

Cristina García Vergara

Doctor in Astrophysics

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Education

- Aug 2010– May 2016 **Ph.D. in Astrophysics**, *Pontificia Universidad Católica de Chile (PUC)*, Instituto de Astrofísica.
Thesis title: “Quasars Environments at $z \sim 4$ ”. *Supervisors:* Felipe Barrientos & Joseph Hennawi.
- Aug 2010– May 2016 **Ph.D. in Astrophysics**, *University of Heidelberg*, Max Planck Institute for Astronomy (MPIA).
I was enrolled in a joint Ph.D. degree program between PUC and University of Heidelberg. *Thesis title:* “Quasars Environments at $z \sim 4$ ”. *Supervisors:* Felipe Barrientos & Joseph Hennawi.
- 2005–Jul 2010 **B.Sc. Astronomy**, *Pontificia Universidad Católica de Chile*.
Graduated with maximum distinction. *Thesis Title:* “Mass Determination of Galaxy Clusters of RCS2 (Red-Sequence Cluster Survey 2)”. *Supervisor:* Felipe Barrientos.

Research Projects

- Sep 2012– May 2016 Study of quasars environments at $z \sim 4$. (F. Barrientos, PUC & Joseph Hennawi, MPIA).
- Sep 2012 Spectroscopic Baade/IMACS data reduction for quadruply imaged lensed quasars. (T. Anguita, PUC).
- Mar 2012 Spectroscopic Baade/IMACS data reduction for globular clusters of NGVS (Next Generation Virgo Cluster Survey). (A. Jordán, PUC).
- Jan 2012–Oct 2012 Study of dynamic properties of lensing galaxy clusters. (F. Barrientos, PUC).
- Aug 2011–Dec 2011 Spectroscopic VLT/FORS2 data reduction for lensing galaxy groups. (V. Motta, Universidad de Valparaíso, Chile).
- Mar 2011–Jul 2013 Study of the mass and dynamics of Shapley supercluster. (H. Quintana, PUC).
- Aug 2010 – Jan 2011 Spectroscopic Baade/IMACS-GISMO data reduction for 11 galaxy clusters of RCS2, and estimation of their dynamical masses. (F. Barrientos, PUC).

Observing Experience

- Feb 2013 **1 night at Walter Baade Telescope with IMACS**, *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: A. Jordán)

- Jan 2013 **3 nights at SOAR Telescope with GOODMAN Spectrograph**, Cerro Pachón, La Serena, Chile.
Project: "Cosmology with Close Quasar Pairs" (P.I: L. F. Barrientos)
- Sep 2012 **1 night at Walter Baade Telescope with IMACS**, Las Campanas Observatory, La Serena, Chile.
Project: "Microlensing, galactic extinction and flux ratios in quadruply imaged lensed quasars" (P.I: T. Anguita)
- Sep 2010 **1 night at Walter Baade Telescope with IMACS and GISMO**, Las Campanas Observatory, La Serena, Chile.
Project: "Multiplexed Spectroscopy of Strong Lensing Cluster Cores with GISMO" (P.I: F. Barrientos)
- Oct 2009 **2 nights at Walter Baade Telescope with IMACS and GISMO**, Las Campanas Observatory, La Serena, Chile.
Project: "Spectroscopic Identification of the Largest Sample of Strong Gravitational Lensing Giant Arc System" (P.I: F. Barrientos)

Telescope Time Allocation

- Period 95 **7.5 hours at GEMINI-SOUTH/GMOS**, "The First QSO-LAE Cross Correlation Function Measurement at $z \sim 4$ ", Program ID: GS-2015A-Q-59.
- Period 94 **30 hours at VLT/FORS2**, "Are Luminous Quasars at $z \sim 4$ Tracers of the Most Massive Dark Matter Halos?", Run ID: 094.A-0900(A).

International Conferences and Seminars

- 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"**, Universidad de Concepción, Puerto Varas, Chile.
Poster: "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"**, MPIA, 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, Rio de Janeiro, Brazil.
Poster: "Mass Determination of Galaxy Clusters of RCS".
- Jun 2011 **"Multiwavelength Views of the ISM in High-redshift Galaxies"**, European Southern Observatory (ESO), Santiago, Chile.
- Dic 2009 **"Rutgers-PUC Astrophysics Workshop"**, PUC, Santiago, Chile.

Awards and Fellowships

- Aug 2013 **Santiago-Heidelberg Doctoral Exchange Fellowship**, *DAAD*, Germany.
- Aug 2012 **Beca para estudios de doctorado en Chile**, *CONICYT*, Chile.
- Aug 2010 **Beca de doctorado para estudiantes en programas nacionales**, *MECESUP*, Chile.

Teaching Assistant Experience

- Mar 2015– Jul 2015 Extragalactic Astrophysics.
- Aug 2010– Dic 2010 Experimental Astrophysics.

Computer Skills

- Programming IDL programmer and experience in C, java and R languages.
- Astronomical Softwares IRAF, SExtractor, SCAMP, SWarp, COSMOS (for the reduction of multislit spectra obtained with the IMACS spectrographs on the Magellan Telescopes), EsoRex and Gasgano (for the reduction of data obtained at VLT).

Languages

- Spanish Native language.
- English Fluent.

Publications

- [4] **No enhancement of Lyman alpha emitters in QSO environments at $z \sim 4$.** **García-Vergara, C.J.** et al., 2016, in prep.
- [3] **Strong Cross-Correlation Between Luminous Quasars and Lyman Break Galaxies at $z \sim 4$.** **García-Vergara, C.J.** et al., 2016, submitted.
- [2] **VLT/Magellan Spectroscopy of 29 Strong Lensing Selected Galaxy Clusters.** Carasco, M.; Barrientos, L. F.; Anguita, T.; **García-Vergara, C.J.**; Bayliss, M.; Gladders, M.; West, M. 2015, submitted.
- [1] **Microlensing of the broad-line region in the quadruply imaged quasar HE0435-1223.** Braibant, L., Hutsemékers, D., Sluse, D., Anguita, T., **García-Vergara, C.J.**, 2014, A&A, 565L, 11B.