

# Nicola Borghi

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## CONTACT INFORMATION

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## EDUCATION

**University of Bologna, Italy** 9/2018 - Expected: 10/2020  
*Laurea Magistrale in Astrophysics and Cosmology (MSc equivalent)*  
Weighted Average Mark: 29.74/30

**Project Thesis:** Estimates of cosmological parameters in the redshift range  $0.6 < z < 1$  using the differential spectroscopic evolution of early-type galaxies as a function of redshift ("cosmic chronometers"). The project includes: selection of massive and passive galaxies from the Large Early Galaxy Astrophysics Census (LEGA-C), high resolution spectral analysis, spectral synthesis and cosmological modelling.

Supervisor: Prof. Andrea Cimatti

**Other academic projects:** Hydrodynamical simulation of AGN feedback using a modified version of ZEUS code. | Calibration, imaging and scientific analysis of a radio galaxy. | Analysis of X-ray spectra and spectral fitting of obscured AGNs.

**Most advanced courses:** Galaxy Formation and Evolution | Active Galaxies | Clusters of Galaxies | Dynamics of Stellar Systems | Radioastronomy

**University of Bologna, Italy** 9/2015 - 7/2018  
*Laurea Triennale in Astronomy (BSc equivalent), 110/110 Cum Laude*

**Thesis:** *Caratteristiche principali dell'emissione di regioni HII* (a dissertation regarding emission features and dynamical evolution of HII regions).

**Scientific High School, Cento (FE), Italy** 9/2010 - 7/2015  
*Scientific High School Diploma*

## EXPERIENCE

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

- 🌀 Lecturer at the Planetarium (30+ talks)
- 🌀 Physics labs for elementary to high school students (50+)

**Internship** Summer 2014  
INAF OAS - National Institute for Astrophysics, Bologna, Italy

- 🌀 Summer project focused on extracting radio galaxies from a data set of soft  $\gamma$ -ray selected active galaxies based on Swift/BAT observations. The outcomes of such research were further checked and studied by my advisors and contributed to two publications in refereed journals (Bassani et al. 2016 and Panessa et al. 2016, see acknowledgements).

## EXTRA-CURRICULAR ACTIVITIES

*Regional Commissaire*, Italian Cycling Federation since 2017  
*Event Planner & Web Admin*, Amateur Astronomers Group, [www.gapers.it](http://www.gapers.it) since 2016  
CTA 1st Science Symposium, Teatro Duse, Bologna (participation) May 2019  
ESO Astronomy Camp, Saint-Barthelemy, Italy Winter 2014  
Italian National Astronomy Olympiad finals, Macerata, Italy Spring 2012

## LANGUAGES

🌀 **ENGLISH**: FLUENT (C1 Level)

– **IELTS Academic: 8** | Listening: 8.5 | Reading: 9 | Writing: 6.5 | Speaking: 7

🌀 **ITALIAN**: NATIVE SPEAKER

🌀 **FRENCH**: BASIC USER

## IT SKILLS

**Python** (advanced) | **FORTRAN** (advanced) | **RStudio** (intermediate) | **C++** (intermediate) | **Linux/Unix** (Debian-based) | **TeX** | **OpenOffice** | **MS Office & Visual Studio** | **Mathematica** | **Single-Board Computers & Microcontrollers** (Arduino) | **Adobe Creative Cloud**

## INTERESTS

Extragalactic Astronomy | Galaxy Evolution | AGN Feedback | Computer Science & Electronics | Stargazing & Photography | Science outreach & public speaking | Travelling | Cooking