

If you light a lamp for someone, it will also brighten your path

Personal information

Nationality Chilean
Marital status Married, no children
Birthdate May 10th, 1991

Education

2014 – 2021 **Ph.D. in Astrophysics**, *Pontificia Universidad Católica de Chile*, Santiago.
2009 – 2013 **Bs.C. in Astronomy**, *Pontificia Universidad Católica de Chile*, Santiago.
2003 – 2008 **High School**, *Colegio Francisco de Miranda*, Quillota.

Experience

Research

Jan 2012 **Summer practice**, *Instituto de Astrofísica*, Pontificia Universidad Católica de Chile.
Title Pointing model for telescopes in UC Observatory
Adviser Felipe Barrientos
Description Implementation and improvement of pointing model for Meade40 and PUC40 telescopes at Observatorio Docente UC, using TheSky6 and TPoint for Windows

2012 – 2019 **Observing assistant**, *Instituto de Astrofísica*, Pontificia Universidad Católica de Chile.
Description Observing excursions for introductory Astronomy class

Jan 2013 **Summer practice**, *Instituto de Astrofísica*, Pontificia Universidad Católica de Chile.
Title Probing the stars in the Galactic Halo using multi-wavelength data from CFHTLS and WIRDS
Adviser Thomas H. Puzia
Description Characterisation of stellar populations in different sightlines with multi-wavelength photometry from catalogues, using a new colour-colour selection tool (Muñoz et al. 2014)

Jul 2013 – **Bs.C. practice**, *Instituto de Astrofísica*, Pontificia Universidad Católica de Chile.
Dec 2013 Title Characterisation of foreground stellar populations in the CFHTLS Deep - WIRDS fields
Adviser Thomas H. Puzia
Description Characterisation of stellar populations in different sightlines with multi-wavelength photometry from images and comparing them with models, using a new colour-colour selection tool (Muñoz et al. 2014)

Sept 2015 – **Ph.D. Research**, *Instituto de Astrofísica*, Pontificia Universidad Católica de Chile.
Mar 2021 Title Characterisation of compact stellar systems in the Coma Cluster of Galaxies
Adviser Thomas H. Puzia
Description Characterisation of a variety of small baryonic structures in the Coma Cluster to gain insight into its history of mass assembly

Teaching

2011 – 2018 **Teaching assistant**, *Facultad de Física*, Pontificia Universidad Católica de Chile.
15 times TA of Introduction to Astronomy, four times TA of Astrobiology, occasional TA of Introductory Physics, Electromagnetism, Extragalactic Astrophysics.

2012 – 2019 **Observatory assistant**, *Instituto de Astrofísica*, Pontificia Universidad Católica de Chile.

Mar 2013 – **Teaching Assistant**, *Penta UC*, Pontificia Universidad Católica de Chile.
Jul 2013 Class *From Big Bang to the Origin of Life*, dictated by Roberto Muñoz, Karla Peña, and Francisco Vargas

2014 **Teacher**, *Senior classes program*, Pontificia Universidad Católica de Chile.
Teacher for several classes of astronomy topics for seniors. Topics include rocky planets, the Sun, and structure and stellar populations of our Milky Way

2016 **Teacher**, *Penta UC*, Pontificia Universidad Católica de Chile.
Teacher for the Talent Kid Program in the class Astronomy in the age of information: a Journey through bytes and galaxies, dictated with Roberto Muñoz.

Jan 2018 **Teacher**, *Penta UC, program Little Scientists*, Pontificia Universidad Católica de Chile.
Class 3,2,1, *Taking off to the Universe*, dictated with Daniela Fernández.

Mar 2018 – **Teacher**, Colegio Santo Tomás Ñuñoa.

Feb 2019 Physics and Math for 12th degree.

Apr 2018 – **Teacher**, PACE-UC program.

Nov 2018 Weekly workshop: "Astronomía: Entendiendo el Universo desde nuestro Hogar".

Feb 2019 – **Teacher**, Colegio Fundación Institución Alberiana, Recoleta.

Feb 2021 Physics and Math for 9th to 12th degree.

Outreach

Nov 2011 – **Astronomy advisor and guide**, *Observatorio Astronómico Andino*, Lo Barnechea, www.oaa.cl.

Dic 2019 Main astronomer in guided astronomical tours and corporate events; usage of telescopes and cameras for astronomical tours

Oct 2017 – **Astronomy guide**, *Observatorio Pailalén*, San José de Maipo, www.pailalen.cl.

Nov 2018 Participation in astronomical tours

Mar 2018 – **Presenter**, *Universo en 300 Segundos (Universe in 300 seconds)*, <https://www.youtube.com/channel/UCd2AdS1cdVkUsSQopaEGt1A>.

Dic 2019 UCd2AdS1cdVkUsSQopaEGt1A.

Educational astronomical web series, created in the Institute of Astrophysics PUC, together with Rojizo Communications.

Participation in projects

2013 – 2018 **Support staff**, *Proyecto CONICYT 3130750*.

Obtaining the deepest-ever Galaxy Mass Function in a High-Density Environment

2013 – 2018 **Support staff**, *Proyecto CONICYT 1121005*.

The Next Generation Stellar Population Synthesis Model

2016 – 2017 **Researcher**, *Proyecto PCI Ecos-CONICYT 188809*.

Exchange program between PUC and Observatoire de Strasbourg, France

Participation in conferences

Apr 2014 **5th VVV Science Meeting**, *VVV Science Team*, Con-Con.

Assisted

May 2014 **Formation and Evolution of Star Clusters in Chile**, *ESO Vitacura Star Cluster Group*, Vitacura.

Presented: Characterisation of foreground stellar populations in the CFHTLS Deep - WIRDS fields

Mar 2016 **XIII Annual Meeting**, *SOCHIAS*, Antofagasta.

Presented: Characterisation of foreground stellar populations in the CFHTLS Deep - WIRDS fields

Languages

Spanish Native

English Advanced, written and spoken

French Beginner-medium

Computer skills

OS Intermediate Windows, Mac OSX, and various Unix distributions. Extensive usage of scp, ssh and vnc connections.

Programming Advanced Python, NumPy, Matplotlib, AstroPy, Pandas, knowledge of sklearn, scipy and seaborn. Basic bash. Familiarity with SQL.

Other Intermediate TOPCAT and SExtractor, basic IRAF

Publicaciones

Unveiling a Rich System of Faint Dwarf Galaxies in the Next Generation Fornax Survey, Muñoz et al. 2015, ApJ, 813L, 15M

New Constraints on a Complex Relation Between Globular Cluster Colors and Environment, Powalka et al. 2016, AAS, 829, 1L5

The Next Generation Fornax Survey (NGFS): II. The Central Dwarf Galaxy Population, Eigenthaler et al. 2018, ApJ, 855, 2

The Next Generation Fornax Survey (NGFS). III. Revealing the Spatial Substructure of the Dwarf Galaxy Population Inside Half of Fornax's Virial Radius, Órdenes-Briceño et al. 2018, ApJ, 859, 520

The Next Generation Fornax Survey (NGFS): IV. Mass and Age Bimodality of Nuclear Clusters in the Fornax Core Region, Órdenes-Briceño et al. 2018, ApJ, 860, 40