



Advanced Center
for Electrical and Electronic Engineering



UNIVERSIDAD TECNICA
FEDERICO SANTA MARIA

POSTDOCTORAL POSITION

The Advanced Center for Electrical and Electronic Engineering (AC3E) was created on 2014 to group individual research efforts into multi- and inter-disciplinary teams and re-focus research towards industry related problems to spark innovation. The center is hosted by Universidad Tecnica Federico Santa Maria, in Valparaiso, Chile, one of the top engineering universities of Chile (listed among the top 300 universities according to Times Higher Education Ranking 2014-2015).

The mission of AC3E is to contribute to the advancement of knowledge, technological development and competitiveness in technology-based economies by achieving excellence in research, forming advanced human resources, and fostering innovation and technology transfer in areas of societal and industrial impact through the field of electrical and electronics engineering. Additional information about the center can be found at www.ac3e.cl and the university can be found at www.usm.cl

We are looking to hire highly qualified individuals as postdoctoral researchers with extensive experience in the following research line and subtopics (but not limited to):

Research Line

1. Instrumentation

Chile is an attractive pole for ground based astronomy, due to the high number of astronomical projects underway (as the Atacama Pathfinder EXperiment (APEX), the Atacama Large Millimeter Array (ALMA) and the Atacama Cosmology Telescope (ACT) to name just a few) and under construction, such as: E-ELT, GMT, LSST, CCAT, TAO. Furthermore, there is a handful of new projects to be deployed in the short term horizon.

Additionally, The Atacama Astronomical Park located on the Chajnantor plateau has become one the most important radio astronomical sites in the world.

Astronomy is a multidisciplinary research field combining theoretical and experimental disciplines. In addition to astronomers, the operation of local observatories require a critical mass of highly qualified engineers and scientists. One of the mid-term objectives of the AC3E is the creation of an advanced group of astronomical instrumentation, especially on any of the following topics:

- Embedded systems for complex instrumentation systems (FPGAs, DSPs)

- Astronomical Instrumentation:
- Adaptive Optics Systems.
- Atmospheric Turbulence.
- Optical Design.
- Multi-object spectroscopy
- Readout electronics and detectors
- Cryogenics
- Optical and Infrared Interferometry
- Radio-Astronomy instrumentation.
- Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation
- Millimeter, Submillimeter techniques.
- Telescope metrology and telemetry embedded systems.
- Surface Holography and Photogrammetry.
- Synthetic Aperture Radar.
- Interferometric analysis and data reduction & Large scale aperture synthesis.
- Optimization of data reduction pipelines

- *Principal Investigator*
 - Dr. Pablo Lezana
- *Associate Researchers*
 - Ph.D. Rodrigo Parra
 - Dr. Pedro Escarate

Required Documents

1. Curriculum Vitae
2. List of academic productivity (publications, books, patents)
3. Cover letter stating your interests and why you want to become part of AC3E.
4. Documentation accrediting the possession of a PhD or Doctoral degree.
5. Letter of reference or a list of 3 referees that might be contacted

*All documents should be provided in English and as one PDF file.

General Information

- The duration of the Postdoctoral fellow will be up to 3 years.
- Applicants are expected to live and work in Chile
- The salary is competitive
- Applications and inquiries should be sent to the following email: ac3e@usm.cl
- The subject of the email must be: **POSTDOCTORAL POSITION "Instrumentation"— AC3E**
- Deadline to submit applications is **March 5th, 2015**
- Results will be informed on March 13th, 2015
- Postdoctoral activities should begin as soon as possible after notification of acceptance