

PERSONAL INFORMATION

Marina Migliaccio



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Sex Female | *Nationality* Italian

WORK EXPERIENCE

July 2021 - present

Associate Professor

University of Rome "Tor Vergata", Italy

- Research in observational cosmology; Cosmic Microwave Background and Large-Scale Structure. Project and Work Package coordinator within the Euclid and LiteBIRD collaborations.
- Lecturer of the courses Mathematical Methods for Physics and Radiative Processes for the Master (Laurea Magistrale) in Physics.
- Member of the Astronomy Astrophysics and Space Science PhD Board of Faculty.
- Member of the Erasmus Mundus Joint Master Program in Astrophysics and Space Science (MASS) Board of Faculty.
- Supervisor of 1 Bachelor and 1 Master student's final projects.
- Supervisor of 4 PhD students.

July 2018 – July 2021

Tenure Track Assistant Professor (RTD-B)

University of Rome "Tor Vergata", Italy

- PI of the research project "*Putting the concordance model on the test bench: fundamental physics from the cross-correlation of cosmological probes*" funded as part of the program for young researchers "Rita Levi Montalcini".
- Lecturer of the course Mathematical Methods for Physics of the Master (Laurea Magistrale) in Physics.
- Supervisor of 1 Bachelor and 2 Master students' final projects.
- Member of the Astronomy Astrophysics and Space Science PhD Board of Faculty.
- Supervisor of 3 PhD students.
- Supervisor of 1 Postdoc for the CMB activities at the ASI Space Science Data Center.

Oct 2016 – July 2018

Postdoctoral Researcher

Space Science Data Center – ASI and INFN Rome, Italy

- Coordinator of the CMB work package of the INFN-ASI implementing agreement.
- Responsible of the LFI polarization likelihood package for the ESA Planck legacy release.
- Leader of the ISW Estimator WP within the Euclid collaboration.

Jan 2013 – July 2016

Postdoctoral Research Associate

Institute of Astronomy and Kavli Institute for Cosmology, University of Cambridge, UK

- Development of data analysis techniques, algorithms and software pipelines for the Planck Mission.
- Member of the Cambridge Planck Analysis Centre.
- Teaching and supervision of students.

Nov 2011 – Dec 2012

Postdoctoral Researcher

Observational Cosmology and Instrumentation Group at IFCA, Instituto de Física de Cantabria, Santander, Spain

- Development of data analysis techniques, algorithms and software pipelines for the Planck Mission.

EDUCATION AND TRAINING

- Nov 2008 – Oct 2011 **PhD in Astronomy (European Label)**
 Università di Roma “Tor Vergata”, Italy
 ▪ Dissertation: “Cosmological parameters and beyond: putting Planck’s core cosmology program at work”. (Supervisor: Dr. P. Natoli)
- Jun 2010 – Mar 2011 **Visiting Scholar**
 Kavli Institute for Cosmology, Cambridge, UK. (Advisor: Prof. G. Efstathiou)
- July 2009 **ISAPP School “CMB and fundamental Interaction Physics”**
 Villa Olmo, Como, Italy
- May 2008 **M.S. in Astronomy (Laurea Specialistica in Scienze dell’Universo)** *110/110 cum laude*
 Università di Roma “Tor Vergata”, Italy
 ▪ Thesis: “Search for non-Gaussian signatures in the Cosmic Microwave Background radiation: an application to BOOMERanG maps”. (Supervisor: Dr. P. Natoli)
- May 2005 **B.S. in Physics (Laurea Triennale in Fisica)** *110/110 cum laude*
 Università di Roma “Tor Vergata”, Italy

PERSONAL SKILLS

- Mother tongue Italian
- Other language(s) English (Proficient User); Spanish (Basic User)

Job-related skills

Teaching and Supervising

2021 - 2030 Abilitazione Scientifica Nazionale to Full Professor (02/C1: Astronomy, Astrophysics, Physics of Earth and Planets).

2018 - 2027 Abilitazione Scientifica Nazionale to Associate Professor (02/C1: Astronomy, Astrophysics, Physics of Earth and Planets).

Coordination and Management

PI of Program for young researchers “Rita Levi Montalcini”, Bando 2015, MIUR (200 273 Euro).

Coordinator of the Cosmology Work Package within the “Accordo Attuativo ASI/INFN No. 2021-43-HH.0” for technical and scientific activities at the ASI Space Science Data Center, funded by ASI, 2022-2024.

Coordinator of the CMB Work Package within the “Accordo Attuativo ASI/INFN n.2014-037-R.1” for technical and scientific activities at the ASI Space Science Data Center, funded by ASI, 2014-2021.

Coordinator of the Work Packages “Reionization” and “Large-scale galaxy distribution” within the ASI implementing agreement for LiteBIRD Phase-A study. (since 2020).

Coordinator of the Roma Tor Vergata node of the INFN InDark Specific Initiative (since 2020)

Coordinator of the Roma Tor Vergata node of the INFN LiteBIRD Specific Initiative (since 2020)

Coordinator of the Project “LiteBIRD Cross-correlation Science” (since 2021)

Coordinator of the “ISW-galaxy cross correlation estimators” WP within the Euclid Collaboration.

Data Analysis and Collaborative Work

Full Member of the JAXA-LiteBIRD Collaboration (since 2019).

Member of the ESA Euclid Consortium (since 2012).

Associate Investigator of the ESA Planck Mission (since 2008). Planck Scientist (since 2013).

Participant to the Cosmic Orbital and Suborbital Microwave ObservationS ASI Project (2016-2019).

Science Communication

11 invited plenary talks at major international conferences; numerous invited presentations at international collaboration meetings (e.g. for the Planck, Euclid, and LiteBIRD missions).

Organization of more than 12 scientific international conferences.

Seminars for the general public. Activities at the Cambridge Science Festival, Institute of Astronomy Open Day, about 1500 visitors (every year from 2013 to 2015). Activities at the Summer Science Exhibition, Royal Society, London 10 000 visitors (2013).

Digital skills Operating Systems: Unix / Mac / Windows
Programming skills in: FORTRAN, MPI / OpenMP, IDL, Python, Shell scripting
Experience with High Performance Computing Facilities at:
CINECA Consortium, Italy / NERSC, California, USA
CSC – IT Center for Science, Finland / Darwin Cluster, HPC Service, Cambridge, UK

ADDITIONAL INFORMATION

Publications Total Publications: **146** / Total Citations: **27563** / H-Index: **52** (Scopus)
Full list of publications: <https://ui.adsabs.harvard.edu/public-libraries/uPp2p04lQk2EFlogGtKlRQ>

Selected Publications:

- Piccirilli, G.; **Migliaccio, M.** et al. "A cross-correlation analysis of CMB lensing and radio galaxy maps", submitted to A&A (2022)
- Carones, A.; **Migliaccio, M.** et al. "Analysis of NILC performance on B-modes data of sub-orbital experiments", submitted to A&A (2022)
- Galloni, G.; Bartolo, N.; Matarrese, S.; **Migliaccio, M.**; Ricciardone, A.; Vittorio, N. "Updated constraints on amplitude and tilt of the tensor primordial spectrum", submitted to JCAP (2022)
- Carrón Duque, J.; **Migliaccio, M.**; Marinucci, D.; Vittorio, N., "A novel Cosmic Filament catalogue from SDSS data", 2022, A&A 659, A166
- "Euclid preparation: XV. Forecasting cosmological constraints for the Euclid and CMB joint analysis", Euclid Collaboration, A&A 657, A91 (2022)
- Natale, U.; Pagano, L.; Lattanzi, M.; **Migliaccio, M.** et al. "A novel CMB polarization likelihood package for large angular scales built from combined WMAP and Planck LFI legacy maps", 2020 A&A 644, A32
- "Planck 2018 results. V. CMB power spectra and likelihoods", 2020 A&A 641, A5
- Bonavera, L.; Cueli, M. M.; González-Nuevo, J.; Ronconi, T.; **Migliaccio, M.** et al. "Cosmology with the submillimetre galaxies magnification bias. Tomographic analysis", 2021, A&A 656, A99
- Bonavera, L.; González-Nuevo, J.; Cueli, M. M.; Ronconi, T.; **Migliaccio, M.** et al. "Cosmology with the submillimetre galaxies magnification bias: Proof of concept", 2020 A&A 639, A128
- Gerbino, M.; Lattanzi, M.; **Migliaccio, M.** et al. "Likelihood methods for CMB experiments", 2020 Frontiers in Physics, Volume 8, id.15
- Sugai, H. et al. "Updated Design of the CMB Polarization Experiment Satellite LiteBIRD", 2020 Journal of Low Temperature Physics, Volume 199, Issue 3-4
- "*Planck* 2015 results. XI. CMB power spectra, likelihoods, and robustness of cosmological parameters", 2016 A&A 594, A11
- "*Planck* 2015 results. XIII. Cosmological Parameters", 2016 A&A 594, A13
- BICEP2/Keck & Planck Collaborations: "A Joint Analysis of BICEP2/Keck Array and *Planck* Data", 2015 Phys. Rev. Lett. 114, 101301
- *Planck* 2013 results. I. Overview of products and results", 2014 A&A 571, A1
- "*Planck* 2013 results. XII. Diffuse component separation", 2014 A&A 571, A12
- "*Planck* 2013 results. XV. CMB power spectra and likelihood", 2014 A&A 571, A15
- "*Planck* 2013 results. XVI. Cosmological parameters", 2014 A&A 571, A16
- "*Planck* 2013 results. XXV. Searches for cosmic strings and other topological defects", 2014 A&A 571, A25

- “*Planck* 2013 results. XXXI. Consistency of the *Planck* data”, 2014 *A&A* 571, A31
- Efsthathiou, G. and **Migliaccio, M.** “A Simple Empirically Motivated Template for the Thermal Sunyaev-Zeldovich Effect”, *MNRAS*, Vol 423, Issue 3, pp. 2492-2497 (2012)
- Gubitosi, G., **Migliaccio, M.**, Pagano, L. et al. “Using CMB data to constrain non-isotropic Planck-scale modifications to Electrodynamics”, *JCAP*, Issue 11, pp. 003 (2011)
- Natoli, P., De Troia, G., Hikage, C., Komatsu, E., **Migliaccio, M.** et al., “BOOMERanG Constraints on Primordial Non-Gaussianity from Analytical Minkowski Functionals”, *MNRAS*, Vol. 408, 3 (2010)
- Calabrese, E., **Migliaccio, M.**, Pagano, L. et al. “Cosmological constraints on the dark matter equation of state”, *Physical Review D*, Volume 80, Issue 6, id. 063539 (2009)

Roma, 9 October 2022