

NICOLA BORGHİ

Contact Information

- Born in Cento (Ferrara), Italy, 22 May 1996
- 🏛 Dipartimento di Fisica e Astronomia “Augusto Righi”
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EDUCATION

University degrees

- Ph.D. in Astrophysics** 11/2020 – Present
Department of Physics and Astronomy “Augusto Righi”, University of Bologna, Italy
Project: “Cosmology with gravitational waves and combination with other probes”
Advisors: Dr. Michele MORESCO & Prof. Andrea CIMATTI
- Laurea magistrale in Astrophysics and Cosmology (cum laude)** 9/2018 – 10/2020
University of Bologna, Italy
Advisors: Prof. Andrea CIMATTI & Dr. Michele MORESCO
- Laurea triennale in Astronomy (cum laude)** 9/2015 – 7/2018
University of Bologna, Italy
- Scientific High School Diploma** 9/2010 – 7/2015
ISIT Bassi Burgatti, Cento (FE), Italy

Other courses

- ISAPP Summer School on Gravitational Waves** 6/2021
Topics: gravitational wave theory, sources and detectors (current and upcoming)
Project: gravitational wave data analysis
- Asiago Multi-Messenger Astrophysics School** 1/2020
Department of Physics and Astronomy (DFA) of the University of Padova, Italy
Topics: astrophysical neutrinos, GWs, cosmic rays and detectors
Project: broadband spectral fitting of blazars
- SperimEstate - Summer Internship** 6/2014
INAF OAS - National Institute for Astrophysics, Bologna, Italy
Topic: study of soft γ -ray selected giant radio galaxies (see Bassani et al. 2016)

RESEARCH ORCID ADS

First-author publications

1. Nicola Borghi, Michele Moresco, Andrea Cimatti, Alexandre Huchet, Salvatore Quai, and Lucia Pozzetti. Toward a better understanding of cosmic chronometers: Stellar population properties of passive galaxies at intermediate redshift. *ApJ (accepted)*, June 2021. URL <https://ui.adsabs.harvard.edu/abs/2021arXiv210614894B>
2. Nicola Borghi, Michele Moresco, and Andrea Cimatti. Toward a better understanding of cosmic chronometers: A new measurement of $H(z)$ at $z \sim 0.7$. *ApJ Letters (accepted)*, October 2022. URL <https://ui.adsabs.harvard.edu/abs/2021arXiv211004304B>

Contributed talks

- 🌀 Sixteenth Marcel Grossmann Meeting 7/2021
A new measurement of the expansion history of the Universe from cosmic chronometers in the LEGA-C survey
- 🌀 Massively Parallel Large Area Spectroscopy from Space 6/2021
Robust constraints on the physical properties of individual passive galaxies from Lick indices in the LEGA-C survey

TEACHING ACTIVITY

Teaching
assistant

Astrophysics Laboratory (optical/near-IR module) A.Y. 2021–2022
Master Degree Course, Astrophysics and Cosmology, DIFA, University of Bologna

OUTREACH

Public
engagement

“Astroversi” - university podcast since 2021
Department of Physics and Astronomy “Augusto Righi”, University of Bologna

- ☞ Science outreach podcast structured in four different programs covering general and more advanced astrophysical topics, with a focus on the Ph.D. life, state-of-the-art research, and spin-offs. Role: pre & post-production. [Listen on Spotify](#).

Public lectures and stargazing events since 2016
Gruppo Astrofili Persicetani, San Giovanni in Persiceto and surrounding areas

- ☞ Lecturer at the Planetarium (20+ talks, [see the topics](#))
- ☞ Stargazing nights (10+)

STEM
activities

Museo del Cielo e della Terra since 2017
Agen.Ter., San Giovanni in Persiceto (BO), Italy

- ☞ Physics labs for elementary to high schools (50+)

Officina Laboratorio 6/2021
Department of Physics and Astronomy “Augusto Righi”, University of Bologna

- ☞ Laboratory activities for high schools

OTHER INFORMATION

Extra-curricular
activities

Regional Commissaire, Italian Cycling Federation since 2017

Volunteer amateur astronomer, Gruppo Astrofili Persicetani (www.gapers.it) since 2016

Awards

Best MS Thesis prize, DIFA, University of Bologna 2021

Best poster prize at the ISAPP Summer School on Gravitational Waves 2021

Riconoscimento “Francesco Viviani”, Ferrara, Italy 2015

Italian Astronomy Olympiad, Macerata, Italy (finalist in the national competition) 2012

Languages

ENGLISH · Fluent (C1)
IELTS Academic 8 (listening 8.5, reading 9, writing 6.5, speaking 7)

ITALIAN · Native speaker

FRENCH · Basic user

IT Skills

Python (advanced) · **C++** (intermediate) · **FORTRAN** (intermediate)
RStudio (intermediate) · **Linux/Unix** (Debian-based) · **L^AT_EX** · **HTML₅ & CSS**
OpenOffice · **MS Office & Visual Studio** · **Mathematica** · **Single-Board Computers**
& **Microcontrollers** (Arduino) · **Adobe Creative Cloud**

Interests

Observational Cosmology · **Galaxy Evolution** · **Cosmic Chronometers**
Multi-messenger Astronomy · Computer Science & Electronics · Stargazing
Photography · Science Outreach & Public Speaking · Travelling · Cooking