

Luca Amendola (Prof. Dr.)

- **Personal data and contacts:**

Born in Rome (Italy), Sept. 10, 1963, Italian nationality
Institute of Theoretical Physics, University of Heidelberg
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- **Employment and education:**

2009: Professor (W3) at the Institute of Theoretical Physics, University of Heidelberg
2004-2009: Associate Astronomer at the Astronomical Observatory of Rome, Italian National Institute of Astrophysics.
1994-2004: Researcher at Osservatorio Astronomico di Roma.
1999: Visiting Professor at Dartmouth College, NH, USA
1994: Research associate at Fermi National Accelerator Laboratory, USA
1994: PhD in Astronomy, University of Rome *La Sapienza*, Italy
1989: Master (*Laurea cum laude*) in Physics, University of Rome, Italy.

- **Research interests:**

Keywords: *Cosmology; Dark energy; Large Scale Structure; Cosmic microwave background; Data analysis; Inflationary theories; General relativity.*

Dark energy: Models of dark energy and modified gravity. Constraints from Hubble diagram, microwave background, formation and evolution of large scale structure, lensing, non-linear effects. Large scale structure: models of galaxy formation, data analysis of redshift catalogs, weak/strong lensing, non-gaussian statistics. Cosmic microwave background: parameter estimation, non-gaussianity, Boltzmann codes. Theories of Inflation.

- **Advisory boards and memberships:**

Referee for *The Physical Review*, *The Physical Review Letters*, *The Astrophysical Journal*, *Astronomy and Astrophysics*, *MNRAS*, *Journal for Cosmology and Astroparticle Physics*, *Physics Letters B*, *Europhysics Letters*. Editor of *Physics of the Dark Universe*, Elsevier.

Physics Panel for the Ireland Science Foundation - Frontiers Programme, (2004-06); Advisor for the Research Council of Norway (2015-); Advisory Panel for the Deutsche FG (2005-06); Advisor for the Deutsche FG (2009 -); Advisor for the Swiss National Science Foundation (2006); Member of the International Astronomical Union (1997-); NASA JDEM-SWG panel on figure of merit for dark energy space missions (2008); Member of the Euclid Collaboration; co-lead of the Euclid Theory Working Group (2009 -)

- **Recent international courses at postgraduate level**

September 2018: Course on “Fundamental Science with Euclid” at Federal University of Vitoria, ES, (3 hours)

June 2018: Course “The Dark Side of the Universe”, Int. School of Space Science, GSSI L’Aquila, Italy (three lectures)

October 2017: Schule für Astroteilchenphysik 2017 Helmholtz-Allianz für Astroteilchenphysik and ECAP, Obertrubach-Bärnfels (6 hours)

February 2017: XIX Swieca Summer School, Maresias, Brazil (8 hours)

December 2016: X Tonale Winter School, Tonale, Italy (8 hours)

September 2016: 3rd José Plínio Baptista School, Pedra Azul, Brazil (5 hours)

January 2016: International Graduate School, Tehran, Iran (6 hours)

February 2015: Verão Quântico school, João Pessoa, Paraíba, Brazil (3 hours)
June 2014: Azores School on Observational Cosmology (3 hours), Angra do Heroísmo, Azores, Portugal
March 2014: Course on Dark Energy, Saas Fee School on “Wide Surveys” (6 hours), Engelberg, Switzerland
October 2013: Course on Cosmology, University of Yerevan, Armenia (6 hours),

- **Student supervision**

2009-2018 PhD advisor for eight students at the University of Heidelberg (A. Vollmer, A. Guarnizo-Trilleras, F. Koennig, H. Nersisyan, E. Sellentin, S. Othatawong, A. M. Pinho, M. Wittner), one at Campinas University, Brazil (M. Motta), and two as external advisor (S. Casas, X.-W. Liu).

2009-2015 Advisor of Master dissertations for 21 students at the University of Heidelberg.

1996-2010 Advisor for two PhD students (C. Quercellini, C. di Porto) at the University of Rome Tor Vergata and University of Roma Tre and of 26 undergraduate dissertations (“Laurea” or “Laurea Specialistica”) of the University of Rome “La Sapienza”, University “Roma Tre” and other universities.

- **Articles and Books**

Coauthor of more than 150 refereed articles, more than 11000 citations, Spires *h*-index 49 (53 according to Google Scholar).

L. Amendola, “Il cielo infinito”, Sperling & Kupfer (2000), a non-technical book on Cosmology.

L. Amendola, S. Tsujikawa “Dark Energy. Theory and Observations.”, Cambridge University Press 2010 (revised edition 2015).

L. Amendola, “L’altra faccia dell’Universo”, Il Mulino (2018), a non-technical book on Cosmology

- **Recent invited talks at international meetings:**

“Workshop on challenges of New Physics in Space”, C. de Jordao, San Paolo, Brasil, Apr. 2009

“Galileo Institute on Cosmology”, Florence, Italy, Feb. 2009

“Invisible Universe”, Paris, France, July 2009

“The Nature of Dark Energy”, U. Autonoma de Madrid, Spain, March 2011

“Dark Energy Workshop”, Galileo Galilei Institute, Florence, October 2011

“Symposium Symmetries and Phases in the Universe” Kloster Irsee, February 2012

“USP Conference on Cosmology, Large Scale Structure and First Objects”, Sao Paulo, Brazil February 2013

“IBERICOS”, Granada, Spain, April 2013

“CosmoProbes 2013”, Lausanne (Switzerland), June 2013

“The Return of de Sitter”, LMU- MPA, Munich, Oct 2013

“W3 : Origin of cosmic structures : numerical and theoretical approaches”, IHP, Paris, Nov. 2013,

“Cosmology Meeting”, Sao Paulo, Brazil, Feb 2014

“DESY Theory Workshop”, Hamburg, Germany, Sep. 2014

“Dark Energy Interactions”, Stockholm, Sweden, Oct 2014

“The quest for Dark Energy II”, Ringberg castel, Germany, Dec. 2014

“Euclid Consortium Meeting”, Lausanne, CH, May 2015.

“Gravity and Experiment Workshop”, Paris 5-9, 2016

“Euclid Consortium Meeting”, London, UK, June 2017

“TransRegio 33 The Dark Universe Meeting 2017”, 9-13 October Munich 2017

“New Frontiers - Particles and Cosmology”, Singapore 5-8 March 2018

“XXXIX Encontro Nacional de Física de Partículas e Campos”, Campos do Jordao, Brazil, 24-28 Sept. 2018

“II Workshop on Current Challenges in Cosmology”, Bogotá (Colombia), 29.10 to 02.11.2018