José Ogalde

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Personal Statement

Persistence is what has brought me closer to science and technology in spite of being raised in a small town from the north of Chile. I have a M.Sc.Eng. degree and a professional degree in Electrical Engineering from the University of Chile. A lot of my experience comes from helping to develop the first nanosatellite in Chile and working as a Correlator and Backend engineer of the ALMA telescope. I have specialized in digital systems for instruments and technology development, but now I am looking to open my field and learn more about astronomy and instrumentation. My technical skills involve electronics, embedded systems, system software, instruments design, radio-astronomy and general physics. I believe that challenges help us to grow stronger and let us contribute to build a better society.

Education

2016 - 2019 **Master of Science in Engineering, mention in Electrical Engineering**, *Thesis: "Design and Implementation of an out-of-equilibrium electronic experiment onboard of a low earth orbit nanosatellite"* , 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

Atacama Large Millimeter/submillimeter Array (ALMA)

Nov 2019- Present **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 Data Transmission System of the antennas).

Spatial Planetary Exploration Laboratory (SPEL)

2014 - 2019 **M.Sc.Eng thesis project:** Build an experiment inside a 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 here and Cubesat website, founded by FONDECYT 1151476).

Radio Astronomical Instrumentation Group (RAIG)

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

University of Chile: Teacher Assistance Experience

2011-2018 Experimental Methods (2017-2018), Digital Systems (2016-2018), Microwaves (2017), Advanced Digital Communications (2016-2017), Awareness of Architecture in Programming (2017), Applied Electromagnetism (2013-2016), Computer Architecture (2014-2015), Awareness of Architecture in Programming (2017), Introduction to Engineering I y II (2011-2012) (University of Chile).

Computational Skills

Languages Python, C, Java, Bash, Matlab, LaTeX.

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

Scientific Python, CASA, Matlab/Simulink.

Tools Vivado, PetaLinux, Raspberry Pi, Zynq, Microblaze, Eagle, MPLAB.

Others `git`, GitHub, BitBucket, Google Drive, Jira, VirtualBox.

Languages

English Proficient level to write formal documents and sustain formal meetings.

Spanish Native.

Personal Skills and Qualities

Oral Good communication and social skills gained through experience. Capable of working in a multidisciplinary environment, to keep conversations and do video conferences in English as well as Spanish.

Organization Good group management and self taught capacity gained through experience working in challenging scientific projects.

Honours and awards

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.

2010, 2015 Outstanding student recognized by University of Chile.

List of Publications

1.- *(Under review)* Ogalde, J., Falcón, C., Díaz, M. Injected power fluctuations for a non-equilibrium electronic disspative system in space

2.- Ogalde, J., Dıaz, J., Azurdia-Meza, C., Gonzalez, J., Ehijo, A., & Prapinmongkolkam, P. Device-to-Device Communication for the 5G era: a Survey.