Iliana Isabel Cortés Pérez

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Gender: Female **Date of birth:** 06/02/1995 **Nationality:** Mexican

EDUCATION AND TRAINING

[2021 – 2023]

MSc in Astrophysics

University of La Laguna

City: San Cristóbal de La Laguna
Country: Spain
Number of credits: 90

[2015 – 2021]

BSc in Physics

National Autonomous University of Mexico

City: Mexico City
Country: Mexico
Number of credits: 418

[2023 – Current]

PhD in Astrophysics

Heidelberg University

City: Heidelberg
Country: Germany

RESEARCH EXPERIENCE

[2022] **MSc thesis**

Studies of ALMA counterparts of SDSS quasars

My master thesis is following up the line of research of the project "The evolution of the dust and gas content of quasars across cosmic time". We are constructing a non biased sample of quasars detected by ALMA and their non detected counterparts and a Monte-Carlo algorithm for the spectral analysis of the C IV, C III and Mg II lines and calculation of some known quasar properties such as the Baldwin effect.

[2022] **Initiation to the Astrophysical Research (IAC Summer Grant)**

The evolution of the dust and gas content of quasars across cosmic time

This project was focused on the modeling of the C IV and Mg II lines in quasar spectra from the SDSS, to analyze the blueshift on these lines due to possible outflows from the AGN. The sample was matched within the ALMA footprint and we compared the properties of objects detected in the 6, 7 and 8 ALMA bands with not detected objects.

[2021] **BSc thesis**

Emission Line Galaxies in the Field of the Cluster 0440.5 +0204

I worked with multi-object spectroscopy data from OSIRIS-GTC of high redshift ELGs candidates. With IRAF I carried out the data reduction; the spectral analysis contained identification of emission lines, calculation of EW, FWHM, luminosities, SFR and classification of the galaxies.

[2019] **4th Radioastrophysics Workshop - Summer TNT**

Study of the star formation efficiency in the early Universe

In this project we studied photometric and spectroscopic data from the LMT of a sample of SMGs, modeling the CO luminosity as function of the IR luminosity considering lensing effects and calculated the SFR efficiency.

[2017]

XXVI Scientific Summer of the San Pedro Martir National Astronomical Observatory

Analysis of galaxy spectra for redshift determination

I used the IRAF software and utilities to find and identify emission lines in galaxy spectra as well as finding their redshift, using data acquired by FORS2-VLT.

CONFERENCES AND SEMINARS

[2019] **II Extragalactic Meeting in Mexico** Morelia, México

Talk

[2018] **VI Meeting on Science with GTC** Valencia, Spain

Poster

[2018] **Physics Institute Open Day (UNAM)** Mexico City

Talk

SUMMER SCHOOLS

[2019] **4to Taller de Radioastrofísica Verano TNT**

Organization: Instituto Nacional de Astrofísica, Óptica y Electrónica

Project title: Study of the star formation efficiency in the early Universe

Grant: Travel and accommodation

[2017]

XXVI Verano Científico del Observatorio Astronómico Nacional San Pedro Martir

Organization: IA-UNAM

Project title: Analysis of galaxy spectra for redshift determination

Grant: Travel and accommodation

PUBLICATIONS

The submillimeter emission of SDSS quasars in the ALMA footprint as a tracer of nuclear outflows

Reference: [in prep.]

[2022] **SGLF Transient Classification Report for 2022-08-26**

Poidevin, F. ; Perez-Fournon, I. ; **Cortes-Perez, I.** ; Wong, A. ; Hatziminaoglou, E. ; Clavero, R. ; Angel, C. J. ; Geier, S. ; Könyves-Tóth, R. ; Marques-Chaves, R. ; Omand, C. M. B. ; Shirley, R. 2022, Transient Name Server Classification Report, 2022-2479

[2022] **SGLF/ZTF Transient Discovery Report for 2022-08-26**

Poidevin, F. ; Perez-Fournon, I. ; **Cortes-Perez, I.** ; Wong, A. ; Hatziminaoglou, E. ; Clavero, R. ; Angel, C. J. ; Geier, S. ; Könyves-Tóth, R. ; Marques-Chaves, R. ; Omand, C. M. B. ; Shirley, R 2022, Transient Name Server Discovery Report, 2022-2472

HONOURS AND AWARDS

[2022] **Initiation to the Astrophysical Research (IAC Summer Grant) Awarding institution:** Instituto de Astrofísica de Canarias (IAC)

Project: The evolution of the dust and gas content of quasars across cosmic time

[2022] **PLANCKS competition Awarding institution:** International Association of Physics Students (IAPS)

Travel and accommodation grant

[2021] **Fellowship for Latin american graduates Awarding institution:** Fundación Carolina

Funding of the Astrophysics master degree at University of La Laguna, travel and accommodation grant for the duration of the program

[2019] **II Extragalactic Meeting in México Awarding institution:** Institute of Radio astronomy and Astrophysics (IRyA)

Travel and accommodation grant

[2019] **4th Radioastrophysics Workshop - Summer TNT Awarding institution:** National Institute of Astrophysics, Optics and Electronics (INAOE)

Travel and accommodation grant

[2018]

Support Program for Research and Technological Innovation Projects - PAPIIT IA 102517

Awarding institution: National Autonomous University of Mexico (UNAM)

Project title: Study of cosmological models through gravitational lensing in galaxy clusters

[2017]

XXVI Scientific Summer of the San Pedro Martir National Astronomical Observatory

Awarding institution: Institute of Astronomy (IAUNAM)

Travel grant

OBSERVATIONAL EXPERIENCE

[2022] **Roque de los Muchachos Observatory**

Isaac Newton Telescope (2 nights)

Mercator Telescope (1 night)

Nordic Optical Telescope (1 night)

[2022] **Teide Observatory**

IAC80 telescope (2 nights)

[2019] **San Pedro Martir National Astronomical Observatory**

2m telescope (3 nights)

[2017] **Tonantzintla National Astronomical Observatory**

1m telescope (2 nights)

[2017] **San Pedro Martir National Astronomical Observatory**

2m telescope (3 nights)

0.8m telescope (1 night)

OTHER ACHIEVEMENTS

[2022] **PLANCKS competition**

Participant in the physics team competition

Grant: Travel and accommodation

[2017 – 2018]

Laboratorio de Materia Ultrafría - UNAM (Ultracool Matter Laboratory - UNAM)

Research assistant

Project: Characterization and assembling of the magnetic fields generation system for experiments with Lithium quantum gases

LANGUAGE SKILLS

Mother tongue(s): Spanish

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Python | IRAF (Image Reduction and Analysis Software) | Astronomy programs: Aladin, Topcat, Vospec, Iraf, Xspec. | Git | Linux | Wolfram Mathematica | LaTeX