

José Ogalde

Curriculum Vitae

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Personal Statement

Persistence and passion is what has guided me since I was a kid watching the night sky in the north of Chile to work in research facilities for science and technology. A lot of my experience comes from working to develop the first Cubesat in Chile, and through working in the ALMA telescope. I have specialized in digital systems for instruments and now I am looking to open my field and learn more about physics and space engineering. My interests are with space technology, telescopes, interferometers, digital systems, embedded systems, among others. I believe that challenges help us to grow stronger and let us contribute to build a better society.

Education

- 2022 - now **PhD Student IMPRS program**, *Max-Planck-Institut für Gravitationsphysik*.
- 2016 - 2019 **M. Sc. Eng. mention in Electrical Engineering**, *University of Chile*.
- 2014 - 2019 **Professional Degree in Electrical Engineering**, *University of Chile*.
- 2013 - 2014 **Minor in Computer Sciences**, *University of Chile, Santiago, Chile*.
- 2010 - 2014 **B. Sc. in Electrical Engineering**, *University of Chile*.

Work Experience

Max-Planck-Institut für Gravitationsphysik (Albert-Einstein-Institut)

- May 2022- Present **PhD Student - IMPRS Program** My thesis will be focused on the software and FPGA development of the Phasemeter for the LISA mission.

Atacama Large Millimeter/submillimeter Array (ALMA)

- Nov 2019- Mar 2022 **Electronic Engineer** Maintenance support for operations of the [ALMA telescope](#), specialized in the Baseline Correlator (12m x 64 antennas), the ACA Correlator (7m x 12 & 12m x 4 antennas), and for the BackEnd systems (Central LO and Digital Transmission System of the antennas).

Spatial Planetary Exploration Laboratory (SPEL, University of Chile)

- 2014 - 2019 **M.Sc.Eng thesis project:** Build an experiment inside of a 1U Cubesat to study the statistical properties for the power fluctuations of a dissipative electronic system in a low earth orbit environment, specifically when driven to an out-of-equilibrium state with an Orstein-Ulhenbeck forcing (see [thesis](#), [SUCHAI mission](#) and [SPEL website](#)).

Radio Astronomical Instrumentation Group (RAIG, University of Chile)

- 2013, 2016, 2017 **Student projects** Working as student and teacher assistant for projects in Electromagnetic Waves, Microwaves and Antenna Theory courses (see [RAIG website](#)).

Teacher Assistance Experience (University of Chile)

- 2011-2018 Worked in the following courses: Experimental Methods, Digital Systems, Microwaves, Advanced Digital Communications, Awareness of Architecture in Programming, Applied Electromagnetism, Computer Architecture, Introduction to Engineering I y II ([University of Chile](#)).

Computer Skills

Languages Python, C, Java, bash, MATLAB, L^AT_EX.

OS Linux (Ubuntu*, Debian, RHE), Microsoft Windows.

Scientific Python, Jupyter NBs, CASA, MATLAB/Simulink, LabView.

Tools Vivado, PetaLinux, FreeRTOS, Raspberry Pi, Zynq, RTG4, PIC24, Microblaze, Eagle, Microsemi Libero, MPLAB.

Others git, GitHub, Gitlab, BitBucket, Jira, Confluence, VirtualBox, Google Products.

Languages

English IELTS: 7.0, Operational command of the language (test report [here](#)).

German (Learning), currently A2.

Spanish Native.

Personal Skills and Qualities

Oral Good communication and social skills. Capable of working in a multidisciplinary environment, keep conversations and do video conferences in English.

Organization Good group management and self taught capacity for working in challenging projects.

Honours and awards

2021 [ALMA Fundamentals Statement Award 2021 - Curiosity](#), democratically selected by coworkers for encouraging curiosity about the Universe and using it as a driver for innovation and development.

2020 [Ramón Salas Edwards prize](#) awarded by the national Institute of Engineers of Chile for SUCHAI Cubesat project as the best scientific project of the year.

2019 Graduate of Master's program with maximum distinction (100%).

2019 Professional degree in Electrical Engineering with maximum distinction (100%).

2010, 2015 Outstanding student recognized by University of Chile.

List of Publications

- 1.- Ogalde, J., Falcón, C., Díaz, M. Injected power fluctuations for a non-equilibrium electronic dissipative system in space
- 2.- Ogalde, J., Diaz, J., Azurdia-Meza, C., Gonzalez, J., Ehijo, A., & Prapinmongkolkam, P. Device-to-Device Communication for the 5G era: a Survey.

*User since 2012.