

CURRICULUM VITAE

Christian Corda

Born in Nuoro Italy on July 03, 1969, Resident in Prato Italy

RECITAL:

Prof Corda is Global Energy Technology Plc, Scientific Director.

http://www.global-energy-technology.com/GET_1_27-11-10/index.html

Full Professor of Theoretical Physics at the Institute for Basic Research.

<http://www.i-b-r.org/>

President of the International Institute for Theoretical Physics and Advanced Mathematics (IFM) EinsteinGalilei,

<http://www.iitpm.org/>

Fields of interest: mathematical physics, gravitation, gravitational waves, black holes, astrophysics, cosmology.

Education:

Prof Corda obtained his Ph.D in Physics at the Pisa University; Thesis title: "Signals and interferometric response functions in the framework of gravitational waves arising from Extended Theories of Gravity".

Between 2003 – 2007: he did Research at the Istituto Nazionale di Fisica Nucleare (INFN) in INFNPisa

During this time, he also did research (between 2004 2005) at Pisa University, Department of Physics within the Virgo project on the Dark Matter gravitational, waves correlation, and the Istituto Nazionale Previdenza Della

Amministrazione Pubblica (INPDAP). November 2007 he was a visiting Researcher at the Albert Einstein Institute for Gravitational Physics, Callinstrabe 38 D 30167 Hannover Germany, and a visiting Professor at the Instituto de Cosmologia, Relatividade e Astrofisica (ICRABR), Centro Brasileiro de Pesquisas Fisicas, Rua Dr. Xavier Sigaud 150, CEP 22290 180 Urca Rio de Janeiro RJ Brazil;

Between September 2008 and July 15, 2009: he was an external Researcher at the Aerospace Research and Technology Centre in Barcellona (Spain);

Awards and Honours:

2006: Life member of the "Società Italiana della Relatività Generale e della Gravitazione" (SIGRAV).

2007: World's most cited author in the Official Astroparticle Publication Review of ASPERA (ASPERA is the network of national government agencies responsible for coordinating and funding national research efforts in astroparticle physics; Science;

2009: Dr. Corda's research paper, which title is "Interferometric detection of gravitational waves: the definitive test for General Relativity", was an Honorable Mention Winner at the 2009 Gravity Research Foundation Awards (the World's annual most important competition in the research fields of gravitation, astrophysics and cosmology).

2010 today:

Member of the Telesio Galilei

Academy of Science Board.:

Official evaluator of research programs funded by the Romanian Government through the National Council for Scientific Research.

Editor in Chief of "The Open Astronomy Journal";

Editor in Chief of "The Hadronic Journal";

Editor of the "Central European Journal of Physics";

Editor of "The International Journal of Mathematics and Mathematical Sciences";

Editor of "The Open Journal of Microphysics";

Editor of "Algebras, Groups, Geometries";

Editor of "Journal of Dynamical Systems and Geometric Theories";

Editor of "Pure Mathematical Sciences";

Editor of the book "The Big Challenge of Gravitational Waves: a new window in the Universe", Nova Science Publishers, 2011 4th quarter;

Editor in Chief of "The Proceedings of the Third International Conference on LieAdmissible Treatment of Irreversible Processes (ICLATIP3)";

Chairman of the Symposium "The big challenge of Gravitational Waves: a new window in the Universe" at the 7th International Conference of Numerical Analysis and Applied Mathematics, at Rethymno, Crete (near to Chania), Greece, 18-22 September

2009. Chairman of the "Second Big Challenge Symposium The Big Challenge of Cosmological Understanding: Gravitation, Dark Matter and Dark Energy. Towards New Scenarios", at the 8th International Conference of Numerical Analysis and Applied Mathematics, at Hotel Rodos Palace, Rhodes, Greece, 19-25 September 2010;

Chairman of the "Third Big Challenge Symposium Dark Universe, Gravitation and Cosmology", at the 9th International Conference of Numerical Analysis and Applied Mathematics, at GHotels, Halkidiki, Greece, 19-25 September 2011;

CoChairman of the Second International Conference on Lieadmissible Treatment of Irreversible Systems (ICLaTIS), Kathmandu University, Dhulikhel, Nepal December 30, 2010 through January 7, 2011;

Chairman of the Section of Cosmology and Gravitation of the "Workshop on Astrophysics and Cosmology For Matter and Antimatter", San Marino, 4-11 September 2011.

Referee of the following international specialist journals: Annals of Physics; International Journal of the General Relativity and Gravitation Physics; Journal of Cosmology and Astroparticle Physics; Journal of High Energy Physics; Classical and Quantum Gravity; Monthly Notices of the Royal Astronomical Society; Monthly Notices of the Royal Astronomical Society Letters; European Physical Journal C; International Journal of Modern Physics D; Physics Letters B; American Institute of Physics Advances; International Journal of the Physical Sciences; Scientific Research and Essays; International Journal of Theoretical Physics; Journal of Modern Physics; Earth, Moon and Planets; Journal of Engineering and Technology Research; Astrophysics and Space Science, Apeiron. Endorser for the sections of Physics (physics), General Relativity and Quantum Cosmology (grqc) and of Astrophysics (astroph) of the international online archive arXiv.org. Divulging scientific journalist for three online journals 055news.it , 0574news.it and pratoreporter.it by writing more than

100 popularization articles. On average, such articles are read by more than 500 people; Member of the Divulging Group of the Virgo Experiment, performing about 20 divulging talks to associations, school children and so on during 2004-2007;

Guide at the INFN divulging activity I Microscopi della Fisica 2005; Guide at the INFN divulging activity Ludoteca Scientifica 2006; 2009 today:

Member of the Scientific Committee of the Associazione Nazionale Tutela Energie Rinnovabili (ANTER);

Official Scientific Advisor of the Major City of Prato (Italy).

Invited talks, Seminars and Lectures:

2003: invited talk at the Osservatorio Astronomico di Arcetri on the 27/02/ 2003. Title: "Relic gravitational waves: a "snapshot" of the primordial Universe"; 2003: talk at the Virgo Collaboration Meeting on the 15/4/2003 at Cascina (Virgo project), title "Data analysis in the detection of relic gravitational waves";

2005: invited talk at the Osservatorio Astronomico di Cagliari, title: "La radiazione gravitazionale di fondo";

2006: participation at the "42nd Winter School of Theoretical Physics Current Mathematical Topics in Gravitation and Cosmology Ladek, Poland, February 6–11, 2006";

2006: two invited talks at the 17TH SIGRAV Conference on General Relativity and Gravitational Physics, Torino 4-7 September 2006. Titles: "Scalar gravitational waves from scalartensor gravity: production and response of interferometers" and "Esperienza alla Ludoteca";

2006: invited talk at the INFN Napoli 12 group October 2006. Title: "Scalar gravitational waves from scalartensor gravity: production and response of interferometers";

2006: talk at the Workshop Gravitational Wave Data Analysis 13-17 November 2006 in the General Relativity Trimester of the Henry Poincare institute. Title: "Scalar gravitational waves from scalartensor gravity: production and response of interferometers";

2007: talk at the Rencontres de Moriond: Gravitational Waves and Experimental Gravity 12-18 March 2007. Title: "Extension of the frequencyrange of interferometers for the "magnetic" components of gravitational waves?";

2007: invited talk at the International Center of Relativistic Astrophysics Rome, title: "The production of matter from curvature in the R^1 theory of gravity and the longitudinal response function of interferometers";

2007: talk at the 4th ItalianSino Workshop (FR4) of the International Center of Relativistic Astrophysics 20-29 July 2007 Pescara. Title: "Tuning the stochastic background of gravitational waves with theory and observations"; Invited talk at the JENAM 2007 Joint European and National Astronomy Meeting "Our nonstable Universe" 20-25 August 2007. Title "The production of matter from curvature in a particular linearized high order theory of gravity and the longitudinal response function of interferometers";

December 2007: Lecture at the Instituto de Cosmologia, Relatividade e Astrofisica (ICRABR), Centro Brasileiro de Pesquisas Fisicas, Rua Dr. Xavier Sigaud 150, CEP 22290 180 Urca Rio de Janeiro RJ Brazil. Title: "Signals and interferometric response functions in the framework of gravitational waves arising from Extended Theories of Gravity";

2008: invited talk at the 3rd Stueckelberg Workshop on Relativistic Field Theories, July 8-18, 2008 ICRANet Center, Pescara (Italy). Title: "Signals and interferometric response functions in the framework of gravitational waves arising from Extended Theories of Gravity";

January 2009: invited talk at the SIGRAV School in Cosmology and INFN Formation School Florence (Italy). Title: "Signals and interferometric response functions in the framework of gravitational waves arising from Extended Theories of Gravity";

July 2009: Invited Talk at the University of Trento, title: "Interferometric detection of gravitational waves: the definitive test for General Relativity"; September 2009: two talks at the Symposium "The big challenge of Gravitational Waves: a new window in the Universe" at the 7th International Conference of Numerical Analysis and Applied Mathematics, at Rethymno, Crete (near to Chania), Greece, 18-22 September 2009. Titles: "Interferometric detection of gravitational waves: the definitive test for General Relativity" and "Gravitomagnetic effect in gravitational waves";

March 2010: Invited Talk at the Workshop "Cosmology, the Quantum Vacuum, and Zeta Functions, Barcellona 8 – 10 March 2010, title: "Interferometric detection of gravitational waves: the definitive test for General Relativity";

September 2010, talk at the "Second Big Challenge Symposium The Big Challenge of Cosmological Understanding: Gravitation, Dark Matter and Dark Energy. Towards New Scenarios" at the 8th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM 2010), 19-25 September 2010, title: "Primordial Inflation from Gravity's Rainbow".

Lecture at the "Workshop on Astrophysics and Cosmology For Matter and Antimatter", San Marino, 4-11 September 2011, title: "Black holes are not black bodies, a correction on Hawking's evaporation theory". Teaching / Tutoring activity: Tutor of the Graduate thesis of the student Barbara Leo of the Cagliari University, together with Professor Salvatore Capozziello of the Napoli University and Professor Luciano Burderi of the Cagliari University. Title "Onde gravitazionali provenienti dai nuclei galattici attivi: rassegna delle basi teoriche e strategie di rivelazione";

Today Dr. Corda is tutor of the Ph.D thesis of the student Gloria Garcia Cuadrado of the l'Inst d'Estudis Espacials de Catalunya, together with Professor Emilio Elizalde.

Current list of publications

Sole authored publications in peer reviewed international journals and in peer reviewed Proceedings of international conferences:

1. Christian Corda, "Interferometric detection of gravitational waves: the definitive test for General Relativity", Honorable Mention Winner at the 2009 Gravity Research Foundation Awards for Essays on Gravitation, Int. Journ. Mod. Phys. D 18, 14, 22752282 (December 2009, Special Issue).
2. Christian Corda, "Effective temperature for black holes", JHEP 08, 101 (2011).
3. Christian Corda, "Gravitational wave astronomy: the definitive test for the "Einstein frame versus Jordan frame" controversy", Astropart. Phys. 34,1 412419 (2011).
4. Christian Corda, "Precise response function for the magnetic component of Gravitational Waves in ScalarTensor Gravity", Phys. Rev. D 83, 062002 (2011).
5. Christian Corda, "Information on the inflaton field from the spectrum of relic gravitational waves", Gen. Rel. Grav. 42,13231333, (2010).
6. Christian Corda, "The production of matter from curvature in a particular linearized high order theory of gravity and the longitudinal response function of interferometers", J. Cosmol. Astropart. Phys. JCAP 04, 009 (2007).
7. Christian Corda, "A solution of linearized Einstein field equations in vacuum used for the detection of the stochastic background of gravitational waves", Astropart. Phys. 27, 539549 (2007).
8. Christian Corda, "Tuning the Stochastic Background of Gravitational Waves Using the WMAP Data", Mod. Phys. Lett. A, vol. 22, 16, 11671173 (2007).

9. Christian Corda, "The Importance of the "magnetic" components of gravitational waves in the response functions of interferometers", *Int. Journ. Mod. Phys. D*, 16, 8, 14971517 (2007).
10. Christian Corda, "Extension of the frequency range of interferometers for the "magnetic" components of gravitational waves?", *Int. Journ. Mod. Phys. A*, 22, 13, 23612381 (2007).
11. Christian Corda, "A longitudinal component in massive gravitational waves arising from a bimetric theory of gravity", *Astropart. Phys.* 28, 2, 247250 (2007).
12. Christian Corda, "Analysis of the transverse effect of Einstein's gravitational waves", *Int. Journ. Mod. Phys. A*, 22, 26, 48594881 (2007).
13. Christian Corda, "The Virgo-Minigrail Crosscorrelation for the detection of scalar gravitational waves", *Mod. Phys. Lett. A*, 22, 23, 17271735 (2007).
14. Christian Corda, "Massive gravitational waves from the R^2 theory of gravity: production and response of interferometer", *Int. Journ. Mod. Phys. A* 23, 10, 15211535 (2008).
15. Christian Corda, "A nongeodesic motion in the R^1 theory of gravity tuned with observations", *Mod. Phys. Lett. A* 23 No. 2 (2008) pp. 109114.
16. Christian Corda, "An oscillating Universe from the linearized R^2 theory of gravity", *Gen. Rel. Grav.* 40, 10, 22012212 (2008).
17. Christian Corda, "A Repulsive Force from a Modification of General Relativity", *Int. Journ. Theor. Phys.* 47, 10, 26792685 (2008).
18. Christian Corda, "On the longitudinal response function of interferometers for massive gravitational waves from a bimetric theory of gravity", *Astrop. Sp. Sci.*, 317, 12, 95106 (2008).
19. Christian Corda, "An oscillating, homogeneous and isotropic Universe from ScalarTensor gravity", *Int. Journ. of Theor. Phys. Gr. Th. Nonlin. Opt.* 13, 34, Par. 2 (2007).
20. Christian Corda, "Primordial production of massive relic gravitational waves from a weak modification of General Relativity", *Astropart. Phys.*, 30, 4, 209215 (2008).
21. Christian Corda, "Massive relic gravitational waves from $f(R)$ theories of gravity: production and potential detection", *Eur. Phys. J. C* 65 12 (2010) 257267.
22. Christian Corda, "Magnetic" components of gravitational waves and response functions of interferometers", invited review, Second Chapter of the book "The Handbook of Interferometers; Research, Technology and Applications", Nova Science Publishers (2009).
23. Christian Corda, "Gravitational waves astronomy: the ultimate test for Einstein's General Relativity", invited review, Second Chapter of the book "The Big Challenge of Gravitational Waves: A New Window in the Universe", Nova Science Publishers (2011).
24. Christian Corda, "A review of the stochastic background of gravitational waves in $f(R)$ gravity with WMAP constrains", invited review, *Op. Astr. Journ.* 2011, 4, (Suppl 1M5) 7583.
25. Christian Corda, "Gravitational Waves Astronomy: a Cornerstone for Gravitational Theories" in "Cosmology, Quantum Vacuum, and Zeta Functions, Papers in honor of Emilio Elizalde on the occasion of his 60th birthday" Springer Proceedings in Physics 137, 149 (2011).
26. Christian Corda, "On the correctness of Relative Time Dilatation in Special Relativity in vacuum: a rebuttal against the claims by Arthur Boltcho in European Journal of Scientific Research ISSN 1450216X Vol. 44 No. 4 (2010), pp. 610611", *Hadronic Journal* 34, 161164 (2011).
27. Christian Corda, "A clarification on the debate on "the original Schwarzschild solution" *Electron. J. Theor. Phys.* 8, 25, 6582 (2011).

28. Christian Corda, "A clarification on a common misconception about interferometric detectors of gravitational waves" *Hadronic Journal* 34, 133148 (2011).
29. Christian Corda, "Primordial gravity's breath", *Electron. J. Theor. Phys.* 9, 26, 110 (2012).
30. Christian Corda, "The LigoLigo cross correlation for the detection of relic scalar gravitational waves ", to appear in *New Astronomy* (2012), preprint in arXiv:astro-ph/ 0611333.
31. Christian Corda, "Will gravitational waves confirm Einstein's General Relativity?", *AIP Conf. Proc.* 1168, 10901093 (2009).
32. Christian Corda, "Primordial inflation from gravity's rainbow ", *AIP Conf. Proc.* 1281, 847 (2010).
33. Christian Corda, "Interferometric detection of gravitational waves arising from extended theories of gravity ", in *Proceedings of the 3rd Stueckelberg Workshop, July 2008, Cambridge, U.K., Cambridge Scientific Publishers* (2010).
34. Christian Corda, "Extension of the frequencyrange of interferometers for the "magnetic" components of gravitational waves?", *Proceedings of the XLIIInd Rencontres de Moriond, Gravitational Waves and Experimental Gravity*, p. 95, Ed. J. Dumarchez and J. T. Tran, Than Van, THE GIOI Publishers (2007) .

Co-authored publications in peer reviewed international journals and in peer reviewed Proceedings of international conferences:

1. Christian Corda and Herman J. Mosquera Cuesta, "Removing black holes singularities with nonlinear electrodynamics", *Mod. Phys. Lett A*, 25, 28, 24232429 (2010).
2. Christian Corda and Herman J. Mosquera Cuesta, "Inflation from R^2 gravity: a new approach using nonlinear electrodynamics", *Astropart. Phys.* 34, 587590 (2011).
3. Lorenzo Iorio and Christian Corda , "Gravitomagnetism and gravitational waves", invited review, *Op. Astr. Journ.* 3, 172185, Special Issue (2010).
4. Saleem S. Ali , Carlo Cafaro, Salvatore Capozziello and Christian Corda, "On the Poincare Gauge Theory of Gravitation", invited review, *Int. J. Theor. Phys.* 48, 34263448 (2009).
5. Christian Corda, Giorgio Fontana and Gloria Garcia Cuadrado, "Gravitational waves in the Hyperspace?", *Mod. Phys. Lett A* 24, 575582 (2009).
6. Salvatore Capozziello, Christian Corda (correspondent author) and Maria Felicia De Laurentis, "Gravitational waves from $f(R)$ Theories of Gravity: potential detection with LISA" , *Phys. Lett. B* 669, 255259, (2008).
7. Christian Corda and Herman J. Mosquera Cuesta, "A spherically symmetric and stationary universe from a weak modification of general relativity", *Europhys.Lett.* 86 , 2, 20004 (April 2009).
8. Christian Corda, S. A. Ali and C. Cafaro, "Interferometer response to scalar gravitational waves" *Intern. Journ. Mod. Phys. D* 19, 20952109 (2010).
9. Salvatore Capozziello and Christian Corda, "Scalar gravitational waves from Scalartensor gravity: production and response of interferometers", *Intern. Journ. Mod. Phys. D*, 15, 7, 11191150 (2006).
10. S.A. Alix, C. Cafaro, S. Capozziello and C. Corda, "A bound quantum particle in a Riemann–Cartan space with topological defects and planar potential", *Phys. Lett. A*, 366, 45, 315323 (2007).
11. Salvatore Capozziello, Christian Corda and Maria Felicia De Laurentis, "Stochastic background of gravitational wave "tuned" by $f(R)$ gravity", *Mod. Phys. Lett. A*, 22, 15, 10971104 (2007).

12. Salvatore Capozziello, Christian Corda and Maria Felicia De Laurentis, “Stochastic background of relic scalar gravitational waves from scalartensor gravity” *Mod. Phys. Lett. A* 22, 35, 26472655 (2007).
13. L. Iorio, H.I.M. Lichtenegger, M.L. Ruggiero, C. Corda, “Phenomenology of the LenseThirring effect in the Solar System”, invited review, *Astrophys. Space Sci.* 331, 351395 (2011).
14. Carlo Cafaro, Salvatore Capozziello, Christian Corda and Saleem S. Ali , “Can magnetic monopoles and massive photons coexist in the framework of the same classical theory? , *Adv. High En. Phys.* 2009, 69835 (2009).
15. Adalberto Giazotto et al. , “Experimental evidence for an optical spring”, *Phys. Rev. A* 74, 013813 (2006).
16. S. A. Ali, C. Cafaro, S. Capozziello and Ch. Corda, “Abelian Magnetic Monopoles and Topologically Massive Vector Bosons in ScalarTensor Gravity with Torsion Potential”, *Int. Journ. Mod. Phys. A* 23, 26, 43154335 (2008).
17. Christian Corda and Herman J. Mosquera Cuesta, “Irreversible gravitational collapse: black stars or black holes?”, *Hadronic Journal* 34, 149159 (2011).
18. L. Iorio and C. Corda, “Gravitomagnetic effect in gravitational waves ”, *AIP Conf. Proc.* 1168 (2009).
19. C. Corda, D. Leiter, H. J. Mosquera Cuesta, S. Robertson, R. E. Schild, “Farewell to black hole horizons and singularities? ”, invited review, *Journ. Cosm.* 17, 13 (2011).
20. C. Corda and M. De Laurentis, “Gravitational waves from the R^4 high order theory of gravity”, *Proc. 10th ICATPP*, 154164 (World Scientific 2008).
21. C. Corda, S. Capozziello, M. De Laurentis, “Tuning the stochastic background of gravitational waves with theory and observations”, *AIP Conf. Proc.* 966, 257263 (2008). More than 60 other publications between publications with the Virgo Collaboration and other Collaborations in peerreviewed international journals and proceeding of international conferences.