

Europass Curriculum Vitae

Summary:

Orlando Luongo is currently a researcher in gravitation and cosmology at the National Laboratories of Nuclear Physics (INFN) of Frascati and a professor of Quantum Field Theory at the Physics Department of the University of Camerino. He got cum laude his master degree in Physics at the University of Naples "Federico II" in 2008. He got in 2015 a bachelor in Civil Engineering at the University of Naples "Pegaso". He gained his international PhD degree in Relativistic Astrophysics at the University of Rome "La Sapienza" in 2012. During both his PhD and later, he has spent several time in abroad universities, among them: the UNAM university, in Mexico, the University of Cape Town, in South Africa, and others. He was part of the KM3NeT project of INFN during the period 2013-2015, attending specialist courses in the fields of Astroparticle Physics and Management at the National Laboratories of Nuclear Physics (LNS) in Catania. In 2015 he was awarded the *Polvani* national prize, from the Italian Society of Physics (SIF), for his high-impact researches in Astrophysics. His teaching experience is wide, spanning from courses of astroparticle physics to cosmology, both at the University of Naples "Federico II", and passing through theoretical physics (UNAM University), mathematical methods for physics and quantum field theory (Naples University "Federico II" and the University of Camerino). Moreover, he has taught General Physics and Calculus at the Department of Engineering of the University of Sannio, for the bachelors of Civil, Energetic, Electronic and Computational Engineering. He is regularly present in several local and international meetings. He is author of more than 70 scientific works, including research papers, chapters of books, proceedings, and so forth. His current research is based on investigating theoretical and observational impacts of modified theories of gravity both in the Solar System and at cosmological scales.

Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

Email(s)

Nationality(-ies)

Date of birth

Gender

Luongo, Orlando

Via Enrico Fermi, 40, 00044, Frascati (RM), Italy

+39 06 94032780

orlando.luongo@lnf.infn.it

Italian

02-11-1984 - Age: 33

Male

Occupational field

Researcher in Gravitation and Theoretical Cosmology

Work experience

Dates

Occupation or position held

Main activities and responsibilities

Name and address of employer

01/08/2017 – present

Adjunct Professor of Quantum Field Theory

Teaching of Quantum Field Theory and Mathematical Methods for Physics

University of Camerino, Physics Division, Camerino, Italy.

Dates

Occupation or position held

Main activities and responsibilities

01/08/2017 – present

Researcher

Extended theories of gravity in the Solar System regime.

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|--------------------------------------|---|
| Name and address of employer | National Institute of Nuclear Physics (INFN), Frascati, Italy. |
| Dates | 01/03/2017 – 31/07/2017 |
| Occupation or position held | Post Doc Fellowship |
| Title of the fellowship | Quantum effects in Extended Theories of Gravity |
| Main activities and responsibilities | Research in gravitational theories and quantum gravity: theory and experiments. |
| Name and address of employer | School of Science and Technology, University of Camerino, Camerino, Italy. |
| Dates | 01/01/2016 – 28/02/2017 |
| Occupation or position held | Post Doc Fellowship |
| Title of the fellowship | Cosmology in <i>non-standard</i> gravitational frameworks |
| Main activities and responsibilities | Research in non-homogeneous cosmology and in the late time universe dynamics. |
| Name and address of employer | Department of Physics "E. Pancini", University of Naples, Naples, Italy, Via Cinthia, Napoli, Italy. |
| Dates | 01/07/2015 – 31/12/2015 |
| Occupation or position held | Post Doc Fellowship |
| Title of the fellowship | Cosmographic reconstructions of Dark Energy in Alternative Theories of Gravity |
| Main activities and responsibilities | Research in the dynamics of dark energy at late and early times. |
| Name and address of employer | Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa, Rondebosch 7701, Cape Town, South Africa. |
| Dates | 01/03/2013 – 14/04/2015 |
| Occupation or position held | Fellowship awarded for the Km3NeT project |
| Title of the fellowship | Una nuova frontiera per la ricerca: <i>Gli osservatori sottomarini</i> |
| Main activities and responsibilities | Research in Astroparticle Physics and Cosmology with particular attention to neutrino oscillations and masses. |
| Name and address of employer | National Institute of Nuclear Physics (INFN) and National South Laboratories (LNS), Catania, Italy. |
| Dates | 01/12/2011 – 31/10/2012 |
| Occupation or position held | Post Doc Fellowship |
| Post-doc title | Dark Energy from <i>Geometrothermodynamics</i> |
| Main activities and responsibilities | Research in geometrical aspects of Universe's thermodynamics. |
| Name and address of employer | Institute for Nuclear Science (ICN), Universidad National Autonoma de Mexico, (UNAM), Mexico City, Mexico. |

Scientific activity and developments:

Below, I summarize my principal research fields into four different main topics.

- The study of the well-consolidate model independent technique, named cosmography, capable of discriminating among several extensions of the standard cosmological model, the ones able to reproduce current observational constraints. The use of cosmography may also reveal the correct gravitational theory and well adapts to understanding whether and how the universe expansion history is effectively modified due to possible extended theories of gravity.
- The investigation and characterization of universe's dynamics by means of thermodynamic quantities such as: entropy, specific heats and so forth in the context of the homogeneous and isotropic universe, whose corresponding effects are deduced from prime principles and may reveal the microphysics behind the net energy-momentum contribution of the universe.
- The consequences of investigating space-time symmetries, matching internal with external solutions of particular metrics. This may be used to characterize the dark matter profiles in galaxies and also to provide, under certain circumstances, measurable effects of repulsive gravity. As a consequence, the neutrino oscillations, decays and fluxes may be influenced in the regime of strong gravitational fields. In addition, especially for early phases of the universe evolution, the role played by neutrinos is modified to account the observed structures and their formations.
- The quantum imprinting on how the averaging processes of inhomogeneities would affect large-scale dynamics, leading as back-reaction effects to an effective contribution to the averaged energy-momentum tensor. In such a way, local inhomogeneities may significantly affect the concordance model, since the process of observation would be modified accordingly. In so doing, I investigate the possibility that the universe is spatially inhomogeneous and manifests modifications on the Wheeler deWitt equation, whose solutions drive the early-time cosmology, reproducing furthermore the late-time evidence for dark energy.

In particular, I am greatly interested in the following topics:

1. Local and cosmological tests of general relativity.
2. Extended theories of gravity: theory and experiments.
3. Monte Carlo Analysis.
4. Exact solutions and absolute calculus in General Relativity.
5. Cosmography of the observable universe.
6. Thermodynamics aspects of present-time cosmology.
7. Dark matter profiles in Spiral galaxies.
8. Neutrino oscillations and consequences in cosmology.
9. Quantum Gravity and aspects of Information Theory.
10. Relativistic quantum information theory.

Summary of publications:

1. Total number of works: 72
2. Total articles with peer review process: 58
3. Total single authored: 4
4. Total proceedings with peer review process: 6
5. Total chapters of books: 4
6. Total number of citations: **602**
7. h-factor: **16**

(data got from <https://inspirehep.net> last update: April 2018)

Education and training

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|--|--|
| Dates | 03/11/2008 – 29/03/2012 |
| Occupation or position held | International PhD in Physics |
| Main activities and responsibilities | Research in General Relativity: Theory and experiments |
| Name and address of employer | University of Rome "La Sapienza", (Italy) |
| With thesis | Geometrothermodynamics in General Relativity as a tool to describe the Universe dynamics |
| Final vote | Excellent/Excellent |
| Dates | 01/10/2006 – 16/07/2008 |
| Title of qualification awarded | Master Degree in Physics |
| Principal subjects | Theoretical Physics |
| Name and type of organization providing education and training | University of Naples "Federico II" |
| Final vote | 110/110 cum laude |

Personal skills and competences

Mother tongue(s)

Other language(s)

*Self-assessment
European level^(*)*

English

Spanish

French

Italian

| Understanding | | Speaking | | Writing |
|---------------|-----------|--------------------|-------------------|-----------|
| Listening | Reading | Spoken interaction | Spoken production | |
| Excellent | Excellent | Excellent | Excellent | Excellent |
| Excellent | Excellent | Excellent | Excellent | Excellent |
| Good | Good | Good | Good | Good |

^(*) Common European Framework of Reference (CEF) level

Language diplomas:

1. Trinity College Certificate (Level 9/Level B2.3), Salerno, (2002).
2. Aspect International Language Academies, London, (Level B2), (2002),
3. PET certificate, Cambridge, (Level B2), (2008).
4. BULATS certificate, Cambridge, (Level C2), (2017).

Organisational skills and competences:

I consider myself a methodical, creative and extremely productive person. I am convinced to be able to carry out research of high quality and interest for the worldwide scientific community and to significantly contribute to the research environment of physics departments. I deliver multitasking skills to get results on various projects at the same time. I am capable to face out and analyze several situations, coming forward with logical solutions. In so doing, I have attitude to problem solving skills which enable me not to get overwhelmed and to systematically solve problems. In that, I guarantee high-impact abilities in communications and decision making. For those reasons, I consider myself a highly adaptable, positive and flexible person who really enjoys working as part of multicultural/challenging teams, since I have already had experiences in research teams in Europe, America and Africa.

Social skills and competences:

I base my scientific work on the capability of being charismatic, with high-impact in communications and conveying one's thoughts and ideas. In such a way, friendliness, leadership and the ability to listen, not taking over the conversation, allow me to get included into different research groups, well interacting in scientific communities. Further, I present myself as a person able to manage disagreements in a socially acceptable manner, with a reasonable empathy and with a clever sense of humour. Open mind, politeness, assertiveness, not dominating over other people, are even my good attitudes in research groups.

Computer skills and competences:

Excellent competences in:

1. Windows (All versions and packages).
2. Linux (All versions and packages).
3. MAC-OS (All versions and packages).
4. Web site realizations and maintenance.
5. Numerical calculus and programming.

Computer driving licences:

1. E.C.D.L. Professional C.A.D. (European Computer Driving License), 3rd level;
2. E.C.D.L. Advanced (European Computer Driving License), 2nd level;
3. E.C.D.L. Core (European Computer Driving License), 1st level.

Competence in programs and programming:

Excellent competences in:

1. Wolfram Mathematica
2. Maple
3. Office 2003/2007
4. Origin
5. C/C++
6. Fortran
7. AutoCAD
8. GNU PLOT
9. MATLAB
10. LateX
11. MikTek
12. Python
13. CosmoMC
14. CAMB

Awards and achievements:

1. Awarded by "Società Italiana di Fisica" (SIF) with Giovanni Polvani Prize for scientific industriousness merits concerning young scientists for the period May 2008 - May 2015, Rome, Italy, September, (2015).
2. Awarded for *Progetto di Formazione Specialistica: Una Nuova Frontiera per la Ricerca: Gli Osservatori Sottomarini*, considered as a Master diploma in Physics, Catania, Laboratori Nazionali del Sud (INFN-LNS), Italy, (2015).
3. Awarded for best paper 2014 from "Highlights of 2014" of IJMPD gained for the work: *A unified dark energy model from a vanishing speed of sound with emergent cosmological constant*, in collaboration with prof. Hernando Quevedo, Co-Author of the work, (2014).
4. Prize for *Premio De Simone Per l'impegno sociale 2016* gained for relevant results in the field of Cosmology, Montoro, (2016).
5. Prize for *Merits in Astrophysics 2015* gained from Comune di Montoro, for high-impact researches in the field of Astrophysics and Cosmology, Montoro, Italy, (2015).
6. Prize gained for "high-impact science communication" gained from *Percorsi culturali di eccellenza: Sapere Aude*, awarded by Istituto di Istruzione Superiore "Leonardo Da Vinci", Salerno, Italy, (2013).

Honorable interviews:

1. Interview proposed by Mr. Stephen Battersby for New Scientist, awarded for the work: *Dark energy from entanglement entropy*, developed by Prof. Salvatore Capozziello, (Co-Author of the work), (2013).
2. Interview proposed for the Journal Contattolab, awarded for merits in Astrophysics, (2015). (Link: <http://www.contattolab.it/orlando-luongo-scientziato-montorese-premiato-come-miglior-ricercatore/>).
3. Interview proposed for the Journal Tuttolocal, awarded for merits in Astrophysics, (2015). (Link:<http://www.tuttolocal.it/home/astrofisica-cosmologia-relativistica-metriche-dello-spazio-tempo-premiare-le-ricerche-di-orlando-longo-straordinario-scientziato-montorese/>)

Master(s) and Specialisation(s):

1. Italian qualification, "Tirocinio Formativo Attivo", TFA, at the University of Salerno, Italy, 29/07/2013, with final vote 100/100.
2. Diploma A.N.F.O.S. *Sicurezza nei cantieri edili*, Nocera, Italy, 2016.
3. Specialization course in Campi Elettromagnetici: Valutazione del rischio e protezione, University of Naples "Federico II", (2017).

Teaching experience:

Teaching basic and advanced courses represents a relevant part of my activities. I enjoy interacting with students at all levels. During the courses of General Physics I use to experiment technology in the classroom since my lectures are sometimes recorded and adopted as part of other lessons for other departments, in particular for the students of Engineering at the University of Molise. I also experiment different ways of monitoring students progress, interacting with them in small groups and laboratories. Students are continually assessed via a series of problem solving and multiple choice problem sheets on specific topics. I regularly use computer algebra systems, and numerical simulations in classroom demos to give different perspectives on physical problems, providing a much needed link to situations of importance in everyday life. My teaching experiences are listed below.

List of teaching experiences in Italy:

At the University of Sannio, Benevento, Italy:

1. Adjunct professor with Co.Co.Co. for the course of “Fisica” (Physics) at the University of Benevento, Unisannio, Italy, for the courses of Civil Engineering (Ingegneria Civile) and Energetic Engineering (Ingegneria Energetica), 1 year during 2016/2017, for a total of 40 hours.
2. Adjunct professor with Co.Co.Co. for the course of “Fisica Generale” (General Physics) at the University of Benevento, Unisannio, Italy, for the courses of Computer Engineering (Ingegneria Informatica) and T.L.C. Engineering (Ingegneria Elettronica per l’Automazione e le Telecomunicazioni), 1 year during 2016/2017, for a total of 40 hours.
3. Adjunct professor with Co.Co.Co. for the course of “Matematica 1” (Calculus) at the University of Benevento, Unisannio, Italy, for the courses of Energetic Engineering (Ingegneria Energetica), 1 year during 2016/2017, for a total of 40 hours.
4. Adjunct professor with Co.Co.Co. for the course of “Fisica” (Physics) at the University of Benevento, Unisannio, Italy, for the courses of Civil Engineering (Ingegneria Civile) and Energetic Engineering (Ingegneria Energetica), 1 year during 2015/2016, for a total of 30 hours.
5. Adjunct professor with Co.Co.Co. for the course of “Fisica Generale” (General Physics) at the University of Benevento, Unisannio, Italy, for the courses of Computer Engineering (Ingegneria Informatica) and T.L.C. Engineering (Ingegneria Elettronica per l’Automazione e le Telecomunicazioni), 1 year during 2015/2016, for a total of 60 hours.

At the University of Naples "Federico II", Naples, Italy:

1. Teaching experience for the course of “Metodi Matematici per la Fisica” (Mathematical Methods for Physics) at the University of Naples “Federico II”, Naples, Italy, 2016, for a total of 20 hours, in collaboration with Prof. F. Lizzi.
2. Teaching experience for the course of “Fisica Generale” (General Physics) at the University of Naples “Federico II”, Naples, Italy, 2016, for a total of 20 hours, in collaboration with Prof. S. Capozziello.
3. Teaching experience for the course of “Cosmologia” (Cosmology) at the University of Naples “Federico II”, Naples, Italy, 2016, for a total of 10 hours, in collaboration with Prof. S. Capozziello.
4. Co-Teaching experience for the PhD course of “Constraining Cosmologies using CosmoMC and CAMB” at the University of Naples “Federico II”, Naples, Italy, 2016, for a total of 9 hours, (ITALY), in collaboration with Dr. Jason Dossett.
5. Teaching support for the course of “Astroparticle Physics” at the University of Naples “Federico II”, Naples, Italy, 2014, for a total of 8 hours, (ITALY).

At the University of Camerino, Camerino, Italy:

1. Teaching experience for the course of “Quantum Field Theory” (Teoria Quantistica dei campi) at the University of Camerino, Camerino, Italy, 2017-present, 6 CFU.
2. Teaching experience for the course of “Metodi Matematici per la Fisica” (Mathematical Methods for Physics) at the University of Camerino, Camerino, Italy, 2017, for a total of 25 hours, in collaboration with Prof. S. Mancini.

Examiner:

1. Examiner for Quantum Field Theory and Theoretical Physics, University of Camerino, Camerino, Italy, 2017.
2. Examiner for Fisica (Physics), University of Sannio, Benevento, Italy, 2015-present.
3. Examiner for Fisica Generale (General Physics), University of Sannio, Benevento, Italy, 2015-present.
4. Examiner for Fisica (Physics), University of Naples "Federico II", Naples, Italy, 2013-present.
5. Examiner for Metodi Matematici per la Fisica (Mathematical Methods for Physics), University of Naples "Federico II", Naples, Italy, 2016-present.
6. Examiner for Cosmologia (Cosmology), University of Naples "Federico II", Naples, Italy, 2015-present.
7. Examiner for Metodi Matematici per la Fisica (Mathematical Methods for Physics), University of Camerino, Camerino, Italy, 2017.
8. "Cultore della materia" for the courses of "Fisica Generale" (FIS/01), at the University of Naples "Federico II", 2013-2015, (ITALY).
9. "Cultore della materia" for the courses of "Fisica Generale" (FIS/01), at the University of Naples "Federico II", 2016-2018, (ITALY).

Supervisor of thesis:

Graduated 7 students: 4 bachelor student (2 with distinction), 3 master students (2 with distinction).

Affiliations and memberships:

1. Affiliated to INFN (National Institute of Nuclear Physics), section of Naples, Italy.
2. Affiliated to the Department of Mathematics and Applied Mathematics, University of Cape Town, Cape Town, South Africa.
3. Affiliated to the Institute for Nuclear Science (ICN), Universidad National Autonoma de Mexico, (UNAM), Mexico City, Mexico.
4. Affiliated to INAF (National Institute of Astrophysics), section of Naples, Italy, for the period 01/10/2014-31/03/2015.
5. Member of SIGRAV, *Società Italiana di Relatività Generale e Fisica della Gravitazione*.
6. Member of SIF, *Società italiana di Fisica*.

Referee for:

1. Physical Review D.
2. Physics Letter B.
3. Classical and Quantum Gravity.
4. General Relativity and Gravitation.
5. Physics Letter A.
6. International Journal of Modern Physics D.
7. International Journal of Geometric Methods in Modern Physics.
8. Physics of the Dark Universe.
9. The European Physical Journal C.
10. Astrophysics and Space Sciences.
11. Modern Physics Letter A.
12. Physica Scripta.
13. Entropy.
14. Galaxy.
15. Mathematical and Computational Applications.

Editorial activities:

1. Editor for the journal *International Journal of Geometrical Methods in Modern Physics*, website: www.worldscientific.com/worldscinet/ijgmp
2. Managing Editor for Publishing House: "Licosia Edizioni", Rome, Italy, website: www.licosia.com/?page_id=1679
3. Lead Guest Editor for the special issue: *Model-Independent Techniques of Dark Energy Scenarios in Homogeneous and Inhomogeneous Cosmologies* on *Advances in High Energy Physics*, Hindawi, website: www.hindawi.com/journals/ahep/si/808350/cfp/

International Collaborations and Affiliations:

1. 2009 – now, Collaboration with Prof. Hernando Quevedo, Department of Nuclear Sciences, University of Mexico City, Mexico.
2. 2009 – 2012, Collaboration with Prof. Patrick Roy Kerr, Mathematic Department, Canterbury University, New Zealand,
3. 2009 – now, Collaboration with Dr. Damiano Tommasini, Physics Department, University of Athens, Athens, Greece.
4. 2010 – now, Collaboration with Dr. Alessandro Bravetti, Instituto de Investigaciones en Matematicas Aplicadas y en Sistemas, Mexico, Mexico.
5. 2010 – now, Collaboration with Dr. Christine Gruber, Department of Physics, University of Berlin, Berlin, (Germany).
6. 2010 – now, Collaboration with Dr. Alejandro Aviles, Department of Astronomy, University of California, Berkeley, USA.
7. 2013 – now, Collaboration with Prof. Bharat Ratra, Physics Department, Kansas University, Cardwell Hall, Manhattan, USA.
8. 2013 – now, Collaboration with Dr. Omer Farooq, Physics Department, Kansas University, Cardwell Hall, Manhattan, USA.
9. 2014 – now, Collaboration with Prof. Jaime Klapp, Mathematic Department, IPN Institute, Mexico City, Mexico.
10. 2014 – now, Collaboration with Prof. Norman Cruz, Physics Department, Universidad de Santiago de Chile, Santiago, Chile.
11. 2014 – now, Collaboration with Prof. Emmanuel N. Saridakis, Institut d'Astrophysique de Paris, Paris, France.
12. 2015 – now, Collaboration with Prof. Predrag Jovanovic, Astronomical Observatory, Volgina, Belgrade, Serbia.
13. 2015 – now, Collaboration with Prof. Vesna Borka Jovanovic, Vinca Institute of Nuclear Sciences, Belgrade, Serbia.
14. 2015 – now, Collaboration with Prof. Dusko Borka, Vinca Institute of Nuclear Sciences, Belgrade, Serbia.
15. 2015 – now, Collaboration with Dr. Alvaro de la Cruz, Department of Mathematics, University of Cape Town, South Africa.
16. 2015 – now, Collaboration with Prof. Peter Dunsby, Department of Mathematics, University of Cape Town, South Africa.
17. 2016 – now, Collaboration with Prof. Winfried Zimdahl, Department of Physics, University of Espirito Santo, Brazil.
18. 2016 – now, Collaboration with Prof. Oliver F. Piattella, Department of Physics, University of Espirito Santo, Brazil.
19. 2016 – now, Collaboration with Prof. Somayyeh Shoorvazi, Research Institute for Astronomy and Astrophysics, Maragha, Iran.
20. 2016 – now, Collaboration with Prof. Alireza Sepehri, Research Institute for Astronomy and Astrophysics, Maragha, Iran.

National Collaborations and Affiliations:

1. 2008 - now, Collaboration with Prof. Salvatore Capozziello, Physics Department, University of Naples, Naples, Italy.
2. 2009 - now, Collaboration with Prof. Gerardo Cristofano, Physics Department, University of Naples, Naples, Italy.
3. 2009 - 2017, Collaboration with Dr. Giovanni Battista Pisani, Physics Department, University of Rome "La Sapienza", Rome, Italy.
4. 2011 - now, Collaboration with Prof. Stefano Mancini, Scuola di Scienze e Tecnologie, University of Camerino, Camerino, Italy.
5. 2012 - 2014, Collaboration with Prof. Giancarlo Barbarino, Physics Department, University of Naples, Naples, Italy.
6. 2012 - 2014, Collaboration with Dr. Pasquale Migliozzi (Sezione di Fisica Sperimentale).
7. 2009 - now, Collaboration with Dr. Andrea Geralico, International Center for Relativistic Astrophysics, Pescara, Italy.
8. 2013 - 2014, Collaboration with Dr. Manuel Scinta, Physics Department, University of Catania, Catania, Italy.
9. 2015 - now, Collaboration with Prof. Fedele Lizzi, Physics Department, University of Napoli, Napoli, Italy.
10. 2015 - now, Collaboration with Prof. Patrizia Vitale, Physics Department, University of Napoli, Napoli, Italy.
11. 2016 - now, Collaboration with Dr. Raffaele Marotta, Physics Department, University of Napoli, Napoli, Italy.
12. 2016 - now, Collaboration with Dr. Stefano Morisi, Physics Department, University of Napoli, Napoli, Italy.
13. 2017 - now, Collaboration with Dr. Rocco D'Agostino, Physics Department, University of Rome Tor Vergata, Rome, Italy.
14. 2018, Collaboration with Prof. Roberto Giambó, Scuola di Scienze e Tecnologie, University of Camerino, Camerino, Italy.
15. 2018, Collaboration with Dr. Lorenzo Sebastiani, Physics Department, University of Trento, Italy.

Research periods in foreign institutions and abroad experiences:

1. December 2009 - January 2010, visiting PhD student at the University of Canterbury, Christchurch, New Zealand
2. February 2010 - August 2010, visiting PhD student at the University of Cote Azur, Nice, France.
3. January 2011 - April 2011, ICN, visiting research associate, University of Mexico (UNAM), Mexico City, Mexico.
4. December 2011 - October 2012, Postdoctoral fellowship at ICN, University of Mexico (UNAM), Mexico City, Mexico.
5. July 2015 – December 2015, Postdoctoral fellowship at the Department of Mathematics, University of Cape Town, South Africa.

**Research stages in
National institutions:**

**School(s) and
conference(s):**

1. September 2010, visiting PhD student at the Physics Department of the Ferrara University, Ferrara, Italy.
1. Scuola Nazionale di Astrofisica, *Oggetti compatti e pulsar - Scienza con ALMA*, maggio 20-26, Maracalagonis (CA), (2007), Italy.
2. SIGRAV School (INFN cosmological school): *Coarsed grained cosmology*, held at the Institute of Theoretical Physics Galileo Galilei, January 26-29, Firenze, 2009, Italy.
3. 5th Australasian Conference - Christchurch Meeting December 16-18, Christchurch, 2009, New Zealand.
4. The 12th Marcel Grossmann Meeting, in Paris, France, hosted jointly by ICRA Net, UNESCO and ICTP, July 13th-18th, Paris, 2010, France.
5. Conference Cosmology on the beach, Puerto Vallarta, January 10-14, 2011, Mexico.
6. The 13th Marcel Grossmann Meeting, Stockholm University, July 1 - 7, Stockholm, 2012, Sweden.
7. Conference *Current Problems in Theoretical Physics*, March 28 - 31, Lloyd's Baia Hotel, Vietri sul Mare, 2015, Italy.
8. Fourteenth Marcel Grossmann Meeting - MG14, University of Rome "La Sapienza", July 12-18, 2015, Rome, Italy.
9. The South African Gravity Society Meeting, 2015, Port Elizabeth, 6031, Rhodes University, 31/08/2015-02/09/2015, South Africa.
10. Majorana lectures, February 9-13, 2015, Naples, Italy.
11. Majorana lectures, March 14-16, 2016, Naples, Italy.
12. Majorana lectures, January 22-23, 2018, Naples, Italy.
13. Conference *Current Problems in Theoretical Physics*, March 18-23, Lloyd's Baia Hotel, Vietri sul Mare, 2016, Italy.
14. Conference *Current Problems in Theoretical Physics*, April 7-11, Lloyd's Baia Hotel, Vietri sul Mare, 2017, Italy.
15. Conference *Current Problems in Theoretical Physics*, March 24-28, Lloyd's Baia Hotel, Vietri sul Mare, 2018, Italy.

Additional information:

1. During 2007 students' representative at the Physics Department of the University of Salerno.
2. Driving licence: Patente B.

Personal interests

Play violin and piano. Movie maker. Bike riding. Poetry.