Claudio Corianò

CV

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link: @ webpage at UniSalento
link: @ Coordination of the Ph.D. Program in Physics and Nanoscience at the University of Salento

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 to graduate programs at SUNY at Stony Brook, NY, at the Univ. of Southern California and at the Massachussets 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) Thesis:* 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, Conformal Extensions of the Standard Model, Nonlocal Cosmologies, Anomalies and Transport in Condensed Matter and Plasmas

Publications

1990-, *about 180 citable articles, of which about 133 peer reviewed articles, 40 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-current , *Associate Professor Univ. of Salento*

2012, *National habilitation to full professor in the area FIS-02-A2, Elementary particle theory and mathematical methods for physics (2012-2024)*

2019, *National habilitation to full professor in the area FIS-02-A2, Elementary particle theory and mathematical methods for physics (2019-2030)*

2020-, *Coordinator of the Ph.D. Program in Physics and Nanoscience at the University of Salento (about 50 students) 25 faculty members in the "Collegio dei Docenti"*

2000-2019, *Advisoring, has acted as an advisor to 13 Ph.D. student and over 30 students at master and undergraduate levels*

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)*

Teaching at undergraduate level

2000-2011, *Assistant instructor on undergraduate courses in Electrodynamics and Quantum Mechanics as required for tenured Researchers*

Teaching at master level

2011-2023, *Instructor for a course in Elementary Particle Theory, 60 hrs*

2011-2019, *Instructor for a course in Computationla Physics, 60 hrs*

Teaching in the Doctoral program

2001-2019, *Instructor for a course in "Special Topics in Theoretical Physics", 20 hrs. Coordinator of Special Studies, for 10 graduate students.*

Scientific Coordination and Referee Service

2021, *Co-Principal Investigator on a PRIN grant application in the field of particle phenomenology, jointly with the University of Salento, Bari, and Naples.*

2021, *Referee Services*, *Provided expertise as a referee for the Swiss National Science Foundation, evaluating two significant grant proposals (University of Zurich and Bern) totaling more than 1.5 million CHF. Additionally, served as a referee for grant applications from the Catholic University of Chile (2020) and the Estonian Science Foundation (300 KE).*

2021, *Coordination of International Conferences*, *As the co-organizer, collaborated with Prof. Paul H. Frampton in hosting the "Lecce Lectures" Graduate Webinars in 2021. This event featured distinguished scientists, including five Nobel laureates, as keynote speakers: Gerard 't Hooft, Subir Sarkar, Giorgio Parisi, Roger Penrose, and John Mather.*

2022, *Conference Organization*, *Served as a member of the Organizing Committee for the "QCD at Work" conference, held from June 27 to 30 in Lecce, Italy.*

2005

Contributing to the Pax collaboration in 2005 on the analysis polarized collisions.

Annual Visiting Positions

2015, *Leverhulme Professor at the Mathematics Department of the University of Southampton, focusing on the development of methods for the analysis of the Cosmic Microwave Background and Holographic Cosmology. Financial support: 80,000 euros*

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, respectively

2023-, *PRIN*

Coordinates the Lecce-Naples Node for the PRIN initiative "AdS-CFT" with Massimo Taronna (PI), Charlotte Sleight and Wolfgang Mück (210,000 euros)

2005, *Grant "MEC" Italy Spain, for collaboration with the Univ. of Grenada (ref. Prof. M Masip)*

Partecipation to International grants

Membership

2014-2023, Member of the Collegio dei Docenti", dottorato in fisica e nanoscienze, University of Salento, Department of Mathematics and Physics

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*

Workshps 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 8th International Workshop on QCD - Theory and Experiment (QCD@Work 2014) 27-30 June 2016. Martina Franca, Italy*

2018, *Member of the organizing committee 9th 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, Copenaghen (https://agenda.infn.it/event/18103/)*

2022, *Member of the organizing committee 10th International Workshop on QCD - Theory and Experiment (QCD@Work 2014) 27-30 June 2022. Lecce, Italy*

Coordination

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

Coordination

2023, *Coordinator for Lecce of the INFN cluster QG sky*

Referee service

Intl. activity

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

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

Referee for 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*

Editor

2020-, *Editor for "Symmetry" MDPI*

International visits (>15 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 20010, funding: Royal Society*

2011, *Physics Department Liverpool Univ., March 20010, funding: Royal Society*

2011, *Physics Department Univ. of Granada. Exchange program Lecce-Granada INFN-MEC October 20011*

2012, *Physics Department Liverpool Univ., October 20012, 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, one year sabbatical leave*

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

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

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

2022, *February, Visitor, SISSA Trieste*

2022, *Visitor, June, Physics Dept. Univ. of Wurzburg (Germany)*

2023, *Visitor, C.N.Yang Institute, SUNY at Stony Brook, NY, USA*

Recent seminars, (short partial list)

CN Yang Institute for Theoretical Physics, SUNY at Stony Brook, July 18, 2023, Seminar and visit.

Nuclear Theory Division, Brookhaven National Lab, Upton, NY, USA, Seminar and visit, July 21, 2023

EISA Corfu, September 3, 2022, 22nd Hellenic School and Workshops on Elementary Particle Physics and Gravity.

EISA Corfu, September 3, 2023, 23rd Hellenic School and Workshops on Elementary Particle Physics and Gravity.

The Seed Seminars of Mathematics and Physics (CNRS) (Institut Denis Poisson, Tours Université and Université Paris-Saclay) (December 20-2022)

IFPU-SISSA Workshop, Miramare Trieste (September 2022).

Corfu European School and Workshop. Physics beyond the Standard Model September 2022)

Seminar at Univ. of Wurzburg, Germany (June 2022) (invitation by Prof. Ewelina Hankiewicz).

SISSA, Trieste, February 2022, seminar and visit

Univ. of Tours, France (27/5/2022) (Topology and Anomalies workshop)

Corfu European School and Workshop. Physics beyond the Standard Model September 2021)

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)

Seminar at the Physics Dept. Univ. of Sussex (2015)
Seminar at Rutherford Lab (2015), Oxford UK
Seminar at the Univ. of Jena (2014)

Appointments in external committees

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

External member of graduation committee, University of Tor Vergata (2009) (candidate A. Racioppi), advisor Prof. F. Fucito

External member of graduation committee, University of Tor Vergata (candidate A. Mammarella) advisor Prof. F. Fucito.

External member of graduation committee, University of Tours (candidate Na Nguyen Huu), advisor Prof. Maxim Chernodub (2020).

External member of graduation committee, Technical University of Athens (candidate Fotis Koutroulis), advisor Prof. Nikos Irges (2021).

Committee member, University of Parma, appointment of RTD-A (Dr. A. Feo), 2020.

Member graduation committee, dottorato di ricerca, University of Catania, July 2021.

External Referee, University of Modena and Reggio Emilia (March 2023) (coord. Prof. Marco Affronte). Filippo M. Balli's doctoral dissertation.

Committee Member, graduation Committee, Univ. of Leuven and Catania (June 2023) (Dr. G. Comitini's thesis)

Committee Member, Graduation Committee, National Univ. of Athens (December 2023) (inv. Prof. N. Irges)

Referee, Univ. of Bologna, 2023 (thesis Dr. F. Balli's thesis)

Supervision of postdocs

1) Marco Guzzi 2006-2008

2) Luigi Delle Rose, 2013-2014 (now postdoc at IFAE, Barcelona)

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.

5) Supervisor for an RTD position advertised at the University of Salento on the PRIN 2022 "Holographic Cosmology". (starting in December 2023)

Ph.D. thesis supervised

1) Marco Guzzi (2006) *QCD Studies at hadron Collider and in Deeply Virual Neutrino Scattering* link

2) Alessandro Cafarella (2006) *QCD at hadron colliders and in Ultra High Energy Cosmic Rays* link

3) Simone Morelli (2009) Stuckelberg axions and anomalous abelian extensions of the Standard Model link

4) Roberta Armillis (2011) *Effective actions in theories with gauge and conformal anomalies* link

5) Antonio Mariano (2012) *Dark Matter relic densities in Stuckelberg axion models* link

6) Luigi Delle Rose (2013) *Perturbation Theory in a Weak Gravitational Background: Dilatons, conformal Anomalies and Holographic Non Gaussianities* link

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* link

9) Carlo Marzo (2016) *A Beyond the Standard Model Journey with the Renormalization Group* link

10) Antonio Costantini (2016) *Studies on conformal and Superconformal Extensions of the Standard Model with an Application to Gravity* link

11) Matteo Maria Maglio (2021) *Conformal Symmetry in Momentum Space and Anomaly Actions in Gravity* link

12) Alessandro Tatullo (2022) *Axions, Gravitational Waves and Phase Transitions in the very Early Universe* link

13) Dimosthenis Theofilopoulos (2022) *Four point functions in momentum space and topological terms in gravity* link

14) Mario Cretì (2022-)

15) Stefano Lionetti (2022-)

16) Riccardo Tommasi (2022-)

17) Dario Melle (2023-)

Supervision of the activity of former master students and description of their career tracks

1) Giovanni Chirilli. Laurea degree at Unisalento. Has recommended his application for doctoral studies at Jefferson Lab, Virginia (advisor Jan Balitsky). Appointed after his Ph.D. as Research fellow at Univ. of Regensburg.

2) Emanuela Dimastrogiovanni, laurea degree, Has recommended her application for graduate studes at the University of Texas at Austin. Now at the University of New South Wales (Sidney), Australia.

3) Elisa Manno, Laurea degree at Unisalento. Directed towards graduate studies in theoretical physics 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. Works at the London Stock-exchange as a cyber-security analyst.

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, moved to the Physics Dept. of the Univ. of Southampton and to Rutherford Laboratory, Oxford, UK. Postdoc at the Univ. of Florence, formerly "A. Della Riccia" fellow. Postdoc at IFAE Barcelona and now RTD-B at the Univ. of Cosenza

7) Mirko Serino, laurea and doctoral degrees at Unisalento, (postdoc at the Nuclear Institute in Krakow, Poland; postdoc at Ben Gurion University, Israel. Has moved into the private sector

8) Carlo Marzo, laurea degreee at Unisalento, former "A. Della Riccia" fellow. Currently on a tenure track at the National Institute of Chemical Physics and Biophysics, Tallin Estonia.

9) Roberta Armillis, laurea degree at Unisalento. Marie Curie fellow, predoc at the Univ. di Thessalonikki. Former postdoc at EPFL Politechnique, Lausanne, Switzerland. Has worked at UBS, financial sector.

10) Marco Guzzi, laurea degree and former doctoral student, postodc at Southern Methodist Univ. at Dallas, then moving to the Univ. di Hamburg, and then Univ. di Manchester. Now associate professor at Kennesaw State Univ., Marietta, Atlanta, Georgia, USA.

11) Alessandro Cafarella, laurea degree, then postdoc at the Univ. of Crete (1 year) and at the Univ. of Athens (3 years). Works in the private sector as a manager.

13) Antonio Costantini, Master and doctoral degrees. Postdoc at the Univ. of Bologna

14) Matteo Maria Maglio, Master and doctoral degrees, Postdoc at GGI Florence (1 years) and at the Univ. of Heidelberg (3 years).

15) Simone Morelli, High School teacher at MIUR

16) Alessandro Tatullo, works in the private sector.

17) Antonio Quintavalle, high school teacher at MIUR

18) Dario Melle (2022), graduate student at UniSalento

19) Andrea Spirito, master, high School teacher at MIUR

20) Leonardo Carcagni', master, (co-advisor Prof. Massimo Inguscio, LENS, Florence), thesis on *"A new Bose-Einstein Condensate with tunable interaction"*

21) Mariagiovanna Gianfreda, master, high school teacher at MIUR

22) Antonio Mariano, master, thesis: *Estensions of the NMSSM (USSM-A)*. Has performed pre-doctoral work at Univ. of Tessalonikki and postdoctoral work at the paticle Theory Division, Univ. of Annecy. Now in the private sector at "Spotify", UK

23) Elisa Manno, master, has graduated with a thesis *The next to minimal supersymmetric Standard Model*. She has followed a teaching career in the public sector in the UK.

24) Luigi Manni, master, *Anomaly actions and gravity*

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

27) Antonio Quintavalle, master, *Trilinear gauge interactions*

28) Maria Giovanna Gianfreda *The Higgs sector in some extensions of the Standard Model*

29) Federica Cataldini (Co-advisor Prof. G Modugno) *One dimensional superfluids in ultracold optical lattices* (at LENS, Florence).

30) Mario Creti (2021) *Topological terms in gravity*

31) Riccardo Tommasi (2021) *Conformal symmetry and topological terms in gravity*

Publication List

Recent

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]. Published in: Eur.Phys.J.C 81 (2021) 2, 174

2) Conformal Unification in a Quiver Theory and Gravitational Waves

with Paul H. Frampton and Alessandro Tatullo
Phys. Lett. B 811, 135909
link e-Print

3) Conformal Field Theory in Momentum Space and Anomaly Actions in Gravity: The Analysis of 3- and 4-Point Functions
with Matteo Maria Maglio, Phys.Rept. 952 (2022) 1-95 • e-Print: 2005.06873 [hep-th]
link

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. Axioms 9 (2020) 2, 54 e-Print: 2001.09622 [hep-th]
arXiv:2001.09622 [hep-th], link

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]

9) Swampland conjectures and the cosmological expansion
with Paul H. Frampton
link e-Print: 2010.02939 [hep-th]

10) Refined Mass Estimate for Bilepton Gauge Boson
with Paul H. Frampton link e-Print: 2011.02037 [hep-ph]

11) The Conformal Anomaly Action to Fourth Order (4T) in d=4 in Momentum Space
with Matteo Maglio and D. Theofilopoulos link

13) Non-leptonic decays of bileptons Phys.Lett.B 826 (2022) 136904 e-Print: 2106.14748 [hep-ph]
with G. Corcella, A. Costantini and P.H. Frampton link

14) Dimensional Regularization of Topological Terms in Dilaton Gravity
with M. Cretì, S. Lionetti, M.M. Maglio
PoS 2022 Contribution to: CORFU2021 e-Print: 2205.03535 [hep-th] link

15) An SU(15) Approach to BB Anomalies (preprint) with P.H. Frampton link

16) Topological Corrections and Conformal Backreaction in the Einstein Gauss-Bonnet/Weyl Theories of Gravity at D=4, with M.M. Maglio and D. Theofilopoulos
EPJ-C 82, 1121 (2022) link

17) CFT Correlators and CP-Violating Trace Anomalies (with S. Lionetti and M.M Maglio)
Eur.Phys.J.C 83 (2023) 9, 839 • e-Print: 2307.03038 [hep-th] link

18) 4d Einstein Gauss-Bonnet Gravity without a dilaton (with M. Creti', S. Lionetti. M. M. Maglio and R Tommasi, PoS 2023), link

19) Parity-Odd 3-Point Functions from CFT in Momentum Space and the Chiral Anomaly (with S. Lionetti and M.M. Maglio,) Eur.Phys.J.C 83 (2023) 6, 502 • e-Print: 2303.10710 [hep-th], link

20) An SU(15) Approach to Bifermion Classification (with P. Frampton, T. Kephart, D. Melle, T.C Yuan) 2301.02425 [hep-ph]

21) Four-Point Functions of Gravitons and Conserved Currents of CFT in Momentum Space: Testing the Nonlocal Action with the TTJJ (with M.M. Maglio and R. Tommasi), Eur.Phys.J.C 83 (2023) 5, 427 • e-Print: 2212.12779 [hep-th], link

22) Broken Scale Invariance and the Regularization of a Conformal Sector in Gravity with Wess-Zumino actions (with M. Creti' and M.M. Maglio) Phys.Lett.B 843 (2023) 138003 • e-Print: 2301.07460 [hep-th] link

23) Three-Wave and Four-Wave Interactions in the 4d Einstein Gauss-Bonnet (EGB) and Lovelock Theories (with M. Creti,S. Lionetti, M.M. Maglio) e-Print: 2302.02103 [hep-th], submitted to EPJ-C link

24) Einstein Gauss-Bonnet Theories as Ordinary, Wess-Zumino Conformal Anomaly Actions (with M. M. Maglio) Phys.Lett.B 828 (2022) 137020 • e-Print: 2201.07515 [hep-th], link

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.
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