



## Unique, exciting Master thesis project ("TFE")! Academic year 2016-2017

Become a member of the new OUFTI-2 student team building ULg's next CubeSat in one year!  
We offer several projects, each concerning a specific subsystem of OUFTI-2

## OUFTI-2's on-orbit, hot reprogramming of on-board computer (OBC): design, implementation, and tests

### Introduction

OUFTI-2 is the new ULg CubeSat (1 kg, 1 liter, 1 Watt) that will allow D-STAR amateur-radio ("ham") telecommunications, just as for OUFTI-1. The new nanosatellite and its subsystems will be designed totally from scratch, using the experience gained, and lessons learned, through OUFTI-1.

### Your project!

- **You** and the team will conceive the architecture of OUFTI-2.
- **You** will design, built, and test completely new software means for "hot" reprogramming the OBCs when the satellite is in orbit, from the existing ground stations, using appropriate telecommands & telemetry. This will allow for possible corrections and mission repurposing. **Your** software will ultimately run on a pair of 10x10 cm OBC cards (produced by others) working in perfect harmony with the other subsystems of the satellite and with the existing ground stations.

### Benefits for you

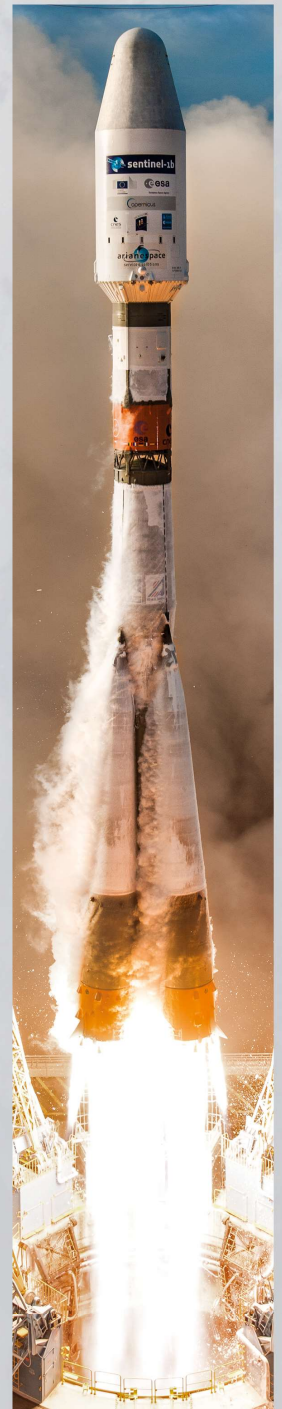
- Work with people who have built, from scratch, a complete ground & space satellite system, with its CubeSat reaching orbit alive!
- Get privileged access to the European Space Agency (ESA) and their training, including at its brand-new learning center in Redu, Belgium.
- Get - if interested, and with our guidance - a ham-radio license (and **your** own call-sign), allowing **you** to use our two ground stations and our mobile transceivers, transmitting up to 550 Watts of radio power!
- Gain international visibility by attending conferences (when warranted).

### Your profile

- Computer science, software engineering, electrical/electronics engineering, engineering physics, or equivalent.

### Contacts

- Xavier Werner: [x.werner@ulg.ac.be](mailto:x.werner@ulg.ac.be)
- Valéry Broun: [valery.broun@hepl.be](mailto:valery.broun@hepl.be)
- Prof. Jacques Verly: [jacques.verly@ulg.ac.be](mailto:jacques.verly@ulg.ac.be)



**Don't miss this once-in-a-lifetime opportunity!**