

Ninfa Radicella

Curriculum Vitae

Viale Europa 32
Torre del Greco - NA

+39 3334099132

<+39 0813418482

+39 0818834342

ninfa.radicella@gmail.com

Personal Information

Birth January, 2nd 1982 (Pompei (NA))

Citizenship Italian

Work Dipartimento di Fisica 'E.R.Caianello'
Address

Università di Salerno
I-84084 Fisciano (Sa), Italy

Work +39089-96-9351
Telephone

E-mail ninfa.radicella@sa.infn.it

Research **General Relativity.**

Interests **Alternative theories of gravity.**

Thermodynamic analysis in cosmology.

Dark energy.

Weak field limit of gravity models.

Education

Ph.D in Physics at Politecnico di Torino (Feb. 2009)

Ph.D Thesis *Vector field theories in Cosmology: the Cosmic Defect Theory*

Ph.D Prof. Angelo Tartaglia, Physics Department, Politecnico di Torino
Supervisor

Undergraduate Università degli Studi di Napoli "Federico II" (2000/01-2004/2005)

Laurea degree in Physics (equivalent M.Sc.)

First class honours, 110/110 *cum extslaude*

M.Sc. Thesis *Early universe models using renormalized theories for gravity*

Supervisors Prof. Claudio Rubano, Physics Department, Università degli Studi di Napoli
Dr. Alfio Buonanno, INAF Catania

Languages

Italian Native Speaker

- English** B2 Certification, according to CEFR. First Certificate in English, University of Cambridge
- French** B2 Certification, according to CEFR. Diplôme d' études en langue française - DELF B2, Centre International d'Etudes Pédagogiques (CIEP)
- Spanish** B2 Certification, according to CEFR. Diploma de español como lengua extranjera, Instituto Cervantes

Academic Career

- Nov. 2015 - **Research fellow**, *Physics Department*, Università degli Studi di Salerno.
To date
- Apr. 2012 - **Research fellow**, *Physics Department*, Università degli Studi di Salerno.
Apr. 2015
- Feb. 2010 - **Postdoctoral position**, *Physics Department*, Universidad Autónoma de Barcelona (UAB).
July 2011
- Feb. 2009 - **Research fellow**, *Physics Department*, Politecnico di Torino.
Jan. 2010
- Feb. 2008 - **Visiting Scientist**, *IAP (Institut d'astrophysique de Paris)*, Collaboration with dr. Patrick Peter (GReCO).
July 2008
- Jan. 2006 - **Ph.D student**, *Politecnico di Torino*.
Dec. 2008
- Sept. 2001 - **Undergraduate student**, *Università di Napoli 'Federico II'*.
July 2005

Academic Duties

- Culture della materia** **Fisica applicata alla biologia**, *Corso di Laurea Magistrale in Scienze Biologiche*, a.a. 2014-2015, a.a. 2015-2016 .
- Fisica Teorica**, *Corso di Laurea Magistrale in Fisica*, a.a. 2014-2015.
- Relatività Generale**, *Corso di Laurea Magistrale in Fisica*, a.a. 2012-13/2013-14/2014/15.
- Elettrodinamica e Gravitazione**, *Corso di Laurea Magistrale in Fisica*, a.a. 2012-13/2013-14/2014/15.
- Gravitazione sperimentale**, *Corso di Laurea Magistrale in Fisica*, a.a. 2013-2014.
- Member of the** **Workshop: Local effects in gravitational physics**, *Dipartimento di Fisica 'E.R. Caianiello'*, 15 dicembre 2014.
- Organizing Committee** **Problemi Attuali di Fisica Teorica, PAFT15**, *Lloyd Baia Hotel, Vietri sul Mare, Salerno*, 28-31 March 2015.
- Problemi Attuali di Fisica Teorica, PAFT14**, *Lloyd Baia Hotel, Vietri sul Mare, Salerno*, 11-16 April 2014.
- Problemi Attuali di Fisica Teorica, PAFT13**, *Lloyd Baia Hotel, Vietri sul Mare, Salerno*, 23-26 March 2013.
- XVII Sigrav Conference and IX National meeting**, *Turin*, 4-7 September 2006.
- Member** **MICINN-INFN project**, *The interplay between gravity and thermodynamics*, Ref: AIC10-D-000581, Nov. 2010-Dec. 2011.

Referee Physical Review D, General Relativity and Gravitation, European Physical Journal Plus and European Physical Journal E

Teaching activities

- Mar. 2016 - **Teaching assistant**, *Undergraduate course 'Physics' for Biotechnologists*, Dipartimento di Scienze e Tecnologie, Università degli Studi del Sannio.
June 2016
- 2015-2016 **Lecturer**, *Physics course OFA (Obblighi Formativi Aggiuntivi)*, Dipartimento di Scienze e Tecnologie, Università degli Studi del Sannio.
- Dec. 2014 - **Teaching assistant**, *Undergraduate course 'General Physics'*, Engineering Department at Università degli Studi del Sannio.
June 2015
- 2014-2015 **Lecturer**, *Physics course OFA (Obblighi Formativi Aggiuntivi)*, Dipartimento di Scienze e Tecnologie, Università degli Studi del Sannio.
- June 2013 **Lecturer**, *Ph.D course 'Alternative theories of Gravity'*, Physics Department, Università degli Studi di Salerno.
- Sep. 2009 - **Teaching assistant**, *Undergraduate course 'General Physics II'*, Politecnico di Torino.
Dec. 2009
- Apr. 2009 - **Teaching assistant**, *Undergraduate courses 'General Physics I' and 'General Physics II'*, Politecnico di Torino.
June 2009
- May 2007 - **Teaching assistant**, *Undergraduate course 'General Physics I'*, Politecnico di Torino.
June 2007
- March 2007 - **Teaching assistant**, *Experimental part of the Undergraduate course 'General Physics I'*, Politecnico di Torino.
June 2007
- Nov. 2006 - **Teaching assistant**, *Undergraduate course 'General Physics II'*, Politecnico di Torino.
Dec. 2006
- 2003 - 2005 **Scientific Assistant**, *Science center in Naples: Città della scienza.*

Seminars and Talks

- December 15, **Constraints on Covariant Horava-Lifshitz Gravity from frame-dragging experiments**, *Local effects in gravitational physics: theoretical and phenomenological aspects*, Physics Department of Università degli Studi di Salerno.
2014
- April 15, **Constraints on Covariant Horava-Lifshitz Gravity from frame-dragging experiments**, *Problemi attuali di Fisica Teorica*, Vietri sul Mare (SA), Italy.
2014
- March 25, **Thermodynamical constraints in cosmology**, *Problemi attuali di Fisica Teorica*, Vietri sul Mare (SA), Italy.
2013
- September 4, **Accelerating $f(T)$ gravity models constrained by recent cosmological data**, *Spanish Relativity Meeting, ERE 2012*, Guimaraes, Portugal.
2012
- April 2, 2012 **Generalised Second Law an Thermodynamical equilibrium in modified gravity models**, *Problemi attuali di Fisica Teorica*, Vietri sul Mare (SA), Italy.
- April 6, 2011 **Back reaction from trace anomaly in Black holes evaporation**, *Physics Department*, Universidad Autónoma de Barcelona.
- September 10, 2010 **The generalized second extslaw in Universes with quantum corrected entropy relations**, *Spanish Relativity Meeting, ERE 2010*, Granada, Spain.
- July 16th, 2010 **The Milky rotation curve in Horava-Lifshitz theory**, *Physics Department*, Universidad Autónoma de Barcelona.

- December 3, 2009 **Cosmic Defect theory, the never-ending story**, *Physics Department of Polytechnic of Turin*.
- September 28, 2009 **Cosmic Defect theory: cosmological setting and weak field extslimit**, *IX National Meeting INFN NA12*, Physics Department of Polytechnic of Turin.
- July 2, 2009 **Massive gravitational waves from the Cosmic Defect theory**, *Invisible Universe, at the Unesco Palace*, Paris.
- June, 21-26 2009 **A tensor theory of space-time as a strained material continuum**, *XXIèmes Rencontres de Blois: Windows on the Universe*, Blois, France, poster session.
- October 2, 2008 **Vector Field Theories in Cosmology: Cosmic Defect theory**, *VIII National Meeting INFN NA12*, Physics Department, University of Salerno.
- September 24, 2008 **LQC in higher order gravity towards inflation**, *XVIII SIGRAV conference*, Università della Calabria, Arcavacata di Rende (CS).
- June 12, 2008 **Vector Field Models of Inflation and Dark Energy by Koivisto and Mota**, *Physics Department*, Politecnico di Torino.
- July 12, 2007 **Vector Theories in Cosmology**, *18th International Conference on General Relativity and Gravitation and 7th Edoardo Amaldi Conference on Gravitational Waves*, Sidney, Australia.
- May 30, 2007 **A (not so) short introduction to General Relativity**, *Laboratoire de Mathématique 'Nicolas Oresme'*, Caen.

Conference and Workshop

- March 28-31, 2015 **Problemi attuali di Fisica Teorica**, *Vietri sul Mare (SA), Italy*.
- December 15, 2014 **Local effects in gravitational physics: theoretical and phenomenological aspects**, *Physics Department of Università degli Studi di Salerno*.
- April 11-16 , 2014 **Problemi attuali di Fisica Teorica**, *Vietri sul Mare (SA), Italy*.
- December 19-20 , 2013 **VI Black Holes Workshop**, *Braga, Portugal*.
- March, 23-26 2013 **Problemi attuali di Fisica Teorica**, *Vietri sul Mare (SA), Italy*.
- March, 23-26 2013 **Problemi attuali di Fisica Teorica**, *Vietri sul Mare (SA), Italy*.
- March, 23-26 2013 **Problemi attuali di Fisica Teorica**, *Vietri sul Mare (SA), Italy*.
- September, 3-7 2012 **Spanish Relativity Meeting, ERE 2012**, *Guimaraes, Portugal*.
- March 30-April 4 2012 **Problemi attuali di Fisica Teorica**, *Vietri sul Mare (SA), Italy*.
- April, 15-20 2011 **Problemi attuali di Fisica Teorica**, *Vietri sul Mare (SA), Italy*.
- September, 6-11 2010 **Spanish Relativity Meeting, ERE 2010**, *Granada, Spain*.

- March, 26-31 **Problemi attuali di Fisica Teorica**, Vietri sul Mare (SA), Italy.
2010
- September, **IX National Meeting INFN NA12**, Physics Departement of Polythecnic of Turin.
28-29 2009
- September, **First Mediterranean Conference on Classical and Quantum Gravity**,
14-18 2009 *Kolymbari, Crete.*
- June 29, July **Invisible Universe**, at the Unesco Palace, Paris.
3 2009
- June, 21-26 **XXIèmes Rencontres de Blois: Windows on the Universe**, Blois, France.
2009
- October, 2-3 **VIII National Meeting INFN NA12**, Physics Department of the University of
2008 *Salerno.*
- September, **XVIII SIGRAV conference**, Università della Calabria, Arcavacata di Rende (CS).
22-25 2008
- September, **VII Annual National Meeting INFN NA12**, Physics Department of the Univer-
27-28 2007 *sity of Padova.*
- July, 7-11 **CRAL-IPNL Conference Dark Energy and Dark Matter. Observations,**
2008 **experiments and theories**, Lyon, France.
- June, 23-28 **International Conference Problems of practical cosmology**, Russian Geograp-
2008 *hical Society in Saint Petersburg.*
- July, 8-14 **18th International Conference on General Relativity and Gravitation and**
2007 **7th Edoardo Amaldi Conference on Gravitational Waves**, Sidney, Australia.
- October, **Annual Meeting INFN NA12**, Physics Department of the Università degli Studi
26-27 2006 *'Federico II', Napoli.*
- September **XVII SIGRAV Conference (Italian Society for General Relativity)**, Torino.
4-7, 2006
- July 23-29, **11th Marcel Grossmann Meeting in General Relativity**, Freie Universitaat,
2006 *Berlin.*

School attended

- September, **International School of Theoretical Physics**, Parma.
8-13 2008
- May, 14-19 **Sigrav Graduate School in Contemporary Relativity and gravitational**
2007 **Physics: The dark side of the Universe**, Villa Olmo, Como.
- Sept. 18-Oct. **General Relativity Trimester**, Insitute Henry Poincaré (IHP), Centre Emil Borel,
13, 2006 *Paris.*
- July 10-21, **Summer School in Cosmology and Astroparticle Physics**, The Abdus Salam
2006 *International Centre for Theoretical Physics, Trieste.*

Publications

Published papers

- 1 **A.Tartaglia and N.Radicella**, *Vector Theories in Cosmology*, Phys.Rev.D 76, 083501 (2007)..

- 2 **A.Tartaglia, M.Capone, V.Cardone and N.Radicella**, *Fitting the extslumino-
sity data from type 1a supernovae in the frame of the Cosmic Defect theory*, Int.J.Mod.
Phys. D, 18 501-512 (2009).
- 3 **V.F.Cardone and N. Radicella**, *Can MONDian vector theories explain the cosmic
speed-up?*, Phys. Rev. D 80, 063515 (2009).
- 4 **A. Tartaglia, N. Radicella**, *A tensor theory of spacetime as a strained material
continuum*, Class. Quantum Grav. 27 (2010) 035001.
- 5 **V.F.Cardone, N. Radicella M.L. Ruggiero and M. Capone**, *The Milky Way
rotation curve in Horava - Lifshitz theory*, MNRAS 406, 1821 (2010).
- 6 **N.Radicella and D. Pavón**, *The generalised second extslaw in universes with
quantum corrected entropy relations*, Phys. Lett. B 691 (2010) 121-126.
- 7 **N.Radicella and D.Pavón**, *On the c^2 term in the holographic formula for dark
energy*, JCAP 10 (2010) 005.
- 8 **N.Radicella, M. Sereno and A. Tartaglia**, *Cosmological constraints for the
Cosmic Defect theory*, Int.J.Mod. Phys. D, 20 1039-105 (2011).
- 9 **N.Radicella and D. Pavón**, *Thermodynamical analysis on a braneworld scenario
with curvature corrections*, Phys. Lett. B 704 (2011), 260-264.
- 10 **N. Radicella and D. Pavón**, *A thermodynamic motivation for dark energy*, Gen.
Rel. Grav., 44, 685 (2012).
- 11 **V.F. Cardone, M. Capone, N. Radicella and M.L. Ruggiero**, *Spiral rotation
galaxy curves in the Horava - Lifshitz gravity theory*, MNRAS 423 (2012) 141-148.
- 12 **N. Radicella, M. Sereno and A.Tartaglia**, *Spherical symmetry in a dark energy
permeated space-time*, Class. Quantum Grav. 29 (2012) 115003.
- 13 **V.F. Cardone, N. Radicella and L. Parisi**, *Constraining massive gravity with
recent cosmological data*, Phys.Rev. D 85 124005 (2012).
- 14 **V.F. Cardone, N. Radicella and S. Camera**, *Accelerating $f(T)$ gravity models
constrained by recent cosmological data*, Phys. Rev. D 85, 124007 (2012).
- 15 **L. Parisi, N. Radicella and G. Vilasi**, *Stability of the Einstein Static Universe in
Massive Gravity*, Phys.Rev. D 86 024035 (2012).
- 16 **D. Pavón and N.Radicella**, *Does the entropy of the Universe tend to a maximum?*,
Gen. Rel. Grav., 45, 63 (2013).
- 17 **N. Radicella, M. Sereno and A. Tartaglia**, *Dark energy as an elastic strain fluid*,
MNRAS 429 1149 (2013).
- 18 **S. Camera, V.F. Cardone and N. Radicella**, *Detectability of Torsion Gravity
via Galaxy Clustering and Cosmic Shear Measurements*, Phys. Rev. D 89, 083520
(2014).
- 19 **N. Radicella and D. Pavón**, *Thermodynamics of the unified dark fluid with fast
transition*, Phys. Rev. D 89, 067302 (2014).
- 20 **N. Radicella, G. Lambiase, L. Parisi, G. Vilasi**, *Constraints on Covariant
Horava-Lifshitz Gravity from frame-dragging experiments*, JCAP12(2014)014.
- 21 **L. Parisi, N. Radicella and G. Vilasi**, *Kantowski-Sachs universes sourced by a
Skyrme fluid*, Phys. Rev. D 9 063533 (2015).
- 22 **M.L. Ruggiero, N.Radicella**, *Weak-Field Spherically Symmetric Solutions in $f(T)$
gravity*, Phys. Rev. D 91 104014 (2015).

- 23 **L. Iorio, N. Radicella and M.L. Ruggiero**, *Constraining $f(T)$ gravity in the Solar System*, JCAP 08 (2015) 021.
- 24 **L. Iorio, M.L. Ruggiero, N. Radicella and E.N. Saridakis**, *Constraining the Schwarzschild-de Sitter solution in models of modified gravity*, Physics of the Dark Universe 13 (2016) 111-120.

Proceedings

- 1 **N.Radicella**, *Vector Theories in Cosmology*, Class. Quantum Gravity 25 (2008) 114022, 18th International Conference on General Relativity and Gravitation, Sydney, Australia, July 2007..
- 2 **A.Tartaglia, M.F.De Laurentis, A.Nagar, N.Radicella**, *Mobile quadrupole as a semianalytic method for gravitational-wave emission*, Class. Quantum Gravity 25 (2008) 114020, 18th International Conference on General Relativity and Gravitation, Sydney, Australia, July 2007.
- 3 **A.Tartaglia, M. Capone and N.Radicella**, *The cosmic defect theory tested by observations*, Proceedings of Problems of Practical Cosmology (PPC08), Saint Petersburg, June 23-27 2008..
- 4 **N. Radicella**, *LQC in higher order gravity towards inflation*, to appear in Proceedings of XVIII SIGRAV conference, 22-25 september 2008.
- 5 **N. Radicella and A. Tartaglia**, *A tensor theory of space-time as a strained material continuum*, to appear in Proceedings of XXIèmes Rencontres de Blois: Windows on the Universe, 21-26 June, 2009.
- 6 **A. Tartaglia and N. Radicella**, *From Elastic Continua to Space-time*, AIP Conf. Proceedings, vol. 1241, Invisible Universe International Conference, Paris, France, 29 June - 3 July 2009.
- 7 **N.Radicella and A. Tartaglia**, *Massive Gravitational waves from the CD theory*, AIP Conf. Proceedings, vol. 1241, Invisible Universe International Conference, Paris, France, 29 June - 3 July 2009.
- 8 **N.Radicella and A. Tartaglia**, *Massive waves in an 'elastic' spacetime*, AIP Conf. Proceedings, vol.1168, Int. Conf. on Numerical Analysis and Applied Mathematics, Rethymno, Crete, September 18-22, 2009.
- 9 **A. Tartaglia and N. Radicella**, *Space-time as a deformable continuum*, 2010 J. Phys.: Conf. Ser. 222 012028, First Mediterranean Conference on Classical and Quantum Gravity (MCCQG 2009) 14 - 18 September 2009, Orthodox Academy of Crete, Kolymbari, Crete, Greece.
- 10 **N. Radicella and D. Pavó**, *The generalised second law in Universes with quantum corrected entropy relations*, 2011 J. Phys.: Conf. Ser. 314 012036, ERE, Spanish Relativity Meeting (ERE 2010): Gravity as a Crossroad in Physics 6-10 September 2010, Granada, Spain..
- 11 **A. Tartaglia, N. Radicella and M. Sereno**, *Lensing in an elastically strained space-time*, 2011 J. Phys.: Conf. Ser. 283 012037, Recent Developments in Gravity (NEB XIV) 8-11 June 2010, Ioannina, Greece.
- 12 **D. Pavón and N. Radicella**, *Why we need dark energy*, Gen. Relativ. Grav. 44 (2012) 685-702, 13th Marcel Grossmann Meeting, Stockholm July 1-7, 2012.

- 13 **D. Pavón and N. Radicella**, *Why we need dark energy*, Astrophysics and Space Science Proceedings 38 (2014), 143-152, 4th International Meeting on Gravitation and Cosmology, Guadalajara (Mexico), May 21-25, 2012.
- 14 **N. Radicella, S. Camera and V.F. Cardone**, *Accelerating $f(T)$ gravity models constrained by recent cosmological data*, Springer Proceedings in Mathematics and Statistics, 60, 2014, 367-370, Spanish Relativity Meeting in Portugal, Guimaraes, 3-7 September 2012.
- 15 **L. Parisi, N. Radicella and G. Vilasi**, *On the stability of the Einstein Static Universe in Massive Gravity*, Springer Proceedings in Mathematics and Statistics 60, 2014, 355-359, Spanish Relativity Meeting in Portugal, Guimaraes, 3-7 September 2012.

Napoli, July 11th 2016

Ninfa Radicella

Ai sensi del D.P.R. n.445/2000, io sottoscritta Radicella Ninfa nata a Pompei (NA) il 02/01/1982 codice fiscale RDCNNF82A42G813O, residente a Torre del Greco (prov. di Napoli) in Viale Europa n. 32 c.a.p. 80059 telefono 3334099132

DICHIARO

che quanto riportato nel presente Curriculum Vite corrisponde a verità e mi obbligo a provarlo quando codesto Dipartimento dovesse richiedermelo.