

# CURRICULUM VITAE

## Francesco Domenico Belgiorno

**Office:** Politecnico di Milano, Dipartimento di Matematica, Via Bonardi 9, 20133 Milano, Italy

**Tel.** +39-02-23994527

**Home address:** Via Rucellai 12, 20126 Milano

**E-mail:** francesco.belgiorno@polimi.it, belgiorno@mi.infn.it

---

### Personal data

**Name:** Francesco Domenico Belgiorno  
**Nationality:** Italiana  
**Date and place of birth:** 26 Marzo 1965, Milano  
**Languages:** *English*–Very good, *French*–Reading, *Italian*–Native Speaker

---

### Current position

September 2018 - Associate Professor  
Dipartimento di Matematica  
Politecnico di Milano

---

### Academic Qualifications

**Dottorato di Ricerca in Fisica:** Dipartimento di Fisica, Università degli Studi di Milano  
**(PhD in Physics) - 1995**  
Dissertation: *Aspetti della Termodinamica Quantistica dei Buchi Neri*  
Supervisor: Prof. Maurizio Martellini.

**Laurea Magistrale in Fisica:** Università degli Studi di Milano  
**(Degree in Physics) - 1990**  
Thesis title: *Spettro di Massa dei Barioni in ACD. Studio Teorico*  
Advisor: Prof. Giuliano Preparata.  
Co-advisor: Prof. Clara Matteuzzi.

---

### Main Research Interests

- Quantum Field Theory in Curved Spacetime and in External Field
- Analogue Gravity
- Black Hole Thermodynamics
- Thermodynamics
- Casimir Effect

Previous Academic Positions

Dec. 2011-Sep. 2018 Assistant Professor  
Dipartimento di Matematica  
Politecnico di Milano

Post-doctoral Grants

2009-2010 *Grant for Research Fellowship in Mathematics*  
(*Assegno di Ricerca in Matematica*)(12 months-1/2/2009–31/1/2010)  
at Dipartimento di Matematica, Università degli Studi di Milano  
Advisor: Prof. Luigi Galgani

2003-2006 *Grant for Research Fellowship in Physics*  
(*Assegno di Ricerca in Fisica*)  
(36 months-1/5/2003–30/4/2006)  
at the Physics Department, Milan University  
Advisor: Prof. Ludovico Lanz

2001-2002 *Grant for Research Fellowship in Physics*  
(*Assegno di Ricerca in Fisica*) (12 months) 2001 - 2002  
at Dipartimento di Fisica, Università degli Studi di Milano  
Advisor: Prof. Ludovico Lanz

1998-2000 *Post-Doc Grant in Physics*  
(Borsa Post-doc in Fisica) (2 years) May 1998 - April 2000  
at Dipartimento di Fisica, Università degli Studi di Milano  
Advisor: Prof. Maurizio Martellini

Research Contracts

2006-2007 *Research contract - research project in Physics* (14 months; 1/7/2006-31/8/2007)  
(*Contratto di Collaborazione Coordinata e Continuativa alla Ricerca in Fisica*)  
at Dipartimento di Fisica dell' Università degli Studi di Milano  
Advisor: Prof. Ludovico Lanz

2002 *Research contract - research project in Physics*  
(*Contratto di Collaborazione alla Ricerca in Fisica*) (2 months; year 2002)  
at Dipartimento di Fisica dell' Università degli Studi dell' Insubria  
Advisor: Prof. Ugo Moschella

Teaching Activity - Teacher

2019-2020 Teacher of Meccanica Razionale (Theoretical Mechanics)  
Civil Engineering, Politecnico di Milano

Teacher of Meccanica Razionale (Theoretical Mechanics)  
Biomedical Engineering, Politecnico di Milano

2018-2019 Teacher of Meccanica Razionale (Theoretical Mechanics)  
Biomedical Engineering, Politecnico di Milano

2017-2018 Teacher of Meccanica Razionale (Theoretical Mechanics)  
Electrical Engineering, Politecnico di Milano

Teacher of Meccanica Razionale (Theoretical Mechanics)  
Biomedical Engineering, Politecnico di Milano

2016-2017	as in 2017-2018
2015-2016	as in 2017-2018
2014-2015	as in 2017-2018
2013-2014	Teacher of Meccanica Razionale (Theoretical Mechanics) Electrical Engineering, Politecnico di Milano
	Teacher of Meccanica Razionale A (Theoretical Mechanics A) Biomedical Engineering, Politecnico di Milano
2012-2013	Teacher of Meccanica Razionale (Theoretical Mechanics) Electrical Engineering, Politecnico di Milano
2011-2012	Teacher of Meccanica Razionale (Theoretical Mechanics) Materials and Nanotechnology Engineering, Politecnico di Milano

#### Teaching Activity - Tutorials (Esercitazioni)

2018-2019	Tutorials of 'Meccanica Razionale e dei Continui' (first 5 cfu) Mathematical Engineering, Politecnico di Milano - Teacher: Prof. Maurizio Vianello
	Tutorials of 'Meccanica Razionale (Dinamica)' (Theoretical Mechanics - Dynamics) Construction Engineering, Politecnico di Milano - Teacher: Prof. Silvia Lorenzani
2014-2015	Tutorials of 'Meccanica Razionale (Dinamica)' (Theoretical Mechanics - Dynamics) Construction Engineering, Politecnico di Milano - Teacher: Prof. Silvia Lorenzani
2013-2014	Tutorials of 'Meccanica Razionale (Dinamica)' (Theoretical Mechanics - Dynamics) Construction Engineering, Politecnico di Milano - Teacher: Prof. Silvia Lorenzani
2012-2013	Tutorials of 'Meccanica Razionale (Dinamica)' (Theoretical Mechanics - Dynamics) Construction Engineering, Politecnico di Milano - Teacher: Prof. Silvia Lorenzani
	Tutorials of 'Meccanica Razionale A' (Theoretical Mechanics A) Biomedical Engineering, Politecnico di Milano - Teacher: Prof. Lorenzo Valdetaro
2011-2012	Tutorials of 'Meccanica Razionale A' (Theoretical Mechanics A) Biomedical Engineering, Politecnico di Milano - Teacher: Prof. Lorenzo Valdetaro
	Tutorials of 'Meccanica Razionale (Dinamica)' (Theoretical Mechanics - Dynamics) Construction Engineering, Politecnico di Milano - Teacher: Prof. Maria Lampis
	Tutorials of 'Meccanica Razionale' (Theoretical Mechanics) Civil Engineering, Politecnico di Milano - Teacher: Prof. Giancarlo Spinelli
2010-2011	Tutorials of 'Meccanica Razionale A' (Theoretical Mechanics A) Biomedical Engineering, Politecnico di Milano - Teacher: Prof. Lorenzo Valdetaro
	Tutorials of 'Fondamenti di Elettromagnetismo e Onde' Politecnico di Milano - Teacher: Prof. V.Magni
	Tutorials of 'Fisica' (Physics) (12 cfu) Politecnico di Milano - Teacher: Prof. V.Magni

- 2009-2010 Tutorials of 'Fisica A' (Physics A)  
Politecnico di Milano - Teacher: Prof. V.Magni
- Tutorials of 'Fisica' (Physics) (12 cfu)  
Politecnico di Milano - Teacher: Prof. V.Magni
- 2008-2009 Tutorials of 'Fisica A+B' (Physics A+B)  
Politecnico di Milano - Teacher: Prof. V.Magni
- Tutorials of 'Fisica' (Physics) (12 cfu)  
Politecnico di Milano - Teacher: Prof. V.Magni
- 2007-2008 Tutorials of 'Fisica A+B' (Physics A+B)  
Politecnico di Milano - Teacher: Prof. V.Magni
- Tutorials of 'Fisica Sperimentale II' (Physics II)  
Politecnico di Milano - Teacher: Prof. V.Magni
- 2006-2007 as in 2007-2008
- 2005-2006 Tutorials of 'Fisica Sperimentale II' (Physics II)  
Politecnico di Milano - Teacher: Prof. V.Magni
- 2004-2005 as in 2005-2006
- 2003-2004 as in 2005-2006
- 2002-2003 Tutorials of 'Fisica Sperimentale I' (Physics I)  
Politecnico di Milano - Teacher: Prof. P.Zotto
- Tutorials of 'Fisica Sperimentale I' (Physics I)  
Politecnico di Milano - Teacher: Prof. V.Magni
- Tutorials of 'Fisica Sperimentale II' (Physics II)  
Politecnico di Milano - Teacher: Prof. V.Magni
- 2001-2002 Tutorials of 'Fisica Sperimentale I' (Physics I)  
Politecnico di Milano - Teacher: Prof. P.Zotto
- Tutorials of 'Fisica Sperimentale II' (Physics II)  
Politecnico di Milano - Teacher: Prof. V.Magni
- 2000-2001 as in 2001-2002
- 1999-2000 Tutorials of 'Fisica Generale I' (Physics I)  
Politecnico di Milano - Teacher: Prof. V.Magni
- Tutorials of 'Fisica Generale I' (Physics I)  
Politecnico di Milano - Teacher: Prof. P.Zotto
- 1998-1999 as in 1999-2000
- 1997-1998 as in 1999-2000
- 1996-1997 as in 1999-2000
- 1995-1996 Tutorials of 'Fisica I' (Physics I)  
Politecnico di Milano - Teacher: Prof. V.Magni
- 1994-1995 Tutorials of 'Fisica I' (Physics I)  
Politecnico di Milano - Teacher: Prof. P.Jona

---

---

## PUBLICATIONS

---

---

---

---

### PAPERS

---

---

1. F. Belgiorno, S. L. Cacciatori and M. Viganò  
*Analog Hawking Effect: A Master Equation.*  
*Phys. Rev. D* **102**, 105003 (2020). 21 pp.
2. F. Belgiorno, S. L. Cacciatori, A. Farahat and M. Viganò  
*Analog Hawking Effect: BEC and Surface Waves.*  
*Phys. Rev. D* **102**, 105004 (2020). 15 pp.
3. F. Belgiorno and G. Catino  
*A Weyl entropy of pure spacetime regions.*  
*Class. Quant. Grav.* **37**, 225014 (2020). 33 pp.
4. F. Belgiorno and S. L. Cacciatori  
*Analogous Hawking Effect in Dielectric Media and Solitonic Solutions.*  
*UNIVERSE* **6**, 127 (2020). 23 pp.
5. F. Belgiorno, S. L. Cacciatori and F. Dalla Piazza,  
*Tunneling method for Hawking radiation in the Nariai case.*  
*Gen. Rel. Grav.* **49**, 109 (2017). 12 pp.
6. F. Belgiorno, S. L. Cacciatori and A. Viganò,  
*Spectral boundary conditions and solitonic solutions in a classical Sellmeier dielectric.*  
*Eur. Phys. J. C* **77**, 404 (2017). 9 pp.
7. F. Belgiorno and S. L. Cacciatori,  
*Stimulated emission in black holes and in analogue gravity.*  
*Gen. Rel. Grav.* **48**, 145 (2016). 22 pp.
8. F. Belgiorno, S. L. Cacciatori, F. Dalla Piazza and M. Doronzo  
*Exact quantisation of the relativistic Hopfield model.*  
*Annals Phys.* **374**, 338 (2016). 28 pp.
9. F. Belgiorno, S. L. Cacciatori, F. Dalla Piazza, and M. Doronzo  
 *$\Phi - \Psi$  model for Electrodynamics in dielectric media: exact quantisation in the Heisenberg representation.*  
*Eur. Phys. J. C* **76**, 308 (2016). 7 pp.
10. F. Belgiorno, S. L. Cacciatori, F. Dalla Piazza, and M. Doronzo  
*Path integral quantization of the relativistic Hopfield model.*  
*Phys. Rev. D* **93**, 065020 (2016). 13 pp.
11. F. Belgiorno, S. L. Cacciatori and F. Dalla Piazza,  
*The Hopfield model revisited: Covariance and Quantization.*  
*Phys. Scr.* **91**, 015001 (2016). 13 pp.
12. F. Belgiorno, S. L. Cacciatori and F. Dalla Piazza,  
*Hawking effect in dielectric media and the Hopfield model.*  
*Phys. Rev. D* **91**, 124063 (2015). 18 pp.

13. N. Westerberg, S.L. Cacciatori, F. Belgiorno, F. Dalla Piazza and D. Faccio  
“Experimental quantum cosmology in time-dependent optical media”.  
*New J. Phys.* **16**, 075003 (2014). 15 pp.
14. Francesco Belgiorno, Sergio L. Cacciatori and Francesco Dalla Piazza,  
*Perturbative photon production in a dispersive medium.*  
*Eur. Phys. J. D* **68**, 134 (2014). 10 pp.
15. M. Petev, N. Westerberg, D. Moss, E. Rubino, C. Rimoldi, S.L. Cacciatori, F. Belgiorno, and D. Faccio  
*Blackbody emission from light interacting with an effective moving dispersive medium*  
*Phys. Rev. Lett.* **111**, 043902 (2013).
16. E. Rubino, A. Lotti, F. Belgiorno, S.L. Cacciatori, A. Couairon, U. Leonhardt, and D. Faccio,  
*Soliton-induced relativistic-scattering and amplification*  
*Scientific Reports* **2**, article number 932 (2012).
17. E. Rubino, J. McLenaghan, S. C. Kehr, F. Belgiorno, D. Townsend, S. Rohr, C. E. Kuklewicz, U. Leonhardt, F. König, and D. Faccio,  
*Negative-Frequency Resonant Radiation*  
*Phys. Rev. Lett.* **108** 253901 (2012).  
Selected for a Viewpoint in Physics and also Highlighted article.
18. F. Dalla Piazza, F. Belgiorno, S.L. Cacciatori, and D. Faccio,  
*Emission of correlated photon pairs from superluminal perturbations in dispersive media*  
*Phys. Rev.* **A85** (2012) 033833; 8 pp.
19. F. Belgiorno and S.L. Cacciatori,  
*General Symmetries: From Homogeneous Thermodynamics to Black Holes*  
*Eur. Phys. J. Plus* **126** (2011) 86; 19 pp.
20. F. Belgiorno, S.L. Cacciatori, M.Clerici, V. Gorini, G. Ortenzi, L. Rizzi, E. Rubino, V.G. Sala, and D. Faccio,  
“Reply to comments on: Hawking radiation from ultrashort laser pulse filaments.”  
*Phys. Rev. Lett.* **107** 149402 (2011).
21. E. Rubino, F. Belgiorno, S.L. Cacciatori, M. Clerici, V. Gorini, G. Ortenzi, L. Rizzi, V.G. Sala, M. Kolesik, J.V. Moloney, D. Faccio,  
“Experimental evidence of analogue Hawking radiation from ultrashort laser pulse filaments.”  
*New J. Phys.* **13** (2011) 085005; 33 pp.
22. F. Belgiorno, S.L. Cacciatori, G. Ortenzi, L. Rizzi, V.Gorini and D. Faccio,  
“Dielectric Black Holes induced by a refractive index perturbation and the Hawking effect.”  
*Phys. Rev.* **D83** (2011) 024015; 17 pp.
23. F.Belgiorno, S.L. Cacciatori, F. Dalla Piazza, and O.F. Piattella,  
“Quantum properties of the Dirac field on BTZ black hole backgrounds.”  
*J. Phys. A: Math. Theor.* **44** (2011) 025202; 17 pp.
24. F. Belgiorno, S.L. Cacciatori, M.Clerici, V. Gorini, G. Ortenzi, L. Rizzi, E. Rubino, V.G. Sala, and D. Faccio,  
“Hawking radiation from ultrashort laser pulse filaments.”  
*Phys. Rev. Lett.* **105** 203901 (2010).  
Selected for a Viewpoint in Physics and also Highlighted article.
25. S.L. Cacciatori, F. Belgiorno, V. Gorini, G. Ortenzi, L. Rizzi, V.G. Sala, and D. Faccio,  
“Space-time geometries and light trapping in travelling refractive index perturbations.”  
*New J. Phys.* **12** (2010) 095021.

26. Francesco Belgiorno, Sergio L. Cacciatori, Giovanni Ortenzi, V.G. Sala and Daniele Faccio,  
*Quantum radiation from superluminal refractive index perturbations.*  
*Phys. Rev. Lett.* **104** (2010) 140403; 4 pp.
27. F.Belgiorno,  
“Homogeneity: from Carathéodory’s Approach to Gibbs Thermodynamics”.  
Revised version of math-ph/0210011 (2002).  
*Nuovo Cim.* **125 B** (2010) 271–296.
28. Francesco Belgiorno, Sergio L. Cacciatori and Francesco Dalla Piazza,  
*Quantum instability for charged scalar particles on charged Nariai and ultracold black hole manifolds.*  
*Class. Quant. Grav.* **27** (2010) 055011; 19 pp.
29. Francesco Belgiorno and Sergio L. Cacciatori,  
*The Dirac Equation in Kerr-Newman-AdS Black Hole Background.*  
Revised version of math-ph/0803.2946 (2008).  
*J. Math. Phys.* **51** (2010) 033517; 32 pp.
30. Francesco Belgiorno, Sergio L. Cacciatori and Francesco Dalla Piazza,  
*Pair-production of charged Dirac particles on charged Nariai and ultracold black hole manifolds.*  
*JHEP* **08** (2009) 028.
31. F.Belgiorno and S.L.Cacciatori,  
“Massive Dirac Particles on the background of charged de-Sitter Black Hole Manifolds”.  
*Phys. Rev.* **D79** (2009) 124024; 16 pp.
32. F.Belgiorno and S.L. Cacciatori,  
“The Absence of Normalizable Time-periodic Solutions for The Dirac Equation in Kerr-Newman-dS Black Hole Background”.  
*J. Phys. A: Math. Theor.* **42** (2009) 135207; 15 pp.
33. Francesco Belgiorno and Franco Gallone,  
“Confined Quantum Systems and Their Limits”.  
*J. Math. Phys.* **50** (2009) 022101; 13 pp.
34. F.Belgiorno and S.L. Cacciatori,  
“Quantum Effects for the Dirac Field in a Reissner-Nordström-AdS Black Hole Background”.  
*Class. Quant. Grav.* **25** (2008) 105013; 18 pp.
35. F.Belgiorno and M.Martellini,  
“Black Holes and the Third Law of Thermodynamics”.  
*Int. J. Mod. Phys.* **D13** (2004) 739–770.
36. F.Belgiorno,  
“Notes on the third law of thermodynamics.II.”  
*J. Phys. A: Math. Gen.* **36** (2003) 8195–8221.
37. F.Belgiorno,  
“Notes on the third law of thermodynamics.I.”  
*J. Phys. A: Math. Gen.* **36** (2003) 8165–8193.
38. F.Belgiorno,  
“Black Hole Thermodynamics in Carathéodory’s Approach”.  
*Phys. Lett.* **A312** (2003) 324-330.

39. F.Belgiorno,  
“Quasi-homogeneous Thermodynamics and Black Holes”.  
*J. Math. Phys.* **44** (2003) 1089–1128.
40. F.Belgiorno, S.Liberati, Matt Visser and D.W.Sciama,  
“Sonoluminescence: two-photon correlations as a test of thermality”.  
*Phys. Lett.* **A271** (2000) 308–313.
41. S.Liberati, Matt Visser, F.Belgiorno and D.W.Sciama,  
“Sonoluminescence as a QED vacuum effect: Probing Schwinger’s proposal”.  
*J. Phys.* **A33** (2000) 2251–2272.
42. S.Liberati, Matt Visser, F.Belgiorno and D.W.Sciama,  
“Sonoluminescence as a QED vacuum effect.2.Finite size effects”.  
*Phys. Rev.* **D61** (2000) 085024; 17 pp.
43. S.Liberati, Matt Visser, F.Belgiorno and D.W.Sciama,  
“Sonoluminescence as a QED vacuum effect.1.The physical scenario”.  
*Phys. Rev.* **D61** (2000) 085023; 18 pp.
44. Matt Visser, S.Liberati, F.Belgiorno and D.W.Sciama,  
“Sonoluminescence: Bogolubov Coefficients for the QED Vacuum of a Time-Dependent Dielectric Bubble”.  
*Phys. Rev. Lett.* **83** (1999) 678–681.
45. F. Belgiorno, M.Martellini and M. Baldicchi,  
“Naked Reissner-Nordström Singularities and the Anomalous Magnetic Moment of the Electron Field”.  
*Phys. Rev.* **D62** (2000) 084014; 11 pp.
46. F. Belgiorno and M.Martellini,  
“Equilibrium Thermodynamics for Quantum Fields on a Black Hole Background”.  
*Gravitation and Cosmology* **5**, suppl. issue, (1999) 41–46.
47. F. Belgiorno and M.Martellini,  
“Quantum properties of the electron field in Kerr–Newman black hole manifolds”.  
*Phys. Lett.* **B453** (1999) 17–22.
48. F. Belgiorno,  
“Massive Dirac Fields in Naked and in Black Hole Reissner–Nordström Manifolds”.  
*Phys. Rev.* **D58** (1998) 084017; 8 pp.
49. F. Belgiorno,  
“Black Hole Thermodynamics and Spectral Analysis”.  
*J. Math. Phys.* **39** (1998) 4608–4633.
50. F. Belgiorno and S.Liberati,  
“Black Hole Thermodynamics, Casimir Effect and Induced Gravity”.  
*Gen. Rel. Grav.* **29** (1997) 1181–1194.
51. F. Belgiorno and M.Martellini,  
“Hawking Radiation Entropy and Horizon Divergences”.  
*Phys. Rev.* **D53** (1996) 7073–7081.
52. F. Belgiorno and S.Liberati,  
“Divergences Problems in Black-Hole Brick-Wall Model”.  
*Phys. Rev.* **D53** (1996) 3172–3177.



53. F. Belgiorno and A.S. Cattaneo,  
“Black Holes and Cosmological Constant in Bosonic String Theory: Some Remarks”.  
*Int. Jou. of Mod. Phys. A***10** (1995) 527–539.
54. F. Belgiorno, A.S. Cattaneo, F. Fucito and M. Martellini,  
“A Conformal Affine Toda Model of 2D Black Holes: The End Point State and the S-Matrix”.  
*Phys. Rev. D***48** (1993) 2660–2669.
55. F. Belgiorno, A.S. Cattaneo, F. Fucito and M. Martellini,  
“A Conformal Affine Toda Model of 2D Black Holes: A Quantum Study of the Evaporation End Point”.  
*Mod. Phys. Lett. A***8** (1993) 2593–2605.

---



---

### Books as Co-Author

---



---

- B1. ‘Hawking Radiation. From Astrophysical Black Holes to Analogous Systems in Lab’,  
F. Belgiorno, S.L. Cacciatori, D. Faccio.  
World Scientific Publishing Company, Singapore, 2018. ISBN: 9789814508537.

---



---

### Books as Co-Editor

---



---

- Bo1. ‘Analogue Gravity Phenomenology’,  
edited by D. Faccio, F. Belgiorno, S.L. Cacciatori, V. Gorini, S. Liberati, U. Moschella.  
Lecture Notes in Physics 870. Springer (2013). ISBN: 978-331900265-1.

---



---

### Book Chapters

---



---

- Ch1. F.Belgiorno,  
“Nontrivial Symmetries of  $\delta Q_{rev}$  and Equilibrium Thermodynamics”.  
Published on invitation in *New topics in mathematical physics research*. Ed. Charles V. Benton. Nova Publishers (2009). pp. 1-45. ISBN 1-59454-807-2.
- Ch2. F.Belgiorno and S.L.Cacciatori,  
“Quantum loss of charge by non-rotating black holes with cosmological constant”.  
Chapter published on invitation in *Black Holes and Galaxy Formation*.  
Ed. Adonis D. Wachter and Raphael J. Propst. Nova Publishers (2009). pp. 195-220. ISBN 978-1-60741-703-3.
- Ch3. Francesco Belgiorno, Sergio L. Cacciatori and Francesco Dalla Piazza,  
“Quantum instability for charged particles on charged Nariai black hole manifolds: Exact 4D results for black hole discharge phenomenon”.  
Chapter published on invitation in ‘Classical and Quantum Gravity: Theory, Analysis and Applications’. Nova Publishers (2012). ISBN 978-1-61122-957-8.
- Ch4. E. Rubino, F. Belgiorno, S.L. Cacciatori and D. Faccio  
*Laser pulse analogues for gravity*.  
Chapter published in the book ‘Analogue Gravity Phenomenology’, edited by D. Faccio, F. Belgiorno, S.L. Cacciatori, V. Gorini, S. Liberati, U. Moschella. Lecture Notes in Physics 870. Springer (2013). ISBN: 978-331900265-1. pp. 247 - 273.

---



---

### Proceedings

---



---

- P1. F. Belgiorno, A.S. Cattaneo, F. Fucito and M. Martellini,  
“Quantum Models of Black Hole Evaporation”,  
pubblicato nei proceedings di: *International Workshop on String Theory, Quantum Gravity and the Unification of Fundamental Interactions-Roma 1992*. Eds. M.Bianchi, F.Fucito, E.Marinari and A.Sagnotti, World Scientific Publishing Company, Singapore; p. 19–27.
- P2. F. Belgiorno and M. Martellini,  
“Statistical Fluctuations of a Schwarzschild Black-Hole and Entropy Renormalization”,  
Proceedings of: “XI Italian Conference on General Relativity and Gravitational Physics”  
SISSA, Trieste, Italy, 26-30 September 1994. World Scientific Publishing Company, Singapore (1996); p. 235–251.
- P3. M. Martellini and F. Belgiorno,  
“Black hole thermodynamics, Mach’s principle and Eddington–Schrödinger unified theory”;  
Proceedings of: “XII Italian Conference on General Relativity and Gravitational Physics”  
Roma, Italy, September 1996. World Scientific Publishing Company, Singapore (1997); p. 45–52.

- P4. S.Liberati, Matt Visser, F.Belgiorno and D.W.Sciama,  
 “Sonoluminescence and the QED vacuum”;  
 published in: *The Casimir Effect 50 Years Later*. M.Bordag editor, World Scientific Publishing Company, Singapore (1999).  
 Proceedings of: 4th Workshop on Quantum Field Theory under the Influence of External Conditions, Leipzig, Germany, 14-18 Sep 1998.
- P5. L.Lanz, F.Belgiorno and B.Vacchini  
 “Macro-objectivation: a challenge in quantum field theory”.  
 Published in: “QUANTUM MECHANICS. Are there quantum jumps? Trieste, Italy, 5 September 2005 and On the Present Status of Quantum Mechanics Losini, Croatia, 7-9 September 2005. AIP Conference Proceedings, Volume 844. pp 228–248. Melville, New York, 2006.
- P6. D. Faccio, F. Belgiorno, S. Cacciatori, M. Clerici, V. Gorini, G. Ortenzi, L. Rizzi, E. Rubino, V.G. Sala,  
 “Analogue gravity and ultrashort laser pulse filamentation.”  
 Invited paper.  
 Nonlinear Optics and Applications IV, edited by Benjamin J. Eggleton, Alexander Luis Gaeta, Neil G. R. Broderick Proc. of SPIE Vol. 7728, 77280M 2010 SPIE CCC code: 0277-786X/10/\$18 doi: 10.1117/12.855845r
- P7. D. Faccio, E. Rubino, A. Couairon, F. Belgiorno, Piazza, F.D., S.L. Cacciatori  
*Laser pulse propagation in relativistically time-dependent media*  
*Proceedings of SPIE - The International Society for Optical Engineering* **8623**, article number 862319 (2013).
- P8. T. Roger, E. Rubino, S. Cacciatori, F. Belgiorno, F. Biancalana, M.F. Saleh, A. Couairon, D. Faccio  
 Light scattering from laser pulse-induced travelling inhomogeneities (2013) 2013 Conference on Lasers and Electro-Optics, CLEO 2013, art. no. 6833722.

---



---

### Abstracts

---



---

- A1. D.Faccio, S.L.Cacciatori, F.Belgiorno, G.Ortenzi, V.G.Sala and V.Gorini,  
 “Quantum Aspects of Ultrashort Laser Pulse Filamentation: Hawking Radiation and the Dynamical Casimir Effect”.  
 Abstract for the invited talk (D.Faccio invited speaker) to the conference:  
 Nonlinear Photonics (NP), Topical Meeting and Tabletop Exhibit Technical Conference: June 21-24, 2010 Karlsruhe-Messe und Kongress (Conference Center) Karlsruhe, Germany  
<http://www.osa.org/meetings/topicalmeetings/np/default.aspx>
- A2. D. Faccio, F. Belgiorno, S. Cacciatori, M. Clerici, V. Gorini, G. Ortenzi, L. Rizzi, E. Rubino, V.G. Sala,  
 “Analogue gravity and ultrashort laser pulse filamentation.”  
 Proceedings of SPIE (2010).

---



---

### Comments

---



---

- C1. Comment on “Dimensional and dynamical aspects of the Casimir effect: Understanding the reality and significance of vacuum energy”  
 S. Liberati, F. Belgiorno and M. Visser  
 hep-th/0010140.