



## **Personal Information**

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<b>NATIONALITY</b>	Italian
<b>CURRENT POSITION</b>	Associate Professor University of Bologna, Dep. of physics and astronomy, Bologna (I)
<b>CARRIER BREAKS</b>	July 2014 - March 2015 and July 2019 - May 2020 Maternal leave

## **Previous positions**

<b>2016-2018</b>	Permanent research staff - INAF - IRA, Bologna, Italy.
<b>2014-2016</b>	Junior Professor in radioastronomy, Hamburg University - Dep. of Mathematics, Informatics and Natural Sciences, Hamburg (Germany).
<b>2012-2014</b>	Post-Doctoral Fellow, Advisor: Prof Marcus Brueggen, Hamburg University, Hamburg, Germany.
<b>2010-2012</b>	Post-Doctoral Fellow, Advisor: Prof Marcus Brueggen, Jacobs University, Bremen, Germany.

## **Education and Training**

<b>PHD</b>	PhD in Astronomy, April 2010
<b>THESIS TITLE</b>	"Faraday Rotation and non-thermal emission in galaxy clusters" University of Bologna, Astronomy Department. Supervisors: Prof. G. Giovannini, Dr. L. Feretti.
<b>LAUREA MAGISTRALE</b>	Astrophysics and Cosmology, July 2006, University of Bologna, Astronomy Department, 110/110 cum laude.
<b>LAUREA TRIENNALE</b>	Astronomy, October 2004, University of Bologna, Astronomy Department, 110/110 cum laude.



### **Fellowships, awards and grants**

2017 FARE grant from Italian Ministry for education and research SMS "Simulating Magnetic field in galaxy clusters with the SKA" (200.000 euro over a period of 5 years). [Link to SMS webpage](#).

2016 **ERC Starting Grant DRANOEL** "Deciphering RADio NON-thermal Emission on the Largest scale (1.500.000 euro over a period of 5 years). [Link to DRANOEL webpage](#).

2010 Special mention at the Livio Gratton Prize for the best PhD Italian thesis in Astronomy.

### **Publications**

In date 25/05/2022 I am author of 165 papers published in Peer-reviewed Journals, for a total of 8242 citations (H-index=48). Among these, I am the PI of 15 papers for a total of 1150 citations (PI H-index=14.) ADS-based indicators. [Link to ADS publication list](#)

#### **5 MOST RELEVANT PUBLICATIONS (FIRST AUTHOR)**

- 1) "The Coma cluster magnetic field through Faraday Rotation Measures", A&A, 2010, Vol 513, id.A30, 282 cit. [ADS link](#).
- 2) "Revealing the magnetic field in a distant galaxy cluster: discovery of the complex radio emission from MACS J0717.5+3745 ", A&A, 2009, Vol 503, Issue 3, 105 cit. [ADS link](#).
- 3) "Evidence for Particle Re-acceleration in the Radio Relic in the Galaxy Cluster PLCKG287.0+32.9 ", ApJ, 2014, Vol 785, Issue 1, 82 cit. [ADS link](#).
- 4) "LOFAR discovery of radio emission in MACS J0717.5+3745 ", 2018, MNRAS, Vol 478, Issue 3, 18 cit. [ADS link](#).
- 5) A non-ideal magnetohydrodynamic GADGET: simulating massive galaxy clusters", 2011, MNRAS, Vol 418, Issue 4, 82 cit. [ADS link](#).

### **Invited talks at international conferences**

- Invited review talk on magnetic fields in galaxy clusters, at the "IAU general assembly", Wien (Austria), August 2018.
- Invited review talk on ICM probes from radio observations at the conference "physics of the Intra-Cluster Medium", Beijing (China), April 2017.
- Invited review talk on radio relics and shocks at the "IAU General Assembly", Beijing (China), August 2012.

In addition, more than 20 invited contributed talks at international meetings



### **Referee and panel activities**

#### **PANEL MEMBERS**

Member of the *Chandra X-ray Observatory* time allocation Committee (2018).

Member of the *NRAO* (National Radio Astronomy Observatory) time allocation committee (2016-2018).

Member of the *MWA* (Murchison Widefield Array) time allocation committee (2018-2020).

Referee for the *eMERLIN* time allocation committee (2016)

Referee for the *GMRT* (Giant Meterwave Radio Telescope) and *uGMRT* (upgraded Giant Meterwave Radio Telescope) time allocation committee (from 2011)

Referee for the Peer Reviewed Journals:

"Science", "Advances in Astronomy"; "Astronomy & Astrophysics"; "Astronomy & Astrophysics letters"; "The Astrophysical Journal"; "Monthly Notices of the Royal Astronomical Society"; "New Astronomy", "Publications of the astronomical society of Japan"

#### **JOURNALS**

### **Organization of conferences**

**2020**

"Science at Low Frequency VII" - on-line conference due to Covid-19 pandemic, SOC member.

"CLUSTER II", SOC member, Naples (Italy).

"Early Stages of Galaxy Cluster Formation", SOC member, Garching bei München (Germany).

"CLUSTER I", SOC member, Turin (Italy).

**2018**

"Diffuse Synchrotron emission in clusters of galaxies. Whats next?" SOC member, Leiden (NL).

**2017**

"The multi facets of Extragalactic radio surveys", SOC member, Bologna (Italy) .

**2015**



### **Teaching and supervision**

#### **UNIVERSITY COURSES**

Celestial mechanics, University of Bologna, 3rd year Laurea in Astronomia AA 2018/2019 - present.

General Physics II, University of Bologna, 2nd year Laurea in Astronomia AA 2019/2020 - present.

General Physics II, University of Bologna, 1st year, Laurea in ingegneria gestionale, AA 2018/2019.

Radioastronomy, University of Hamburg, 1st year, Master in Physics, AA 2015/2016.

Astronomy & Astrophysics, University of Hamburg, 2nd year, Bachelor in Physics, AA 2015/2016 and 2016/2017.

Lecturer at the University of Bologna for the course on Galaxy Clusters (Master Course), AA 2010/2011 (8h).

#### **LECTURES**

Lecturer at the PhD school "GLOW Interferometric school", Hamburg (Germany), 2010 (2h).

Supervisor of the PhD thesis by Dr. Federica Savini (2015- 2018) "Non-thermal emission in non-merging galaxy clusters" - University of Hamburg.

#### **SUPERVISION OF PHD THESIS**

Supervisor of the PhD thesis by Mrs Chiara Stuardi (2017 - 2021) "Magnetic field amplification by low shock Mach number in merging galaxy clusters", University of Bologna.

Supervisor of the PhD thesis by Mrs Nadia Biava (2018 - 2022) "Non thermal emission in cool-core clusters", University of Bologna.

Supervisor of the PhD thesis by Mrs Giada Pignataro (2021 - present) University of Bologna.

Co-supervisor of the thesis of Mr. Marco Balboni (2021 - present) University of Brera (MI)

#### **POST-DOC SUPERVISION**

Supervisor of 5 Post Doctoral fellows (Dr. Etienne Bonnassieux, Dr. Marisa Brienza, Dr. Christopher Riseley, Chiara Stuardi - University of Bologna), Duy Hoang (University of Hamburg)

In addition, I have supervised and co-supervised several master and bachelor students at the University of Hamburg and Bologna.

Member of the evaluation committee for PhD thesis at the University of Leiden (Dr. Andra Store, 2016), University of



### **THESIS COMMITTEE**

Manchester (Dr. Alex Clarke, 2017), University of Tautenburg (Dr. Kamlesh Rajpurouhit, 2018), University of Hamburg (Dr. Amanda Wilber, Dr. Sebastian Koertgen 2018), University of Turin (Dr. Romana Grossova, 2021)

In addition, member of the evaluation committee for several Bachelor and Master thesis.

### **Observing proposals**

PI of about 25 successful proposals for observing time at the Low Frequency Array Very Large Array; Jansky Very Large Array; Giant Meterwave Radio Telescope; Chandra X-ray Observatory, Goddard-IRAM Superconducting 2 Millimeter Observatory for a total of ~700 h observing time.

I have co-authored ~100 additional observing proposals for observing time at LOFAR, Very Large Array, Jansky Very Large Array, Giant Meterwave Radio Telescope, Chandra, Westerbork Radio Telescope, XMM Newton satellite, Atacama Large Millimeter Array, MeerKAT, ATCA.

### **Major active collaborations**

2021 - present Co-Chair of the working group "intergalactic medium and large-scale structure" within the LOFAR magnetism key-science project

Member of the Square Kilometer Array (SKA) magnetism core team (2014 - present).

Member of the SKA magnetism working group (2013 - present).

Full member of the Low Frequency Array (LOFAR) Magnetism Key Science Project International Collaboration (2012 - present).

Full Member of the LOFAR Survey Key Project International Collaboration (2009 - present).