

MICHELE MANCARELLA — Curriculum Vitae

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in [linked.com/in/mmancarel](https://www.linkedin.com/in/mmancarel) ◊  0000-0002-0675-508X ◊  Mik3M4n, CosmoStatGW

Cosmologist with background in theory, statistical analysis, machine learning. Experience in the private sector in the field of AI/data science. Research interests: gravitational waves, cosmology, multimessenger astrophysics, modified gravity, dark energy. Methods: Bayesian inference; hierarchical population models; machine learning; GW x LSS cross-correlation; GW-detectors forecast tools.

RESEARCH AND PROFESSIONAL POSITIONS

Chaire d'Excellence (tenure-track professorship)

Centre de Physique Théorique (CPT), Aix-Marseille Université

From April 2024

Marseille, France

- Group leader (two postdocs, one Ph.D.), research grant from A*Midex foundation

Postdoctoral Researcher

Astrophysics unit, Department of Physics, University of Milan-Bicocca

Oct 2022 - March 2024

Milano, Italy

- ERC-funded position (P.I. Prof. D. Gerosa).

Postdoctoral Researcher

Department of Theoretical Physics, University of Geneva

Oct 2019 - Sep 2022

Genève, Switzerland

Data Science / AI Fellow and freelance collaborator

Data ScienTest (startup)/ Pi School (startup)

2018-2019

Paris, France/Rome, Italy

EDUCATION

Ph.D. in Cosmology

Institut de Physique Théorique, CEA-Saclay and University Paris-Saclay

2014-2017

Saclay, France

- Ph.D. Advisor: Filippo Vernizzi. Long-term visit at CERN (Switzerland), 8 months (2015-16),

Master's + Bachelor's Degree in Theoretical Physics

University of Pisa

2008-2014

Pisa, Italy

- Grade: 110/110 cum Laude (with distinction).
- Mobility: Erasmus Placement, Switzerland (2013); Summer Undergraduate Research Experience, UK (2012); Gravitational-Wave Astronomy Summer School, TX, USA (2012), INFN-LIGO Summer Exchange Programme, MS, USA (2010)

INTERNATIONAL COLLABORATIONS AND COORDINATION ROLES

- **Einstein Telescope** collaboration (since 2022). **Coordinator** of Division 9 (“Detector configurations and common tools”) of the Observational Science Board
- **Virgo** collaboration (since 2024). **Co-lead** of the subgroup “Pipeline development and validation” of the LIGO-Virgo-Kagra cosmology group.
- **Euclid consortium** (since 2024). **Co-lead** of the work package “Dark Sirens” in the Gravitational-Wave Science Working Group

RESEARCH GRANTS AS PI

- **A*Midex foundation - Initiative of excellence grant**, 600k EUR, N. AMX-22-CEI-02 COS-MOAGG “Cosmology and Astrophysics with Gravitational Waves and Galaxy Catalogs” 2024-2027

METRICS

Scope	Papers	Preprints	Citations	h-index
All	84 (INSPIRE)	24 (INSPIRE)	7,301 (INSPIRE)	38 (INSPIRE)
Non-collaboration	37 (INSPIRE)	1 (INSPIRE)	2,026 (INSPIRE)	23 (INSPIRE)
Collaboration	47 (INSPIRE)	23 (INSPIRE)	5,275 (INSPIRE)	25 (INSPIRE)

Preprints are included in the paper totals.

Collaboration breakdown: 47 papers – LVK 40; ET 4; LISA 2; other 1.

Talks: 45 total; 23 invited.

Link to publication list	INSPIRE , NASA/ADS
ORCID ID	0000-0002-0675-508X
Scopus author ID	56272747400
Web of Science author ID	AAY-3766-2021
Software	pymcpop-gw  : high-dimensional GW population inference with HMC EF-TIGRE  : EFT of Interacting DE with Gravitational Redshift CHIMERA  : GW dark-siren cosmology with galaxy priors GWFAST  : Fisher-matrix forecasts for GW detectors MGCosmoPop  : cosmology with BBH populations DarkSirensStat  : GW $\times$ galaxy correlation cosmology BaCoN  : Bayesian neural network for matter power spectra

TEACHING AND MENTORING

Mentoring

- Hired Postdocs: V. De Renzi, S. Bera (Aix-Marseille Univ.) 2024-2027
- Ph.D. student supervision: A. Agapito (Aix-Marseille Univ.) 2024-2027
- Master's, bachelor's theses, and summer students: mentor of 8 projects 2019/2025

Teaching

- Phd Level: “Multimessenger astronomy” Aix-Marseille Univ (2025, 2026), “Current and future challenges in gravitational-wave astronomy” Univ. Milan-Bicocca (2023)
- Master Level : “The Relativistic Universe” - module on Gravitational Waves (2024, 2025)
- Bachelor's level: Special and General Relativity (2024/25, 2025/26), Electrodynamics II (TA, 2019-2022), Mathematical Methods for Physicists I (TA, 2021/22)

SERVICE AND QUALIFICATIONS

- Permanent position as a high school teacher in Physics, Italian Ministry of Education. from 2022
- Italian qualification for the role of assistant professor, Sec. 02/A2 (Theoretical Physics) from 2023
- French ”Qualification aux fonctions de maître de conférences”, Sec. 29 (Constituants élémentaires), N. 23229345855 from 01/02/2023
- French ”Qualification aux fonctions de maître de conférences”, Sec. 34 (Astronomie, astrophysique), N. 23234345855 from 02/02/2023
- Referee for Physical Review Letters, Physical Review D, Journal for Cosmology and Astroparticle Physics, The Astrophysical Journal, Classical and Quantum Gravity; grant reviewer for ERC, Fond National Suisse
- Organiser of Machine Learning Meetings, Journal Clubs, Seminars (Univ. of Geneva) 2019-2022
- Undergraduate students' representative, Physics department council, University of Pisa 2012-2014