funds and number of researchers in the unit 2018: 6.5 k€, 6 reaserchers, 2019: 5.5 k€, 5 reaserchers, 2020: 5.0 k€, 4 researchers).
- **Unit Coordinator** of the INFN national initiative MONSTRE (Responsabile locale Iniziativa Specifica MONSTRE) , from 2021. Amount of funds and number of researchers in the unit 2021: 4.5 k€, 4 researchers. 2022: 2.5 k€, 3 researchers. 2023: 1.5 k€, 1.7 researchers. 2024: 1.5 k€, 1.7 researchers. 2025: 1.5 k€, 1.7 researchers
- winner of local call for "Iniziative cooperazione universitaria -2018" (2.2 k€). Used to host a visitor (M.Alimohammadi, Iran).
- winner of local call for "Iniziative cooperazione universitaria -2019" (1.0 k€). Visit to Japan (Tohoku + Hokkaido).

- **Principal Investigator** (Responsabile scientifico) of PRD (Progetto di Ricerca Dipartimentale), Padova Univ. 2020. Title: "Theoretical Nuclear Physics Visiting Ph.D. programme" (15 k€). Number of researchers in the unit: 2 + 4 visitors (S.Perrotta 1 month, Z.Ranjbar, 2 months, X.Grebert, 2 months, R.Escudeiro, 3 months). Biannual project 2020-22. FORT_BIRD2020_01
- **P.I. (taking over)** (Responsabile scientifico subentrante) of PRD (Progetto di Ricerca Dipartimentale), Padova Univ. 2019. Title: "Limits of nuclear stability: Physics beyond the driplines" (56 k€). Number of researchers in the unit: 3. Biannual project 2019-21. CASA_BIRD2019_01

Total amount of funding achieved (as fund manager/winner): 184.7 k€.

Other titles

- Abilitazione Scientifica Nazionale (ASN) a prof. seconda fascia, settore 02/A2 (bando DD n. 222/2012): 08/01/2014 - 08/01/2018 (National scientific habilitation for associate professor, sector 02/A2)
- 2017-2029 • Abilitazione Scientifica Nazionale (ASN) a **prof. prima fascia**, settore 02/A2 (bando DD n. 1532/2016): 28/03/2017 - 28/03/2023 (National scientific habilitation for **full professor**, sector 02/A2) - Validity extended from 6 to 9 years, i.e. up to 28/03/2026 with decree law Consiglio dei Ministri, C.M. n.8, 10/10/2019 - Validity extended from 9 to 10 years, i.e. up to 28/03/2027 with decree law n. 15, 25/02/2022, article 6 comma 4-bis. Validity extended from 10 to 11 years, i.e. up to 28/03/2028 with decree law n.198, 29 dec, 2022 converted on 24 feb. 2023, n.14. Validity extended from 11 to 12 years, i.e. up to **28/03/2029** with decree law n.199, 20 dec, 2024 converted on 28 oct. 2024, n.160.

Conference Organization

- Local Organizing committee, "Euro summer school on exotic beams", 11-15 Sep. 2006, ECT*, Trento (Italy)
- Local Organizing committee, "Incontro Nazionale Fisica Nucleare 2014 - INFN2014" , Padova (Italy)
- Local Organizing committee, "Third International SPES workshop", 10-12 Oct. 2016 , Legnaro (Italy)
- **Chairman**, "QPTN-9, Quantum Phase Transitions in Nuclei", 22-25 May 2018 , Padova (Italy)
- **Chairman**, "Theoretical Nuclear Physics in Padova, a meeting in honor of Andrea Vitturi", 20-21 May 2019 , Padova (Italy)
- Organizing committee, "INFN Nuclear Physics Mid-term Plan in Italy", 2022, LNL Legnaro 11-12 Apr. & LNS Catania 4-5 Apr. (Italy)
- Convener, "QPT-10, Quantum Phase Transitions 10", 11-16 July 2022, Dubrovnik (Croatia)

Memberships

- Member of the Società Italiana di Fisica, SIF (Italian Physical Society), since 2001, discontinued

Academic Activities/ Commissions

- **Academic board member** appointed by the University of Padova to assign research fellowships of the Physics Department (6 times: 2007,2008,2012, 01/2014, 12/2014, 03/2015, 04/2016, 01/2020)
- Member of selection committee at the ECT* (2 times, 2009-2011)
- **Academic board member** appointed by the University of Camerino to confer Ph.D title to S.Das Gupta (2011).
- Organizer of the Cycle of Seminars: Nuclear Cookies Seminars (from Apr 2012, 31 seminars up to now, with 400+ participants)
- Elected member of "Commissione Scientifica di Area 2 -Scienze Fisiche" 2013-2016 - Un. Padova
- Member of "Commissione Dipartimentale Progetti e Assegni" 2014 - Dip. Fisica e Astronomia - Univ. Padova
- **Academic coordinator**, Erasmus+ project Padova-Huelva, 2015-2021
- **Academic coordinator**, Erasmus+ project Padova-Koeln, 2016-2021
- **Selection committee**, Erasmus Mundus Joint Master Degree in Nuclear Physics NuPhys, 2017-2018
- **Chairman of degree committee** for degree in Physics: 19/07/2017
- **Member of the Doctoral school teachers board** Ph.D. in Physics: XXXIV cycle 2018 - XL cycle 2024.
- **Member of commission** to award INFN post-doc position in theoretical physics, Catania, 11/2020
- **Revisore**, VQR 2011-2014, ANVUR. Expert reviewer, Italian research evaluation agency.
- **Membro GEV2**, VQR 2020-2024, ANVUR. Member of evaluation committee, Italian research evaluation agency

Internet presence (as of Jan. 2023)

- institutional website, with scientific, teaching and personal information: <http://www.pd.infn.it/~fortunat> (started 2008, >31k visits from 100+ countries)
- the Nuclear Hoax Spotter blog, with scientific discussion and review/debunking of false claims related to nuclear physics : <http://nuclearhoaxspotter.wordpress.com/> (started 2012, >12k visits from 110+ countries)
- Twitter account: @Lorenzo_Fisica (started 2021, >11k visits)

Press coverage, Media, News, etc.

- 08/03/1995 "Fisica, i più bravi - Vincono le Olimpiadi", *La Stampa*, Mercoledì 8 Marzo 1995, pag. 35
- 03/05/2015 "La risonanza gigante di pairing", *La Sicilia*, 3 maggio 2015
- 04/2015 "Two more or less", Jorge Piekarewicz, NATURE PHYSICS, VOL 11, APRIL 2015
- 2016 Mentioned in Nuclear Physics News, Vol. 26, No. 1, 2016
- 26/02/2016 "Electron screening puzzle solved", Phys.org
- 2016 Author of Cover Picture of J. Phys. G: Nucl. Part. Phys. 43, issue 9, 2016
- 24/10/2016 "Dai fasci instabili una nuova 'speranza' per la Fisica Nucleare", *il Bo*

- 2018 Co-author of (T. Oishi) Cover Picture of J. Phys. G: Nucl. Part. Phys. 45, issue 10, 2018
- 2018 "Report on the 9th International Workshop on *Quantum Phase Transitions in Nuclei and Many-body Systems*, Padova, 22-25 May 2018", Nuclear Physics News 28:4, 33-33 (2018)
- 11/03/2019 Notizie Scientifiche, "A caccia della forma del nucleo di carbonio-12", <https://notiziescientifiche.it/a-caccia-della-forma-del-nucleo-di-carbonio-12/>
- 11/03/2019 Press coverage of paper PRC99 (2019) from "le Scienze", italian edition of Scientific American, https://www.lescienze.it/pubblicazioni/2019/03/11/news/establishing_the_geometry_of_clusters_in_12c_through_patterns_of_polarized_sup3_rays-4436934/
- 06/08/2020 Press release of the University of Padova, "L'isotopo del nucleo magico sull'isola dalle proprietà "esotiche", <https://www.unipd.it/sites/unipd.it/files/Ricerca%20UNIPD%20ISOTOP0.pdf>
- 06/08/2020 Press coverage of paper Comms.Phys.3 (2020) from "le Scienze", https://www.lescienze.it/news/2020/08/06/news/l_isotopo_del_nucleo_magico_sull_isola_dalla_proprieta_esotiche_-4776120/
- 08/08/2020 Padovando magazine, <http://www.padovando.com/attualita/lisotopo-fluoro-29/>
- 12/08/2020 Italian Network, <http://www.italiannetwork.it/news.aspx?id=62914>
- 12/08/2020 News Break, <https://www.newsbreak.com/news/1609570514655/the-f-nucleus-as-a-lighthouse-on-the-coast-of-the-island-of-inversion>
- 01/10/2021 Galileofestival, https://www.galileofestival.it/gw_relatori/lorenzo-fortunato/
- 05/10/2021 La Piazza Web, <https://www.lapiazzaweb.it/2021/10/padova-galileo-festival-dall11-al-17-ottobre/>
- 21/10/2021 Interview on Il Gazzettino, https://www.ilgazzettino.it/tecnologia/moltofuturo/fisica_nucleare_energia_lorenzo_fortunato-6269408.html

Participation to experimental proposals

- Proposal for experiment at GANIL: "Neutron-pair transfer from ${}^6\text{He}$: a search for the Giant Pairing Vibration in ${}^{208}\text{Pb}$ ", Spkprsn: R.M.Clark (2006)
- Letter of Intent to the INTC committee (CERN): "Coulomb excitation of ${}^{16}\text{C}$ with Rex-Isolde and Miniball", Spkprsn: J.J.Valiente Dobón (2006)
- Proposal for experiment at GANIL: "Search for rotating neutron matter in neutron-rich Carbon nuclei", Spkprsn: J.J.Valiente Dobón (2007)
- Theoretical support to an experiment on the break-up of ${}^7\text{Li}$ on ${}^{208}\text{Pb}$ at Lab. Naz. Legnaro, Spkprsn: E.Vardaci
- Proposal for alpha-transfer experiments at SPES. Oct. 2008
- Proposal for experiment on proton skin in (p,p') reactions at Sunflower, RIKEN. Spkprsn: D. Mengoni (2013)
- Letter of Intent at SPIRAL1-MUGAST-AGATA-VAMOS, "Shape transition along and across N=28: 0_2^+ in ${}^{46,48}\text{Ar}$ " (2016)
- Letter of Intent at SPIRAL1-MUGAST-AGATA, "Oblate driving force in n-deficient nuclei above ${}^{56}\text{Ni}$: occupation in ${}^{68}\text{Se}$ " (2016)
- Proposal for LNL, "Superdeformed and α -cluster structure of ${}^{36}\text{Ar}$ with GALILEO+ LaBr3+ TRACE". Spkprsn: I. Zanon, M. Siciliano, A. Goasduff (2019)
- Proposal for LNL, "Neutron density in s-process nucleosynthesis : The ${}^{79}\text{Se}(n,\gamma)$ capture

cross section via the surrogate $^{78}\text{Se}(^{18}\text{O}, ^{16}\text{O}\gamma)^{80}\text{Se}^*$ reaction". Spkprn: C. Domingo Pardo, G. DeAngelis (2019)

- Proposal for LNL, "Observation of Isospin Mixing in Self-conjugate ^{68}Se Nucleus" Spkprn: S. Akkoyun and T. Bayram (2019)
- Proposal for RIKEN, "Isospin dependence of nucleon-nucleon forces in heavy self-conjugate systems: ^{92}Pd and ^{94}Ag " Spkprn: D. Mengoni (2019)
- Proposal for ANL, "Superdeformed and α -cluster structure of ^{36}Ar " Spkprn: I.Zanon, M. Siciliano, A. Goasduff (2021)
- Proposal for FRIB "First observation of neutron-unbound ^{30}F " Spkprn: C.R. Hoffman (2021)
- Proposal for ANL, "Exploration of incomplete fusion for spectroscopic studies of transuranium nuclei" Spkprn: M.Siciliano, W.Reviol (2021)

Summary and citation metrics

TOTAL number of works	136
Peer-reviewed journal papers	66
Non Peer-reviewed papers, proceedings, books, book chapters	P68
(in alph. order)	
AIP	7
APP	1
CPC	1
EPJA	12
EPJD	1
EPJPlus	2
EPJST or EPJWeb	5
FBS	3
IJMPE	3
JPA	2
JPCS	9
JPG	6
Nature Journals	2
NPA	6
PLA	1
PLB	2
PPNP	1
PRA	1
PRC	21
PRL	2
PScr	1
books and book chapters	9

Nuclear Physics: 118 Atomic and Molecular Physics: 6 Mathematical Physics: 6 Others: 4

Number of talks (Conference contributions, Invited seminars): 59+ 51 of which 4 webinars

Number of posters: 9

Number of direct collaborators: 70

Number of supervised undergraduate students : 34

Number of supervised ph.d. and post-docs: 10

Total (undergrad. and grad.) number of teaching hours: 1601.0h.

Citation metrics at the date 01 May 2025, see tables from personal records & Google Scholar

Tot. number of citations: > 1850

h-index: 25

Open Badges - obtained/verifiable at bestr.it



Equity and inclusivity open badge (24/04/2024)

<https://openbadges.bestr.it/public/assertions/iaJYar4RQUia7y59dU-KAg>