

INTERNSHIP OFFER - EXPLORATION OF ORBIT CONTROL SOLUTIONS FOR 1U CUBESATS (2 INTERNSHIPS)

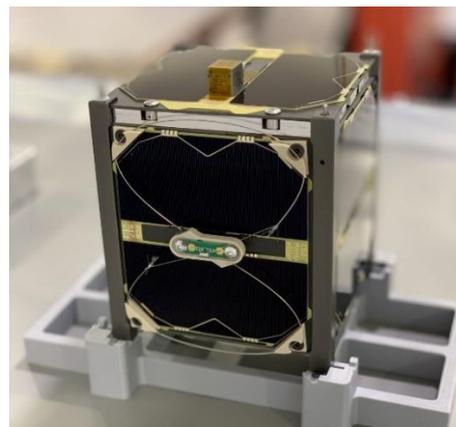
1 UNIVERSITY SPACE CENTER OF MONTPELLIER

The University Space Center of Montpellier (CSUM) is the French leader in the development and operation of nanosatellites developed by students. It has acquired in-depth competences in the field of design, manufacturing, testing and operation of nanosatellites and their subsystems, as well as in space project management and product assurance in the framework of university space projects. The CSUM has an AIT (Assembly Integration and Test) Facility, a CDF (Concurrent Design Facility) and both UHF and S-band Ground Stations. The CSUM develops its own 1U and 3U CubeSat nanosatellite platforms with the support of the Van Allen Foundation and both the French and the European space agencies.

2 INTERNSHIP DESCRIPTION

Objectives: To ensure a safe usage of space, space regulations at French and European levels tend to reduce the altitude of orbits accessible by satellites lacking orbit control capabilities. The objective of these 2 internships is to investigate means for CSUM 1U platform to comply with this evolution of the law.

- Estimate the impact on CSUM 1U platform of the evolution of space regulation
- Perform a state-of-the-art of orbit control systems compatible with 1U CubeSat
- Analyze the functional integration of a selection of those orbit control systems
- Eventually, transpose this work to our 3U and 12U platforms



Level: 1st/2nd year of MSc or equivalent

Duration: 4 to 6 months

Skills (it is not mandatory to have all of them):

- Knowledge about CubeSats, orthography, orbit control, attitude control
- Experience in MATLAB/Simulink, GMAT, Scilab, Stela (CNES)
- GIT or similar version control system
- VTS (Visualisation Tool for Space data)
- English – minimum: being able to have a technical discussion with experts and to write documentation
- **Location:** Centre Spatial Universitaire de Montpellier, Campus Saint-Priest, Montpellier, France

Stipend: 4.05 euros/worked hours for duration between 308 and 924 hours, 35 hours/week.

Preferred starting date: April 2024

Supervisor, Function at CSUM: Théo Guillerme (Mission Analysis/AOCS engineer) or Gary Quinsac (AOCS Command and Control Engineer)

3 CONTACT

Please upload your application at: <https://csum.umontpellier.fr/en/job-offers-internship/>