



MASTER'S  
THESIS

This Master's Thesis addresses the design of a multidisciplinary 1U CubeSat Simulation Platform, composed of three blocks: a mechanical simulation platform, a Ground Station management software and a CubeSat prototype that includes different subsystems: OBC, ADCS and part of the OBDH and the EPS. This prototype is the base for the future GranaSAT-I.

The project is approached from a double perspective: on the one hand, developing an academic Simulation Platform that gets students closer to CubeSats; on the other hand, providing with an integrated environment for researchers to test new technologies and algorithms before launching.

This wide scope requires applying professional System Engineering methodologies, which minimizes the risk and culminates with the successful completion of the project.



**José Carlos Martínez Durillo** is a Telecommunication engineer from Bailén, Spain. He was awarded twice for his Bachelor's Thesis, including the prize of the *Colegio Oficial de Ingenieros Técnicos de Telecomunicación* to the best Thesis. With this ambitious Master's Thesis he starts a fascinating new research line in the GranaSAT Project and finalizes his MEng.



**Andrés María Roldán Aranda** is the academic head of the present project, and the student's tutor. He is a professor in the Departament of Electronics and Computers Technologies.

TELECOMMUNICATION  
ENGINEERING

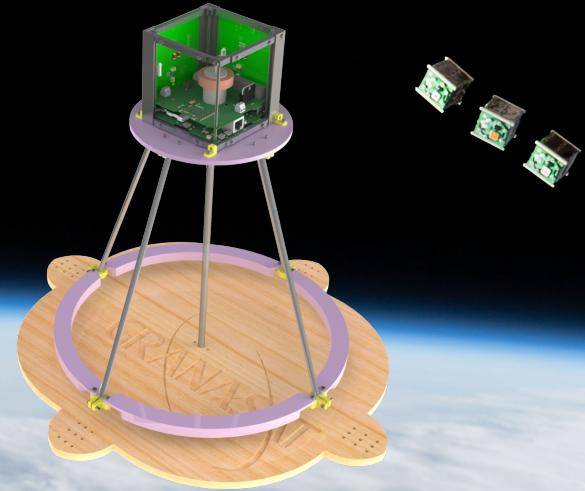
## Design of a multidisciplinary 1U CubeSat Simulation Platform

José Carlos Martínez Durillo



# UNIVERSITY OF GRANADA

## Master in Telecommunication Engineering



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