

FEDERICO MARULLI

Curriculum Vitae et Studiorum SSD FIS/05 - ASTRONOMY AND ASTROPHYSICS

EDUCATION

2008: **Ph.D. in Astronomy** - University of Bologna
(Supervisors: Prof. L. Moscardini; Prof. E. Branchini)
2004: **Master degree in Physics** - grade: 110/110 CUM LAUDE - Roma Tre University
(Supervisor: Prof. E. Branchini)

ACADEMIC CONTRACTS

2020 - Present: **Associate Professor** - University of Bologna
2017 - 2020: Senior Assistant Professor - University of Bologna
2012 - 2017: Junior Assistant Professor - University of Bologna
2008 - 2012: Research fellow - University of Bologna

STUDY AND WORKING PERIODS ABROAD

2007: Marie Curie Fellowship, to work at Max-Planck-Institut für Astrophysik, Garching, Germany
2005: Marco Polo Fellowship, to work at Institute of Astronomy, University of Cambridge, U.K.

DIDACTICS & TEACHING EXPERIENCE

Courses

A.Y. 2020/2021: **Holder of Applied Physics** for the Single cycle degree programme in Veterinary Medicine - University of Bologna
A. Y. 2013/2014 - Present: **Holder of the Physics (A-L) Modules 2 and 3** for the First cycle degree programme in Biological Sciences - University of Bologna
A. Y. 2013/2014: Teaching assistant in Calculus for Astronomy (Prof. L. Moscardini) for the First cycle degree programme in Astronomy - University of Bologna
A. Y. 2012/2013: Teaching assistant in Physical Experimentations 1 (Prof. F. Brighenti) for the First cycle degree programme in Astronomy - University of Bologna
A. Y. 2008/2009; 2009/2010: Teaching assistant in Elements of Computer Science (Prof. A. Messina) for the First cycle degree programme in Astronomy - University of Bologna

Supervision of students

Supervisor of: 1 Ph.D. Thesis, 8 Master Theses and 1 Bachelor Thesis
Co-Supervisor of: 2 Ph.D. Theses, 10 Master Theses and 4 Bachelor Theses

RESEARCH ACTIVITIES

Scientific publications

86 refereed publications, 7 proceedings and 1 instrumental report

Conferences & Workshops

More than 70 between seminars/colloquia, invited and contributed talks at international conferences and workshops

Software developed

CosmoBolognaLib

A large set of *free software* C++/Python libraries for astronomical and cosmological calculations. In particular, these libraries can be used to measure the main statistics of extra-galactic samples and to extract cosmological constraints via Bayesian statistical analyses.

Website: <https://gitlab.com/federicomarulli/CosmoBolognaLib>

Ref: Marulli et al. 2016, A&C, 14, 35

International projects

ESA Euclid Mission

Member of the Euclid Consortium since 2009

Main contributions:

- Co-Leader of the galaxy two-point correlation function Processing Function
- Co-Leader of the cluster clustering Processing Functions
- Co-Leader of the Science Working Group cluster statistics Work Package
- Developer of the software to model galaxy clustering statistics, cluster number counts, clustering and cosmic void statistics

VIPERS - VIMOS Public Extragalactic Redshift Survey

ESO Large Program

Member of the Vipers Survey since 2008

Main contributions (Marulli et al. 2013, A&A, 557, 17):

- Production of a set of masks required for multi-object spectroscopic observations
- Measurement of a sub-sample of galaxy redshifts
- Measurement of the galaxy clustering as a function of galaxy properties

XXL Survey

XMM Large Program

Member of the XXL Survey since 2016

Main contributions (Marulli et al. 2018, A&A, 620, 1):

- Measurement and modelling of cluster clustering
- Cosmological constraints

KiDS - The Kilo-Degree Survey

Member of the KiDS Survey since 2019

Main contributions:

- Coordination of cosmological analyses of cluster abundance and clustering

LSST - The Large Synoptic Survey Telescope

Member of the LSST Survey since 2018

InDark - Inflation, Dark Matter and the Large-Scale Structure of the Universe

Member of the InDark Group, in the Bologna Team, since 2014

PRIN-MIUR

Member of the Bologna Research Unit involved in the projects "Cosmology and Fundamental Physics: illuminating the Dark Universe with Euclid" (2015), "The Dark Universe and the Cosmic Evolution of Baryons: from current surveys to Euclid" (2010 – 2011), "Dark energy and cosmology with large galaxy surveys" (2008). National Coordinator: Prof. A. Cimatti