

Andrea Bocchieri

Postdoctoral Research Fellow at Sapienza University of Rome

✉ andrea.bocchieri@uniroma1.it | 🌐 | 🐙 GitHub | 🆔 ORCID | 📄 Google Scholar

Professional Summary

Telescope Scientist for ESA's *Ariel* mission specializing in exoplanet characterization through spectroscopic observations, data analysis, optimization of space instrumentation, especially optical aspects, and control of experimental systematics.

Professional Appointments

- **Telescope Scientist**, ESA's *Ariel* Space Mission 2024 – Present
- **Research Associate**, INAF - Osservatorio Astrofisico di Arcetri 2024 – Present
- **Research Fellow**, Sapienza University of Rome 2023 – Present

Education

- **Ph.D. in Astronomy, Astrophysics and Space Science**, Sapienza University of Rome 2020 – 2023
Thesis: “Characterisation of the Atmospheres of Extrasolar Planets with the *Ariel* Space Mission” (*Summa cum Laude*)
- **M.Sc. in Astronomy and Astrophysics**, Sapienza University of Rome 2018 – 2020
Thesis: “Learning from Exo-Planetary populations: Data Analysis for the *Ariel* Space Mission” (*Summa cum Laude*)
- **B.Sc. in Physics**, Sapienza University of Rome 2015 – 2018

Key Accomplishments

- Chair of *Ariel* Telescope Assembly Tiger Team 2024 – Present
- Chair of *Ariel* Science Brainstorms Working Group 2021 – 2024
- Chair of *Ariel* Simulators Software, Management and Documentation Working Group 2022 – Present
- Italian coordinator of retrievals for the *Ariel* Dry Run 2023 – Present
- 9+ peer-reviewed journal articles as author/co-author
- 28+ conference proceedings
- 12+ observing proposals (ESO/VLT, JWST, HST, TNG, etc.) as PI, Co-PI or CoI

Technical Skills

- **Programming:** Python, C, Git, Bash, LaTeX
- **OS:** Linux (Ubuntu, Debian), Windows, Mac OS
- **Software:** Zemax OpticStudio, Office Suite, Adobe Suite
- **Admin:** Server administration and maintenance

Languages

Italian (Native)

English (C1)

French (C1)

German (C1)

Selected Publications and Projects

- **Bocchieri & al.** (2024). *PAOS: a fast, modern, and reliable Python package for Physical Optics studies*. SPIE 2024.
- **Bocchieri & al.** (2024). *De-jittering Ariel: an optimized algorithm*. Experimental Astronomy.
- **Zak+Bocchieri & al.** (2024). *HD 110067 c has an aligned orbit*. Astronomy & Astrophysics.
- **Bocchieri & al.** (2022). *Detecting molecules in Ariel low resolution transmission spectra*. Experimental Astronomy.
- **Creator of PAOS:** Generic, open-source Physical Optics Propagation model.
- **Creator of TIGRO:** Tool analyzing interferometric measurements with nanometer precision.
- **Co-Creator of ExoRad2.0 and ExoSim2.0:** Generic radiometric and time-domain simulator of exoplanet observations.

Grants and Awards

- Multiple awarded observing proposals at ESO/VLT, JWST, HST, TNG, Gemini-North
- Avvio alla Ricerca (PI) - Sapienza University of Rome 2022, 2024
- Ph.D. fellowship - Sapienza University of Rome 2020 – 2023
- Winner of “Excellence course” - Sapienza University of Rome 2020

A complete and updated list of publications is available at NASA/ADS