

# Cristina García Vergara

## Research Appointments

- Dec 2016 – present **Postdoctoral Research Associate**, Leiden Observatory, Leiden University, The Netherlands.  
*Advisors:* Dr. Jacqueline Hodge and Prof. Huub Röttgering.  
7 months on maternity leave and child care.
- Jun 2016 – Aug 2016 **Technical staff**, Pontificia Universidad Católica de Chile (PUC).  
*Advisor:* Prof. Felipe Barrientos.

## Education

- Aug 2010 – May 2016 **Ph.D. in Astrophysics (double degree)**, Pontificia Universidad Católica de Chile (PUC) and Max Planck Institute for Astronomy (MPIA), University of Heidelberg, Germany.  
I was accepted in the joint Ph.D. degree program between PUC and University of Heidelberg, which allowed me to conduct research at both universities and obtain a doctoral degree from both institutions. I was an IMPRS member at MPIA between Aug 2014 and Dec 2015. Graduated *magna cum laude*.  
*Thesis title:* "Quasars Environments at  $z \sim 4$ ". *Supervisor:* Prof. Felipe Barrientos and Prof. Joseph Hennawi.  
Two years were fully focused on the approval of courses (12 courses).
- Mar 2005 – Jul 2010 **B.Sc. Astronomy**, Pontificia Universidad Católica de Chile (PUC).  
Graduated with maximum distinction. *Thesis Title:* "Mass Determination of Galaxy Clusters of RCS2 (Red-Sequence Cluster Survey 2)". *Supervisor:* Prof. Felipe Barrientos.

## Grants and Scholarships

- 2019 Leids Kerkhoven-Bosscha Fonds (LKBF).  
2017 Postdoctoral Fellowship, CONICYT, Chile.  
2017 Leids Kerkhoven-Bosscha Fonds (LKBF).  
2013 Scholarship for double degree, VRI, PUC.  
2013 Santiago-Heidelberg Doctoral Exchange Fellowship, DAAD, Germany.  
2012 Scholarship for Doctoral Studies in Chile, CONICYT, Chile.  
2010 PhD Scholarship for Students in National Programs, MECESUP, Chile.

## Teaching Experience and Supervision

- Sep 2021 – Feb 2022 Teacher assistant for the course "Numerical recipes in Astrophysics" at Leiden University.
- Nov 2020 Invited Lecturer at AstroTwinCoLo 2020, for the course "The large-scale structure of the universe" (20 hours).
- Aug 2020 – Jul 2021 Supervision of Master Student: Jeger Broxterman, *Thesis title:* "Clustering of AGNs in the Elais-N1 field".
- Aug 2020 – Jul 2021 Supervision of Master Student: Jaro Molenkamp, *Thesis title:* "Clustering of SFGs in the Lockman field".

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| Sep 2020 – Feb 2021 | Teacher assistant for the course “Numerical recipes in Astrophysics” at Leiden University.   |
| Oct 2018 – Jul 2019 | Supervision of Master Student: Jacob Bieker, <i>Thesis title</i> : “Clustering and physical properties of CO emitters in Wide ASPECS”. |
| Mar 2015 – Jul 2015 | Teacher assistant for the course “Extragalactic Astrophysics” at PUC.  |
| Aug 2010 – Dic 2010 | Teacher assistant for the course “Experimental Astrophysics” at PUC.   |

## Professional services

Referee for the Astrophysical Journal (ApJ)

## Telescope Time Allocation

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| 2021 (Cycle 8)   | <b>20.8 hours at ALMA</b> , "The impact of accreting black-holes on the star-forming ISM", P.I: Calistro-Rivera, G., Proposal: 2021.1.00421.S.                         |
| 2019 (Cycle 7)   | <b>20.5 hours at ALMA</b> , "Small-Scale Clustering of CO emitters around Quasars at $z \sim 4$ ", P.I: García-Vergara, C., Proposal: 2019.1.00411.S.                  |
| 2017 (Period 99) | <b>48 hours at APEX/LABOCA</b> , "A search for dusty starbursts in overdense regions around luminous quasars at $z = 3.8$ ", P.I: Aravena, M., Ref. C099.F0011.        |
| 2015 (Period 95) | <b>7.5 hours at GEMINI-SOUTH/GMOS</b> , "The First QSO-LAE Cross Correlation Function Measurement at $z \sim 4$ ", P.I: García-Vergara, C., Program ID: GS-2015A-Q-59. |
| 2014 (Period 94) | <b>30 hours at VLT/FORS2</b> , "Are Luminous Quasars at $z \sim 4$ Tracers of the Most Massive Dark Matter Halos?", P.I: Barrientos, F., Run ID: 094.A-0900(A).        |
| 2012B            | <b>1 night at Baade/IMACS</b> , "Microlensing, galactic extinction and flux ratios in quadruply imaged lensed quasars", P.I: Anguita, T.                               |
| 2010B            | <b>1 night at Baade/IMACS</b> , "Multiplexed Spectroscopy of Strong Lensing Cluster Cores with GISMO", P.I: Barrientos, F.   |

## Observing Experience

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| Feb 2013 | <b>1 night at Walter Baade Telescope</b> with <i>IMACS</i> , Las Campanas Observatory, La Serena, Chile. Project: “An IMACS Survey of the Virgo Cluster Core: Tidal Stripping, Dark Matter, the Baryonic Orbital Anisotropy” (P.I: Prof. A. Jordán). |
| Jan 2013 | <b>3 nights at SOAR Telescope</b> with <i>GOODMAN</i> Spectrograph, Cerro Pachón, La Serena, Chile. Project: “Cosmology with Close Quasar Pairs” (P.I: Prof. F. Barrientos).   |
| Sep 2012 | <b>1 night at Walter Baade Telescope</b> with <i>IMACS</i> , Las Campanas Observatory, La Serena, Chile. Project: “Microlensing, galactic extinction and flux ratios in quadruply imaged lensed quasars” (P.I: Prof. T. Anguita).                    |
| Sep 2010 | <b>1 night at Walter Baade Telescope</b> with <i>IMACS</i> , Las Campanas Observatory, La Serena, Chile. Project: “Multiplexed Spectroscopy of Strong Lensing Cluster Cores with GISMO” (P.I: Prof. F. Barrientos).                                  |
| Oct 2009 | <b>2 nights at Walter Baade Telescope</b> with <i>IMACS</i> , Las Campanas Observatory, La Serena, Chile. Project: “Spectroscopic Identification of the Largest Sample of Strong Gravitational Lensing Giant Arc System” (P.I: Prof. F. Barrientos). |

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## International Conferences and Seminars

- Jun 2021 “European Astronomical Society Annual Meeting (EAS) – Massive Galaxies: The Build-up of Monsters Through Cosmic History”, Leiden, The Netherlands – Virtual Meeting.  
**Invited Talk:** “Clustering of galaxies at different redshifts”.
- Jun 2021 “Galaxy Cluster Formation II: Mergers, Protoclusters, and Star Formation in Overdense Environments”, ESO, Garching, Germany – Virtual Meeting.  
**Contributed Talk:** “Protoclusters traced by high-redshift quasars”.
- Aug 2020 “Protoclusters: Galaxy evolution in confinement”, Instituto Astrofísica de Canarias, La Laguna, Spain and Observatório Nacional, Rio de Janeiro, Brazil – Virtual Meeting.  
**Poster:** “Characterizing the obscured and unobscured environments of quasars at  $z \sim 4$ ”.
- Jun 2020 “European Astronomical Society Annual Meeting (EAS) – Eight years of ALMA ground-breaking results: A joint venture between the ALMA user community and the ALMA Regional Centres”, Leiden, The Netherlands – Virtual Meeting.  
**Contributed Talk:** “The nature and fate of submillimeter galaxies”.
- May 2020 “LOFAR Deep Fields symposium”, The Netherlands – Virtual Meeting.  
**Contributed Talk:** “Clustering of sources in the LoTSS deep fields”.
- Jul 2019 “Supermassive Black Holes: Environment and Evolution”, IAASARS, Corfu, Greece.  
**Contributed Talk:** “Clustering of galaxies around  $z \sim 4$  quasars”.
- Jun 2019 “IAU Symposium 352: Uncovering early galaxy evolution in the ALMA and JWST era”, Viana do Castelo, Portugal.  
**Poster:** “Clustering of galaxies around quasars at  $z \sim 4$ ”.
- Aug 2017 “SMG20 - Twenty years of Submillimetre Galaxies: Star-forming galaxies at high redshifts.”, Durham University, United Kingdom.  
**Poster:** “An unbiased measurement of the SMG clustering”.
- July 2017 “Early stages of Galaxy Cluster Formation: Mergers, Protoclusters, and Star Formation in Overdense Environments”, ESO, Garching, Germany.  
**Contributed Talk:** “Protoclusters traced by high-redshift massive galaxies”.
- April 2016 “AGN group seminars”, Universidad Diego Portales, Santiago, Chile.  
**Talk:** “Luminous Quasars at  $z \sim 4$ ”.
- Sept 2015 “Demographics and Environment of AGN from Multi-Wavelength Surveys”, IAASARS, Crete Island, Chania, Greece.  
**Poster:** “Luminous Quasars at  $z \sim 4$ : Tracers of massive Dark Matter Halos”.
- Mar 2015 “Unveiling the AGN - Galaxy Evolution Connection”, Puerto Varas, Chile.  
**Poster:** “Are Luminous Quasars at  $z \sim 4$  Tracers of the Most Massive Dark Matter Halos?”.
- Aug 2014 “Galaxy Coffee seminars”, MPA, Heidelberg, Germany.  
**Talk:** “Are Luminous Quasars at  $z \sim 4$  Tracers of the Most Massive Dark Matter Halos?”.
- Jul 2014 “Clustering Measurements of Active Galactic Nuclei”, ESO, Garching, Germany.

**Contributed Talk:** “Are Luminous Quasars at  $z \sim 4$  Tracers of the Most Massive Dark Matter Halos?”.

Jun 2014 “MPA-MPIA Workshop”, MPA, Heidelberg, Germany.

**Talk:** “Are Luminous Quasars at  $z \sim 4$  Tracers of the Most Massive Dark Matter Halos?”.

Aug 2011 “Exploring the Nature of the Evolving Universe”, Pontifícia Universidade Católica do Rio de Janeiro, Brazil.

**Poster:** “Mass Determination of Galaxy Clusters of RCS”.

Jun 2011 “Multiwavelength Views of the ISM in High-redshift Galaxies”, ESO, Santiago, Chile.

Dic 2009 “Rutgers-PUC Astrophysics Workshop”, PUC, Santiago, Chile.

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## Attended Training Courses

Nov 2018 “Basic Management and Leadership skills”, organized by the HRM Learning and Development, Leiden University.

Nov 2018 “Basic project management: a primer for postdocs”, organized by the HRM Learning and Development, Leiden University.

Sept 2018 “Giving and receiving feedback (in an intercultural and inclusive context)”, organized by the HRM Learning and Development, Leiden University.

Oct 2015 “Effective communication for PhD students”, organized by the college of doctoral programs at PUC.

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## Languages

Spanish Native.

English Fluent.

Dutch Intermediate (B1.1 level).