

# AERO UC3M PhD Position Open

## Research task

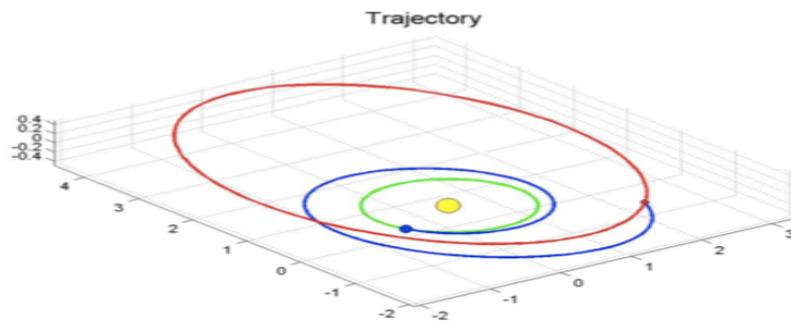
The **task** will be related to **optimal control** applied to **trajectory optimization/mission planning in aerospace engineering**.

The goal of optimal control theory is to determine the control input that will cause a dynamical system to be steered from an initial state configuration to a final one, satisfying a set of path constraints, and at the same time optimize some performance criterion. Solving methods include indirect methods (analytic based) and direct methods (numerical based).

Arising applications in aerospace engineering are vast. e.g., commercial aircraft trajectory planning, UAV misión planning, and space misión planning. The focus will be on **space missions, e.g., Low-thrust trajectories and under-actuated control**. In any case the topic is in certain way open.

## Requirements and conditions

The ideal candidate will have a background in aerospace engineering (Master's level or equivalent) and optimization, programming skills, and solid skills in both written and spoken english. Outstanding students with only a partial match to this list are encouraged to apply.



Example of Trajectory from the Earth to Comet Tempel



The successful candidate will be enrolled in the Department of Bioengineering and Aerospace Engineering (Area of Aerospace Engineering) of the University Carlos III de Madrid (UC3M). The conditions in terms of salary and duration of the appointment are those determined by UC3M for PhD students. International secondments in prestigious universities and research centers will be granted.

## To Apply

Email directly to Assistant Prof. Sanjurjo ([msanjurj@ing.uc3m.es](mailto:msanjurj@ing.uc3m.es)) and Assistant Prof. Soler ([masolera@ing.uc3m.es](mailto:masolera@ing.uc3m.es)) with:

- a CV.
- a motivation letter indicating your interest in the topic.

Moreover, recommendation letters (or the name and contact info of recommendation person) are welcome.

## Deadline

Call for applications remains and **will close in mid october**. Intended start date (with some flexibility): November 2014 to January 2015.