

# Guadalupe Cañas Herrera

*Curriculum Vitae.* Last update: Sep 2018

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Citizenship: Spanish

**Legend:** ○ Scholarships/Awards • Selected Schools/Workshops/Certifications \* Administrative positions

## Education

- Currently **PhD program in Physics**, *Graduate School of Science, Leiden University*, The Netherlands.  
○ De Sitter Fellow, Lorentz Institute & Leiden Observatory, The Netherlands.
- 2016–2018 **Master's Degree in Physics**, *Leiden University*, The Netherlands.  
Specialization in Cosmology (De Sitter Programme)  
\* Representative of Physics Master's Students in the Education Committee, Leiden University (currently).  
○ Full Excellence LION Scholarship, (24000€), Leiden Institute of Physics, The Netherlands.  
I declined Bonn-Cologne Physics Scholarship (22000€) and Science@Leuven Scholarship (20000€) for MSc. studies .
- 2011–2016 **Bachelor's Degree in Physics**, *University of Cantabria*, Spain.  
Track in Fundamental Physics  
\* Students' council member at the Faculty of Sciences, University of Cantabria (2011–2013).  
○ Honours distinction in Physics courses with best GPA, (1600€), University of Cantabria, Spain.  
2013–2014 **Physics Exchange Student**, *Utrecht University*, The Netherlands.  
○ Excellence Scholarship for Erasmus Students, (2000€) University of Cantabria, Spain.

## Professional Experience

### Research Experience

- Currently **PhD Candidate**, *Delta-ityp & Lorentz Institute & Leiden Observatory*, Leiden University, The Netherlands.  
**Group:** Theoretical Cosmology. **Supervisor:** Dr. Ana Achúcarro.
- 2017–2018 **Master's Research Student**, *Lorentz Institute*, Leiden University, The Netherlands.  
**Group:** Theoretical Cosmology. **Supervisors:** Drs. Ana Achúcarro and Matteo Martinelli.  
• School:  *$\Lambda$ CDM and Beyond: Cosmology Tools in Theory and in Practice*, Corfú, Greece, (Sep 2017).  
• School: *CosmoTools18*, Aachen, Germany, (Apr 2018).
- Summer 2016 **Research Intern**, *Astroparticle Physics Theory Group, DESY Zeuthen*, Germany.  
**Group:** Astroparticle Physics Theory. **Supervisors:** Dr. Shan Gao and Robert Brose.
- Jan–Jun 2016 **Research Intern**, *Department of Modern Physics, (IFCA-University of Cantabria)*, Spain.  
**Group:** Observational Cosmology and Instrumentation. **Supervisor:** Dr. Patricio Vielva.  
○ Collaboration Scholarship at University Departments, (2000€), Spanish Government, Spain.
- Sep–Dec 2015 **Research Intern**, *Instituto de Física de Cantabria (IFCA)*, Spain.  
**Groups:** Particle physics & e-science. **Supervisors:** Drs. Alicia Calderón and Jesús Marco de Lucas.  
• Workshop: *EGI Community Forum 2015*, Presentation title: "*EGI LifeWatch Competence Centre Workshop*", Bari, Italy, (Nov 2015).  
• Workshop: *CMS Preservation Group Meeting*, Presentation title: "*CMS Open Data: a didactic analysis software and ontology*", CERN, Switzerland, (Oct 2015).
- Summer 2015 **Bachelor's Research Student**, *Brown University*, USA.  
**Group:** Physics Department/Astrophysics and Gravitational Lensing. **Supervisor:** Dr. Ian Dell'Antonio.  
**Title:** "*Determination of Galaxy Clusters through Weak Lensing Measurements on Images from the Subaru Telescope*".  
○ Brown University Excellence Scholarship, (15000€), UC/Brown University, Spain-USA.

## Teaching Experience

- Currently **Student Assistant**, *Department of Physics*, Leiden University, The Netherlands.  
Courses: *Theory of General Relativity*, *On Being a Scientist* (main manager of a course +400 students), Quantum Field Theory
- Spring 2016 **Teaching Assistant**, *Department of Modern Physics*, University of Cantabria.  
Course: *Fundamentals of Quantum Physics* (Bachelor's Degree in Physics).  
◦ Best Teaching Assistant of the Year 2015–2016, (100€), University of Cantabria, Spain.

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## Languages

- Native Speaker **Spanish**.
- Advanced **English**, *CEFR: C1 Level*, TOEFL IBT 109/120 (Dec 2015).
- Intermediate **Dutch**, *CEFR: B2 Level*.
- French**, *CEFR: B2 Level*, DELF Certificate (Jun 2009).
- Basic **German**, *CEFR: A1 Level*.

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## Computer skills ([github.com/gcanasherrera](https://github.com/gcanasherrera))

- Programming Languages **Python, Java, C, C++, Fortran, SQL**.  
Used PYTHON packages as NUMPY, PANDAS, SKLEARN, SCIPY, SEABORN. Basic understanding of RUBY and PERL. Basic knowledge in shell scripting (BASH).
- Data Analysis **Mathematica, ROOT, Matlab, Kaleidagraph, Origin**.
- Astrophysics / Cosmology **CAMB, CosmoMC, Cobaya, Polychord**, Experience with tools from Deep Lensing Survey Package, HEALPY, ASTROPY, SEXTRACTOR, DS9 and SPEX. Basic knowledge of TOPCAT, CLASS, MONTEPYTHON.
- Text Editing **L<sup>A</sup>T<sub>E</sub>X, Microsoft Office, iWork, emacs, vim**.
- Education **Blackboard**, manager of blackboard courses with the role of creator.

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## Research Interests

- Inflation, Large Scale Structure, Dark Energy and Modified Gravity.
- Cosmological data analysis and statistics, Machine Learning.

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## Further interests and personal skills

I am interested in several topics, with demonstrated experience/certifications (most relevant cited below):

### Volunteering / Outreaching

As I am outgoing, sociable and caring, enjoy interacting with people providing them with help or knowledge.

- Currently \* **Popular Scientist in Lorentz Institute**, *Leiden University*, The Netherlands.  
Manager of instagram and twitter accounts.
- 2015–2016 \* **Volunteer in Spanish Association Against Cancer**, *Santander*, Spain.  
Development of social activities such as accompaniment, entertainment and emotional support.
- 2015 \* **Volunteer in Providence's Children Museum**, *Rhode Island*, USA.  
Assistant in "Observing the Sky" exhibition, helping answer questions and carrying out small experiments.
- 2012–2015 \* **Volunteer in European Researchers' Night**, *Santander*, Spain.  
Carried out physics experiments at several locations in order to motivate people to get interested in science.

### Project Management & legislations

I am organized, hard-working and disciplined. I like developing a critical mind regarding political situations.

- 2015 • **Projects: Conception, Developments and Tools**, *University of Cantabria*, Spain.  
Carried out project's organization using JIRA, SMARTSHEETS and OPENPROJECT.
- 2013 • **Recognition and Protection of the universal human rights in a national and international range**, *University of Cantabria*, Spain.

### Music and Arts

My main hobbies are arts-like: playing music, writing (was part of the University newspaper), painting, performing (was part of the High School Drama group), dancing, and more recently, cooking and gardening.

- 2003–2015 • **Elementary and Professional Musical Teachings**, *Conservatory Jesús de Monasterio*, Spain.  
Mention in Piano and Musical Analysis