

EDUCATION

Nov 2021 - Apr 2026 (expected date of defence), Ph.D. in Astrophysics. FPI-SO grant

Instituto de Astrofísica de Canarias (IAC); Universidad de La Laguna(ULL)

Title: AGN feedback in low-mass galaxies: detailed analysis and comparison with ongoing and upcoming surveys.

Supervised by Arianna Di Cintio and Robert J. J. Grand

2019 - 2021, Master's degree in Astrophysics

Universidad de La Laguna (ULL)

🎓 **Master thesis:** “The formation of bulgeless galaxies in simulations.”

Grade: **9.1/10**. Theoretical and computational specialisation.

Supervised by Claudio Dalla Vecchia

2013 - 2019, Bachelor's degree in Physics.

Universidad de Sevilla (US)

🎓 **Bachelor thesis:** “Study of the relation between the morphology of massive galaxies and their satellites using EAGLE simulations.” Grade: **9.5/10**.

Supervised by Claudio Dalla Vecchia and Chris Brook

AWARDS

2021, FPI-SO Research Grant at Instituto de Astrofísica de Canarias (IAC)

Spanish 3+4 years PhD grant to fully cover the study of my PhD thesis.

2019, ERASMUS+ Traineeship at Max-Planck-Institut für extraterrestrische Physik (MPE)

Fellow to fully cover two months stay at MPE studying voids as cosmological laboratories.

2018, Prácticas Externas at Instituto de Astrofísica de Canarias (IAC-TEC)

Fellow to work one month as an internal student under the LISA project.

2018, SICUE at Universidad de La Laguna

Fellow to spend one year in another Spanish University. Elective courses aimed at Astrophysics.

CONGRESS AND WORKSHOPS WITH CONTRIBUTIONS

WE-Heraeus and NARIT Cosmology School (Thailand, 2025)

- Flash-talk presenting my work

Galactic-Centres as tracers of Galaxy-Evolution(Leiden, 2025)

- Oral contribution as one of the **invited speaker** from the conference

ExGal Simulations School (Durham, 2025)

- **Participation as tutorial assistance in the sessions.**
- Flash-talk presenting my work

EAS Annual Meeting's (Cork 2025 & Valencia 2022)

- Participation with ePoster

XVI DNCT (Tenerife, 2025)

- Oral contribution as one of the **highlight research talks** of the galaxy formation line

I ExGal-Twin meeting (Tenerife, 2025)

- Oral contribution

XVI & XV SEA Meeting's (Granada 2024 & Tenerife 2022)

- Oral contribution (2024)
- Flash-talk presenting my poster (2022)

CLUES Meeting (Warsaw, 2024)

- **Two oral contributions**

Black Holes on Broadway: AGN workshop (Flatiron, NYC, 2023)

- Oral contribution

I & II BEARD meeting (Tenerife, 2023 & 2025)

- Oral contribution (2023)
- Participation of discussion about the project (2025)

I & II UAM-IAC meeting (Madrid & Tenerife, 2023)

- Oral contributions

XIII & XIV DNC (IAC, Tenerife, 2022 & 2023)

- Oral contribution (2023)
- Flash-talk presenting my poster (2022)

IAA-CSIC Severo Ochoa Advanced School (Granada, 2022)

- Flash-talk presenting my poster

xxxv, xxxiv & xxxiii Canary Island Winter School of Astrophysics (Tenerife, 2022, 2023 & 2024)

- Flash-talk presenting my work (2022, 2023 & 2024)
- Member of the LOC
- Participation as tutorial assistance in the sessions

SEMINARS

Jun 2025, ICC Seminar (Durham, UK)

"Testing a physical galaxy size definition across simulations"

Nov 2024, UCR Astro Seminar (University of California, Riverside, CA)

"AGN Feedback and Galaxy Outskirts: Exploring new observational approaches through hydrodynamical simulations"

Apr 2024, AGN talk Series (IAC, La Laguna, Tenerife)

"The role of AGN feedback on the evolution of dwarf galaxies from cosmological simulations"

Oct 2023, LJMU Research Talk (LJMU Liverpool, UK)

"The effect of AGN feedback in simulated dwarf galaxies"

Apr 2023, MWLG monthly Journal Club (IAC, La Laguna, Tenerife)

"The effect of intermediate black-holes on zoom-in dwarf galaxies"

Nov 2022, Galaxy Coffee (IAC, La Laguna, Tenerife)

"The impact of AGNs in AURIGA dwarf galaxies"

RESEARCH ACTIVITIES

- Jun 2025, *visitor* at ICC (Durham, UK) with Francesca Fragkoudi
- Nov 2024 - Dic 2024, *visitor* at UCR (Riverside, CA) with Laura V. Sales & Gabriela Canalizo
- Sep 2023 - Nov 2023, *visitor* at LJMU (Liverpool, UK) with Robert Grand & Andrea Foont
- Aug 2019 - Oct 2019, ERASMUS+ *Traineeship* at MPE (Garching, MU) with Ariel G. Sánchez
- Dec 2018 - Jan 2019, *research initiation* at IAC (La Laguna, ES). Supervisor: Juan Villa


OBSERVATIONAL EXPERIENCE

Total journeys: 18 nights

Total telescopes: IAC80 (3 nights), Isaac Newton Telescope (INT, 15 nights)

Total instruments: CAMELOT2 (IAC80), Wide-Field Camera (WFC, INT)

OUTREACH

-  Op-ed on sexism in astrophysics (2025)
- Eclipse Outreach, Observatorio del Teide (5hr, 2025)
- Organisation of an astronomical night for kids (2023)
- First Astronomy on Tap talk in Spain (2025)
- STARMUS Festival (30hr, 2025), La Palma
- Women in Astronomy Talks, Sevilla (2023–2024)

LEADERSHIP & SERVICE

- PhD Student Representative (IAC & ULL) — elected role representing PhD students.
- Referee at OJ and A&A
- Local Organising Committee, Canary Island Winter School of Astrophysics (XXXIV).
- Galaxy Coffee organiser committee — coordination of weekly scientific seminars.
- Former theory group weekly meeting organiser (IAC).

SKILLS

- PROGRAMMING: Python (advanced), Astro-Softwares (advanced), Matlab(advanced), Fortran (medium), SQL (medium), C/C++ (fair), MPI (fair), IDL (basic), HTML (basic)
- LANGUAGES: Spanish - native & English - advanced B2 (APTIS, 2019)

ADDITIONAL ROLES

- Member of UNDARK, BEARD & ExGal-Twin Collaborations
- Member of IAC-Divulga Team
- Member of the sustainability committee (IAC)

PUBLICATIONS

1ST AUTHOR:

- **A deeper insight into gas properties & AGN outflows in low-mass galaxies**
Arjona-Gálvez, E.; Sales V., L.; Canalizo, G.; Di Cintio, A.; Grand, R.
Article in prep
- **A physically motivated galaxy size definition across different state-of-the-art hydrodynamical simulations**
Arjona-Gálvez, E.; Cardona-Barrero, S.; Grand, R.; ... ;(6 more).
Astronomy & Astrophysics, Volume 699, A301, July 2025.
DOI: [10.1051/0004-6361/202554290](https://doi.org/10.1051/0004-6361/202554290)
- **The role of AGN feedback on the evolution of dwarf galaxies from cosmological simulations: SMBHs suppress star formation in low-mass galaxies**
Arjona-Gálvez, E.; Di Cintio, A.; Grand, R.
Astronomy & Astrophysics, Volume 690, A286, October 2024.
DOI: [10.1051/0004-6361/202449439](https://doi.org/10.1051/0004-6361/202449439)

OTHERS:

- **A probabilistic deep learning model to distinguish cusps and cores in dwarf galaxies**
Expósito-Márquez, J.; Brook, C. B.; Huertas-Company, M.; ... ; Arjona-Gálvez, E.;
Monthly Notices of the Royal Astronomical Society, Volume 519, Pages 4384–4396, March 2023.
DOI: [10.1093/mnras/stac3799](https://doi.org/10.1093/mnras/stac3799)
- **Bulgeless Evolution And the Rise of Discs (BEARD). I. Physical Drivers of the Mass-Size Relation for Milky Way-like Galaxies**
Marrero de la Rosa, C.; Méndez-Abreu, J., de Lorenzo-Cáceres, A.; Cardona-Barrero, S.; Román, J.; Arjona-Gálvez, E.; ...;(17 more)
Astronomy & Astrophysics, accepted, in production, 2025/12.
DOI (pending): [10.1051/0004-6361/20255719](https://doi.org/10.1051/0004-6361/20255719)
- **Bulgeless Evolution and the Rise of Discs (BEARD) II. The role of mergers in shaping the Milky Way analogues in TNG50**
Rosas-Guevara, Y.; Méndez-Abreu, J., de Lorenzo-Cáceres, A.; Cardona-Barrero, S.; Arjona-Gálvez, E.; ...;(17 more)
Astronomy & Astrophysics, in production, 2025/12.
DOI (pending): [10.1051/0004-6361/202556875](https://doi.org/10.1051/0004-6361/202556875)
- **Bulgeless Evolution And the Rise of Disks (BEARD) V. A numerical simulation view of satellites around Milky-Way analogues**
Cardona-Barrero, S.; Méndez-Abreu, J., de Lorenzo-Cáceres, A.; Marrero de la Rosa, C.; Rosas-Guevara, Y.; Arjona-Gálvez, E.; ...;(14 more)
Astronomy & Astrophysics, submitted, 2025/09.
- **HI-bearing dark galaxies predictions from constrained Local Group simulations: how many and where to find them**
García-Bethencourt, G.; Di Cintio, A.; Comerón, S.; Arjona-Gálvez, E.; ...;(6 more)
Astronomy & Astrophysics, submitted, 2025/12.