



ANA MARÍA CONRADO

PHD CANDIDATE IN
ASTROPHYSICS

CONTACT

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LANGUAGES

- Spanish: mother tongue
- English: C1
- German: B1
- French: A2

RESEARCH PROJECTS

- CAVITY
- WEAVE-Apertif

COMPETENCES

- C++
- Python
- R
- Fortran
- Matlab
- HTML and CSS
- Linux
- MacOS
- LaTeX
- Machine Learning
- Galaxy evolution
- Stellar populations
- Optical spectroscopy
- Integral Field Units
- Stellar formation histories
- Large scale structure
- Taekwondo black belt

EDUCATION

Grado en Física

Universidad de Granada (Granada, Spain) Sep 2015 - Jul 2020

BSc. Physik

Ludwig-Maximilians Universität (Munich, Germany) Sep 2017 - Jul 2018

Máster Universitario en Física y Matemáticas (FISYMAT), speciality in astrophysics

Universidad de Granada (Granada, Spain) Sep 2020 - Jul 2021

POSITIONS

PhD in Astrophysics

Instituto de Astrofísica de Andalucía (Granada, Spain). Supervised by Dr. Rosa González Delgado and Dr. Rubén García-Benito
 Sep 2021 - present

Research stay

ICRAR, International Center of Radio Astronomy Research (Perth, Australia). Supervised by Dr. Aaron Robotham
 Feb 2024 - Jun 2024

INTERNATIONAL CONFERENCES

1st CAVITY annual meeting 2021

Contributed talk: Dark Matter in CAVITY galaxies

2nd CAVITY annual meeting 2022

Contributed talk: Star formation histories of void galaxies

EAS 2022

Poster presentation: The role of environment in SF of galaxies

3rd CAVITY annual meeting 2023

Contributed talk: Spatially-resolved stellar populations in CAVITY galaxies

EAS 2023

Poster presentation: Spatially-resolved stellar population properties in the WEAVE early results

Poster presentation: Local main sequence in low density environments

4th CAVITY annual meeting 2024

Contributed talk: Ionized gas and stellar populations in the CAVITY IFUs

SEA 2024

Contributed talk: Spatially-resolved stellar population properties of galaxies in voids with the CAVITY project

OBSERVATIONAL EXPERIENCE

Nordic Optical Telescope (La Palma, Spain). Long-slit spectroscopy. 3 nights

SERVICE ACTIVITIES

Equity, diversity and inclusion comitee (IAA-CSIC)

Organization of the following events:

- LGTBQ+ Round Table: towards a more diverse and inclusive research. June 2024

MEMBERSHIP

Sociedad Española de Astronomía (SEA)

European Astronomical Society (EAS)

SEMINARS

ICRAR, International Center of Radio Astronomy Research (Perth, Australia). May 2024.

Spatially-resolved stellar population properties in void galaxies with CAVITY

OUTREACH

JEDA (Junior Empresa de Divulgación, UGR) | Sep 2015 - Jun 2017

I have taken part in the following events:

- Science Week in the faculty of sciences
- Desgranando Ciencia
- Open day in Parque de las Ciencias

Chat with an an astronomer - 17 February 2022

Ask an astronomer - 10 February 2023

Answering children's questions for the day of women and girls in science

Chat with an an astronomer - 7 March 2023

Pint of Science 2023

Space deserts: cosmic voids

ATPATC 2023

What do an Italian and a black hole have in common?

European Researchers Night 2023

Cosmic webs and hermit galaxies

Espacio3 - 5 July 2024

Ordering the Universe: From Chaos to Structure

European Researchers Night 2024

Cosmic workshop: What is the shape of the Universe?

COURSES

Machine Learning

Coursera, Standford University

Using Python for Research

EdX, Harvard University

IAA-CSIC Severo Ochoa Advanced School on Galaxy Evolution

IAA Severo Ochoa Advanced School on Star Formation

2nd IAA-CSIC Severo Ochoa School on Statistics, Data Mining, and Machine Learning

IV edition of the course in comunication and scientific outreach

Desgranando ciencia

Basic Course on Gender Equality

Spanish ministry of science and innovation (MCIN)

Taekwondo timekeeper judge

Andalusian taekwondo federation

TECHNICAL SKILLS

Programming languages

Python, C++, R, Matlab, Fortran, HTML and CSS

Operating systems

Linux, MacOS, Windows

Astrophysics software

- Visualization: Matplotlib, DS9
- Stellar population synthesis: STARLIGHT / PyCASSO, ProSpect

Others

LaTeX, GIMP, Krita, GitHub, Arduino, OpenOffice, Microsoft Office, FL Studio, GarageBand, Sibelius

SOFTWARE DEVELOPMENT*PyCASSO*

Adaptation to fit both arms of WEAVE LIFU data cubes with STARLIGHT

ProSpect

Help to adapt ProSpect to fit optical spectra. Inclusion of new stellar libraries (XSL)

PUBLICATIONS

- Rubén García-Benito et al. 2024. *CAVITY, Calar Alto Void Integral-field Treasury survey. I. First public data release*. *Eprint arXiv*

As part of the CAVITY Quality Control team, I helped to check the quality of the data cubes that then were selected for the DRI, both visually and with different tests.

- G. Torres-Ríos et al. 2024. *The effect of local and large scale environment on the star formation histories of galaxies*. *Eprint arXiv*
- I. Pérez et al. 2024. *CAVITY, Calar Alto Void Integral-field Treasury survey and project extension*. *A&A*, 689, A213

I helped to select the galaxies to be observed with CAVITY, and checked the quality of the data cubes as part of the Quality Control team

- G. Martínez-Solaesche et al. 2024. *Exploring Galaxy Properties of eCALIFA with Contrastive Learning*. *A&A*, 688, A160

I contributed to the analysis of the results based on the location of the galaxies in the large scale structure

- Ana M. Conrado et al. 2024. *The CAVITY project: The spatially resolved stellar population properties of galaxies in voids*. *A&A*, 687, A98
- Shoko Jin et al. 2024. *The wide-field, multiplexed, spectroscopic facility WEAVE: Survey design, overview, and simulated implementation*. *MNRAS*, 530, 2688

I tested comissioning WEAVE LIFU data as part of the WEAVE-APERTIF quality assurance group (WAQA)