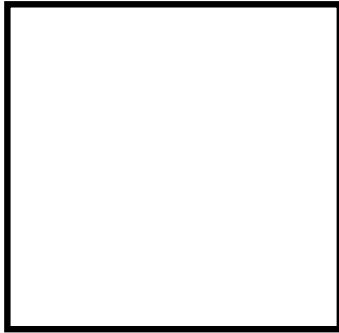


# Umberto De Filippis

Aerospace Engineer-Space Systems



[Umberto De Filippis](#)



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## PROJECTS

### ❖ **MSc Degree in Astronautical and Space Engineering**

Simulation of geodesy measurements with an orbiter around Callisto using Radio-Science. The nominal orbit has been selected after a trade off, taking into account scientific observations requirements, orbit stability and propellant consumption. The setup has been implemented in MONTE and MATLAB.

### ❖ **Mission Design Project**

As a responsible of the trajectory planning I worked in a team to develop a preliminary mission design with the aim to establish a reliable and efficient communication service connecting Mars and Earth by a satellite network. Thanks to this project I developed team working skills and to be within the delivery dates.

### ❖ **AOCS Design**

Designing of a PDI control law to let spacecraft maintaining the nadir pointing under the action of Solar Radiation Pressure and Gravity Gradient. Because of the complexity of this project and of the short time available, I developed the ability to work under pressure.

## EDUCATION

- **Phd student in Astrophysics**  
INAF, Rome (IT)
- **MSc Degree in Astronautical and Space Engineering**  
**Space Mission**  
Università La Sapienza, Rome (IT)  
Time frame: Nov. 2018 – Oct. 2020  
Mark: 110/110
- **Bachelor Degree in Aerospace Engineering**

## SOFTWARE SKILLS

- |             |                 |                |                 |
|-------------|-----------------|----------------|-----------------|
| • Matlab    | <i>Advanced</i> | • MONTE for OD | <i>Advanced</i> |
| • STK       | <i>Advanced</i> | • SolidEdge    | <i>Good</i>     |
| • Python    | <i>Advanced</i> | • FreeFlyer    | <i>Good</i>     |
| • M. Office | <i>Advanced</i> | • IDM-CIC      | <i>Good</i>     |

## CERTIFICATIONS

- STK Master Certification
- Excellence path for the MSc degree

## LANGUAGES

- |           |         |        |
|-----------|---------|--------|
| • Italian | \       | Native |
| • English | Written | Fluent |
|           | Spoken  | Fluent |

## TECHNICAL FIELDS MANAGED

- Orbit Mechanics
- Orbit Determination
- TLC and Navigation
- System Engineering
- Space Propulsion
  
- System Engineering
- Concurrent Engineering
- Orbit Mechanics
- Power/Mass budget
- Space Propulsion
- PDR / CDR production
  
- Attitude determination
- Control Systems
- Power budget

## SOFT SKILLS

### **People-related**

- Team Motivation
- Emotional Intelligence
- Patience and mentoring

### **Task-related**

- Proactive attitude
- Process Improvement
- Entrepreneurship

## INTERESTS

- Research
- Innovation
- Communication
- Environment

## PASSIONS & HOBBIES

- Winter sports, Football
- Music, Arts, Cooking
- Science divulgation and teaching
- Astrophotography

Driving license B