

Annalisa Pagliotta

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Short Overview

I am a PhD student in Astrophysics at the Department of Physics and Astronomy at the University of Bologna. I work in the field of extragalactic astrophysics, using radio observation both in total intensity and polarisation. In particular, my research is dedicated to the study of magnetic fields in large-scale structures such as galaxy clusters and proto-clusters.

Education

- | | |
|-----------------------|---|
| Nov. 2024 – present |  PhD in Astrophysics – DiFA, University of Bologna
Thesis: <i>Magnetic Fields in Proto-clusters</i>
Supervisor: Prof. Dr. Annalisa Bonafede (DiFA, INAF - IRA, Bologna)
Co-supervisors: Dr. Christopher J. Riseley (AIRUB, Bochum); Dr. Chiara Stuardi (INAF - IRA, Bologna) |
| Sep. 2022 – Oct. 2024 |  Master Degree in Astrophysics and Cosmology – DiFA, University of Bologna
Thesis: <i>Constraining the magnetic field in the galaxy cluster Abell 2142 using MeerKAT L-band polarisation data</i>
Supervisor: Prof. Dr. Annalisa Bonafede (DiFA, INAF - IRA, Bologna)
Co-supervisor: Dr. Christopher J. Riseley (AIRUB, Bochum)
Grade: 110/110 cum laude
Link: amslaurea.unibo.it/33255 |
| Sep. 2019 – Sep. 2022 |  Bachelor Degree in Astronomy – DiFA, University of Bologna
Thesis: <i>Dynamics of collisional systems</i>
Supervisor: Prof. Marcella Brusa (DiFA, INAF - OAS, Bologna)
Grade: 109/110
Link: amslaurea.unibo.it/26566 |
| |  Internship in Scientific Dissemination – INAF - IRA |
| Sep. 2014 – Jul. 2019 |  Scientific High School Diploma – Scientific High School 'Evangelista Torricelli', Bolzano
Grade: 100/100 |

PhD Schools and Workshops

- | | |
|--------------------|---|
| Jan. 12 – 23, 2026 |  Nordita Winter School 2026 - Cosmological Magnetic Fields: Generation, Observations, and Modeling – Nordita, Stockholm, Sweden |
| Jul. 14 – 18, 2025 |  MeerKAT polarization workshop – INAF - IRA, Bologna |

Certificates

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| Dec. 2018 |  Cambridge English: First (FCE)
Level: B2 |
| Apr. 2018 |  Goethe-Institut
Level: B2 |

Competitive Telescope Time Allocation

As Principal Investigator (PI), I led 1 observing program at the VLA radio interferometer, for a total of 5.5 hours of observing time being allocated (see below).



International Seminars and Conferences

I was invited to give **1** talk at international institutes. Also, I gave **6** contributed talks at international meetings.

Invited Seminars

Oct. 23, 2024

**INAF - IRA** – Bologna, Italy*Constraining the magnetic field in the galaxy cluster Abell 2142 using MeerKAT L-band polarisation data*

Contributed Talks at Conferences

May. 18 - 22, 2026

**Conference Midwest Magnetic Fields – Florida Institute of Technology Workshop 2026** – Melbourne, United States of America
Magnetic Fields in Proto-clusters

Nov. 24 - 28, 2025

**Conference The Fifth National Workshop on the SKA Project** – Bologna, Italy
Magnetic Fields in Proto-clusters towards the SKAO Era

Sep. 08 - 12, 2025

**Conference Magnetic Fields and Cosmic Rays across Diverse Scales: What's next?** – Cambridge, United States of America
Magnetic Fields in Proto-clusters

Jun. 23 - 27, 2025

**Conference EAS 2025** – Cork, Ireland
Magnetic Fields in Proto-clusters

Jun. 16 - 20, 2025

**Conference SKAO Science Meeting 2025** – Goerlitz, Germany
Magnetic Fields in Proto-clusters towards the SKAO Era

Nov. 18 - 22, 2024

**Conference COsmic Magnetism with RADio Astronomy (COMRAD) 2024** – Pisa, Italy
Constraining the magnetic field in the galaxy cluster Abell 2142 using MeerKAT L-band polarisation data

Awards

Jun. 2025

**Merit Scholarship** -- Autonomous Province of Bolzano

Awarded to university students and recent graduates demonstrating outstanding academic performance based on exams taken and degree completion between November 2023 and October 2024 at Italian universities or higher technical education institutions in Italy

Feb. 2024

**Academic Incentive Award** – University of Bologna

Granted to students enrolled in the 2023/2024 academic year, matriculated in the 2022/2023 academic year in STEM-related programs, and selected based on merit

Dec. 2020

**Academic Incentive Award** – University of Bologna

Granted to students enrolled in the 2020/2021 academic year, matriculated in the 2019/2020 academic year in programs considered of national interest, and selected based on merit

Academic Activity

Nov. 2025 - present

**PhD students' representative** – DiFA, University of Bologna

- Mediation between PhD students and higher governing bodies
- Representation of the PhD student community in activities related to the educational, organisational, and evaluation processes of the PhD programme

Jul. 2022 - Oct. 2024

**DIFA Council Member** – University of Bologna

- Role of student representative
- Mediation between DIFA students and higher organs
- Definition of objectives based on the prominent interest activities and the relative availability of structures, services and equipment

Dec. 2022 – Oct. 2023



Student Tutor of Astronomy Bachelor – University of Bologna

- Role of interface between students and course organization
- Role of concrete point of reference for finding general information (course access, study plan, timetable, ...)
- Personalised learning support for students worker and students athlete

Outreach Activity

Nov. 2023 – Oct. 2025



Scientific Disseminator – MUA of Bolzano

- Organisation of astronomical events at the 'Max Valier' Observatory (San Valentino, Italy)
- Guided explanation of the night sky and mythological tales narration
- Observation with the telescope

Languages



Mother Tongue – Italian



Other Tongues – English (B2), German (B2)

Technical Skills



Programming Languages – Python, FORTRAN 90, Rstudio



Software for Astrophysics – NRAO CASA, WSClean, CIRADA RM-TOOLS, IDL, ds9, SAS HEASOFT, CARTA



Operating Systems – Linux, Windows



Presentation Software – $\text{\LaTeX}$, PowerPoint

Publications Summary

The results of my research are being published on astrophysical journals. I have **2** paper as first-author published on *A&A*.

Publications

1. **Pagliotta, A.**, Riseley, C. J., Bonafede, A., Stuardi, C., and Loi, F., “Constraining the magnetic field in the galaxy cluster Abell 2142 using MeerKAT L-band polarisation data,” *A&A*, 700, A139, Aug. 2025. DOI: [10.1051/0004-6361/202554881](https://doi.org/10.1051/0004-6361/202554881).
2. **Pagliotta, A.**, Bonafede, A., Stuardi, C., Riseley, C. J., Vallés-Pérez, D., Tozzi, P., and Di Mascolo, L., “Magnetic fields at the dawn of structure formation - I. The CARLA J1510+5958 proto-cluster,” *A&A*, vol. 712, A93, 2026. DOI: [10.1051/0004-6361/202659636](https://doi.org/10.1051/0004-6361/202659636).