

MARINA CASADO ANARTE

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EDUCATION

Maynooth University, Ireland

Sept.2021 - Present

BSc General Science: Theoretical and Experimental Physics

- Awarded with Entrance scholarship 1000€ (2021) and MUSE Gold Award (2024).
- First Class Honours in First, Second and Third year.
- Fourth year class representative for Theoretical and Experimental Physics (2024).
- Final year thesis: *RW Aur Star and Jet Variability*. Collected data at Haute-Provence Observatory using 1.2m & 1.5m telescopes; analyzed emission lines and jet variation with Python, comparing archived data.

PROFESSIONAL EXPERIENCE

DIAS Summer Research Internship, Dunsink Observatory (Ireland)

Jun. - Aug. 2024

Studying the surface of Europa with ESA's JUICE and NASA's Europa Clipper with Dr. H. Huybrighs

- Modeled water plume deposit and erosion on Jupiter's moon Europa using python.
- Authored a forthcoming publication about the research (aimed to be published summer 2025).
- Presented the findings to JUICE (ESA) and Europa Clipper (NASA) team members.

Laboratory Demonstrator and Corrector for 1st Year Students, Maynooth University

Oct. 2024 – Present

- Instructed the laboratory sessions providing guidance and corrected and graded laboratories reports offering feedback for their improvement.

Summer Project for Undergrade Research, Maynooth University

Jun. - Jul. 2024

The Halo Model for Cosmology with Prof. Peter Coles

- Contributed to the Python library "Pyhalomod", gaining skills in programming, computational cosmology, and data verification.
- Implemented and validated code, ensured model's accuracy, enhanced workflows for future studies.
- Used the implemented library to study halo density profiles and their evolution.

- Presented the research in a symposium to an extended variety of attendees.
- Simulated the universe's expansion with "Pyhalomod" as an extracurricular project (Feb. 2024).

Part-Time Instructor Summer Program, I.E.S Pérez Mercader (Spain)

2022

- Instructed high school students in mathematics, physics, and English.
- Created and performed laboratory sessions for their experimental development.

Volunteer Researcher, CEPESA Enviromental Physics Initiative (Spain)

2018

- Collected data for CEPESA, honing skills in scientific communication and writing conventions.

SKILLS

- **Coding:** Python (two internships, senior thesis and 4 modules at university); C++ (beginner level); Git (two internships).
- **Experienced in Data Analysis and Simulation** (two internships & final year thesis)
- **Scientific presentations:** one conference in CUWIP+, research symposium at Maynooth University and presented DIAS research findings to Europa Clipper members and JUICE members.
- **Experienced in Laboratories:** 3 yrs of physics/astrophysics, 1yr of chemistry and mathematics minor (university level).
- **Other Software:** Sagemath, Pyhalomod, Office 365, Latex
- **Languages:** Spanish and English (fluent); learning German and French