

Claudio Corianò

CV

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- 1978-1983 **High School Education**, *Liceo Scientifico C. De Giorgi, Lecce. Grade 60/60.*
- 1983-1987 **Undergraduate Studies in Italy**, *Laurea in physics 110/110 cum Laude from Physics Department, University of Turin. Thesis : On partial susy breaking in N=4 supergravity with gauge group E_8 . Advisor Prof. Pietro Frè.*
- 1987 **Graduate Admissions**, *Admitted at the graduate schools of SUNY at Stony Brook, NY and of Massachusetts Institute of Technology, Boston, for a Ph.D. in Physics.*

International Studies

- 1987-1992 **Graduate Studies**, *Ph.D student at Stony Brook, working at the Institute for Nuclear Theory (director Prof. Gerald E. Brown) and at the Institute for Theoretical Physics (director Prof. C.N. Yang) (supervisor Prof. George Sterman).*
- 1987-1992 **Scholarships**, *Fullbright commission, United Nations Sections and SUNY at Stony Brook.*
- 1988 **Master**, *Department of Physics, S.U.N.Y. at Stony Brook.*
- 1992 **Graduate degree**, *Doctor of Philosophy (Ph.D.), Department of Physics and C.N. Yang Institute for Theoretical Physics, SUNY at Stony Brook (Luglio 1992) (Tesi: Studies on Strong Interactions. Advisor Prof. George Sterman.*
- 1998-2000 **Postgraduate studies**, *postgraduate studies in computer science, in the Computer Science Department, College of William and Mary, Williamsburg, Virginia, US, on compiler constructions, performance evaluation, analysis of algorithms and data structures.*

Postdoctoral activity 1992-1999

- 1992-1993 **Postdoctoral research**, *Postdoctoral fellow at the University of Stockholm, Sweden, Physics Department.*
- 1992-1993 **Fellowships**, *Boncompagni-Ludovisi Trust fellowship, Stockholm, Sweden.*
- 1993-1995 **Postdoctoral research**, *Argonne Natl. Lab, University of Chicago, (High energy physics division). US Department of Energy fellowshp.*
- 1995-1997 **Postdoctoral research**, *Institute for Fundamental Theory, University of Florida at Gainesville (Director Prof. Pierre Ramond).*
- 1997-1999 **Postdoctoral research**, *Theory Division (Director Prof. Nathan Isgur), Thomas Jefferson Laboratory, Virginia, US Department of Energy fellowship.*

Research Activity

High Energy Physics, Quantum Field theory, Quantum Chromodynamics, Physics Beyond the Standard Model, Axion Physics, Collider Phenomenology, Conformal Field Theory in Higher dimensions, Amplitudes and Conformal Symmetry, Gravitational Waves.

Publications

1990-, about 110 peer reviewed articles, 35 articles in proceedings on journals, 3 contributions to international study groups. 4 editorial publications. Downloadable from inspirehep.net.

Academic activity and qualifications in the Italian national university system

1999-2002, Tenure track researcher, Univ. of Salento.

2002-2010, Tenured researcher, Univ. of Salento.

2011-2019, Associate professor, Univ. of Salento.

20012, Qualification, National habilitation to full professor in the area FIS-02-A2, Elementary particle theory and mathematical methods for physics (2012-2021).

20019, National habilitation to full professor in the area FIS-02-A2, Elementary particle theory and mathematical methods for physics (2021-2029).

2000-2019, Chief organizer and Director of 4 international graduate schools in high energy theory and phenomenology. Chairman for the final meeting of the European network on cosmology (Universenet) (2010). Chairman of an international school on holographic cosmology (2019).

2000-2019, Teaching, Teaches regular courses in quantum field theory, physics of the fundamental interactions, computational methods in physics, for students specialising both in theoretical and experimental physics (20 credit hrs per year).

2000-2019, Teaching, Teaches undergraduate courses in thermodynamics, statistical mechanics for mathematicians, statistical mechanics for physicists, for 6 credit hrs (200-2008) and 12 credit hrs (2008-2019).

Visiting positions

2015, Leverhulme Professor at the Mathematics department of the University of Southampton, developing methods for the analysis of the Cosmic microwave background and holographic cosmology. .

Partecipation to national grants

2000- **PRIN**, Participates to 4 national grants (PRIN), 24 months each, in the area of particle theory, coordinated by Giancarlo Rossi, Roberto Petronzio, Luciano Maiani and Riccardo Barbieri.

2005 **Membership**, Member of the Pax collaboration (2005) on polarized collisions. .

Membership

2014-2019 **Graduate committees**, Supervisors for graduate admissions at the University of Salento, physics department.

Organization of scientific events and Coordination of Research Activity

International Schools **2004**, Chairman, Italo Hellenic School of Physics : The physics of LHC , Martignano (Lecce) May 20-24, 2004, 50 participants, 10 speakers. budget: 15.000 euro. In collaboration with Profs. Vincenzo Barone (Alessandria) and Phil Ratcliffe (Como) .

2005, Chairman: *Italo-Hellenic School of Physics 2005: The Physics of LHC: Theoretical Tools and Experimental Challenges 9-14 Jun 2005*. Martignano, Lecce, Italy, 10 speakers, 40 participants; budget 15.000 euro. In collaboration with Profs. Vincenzo Barone (Alessandria) and Phil Ratcliffe (Como) .

2006, Chairman : *Italo-Hellenic School of Physics 2006: The Physics of LHC: Theoretical Tools and Experimental Challenges 12-18 giugno 2006*. 40 participants. Martignano, Lecce, Italy, budget 12.000 euro. In collaboration with Profs. Vincenzo Barone (Alessandria) and Phil Ratcliffe (Como) .

2010, Chairman: *4th Summer School on the Physics of LHC 2010: Theoretical and Experimental Aspects 14-19 Jun 2010*. Lecce, Italy, 10 speakers, 40 students. budget 14.000 euro. In collaboration with Profs. Vincenzo Barone (Alessandria) and Phil Ratcliffe (Como).

Organization of European meetings **2010**, Chairman: *4th Universenet School : frontiers of Particle Cosmology (Final meeting of the European network Universenet)* 110 participants. Coordinator: Prof. Subir Sarkar (Oxford), funded by the network .

Workshops Organization **2012**, Co-Chair of the Organizing Committee (Profs. P. Colangelo e Fulvia De Fazio) *Workshop QCD@work 6th International Workshop on Quantum Chromodynamics - Theory and Experiment (QCD@WORK2012)* : Lecce, Italy, June 18-21. 80 participants.

2014, Member of the organizing committee *7th International Workshop on QCD - Theory and Experiment (QCD@Work 2014)* 16-19 June 2014. Giovinazzo, Bari, Italy .

2016, Member of the organizing committee *7th International Workshop on QCD - Theory and Experiment (QCD@Work 2014)* 27-30 June 2016. Martina Franca, Italy .

2018, Member of the organizing committee *7th International Workshop on QCD - Theory and Experiment (QCD@Work 2014)* 25-28 June 2018. Matera Italy .

2019, Co-Chair : *International School on Amplitudes and Cosmology, Holography and Positive Geometries Lecce, 27 May 2019 to 1 June 2019 Ex-convitto Palmieri*. 50 international students, 5 speakers. In collaboration with Dr. Paolo Benincasa (Niels Bohr Intl. Academy, Copenhagen (<https://agenda.infn.it/event/18103/>)).

2020, Co-Chair : *International School on Amplitudes and Cosmology, Holography and Positive Geometries Lecce, 25 May 2019 to 2 June 2019 Ex-convitto Palmieri*. In collaboration with Dr. Paolo Benincasa (Niels Bohr Intl. Academy, Copenhagen (<https://agenda.infn.it/event/21268/>)).

Workshop Organization **2020**, with Professors Pietro Colangelo and Fulvia De Fazio (INFN Bari) organizes the workshop *QCD@work 2020 at Museo Sigismondo Castromediano, Lecce, 15-18 giugno 2020*.

Coordination of research activities **2000-2019**, Coordinator for Lecce of the INFN clusters BARI-21 and QFT-HEP.

Referee service

Referee large grants **2016-2019**, Referee for the Swiss National Science Foundation for large grants..

2019, Referee per la Estonian Science Foundation for large grants.

Referee scientific journals **2000-2019**, Referee for Physical Review D and European Physics Journal in the area of high energy physics and Classical and Quantum Gravity for field theory and gravity.

Editor **2019-**, *Review Editor per Frontiers in Physics, High energy theory and astroparticle physics.*

International visits (longer than 10 days) Short List

2002, 11 July 2002.

Physics Department Oxford UK, April 2002

2003, *Physics Department Oxford UK, April 2003, 1 month, funding: Royal Society .*

2003, *National University of Singapore April 2003, funding: University Scholars Program, Singapore.*

2004, *National University of Singapore May 2004, 1 month, funding: University Scholars Program, Singapore.*

2004, *Physics Department Oxford UK, March 2004, funding: Royal Society.*

2010, *Physics Department Oxford UK, March 2010, funding: Royal Society.*

2011, *Physics Department Liverpool Univ., March 2010, funding: Royal Society .*

2011, *Physics Department Univ. of Granada. Exchange program Lecce-Granada INFN-MEC October 2011.*

2012, *Physics Department Liverpool Univ., October 2012, funding: Royal Society .*

2014, *Intitute for Theoretical Physics Univ. of Madrid, Cantoblanco, October 2014. Ref. Prof. K. Landsteiner.*

2000-2013, *Physics Department, University of Ioannina. Invitation: Profs. K. Tamvakis and G. Leondaris. Regular annual exchange activity for research and student supervision (Dr. Antonio Mariano).*

2015, *University of Southampton, Physics and Mathematics Departments.*

2008-2011, *visitor, Univ. of Zurich, Switzerland.*

2015-2019, *visitor, ETH-Zurich, Switzerland.*

2018, *Visitor, CNRS Tours, collaboration with Prof. M. Chernodub.*

Recent seminars, (short list)

CNRS Tours, France (7/2/2020) Corfu European School and Workshop. Physics beyond the Standard Model September 2018)

Corfu European School and Workshop. Physics beyond the Standard Model (September 2019)

QVAC at Mainz Institute for Particle Physics (2019)

Univ. of Bologna, Theory group, (2016), (2017), (2018)

Theory, Univ. of Oxford (2015)

Physics Dept. U. of Sussex (2015)

Rutherford Lab (2015)

Univ. of Jena (2014)

Appointments in external committees

External committee member of graduation committee: Universita' della Calabria, Cosenza, invitation: Prof. A. Papa (2017).

External committee member of graduation committee, University of Tor Vergata (2009) (candidate A. Racioppi) e (2012) (candidate A. Mammarella) invitation: Prof. F. Fucito.

Supervision of postdocs

- 1) Marco Guzzi 2006-2008
- 2) Luigi Delle Rose, 2013-2014 (now postdoc at Univ. di Firenze)
- 3) Antonio Costantini 2016-2017 (now postdoc at Univ. di Bologna)
- 4) Supervisor of a 2-years INFN fellowships for foreigners on "Phenomenology of gauge theory" (2014-2016), INFN cluster QFT-HEP, Lecce. Researcher: Priyotosh Bandyopadhyay, now faculty at IIT Hyderabad, India.

Ph.D. thesis supervised

- 1) Marco Guzzi (2006) *QCD Studies at hadron Collider and in Deeply Virtual Neutrino Scattering*
hep-ph/0612355
- 2) Alessandro Cafarella (2006) *QCD at hadron colliders and in Ultra High Energy Cosmic Rays*
hep-ph/0605241
- 3) Simone Morelli (2009) *Stuckelberg axions and anomalous abelian extensions of the Standard Model*
arXiv:0907.3877
- 4) Roberta Armillis (2011) *Effective actions in theories with gauge and conformal anomalies*
<http://www.dmf.unisalento.it//coriano/tesi/>
- 5) Antonio Mariano (2012) *Dark Matter relic densities in Stuckelberg axion models*,
<http://inspirehep.net/record/1267730>
- 6) Luigi Delle Rose (2013) *Perturbation Theory in a Weak Gravitational Background: Dilatons, conformal Anomalies and Holographic Non Gaussianities*
arXiv:1308.0124
- 7) Antonio Quintavalle (2013) *Dilaton Interactions and the Anomalous Breaking of Scale Invariance of the Standard Model*
- 8) Mirko Serino (2014) *Conformal Anomaly Actions for Dilaton Interactions*
arXiv:1407.7113
- 9) Carlo Marzo (2016) *A Beyond the Standard Model Journey with the Renormalization Group*
<http://inspirehep.net/record/1607180/files/11557-dottorato.pdf>
- 10) Antonio Costantini (2016) *Studies on conformal and Superconformal Extensions of the Standard Model with an Application to Gravity*
arXiv:1704.02977
- 11) Matteo Maria Maglio (2020) *Conformal Field Theory in Momentum Space*
- 12) Alessandro Tatullo (2020) *Axions and Gravitational Waves*

Supervision of master and doctoral students

- 1) Giovanni Chirilli. Laurea degree at Unisalento. Doctoral studies at Jefferson Lab, Virginia (advisor Jan Balitsky). Currently research fellow at Univ. of Regensburg.
- 2) Emanuela Dimastrogiovanni, laurea degree, graduate studies at U. Texas at Austin. Now at the University of New South Wales (Sidney), Australia.
- 3) Elisa Manno, Laurea degree at Unisalento. Graduate studies at the Univ. of Liverpool, UK.
- 4) Leonardo Carcagnì. Laurea degree at Unisalento (co-advisor Prof. Massimo Inguscio, LENS, Florence). Doctoral studies at Cambridge University.
- 5) Federica Cataldini. Laurea degree at Unisalento (co-advisor Prof. Giovanni Modugno, LENS, Firenze). Doctoral student at the University of Wien.
- 6) Luigi Delle Rose, laurea degree and former Ph.D. student, (moves to the Physics dept., Univ. of Southampton and to Rutherford Laboratory, Oxford, UK. Now postdoc at the Univ. of Florence), formerly "A. Della Riccia" fellow
- 7) Mirko Serino, laurea and doctoral degrees at Unisalento, (postdoc at the Nuclear Institute in Krakow, Poland; postdoc at Ben Gurion University, Israel)
- 8) Carlo Marzo, laurea and doctoral degrees at Unisalento, (currently postdoc at National Institute of Chemical Physics and Biophysics, Tallin Estonia), formerly "A. Della Riccia" fellow.
- 9) Roberta Armillis, laurea and doctoral degrees at Unisalento. Marie Curie fellow, predoc at the Univ. di Thessalonikki. Former postdoc at EPFL Politechnique, Lausanne, Switzerland.
- 10) Marco Guzzi, laurea degree and former doctoral student, postdoc at Southern Methodist Univ. at Dallas, then moving to the Univ. di Hamburg, and then Univ. di Manchester. Now assistant professor at Kennesaw STATE Univ., Marietta, Atlanta, Georgia, USA.
- 11) Alessandro Cafarella, laurea degree and former doctoral student, postdoc at the Univ. of Crete (1 year) and Univ. of Athens (3 years).
- 12) Antonio Mariano, laurea degree and former doctoral student. Marie Curie fellow at the Univ. di Thessaloniki, then postdoc at Annecy, France.
- 13) Antonio Costantini, laurea degree and former doctoral student. Now postdoc at the Univ. of Bologna.

Master Thesis (Laurea thesis)

(link to the electronic versions: <http://www.le.infn.it/coriano/students.html>)

Marco Guzzi, master, *Perturbative QCD and susy QCD*

Andrea Spirito, master, *Anomalies and abelian estensions of the Standard Model*

Giovanni Chirilli, master, *Non forward parton distributions*

Emanuela Dimastrogiovanni, master, *Cosmological models*

Leonardo Carcagni', master, (co-advisor Prof. Massimo Inguscio, LENS, Florence) *A new BEC with tunable interaction*

Roberta Armillis, master, *Neutral Currents and extensions of the Standard Model*

Mariagiovanna Gianfreda, master, *Higgs-Axion mixing in extensions of the Standard Model*

Simone Morelli, Quadriennale, *Supersymmetric extensions of the Standard Model and the Stueckelberg mechanism*

Antonio Mariano, master, *Estensions of the NMSSM (USSM-A)*

Elisa Manno, master, *The next to minimal supersymmetric Standard Model*

Luigi Delle Rose, master, *Studies on conformal and chiral anomalies*

Luigi Manni, master, *Anomaly actions and gravity*

Mirko Serino, master, *Scale breaking and anomaly mediation in the Standard Model*

Federica Cataldini, master, (co-advisor Prof. Giovanni Modugno, LENS, Florence) *One dimensional ultracold superfluids in optical lattices*

Antonio Quintavalle, master, *Trilinear gauge interactions*

Carlo Marzo, master, *Ward identities and dilaton interactions*

Publication List

Preprints and published work in 2020

1) Two-point function of the energy-momentum tensor and generalised conformal structure with Luigi Delle Rose and Kostas Skenderis (to appear on Eur. Phys. J.C).

[link e-Print: 2008.05346 \[hep-th\]](#).

2) Conformal Unification in a Quiver Theory and Gravitational Waves

with Paul H. Frampton and Alessandro Tatullo

Phys. Lett. B 811, 135909

3) Conformal Field Theory in Momentum Space and Anomaly Actions in Gravity: The Analysis of 3- and 4-Point Functions

with Matteo Maria Maglio (submitted to Physics Reports (Elsevier))

[link e-Print: 2005.06873 \[hep-th\]](#)

4) Dark Matter with Light and Ultralight Stückelberg Axions

with Matteo Maria Maglio, Alessandro Tatullo and Dimosthenis Theofilopoulos

Published in: [link PoS CORFU2019 \(2020\) 080](#). Contribution to: CORFU2019, 080 e-Print: 2005.02292

[hep-ph].

5) Four-Point Functions in Momentum Space: Conformal Ward Identities in the Scalar/Tensor case with Matteo Maria Maglio and Dimosthenis Theofilopoulos [link Published in: Eur.Phys.J.C 80 \(2020\) 6, 540 e-Print: 1912.01907 \[hep-th\]](#)

6) Anomalous Gravitational TTT Vertex, Temperature Inhomogeneity, and Pressure Anisotropy with Maxim Chernodub and Matteo Maria Maglio [link Phys. Lett. B. 802, \(2020\) 135236. arXiv:1910.13727](#)

7) The Generalized Hypergeometric Structure of the Ward Identities of CFT's in Momentum Space in $d > 2$ with Matteo Maria Maglio. [link Axioms 9 \(2020\) 2, 54 e-Print: 2001.09622 \[hep-th\]](#) arXiv:2001.09622 [hep-th].

8) An axion-like particle from an $SO(10)$ seesaw with $U(1)_X$ with Paul H. Frampton, Alessandro Tatullo and Dimosthenis Theofilopoulos. [link Phys.Lett.B 802 \(2020\) 135273 e-Print: 1906.05810 \[hep-ph\]](#)

Holographic Cosmology

1) From Planck data to Planck era: Observational tests of Holographic Cosmology with Niayesh Afshordi, Luigi Delle Rose, Elizabeth Gould, Kostas Skenderis. arXiv:1607.04878 [astro-ph.CO]. Phys.Rev.Lett. 118 (2017) no.4, 041301.

2) Three and Four Point Functions of Stress Energy Tensors in D=3 for the Analysis of Cosmological Non-Gaussianities with Luigi Delle Rose, Mirko Serino. arXiv:1210.0136 [hep-th]. JHEP 1212 (2012) 090.

Conformal field theory

1) Exact Correlators from conformal Ward Identities in Momentum Space and Perturbative Realizations with Matteo Maria Maglio, Alessandro Tatullo, Dimosthenis Theofilopoulos. arXiv:1904.13174 [hep-ph]. PoS CORFU2018 (2019) 072.

2) On Some Hypergeometric Solutions of the conformal Ward Identities of Scalar 4-point Functions in Momentum Space with Matteo Maria Maglio. arXiv:1903.05047 [hep-th]. JHEP 1909 (2019) 107.

3) The general 3-graviton vertex (TTT) of conformal field theories in momentum space in $d = 4$ with Matteo Maria Maglio. arXiv:1808.10221 [hep-th]. Nucl.Phys. B937 (2018) 56-134.

4) Exact Correlators from conformal Ward Identities in Momentum Space and the Perturbative TJJ Vertex with Matteo Maria Maglio. arXiv:1802.07675 [hep-th]. Nucl.Phys. B938 (2019) 440-522.

5) TTT in CFT: Trace Identities and the conformal Anomaly Effective Action

with Matteo Maria Maglio, Emil Mottola. arXiv:1703.08860 [hep-th]. Nucl.Phys. B942 (2019) 303-328.

6) Superconformal sum rules and the spectral density flow of the composite dilaton (ADD) multiplet in $\mathcal{N} = 1$ theories

with Antonio Costantini, Luigi Delle Rose, Mirko Serino. arXiv:1402.6369 [hep-th]. JHEP 1406 (2014) 136.

7) The dilaton Wess-Zumino action in six dimensions from Weyl gauging: local anomalies and trace relations

with Luigi Delle Rose, Carlo Marzo, Mirko Serino. arXiv:1311.1804 [hep-th]. Class.Quant.Grav. 31 (2014) 105009.

8) Conformal Trace Relations from the Dilaton Wess-Zumino Action

with Luigi Delle Rose, Carlo Marzo, Mirko Serino. arXiv:1306.4248 [hep-th]. Phys.Lett. B726 (2013) no.4-5, 896-905.

9) Solving the conformal constraints for Scalar Operators in Momentum Space and the Evaluation of Feynman's Master Integrals

with Luigi Delle Rose, Emil Mottola, Mirko Serino. arXiv:1304.6944 [hep-th]. JHEP 1307 (2013) 011.

10) Graviton Vertices and the Mapping of Anomalous Correlators to Momentum Space for a General Conformal Field Theory

with Luigi Delle Rose, Emil Mottola, Mirko Serino. arXiv:1203.1339 [hep-th]. JHEP 1208 (2012) 147.

11) Anomaly Poles as Common Signatures of Chiral and Conformal Anomalies

with Roberta Armillis, Luigi Delle Rose.

arXiv:0909.4522 [hep-ph]. Phys.Lett. B682 (2009) 322-327.

12) Renormalization, formal Ward Identities and the Origin of a conformal Anomaly Pole

with Matteo Maria Maglio.

arXiv:1802.01501 [hep-th]. Phys.Lett. B781 (2018) 283-289.

13) conformal Anomalies and the Gravitational Effective Action: The TJJ Correlator for a Dirac Fermion

with Roberta Armillis, Luigi Delle Rose.

arXiv:0910.3381 [hep-ph]. Phys.Rev. D81 (2010) 085001.

14) Trace Anomaly, Massless Scalars and the Gravitational Coupling of QCD

with Roberta Armillis, Luigi Delle Rose.

arXiv:1005.4173 [hep-ph]. Phys.Rev. D82 (2010) 064023.

15) Comments on Anomaly Cancellations by Pole Subtractions and Ghost Instabilities with Gravity

with Roberta Armillis, Luigi Delle Rose, A.R. Fazio.

arXiv:1103.1590 [hep-ph]. Class.Quant.Grav. 28 (2011) 145004.

16) Anomalous U(1) Models in Four and Five Dimensions and their Anomaly Poles

with Roberta Armillis, Luigi Delle Rose, Marco Guzzi.

arXiv:0905.0865 [hep-ph]. JHEP 0912 (2009) 029.

- 1) Possible Bilepton Resonances in Like-Sign Pairs
with Paul H. Frampton.
arXiv:1812.02723 [hep-ph]. Mod.Phys.Lett. A34 (2019) no.10, 1950076.
- 2) Bilepton Signatures at the LHC
with Gennaro Corcella, Antonio Costantini, Paul H. Frampton.
arXiv:1707.01381 [hep-ph].
Phys.Lett. B773 (2017) 544-552.
- 3) Exploring Scalar and Vector Bileptons at the LHC in a 331 Model
with Gennaro Corcella, Antonio Costantini, Paul H. Frampton.
arXiv:1806.04536 [hep-ph]. Phys.Lett. B785 (2018) 73-83.
- 4) Extra Quarks and Bileptons in BSM Physics in a 331 Model
with Antonio Costantini.
arXiv:1809.05051 [hep-ph]. EPJ Web conf. 192 (2018) 00034.
- 5) Search for Z prime, vacuum (in)stability and hints of high-energy structures
with Elena Accomando, Luigi Delle Rose, Juri Fiaschi, Carlo Marzo, Stefano Moretti.
arXiv:1609.05652 [hep-ph]. EPJ Web conf. 129 (2016) 00007.
- 6) Bounds on the conformal Scale of a Minimally Coupled Dilaton and Multi-Leptonic Signatures at the LHC
with Priyotosh Bandyopadhyay, Antonio Costantini, Luigi Delle Rose.
arXiv:1607.01933 [hep-ph]. JHEP 1609 (2016) 084.
- 7) Z prime, Higgses and heavy neutrinos in U(1) models: from the LHC to the GUT scale
with Elena Accomando, Luigi Delle Rose, Juri Fiaschi, Carlo Marzo, Stefano Moretti.
arXiv:1605.02910 [hep-ph]. JHEP 1607 (2016) 086.
- 8) An Anomalous Extra Z Prime from Intersecting Branes with Drell-Yan and Direct Photons at the LHC
with Roberta Armillis, Marco Guzzi, Simone Morelli.
arXiv:0809.3772 [hep-ph]. Nucl.Phys. B814 (2009) 156-179.
- 9) Axions from Intersecting Branes and Decoupled Chiral Fermions at the Large Hadron Collider
with Marco Guzzi.
arXiv:0905.4462 [hep-ph]. Nucl.Phys. B826 (2010) 87-147.
- 10) Higgs bosons: discovered and hidden, in extended Supersymmetric Standard Models at the LHC
with Priyotosh Bandyopadhyay, Antonio Costantini.
arXiv:1604.00228 [hep-ph]. PoS CORFU2015 (2016) 069.
- 11) General analysis of the charged Higgs sector of the $Y = 0$ triplet-singlet extension of the MSSM at the LHC
with Priyotosh Bandyopadhyay, Antonio Costantini.
arXiv:1512.08651 [hep-ph]. Phys.Rev. D94 (2016) no.5, 055030.
- 12) Probing the hidden Higgs bosons of the $Y = 0$ triplet- and singlet-extended Supersymmetric Standard Model at the LHC

with Priyotosh Bandyopadhyay, Antonio Costantini.
arXiv:1510.06309 [hep-ph]. JHEP 1512 (2015) 127.

13) Constraints on abelian extensions of the Standard Model from two-loop vacuum stability and $U(1)_{B-L}$
with Luigi Delle Rose, Carlo Marzo.
arXiv:1510.02379 [hep-ph].
JHEP 1602 (2016) 135.

14) Perspectives on a supersymmetric extension of the standard model with a $Y = 0$ Higgs triplet and a singlet at the LHC
with Priyotosh Bandyopadhyay, Antonio Costantini.
arXiv:1506.03634 [hep-ph]. JHEP 1509 (2015) 045.

15) Stability constraints of the scalar potential in extensions of the Standard Model with TeV scale right handed neutrinos
with Luigi Delle Rose, Carlo Marzo.
arXiv:1411.7168 [hep-ph]. Nucl.Part.Phys.Proc. 265-266 (2015) 311-313.

16) Vacuum Stability in $U(1)$ -Prime Extensions of the Standard Model with TeV Scale Right Handed Neutrinos
Luigi Delle Rose, Carlo Marzo.
arXiv:1407.8539 [hep-ph]. Phys.Lett. B738 (2014) 13-19.

17) Dilaton interactions and the anomalous breaking of scale invariance of the Standard Model
with Luigi Delle Rose, Antonio Quintavalle, Mirko Serino.
arXiv:1206.0590 [hep-ph]. JHEP 1306 (2013) 077.

18) X-Events and Their Interpretation
with Paul H. Frampton.
arXiv:1606.08713 [hep-ph]. Mod.Phys.Lett. A31 (2016) no.32, 1650180.

19) Higher Order Dilaton Interactions in the Nearly conformal Limit of the Standard Model
with Luigi Delle Rose, Carlo Marzo, Mirko Serino.
arXiv:1207.2930 [hep-ph]. Phys.Lett. B717 (2012) 182-187.

20) The conformal Anomaly and the Neutral Currents Sector of the Standard Model
with Luigi Delle Rose, Antonio Quintavalle, Mirko Serino.
arXiv:1101.1624 [hep-ph]. Phys.Lett. B700 (2011) 29-38.

21) Searching for Extra Z-prime from Strings and Other Models at the LHC with Leptoproduction
with Alon E. Faraggi, Marco Guzzi.
arXiv:0802.1792 [hep-ph]. Phys.Rev. D78 (2008) 015012.

22) Cosmic ray signals from mini black holes in models with extra dimensions: An Analytical / Monte Carlo study
with Alessandro Cafarella, T.N. Tomaras.
hep-ph/0410358. JHEP 0506 (2005) 065.

- 1) An Axion-Like Particle from an $SO(10)$ Seesaw with $U(1)_X$
with Paul H. Frampton, Alessandro Tatum, Dimosthenis Theofilopoulos,
arXiv:1910.13727, accepted for publication on Phys. Lett. B.
- 2) Dark Matter with Stückelberg Axions
with Paul H. Frampton, Nikos Irges, Alessandro Tatum.
arXiv:1811.05792 [hep-ph]. Front.in Phys. 7 (2019) 36.
- 3) Dark Matter as Ultralight Axion-Like particle in $E_6 \times U(1)_X$ GUT with QCD Axion with Paul H. Frampton.
arXiv:1712.03865 [hep-ph]. Phys.Lett. B782 (2018) 380-386.
- 4) Cosmological Properties of a Gauged Axion
with Marco Guzzi, George Lazarides, Antonio Mariano.
arXiv:1005.5441 [hep-ph]. Phys.Rev. D82 (2010) 065013.
- 5) Relic Densities of Dark Matter in the $U(1)$ -Extended NMSSM and the Gauged Axion Supermultiplet
with Marco Guzzi, Antonio Mariano.
arXiv:1010.2010 [hep-ph]. Phys.Rev. D85 (2012) 095008.
- 6) A Light Supersymmetric Axion in an Anomalous Abelian Extension of the Standard Model
with Marco Guzzi, Antonio Mariano, Simone Morelli.
arXiv:0811.3675 [hep-ph]. Phys.Rev. D80 (2009) 035006.
- 7) Stückelberg Axions and the Effective Action of Anomalous Abelian Models 2. A $SU(3)_C \times SU(2)_W \times U(1)_Y \times U(1)_B$ model and its signature at the LHC
with Nikos Irges, Simone Morelli. hep-ph/0703127 [HEP-PH]. Nucl.Phys. B789 (2008) 133-174.
- 8) Stückelberg axions and the effective action of anomalous Abelian models. 1. A Unitarity analysis of the Higgs-axion mixing
with Nikos Irges, Simone Morelli.
hep-ph/0701010. JHEP 0707 (2007) 008.
- 9) On the effective theory of low scale orientifold string vacua
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