

Higher Education in Space Topics: CONAE and its partnership with National Universities for Graduate Studies and Research – IAA-LA-10-01

L.R. Gratton^{1,2}, L. de Ferrariis^{1,3}

1 Comisión Nacional de Actividades Espaciales (CONAE), Argentina

2 Universidad Nacional de San Martín, Argentina

3 Universidad Nacional de Córdoba, Argentina

Contact: lgratton@conae.gov.ar

The Argentine Space Agency (CONAE), has recognized the advantage of establishing partnerships with National Universities. The purpose is to satisfy the needs of highly specialized human resources required for the implementation of current and short term programs of the Argentine technological/scientific system and/or the companies participating and contributing with the realization of the National Space Plan.

This paper focuses on the Graduate programs functioning at CONAE's Teófilo Tabanera Space Center (CETT) in Córdoba Province. It also presents the work and programs of the two Institutes CONAE has in partnership with National Universities.

The Masters Programs currently being taught at the CETT are: in Space Information Applications (MAIE, since 2009), in Software Development for Space Applications (MDIAE, since 2015), in Satellite Technologies (MTS, since 2015), and in Satellite Instruments (MIS, since 2015).

For each of these programs, CONAE has formed a partnership with a different University, which contributes with specialized faculty, and with the curricula, and student supervision required by the Ministry of Education. The specific participation of each institution will be described in the paper.

All students and faculty, from the different careers and academic institution, permanently interact with each other, and with the personnel at the CETT working in CONAE's projects, that act also as faculty and directing thesis works, enriching the learning process with hands on work on real on-going missions.

All students have full scholarships, and consequently must have full-time dedication for the duration of the program (two years). Besides the very demanding courses, students have two particular requirements:

- An applied work of more than 1500 hours in a 'Development Unit' (UD). The UD is different for each student and might be inside the CETT or not, sometimes being in a different city (Bariloche, Buenos Aires, etc.). In this work, the student becomes a specialist in a topic needed by the UD that supervises him, and ideally, he can be hired afterwards in that organism or institution that helped educating him with a specific profile. The concept of UD will be explained in the paper.
- An integrated project, demanding more than 800 hours, in which the whole cohort works as a team under the direction of the Director of the Master program, and which ideally ends in a finished element (depending on what Master it is, it will be a satellite platform, an instrument, a qualified software, or an application).

Furthermore, all four integrated projects are themselves integrated into a satellite mission, under the coordination of the Head of CONAE's Higher Education Unit. The procedure to select and define the project each year will be explained in this paper. The actual implementation for the first cohort (2015-2017), named 'Formador Satelital 2017', will be presented in a different paper.

We will also describe the contribution of the Gulich Institute particularly in applications to prevent and react to emergencies, and the plans of the Colomb Institute for research in advanced space technology.