

Curriculum Vitae - Marco Raveri

CONTACT INFORMATION	Physics Department University of Genova Via Dodecaneso, 33 16146, Genova GE	<i>E-mail:</i> marco.raveri@unige.it <i>Website:</i> marcoraveri.com
CURRENT POSITION	University of Genova, Physics Department Assistant Professor (RTDb)	Jan 2022 - Present
PREVIOUS POSITIONS	University of Pennsylvania, CfPC Postdoctoral fellow University of Chicago, KICP Postdoctoral fellow Leiden University, Instituut-Lorentz Visiting researcher	Sept 2019 - Jan 2022 Sept 2016 - Sept 2019 June 2016 - Sept 2016
EDUCATION	Ph.D. in Astrophysics, SISSA/ISAS International School for Advanced Studies <i>Dissertation: The Threefold Way to Cosmological Tests of Gravity</i> <i>Advisors:</i> Carlo Baccigalupi (SISSA), Alessandra Silvestri (Instituut-Lorentz) Master in High Performance Computing, SISSA/ISAS International School for Advanced Studies and ICTP - Abdus Salam International Centre for Theoretical Physics <i>Dissertation: Computational Challenges in Cosmological Tests of Gravity</i> <i>Advisors:</i> Luca Heltai (SISSA), Carlo Baccigalupi, Alessandra Silvestri B.Sc. and M.Sc. in Physics, University of Padua, Italy	June 2016 Dec 2016
RESEARCH INTERESTS	Beyond standard cosmological model phenomenology. Machine learning statistical and computational methods. Gravitational wave cosmology. Observational cosmology and forecasting.	
PROFESSIONAL ACTIVITIES	<ul style="list-style-type: none">• Member (builder) of the Dark Energy Survey (DES) collaboration 2018-present• Member of the CMB-S4 collaboration 2016-present• Member of the Dark Energy Science Collaboration (DESC) 2018-present• Member of the EUCLID collaboration 2015-present• Member of the Equity, Diversity, and Inclusion committee of the CMB-S4 collaboration 2021 - present• Lead of the extension working group of DES 2022 - present• Lead of the tension working group of DES 2019 - 2022• Member of the organizing committee for the Cosmic Controversies conference at the University of Chicago 2019• Organizer of yearly EFTCAMB developers meetings 2016-present• Member of the KICP Friday seminar series committee 2018• KICP representative in the University of Chicago postdoc committee 2018 - 2019• Member of the Topics Editorial Board of Galaxies 2020-present• Member of the Italian Physical Society (SIF), Italian National Institute for Nuclear Physics (INFN), Italian National Institute for Astrophysics (INAF), 2012-2016• Reviewer for Physical Review Letters (PRL), Physical Review D (PRD), Journal of Cosmology and Astroparticle Physics (JCAP), Physics of the Dark Universe,	

The Astrophysical Journal, Monthly Notices of the Royal Astronomical Society (MNRAS). DES and LSST-DESC internal reviewer.

OPEN-SOURCE **EFTCAMB** (eftcamb.org), cosmology of Dark Energy and Gravity models.
CODES DEVELOPED **CosmicFish** (cosmicfish.github.io), cosmological forecasting.
Tensiometer (github.com/mraveri/tensiometer), tools for tensions detection.

MENTORING EXPERIENCE Supervised and co-supervised 13 scientists at the undergraduate to graduate level:

- Matteo Rizzato, University of Padova master student
PhD Paris Institute of Astrophysics, now postdoc at Leiden University (1 paper)
- Simone Peirone, University of Trieste/SISSA master student
PhD Instituut Lorentz (6 papers)
- Prakrut Chaubal, University of Trieste/SISSA master student
now graduate student at University of Melbourne
- Timothy Hoffman, University of Chicago graduate student (1 paper)
- Juan Espejo, Instituut Lorentz master student
now graduate student at Swinburne University of Technology (1 paper)
- Giampaolo Benevento, University of Padova graduate student
now postdoc at Johns Hopkins University (3 papers)
- Meng-Xiang Lin, University of Chicago graduate student (3 papers)
- Georgios Zacharegkas, University of Chicago graduate student (1 paper)
- Shivam Pandey, University of Pennsylvania graduate student (1 paper + 1 ongoing)
- Alice Garoffolo, Instituut Lorentz graduate student (1 paper + 1 ongoing)
- Minsu Park, University of Pennsylvania graduate student (1 paper + 2 ongoing)
- Tara Dachuna, University of Pennsylvania undergraduate student (1 paper ongoing)
- Sam Goldstein, University of Pennsylvania undergraduate student (1 paper ongoing)

TEACHING EXPERIENCE

- Guest lecturer for the advanced Cosmology course at the University of Chicago on Dark Energy phenomenology Fall 2018
- Guest lecturer for the Cosmology course at the University of Pennsylvania on CMB physics Fall 2019
- Guest lecturer for the Machine Learning course at the University of Pennsylvania Spring 2021
- EFTCAMB coding tutorials for undergraduate and graduate students 2016 - present
- Guest lecturer on Bayesian statistical inference for the Penn Undergraduate Data Science Hangout 2020
- Participation to several teaching workshops of the Penn Center for Teaching and Learning 2019 - 2021

GRANTS AND AWARDS

- Successful grant proposals for 14M CPU hours
- CITA Canada fellowship (declined) 2018
awarded by the Canadian Institute for Theoretical Astrophysics
- Nordita fellowship (declined) 2018
awarded by the Nordic Institute for Theoretical Physics
- SISSA Ph.D. fellowship 2012

OUTREACH

- Adler Planetarium Astronomy Conversations Fall 2018 - Fall 2019
- Lifelong Learning Senior Citizen Public Lectures Fall 2016 - Fall 2019
- Invited public lecture at the Chester County Astronomical Society Spring 2020
- "Q&A with an astronomer" in public elementary schools 2020 - Present

REPRESENTATIVE
PUBLICATIONS

From NASA Astrophysics Data System (ADS), as of February 21, 2023:
114 papers total, 6500+ citations, h-index 38.

These ten papers are selected as most representative of my scientific production:

1. **Marco Raveri**, Cyrille Doux,
“*Non-Gaussian estimates of tensions in cosmological parameters*”,
Phys. Rev. D **104** no.4, 043504 (2021), arXiv:2105.03324, ADS.
2. * Minsu Park, **Marco Raveri**, Bhuvnesh Jain,
“*Reconstructing Quintessence*”,
Phys. Rev. D **103** no.10, 103530 (2021), Editor’s suggestion, arXiv:2101.04666,
ADS.
3. * Alice Garoffolo, **Marco Raveri**, Alessandra Silvestri, Gianmassimo Tasinato,
Carmelita Carbone, Daniele Bertacca, Sabino Matarrese,
“*Detecting Dark Energy Fluctuations with Gravitational Waves*”,
Phys. Rev. D **103** no.8, 083506 (2021), arXiv:2007.13722, ADS.
4. * Giampaolo Benevento, Wayne Hu, **Marco Raveri**,
“*Can Late Dark Energy Transitions Raise the Hubble constant?*”,
Phys. Rev. D **101**, no.10, 103517 (2020), arXiv:2002.11707, ADS.
5. **Marco Raveri**,
“*Reconstructing Gravity on Cosmological Scales*”,
Phys. Rev. D **101**, no.8, 083524 (2020), arXiv:1902.01366, ADS.
6. Meng-Xiang Lin, Giampaolo Benevento, Wayne Hu, **Marco Raveri**,
“*Acoustic Dark Energy: Potential Conversion of the Hubble Tension*”,
Phys. Rev. D **100**, no. 6, 063542 (2019), arXiv:1905.12618, ADS,
Contribution: mentoring of Meng-Xiang Lin and Giampaolo Benevento through-
out the project.
7. **Marco Raveri**, Wayne Hu,
“*Concordance and Discordance in Cosmology*”,
Phys. Rev. D **99**, no. 4, 043506 (2019), arXiv:1806.04649, ADS.
8. Gong-Bo Zhao, **Marco Raveri**, *et al.*,
“*Dynamical dark energy in light of the latest observations*”,
Nature Astronomy **1**, no. 9, 627 (2017), arXiv:1701.08165, ADS,
Contribution: reconstruction analysis and tension calculations.
9. **Marco Raveri**,
“*Are cosmological data sets consistent with each other within the Λ cold dark
matter model?*”,
Phys. Rev. D **93**, no. 4, 043522 (2016), arXiv:1510.00688, ADS.
10. **Marco Raveri**, Bin Hu , Noemi Frusciante, Alessandra Silvestri,
“*Effective Field Theory of Cosmic Acceleration: constraining dark energy with
CMB data*”,
Phys. Rev. D **90**, no. 4, 043513 (2014), arXiv:1405.1022, ADS.

TALKS

Gave more than 70 talks at conferences/collaboration meetings/seminars/colloquia.