# Saverio Maria Currà

## ● ABOUT ME

You can provide a description of yourself here...

## ● EDUCATION AND TRAINING

10/2023 – CURRENT  Rome, Italy
**SPACE AND ASTRONAUTICAL ENGINEERING -- M. SC.** La Sapienza University of Rome

- Guidance, Navigation and Control
- Flight Dynamics
- Spacecraft Communications
- Mission Analysis

10/2020 – CURRENT
**SAPIENZA SUPERIOR SCHOOL OF ADVANCED STUDIES (SSAS)** La Sapienza University of Rome

- University school of excellence
- Pursuit of a second-level master title

**Website** https://web.uniroma1.it/sssas/

10/2020 – 10/2023  Rome, Italy
**AEROSPACE ENGINEERING -- B. SC.** La Sapienza University of Rome

- Orbital mechanics
- Flight dynamics
- Control and Estimation theory
- Signal theory and Aerospace telecommunications systems

**Final grade** Cum Laude -- final GPA 29.46/30 │ **Thesis** Dawn spacecraft orbit uncertainty estimation and control

09/2015 – 06/2020  Isernia IS, Italy
**HIGH SCHOOL DIPLOMA IN SCIENTIFIC STUDIES** ISIS "Majorana-Fascitelli", Liceo Scientifico Statale Ettore Majorana

**Final grade** 100/100 Cum Laude

## ● LANGUAGE SKILLS

Mother tongue(s):　**ITALIAN**

Other language(s):

| | UNDERSTANDING | | SPEAKING | | WRITING |
|---|---|---|---|---|---|
| | Listening | Reading | Spoken production | Spoken interaction | |
| **ENGLISH** | C1 | C2 | C1 | C1 | C1 |
| **FRENCH** | B1 | B1 | A2 | A2 | A2 |

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## DIGITAL SKILLS

**Spacecraft communications and TT&C**

Signal Processing ｜ SDRuno - Software Defined Radio optimized ｜ ORBITRON - Satellite Tracking System ｜ Antenna Design

**Flight Dynamics and control and estimation theory**

OREKIT: Python interface and Java flight dynamics libraries ｜ Orbit Determination ｜ GNSS, Terrestial Surveying ｜ Monte Carlo Simulation ｜ NASA SPICE Toolkit ｜ General Mission Analysis Tool by NASA (GMAT)

**Programming**

MATLAB ｜ Python ｜ Roboflow ｜ Image Processing, Image Analysis, Image Segmentation

**CAD**

SolidEdge ｜ Blender

**Simulation tools**

Simulink ｜ OpenRocket Simulator ｜ VIRTUALBOX

**Other**

LaTeX ｜ Microsoft Office (Outlook, Excel, Word, PowerPoint)

## ADDITIONAL INFORMATION

### NETWORKS AND MEMBERSHIPS

09/2020 – 12/2023
**SASA (Sapienza Aerospace Student Association) Technology Team**
- Robotic arm design using CATIA and SolidEdge.
- Arm control software development for the ERC 2023 Sapienza rover.

**Link** https://www.sasa-aerospace.it/tech-team/

**Sapienza Space Systems and Space Surveillance Laboratory (S5Lab)** Research activity:
- Satellite attitude determination trough light curve inversion
- Flight dynamics simulation
- Autonomous onboard software for satellite attitude control
- Participation in ESA program "Fly your Satellite" with the cubesat team

### PROJECTS

04/2023 – CURRENT
**HELIOS project (with S5lab Sapienza)** Satellite passage observation simulation, image detection, attitude reconstruction from light curve inversion.

06/2023 – 10/2023
**Dawn spacecraft orbit uncertainty estimation and control – Bachelor's thesis** Perturbative analysis of Ceres gravity field and RCS firings, station-keeping maneuvers planning.

03/2023 – 05/2023
**Space systems university laboratory Project** TLE generation from telescope observation data, antenna for receiving telemetry data from the cubesat Greencube satellite.

03/2023 – 05/2023
**Space exploration university course group project** Orbit choice for a Titan methane lakes exploration mission, probe attitude, and SAR configuration planning.

09/2022 – 12/2022
**Rover for ERC 2023** Design, manifacturing and control of a robotic arm-equipped land rover to join the European Rover Challenge 2023 (cooperative team project with SASA technology team).

04/2022 – 10/2022
**Simulink control tool for a generic 6 DOF robotic arm – SSAS research project** PID feedback control based on the orientation and position error.

04/2021 – 10/2021
**Experimental analysis of the performance of 7 model rockets – SSAS research project** Comparison between Altimax sensors data and model predictions, analysis of performance reduction causes.

## HONOURS AND AWARDS

**Honours Programme of Aerospace engineering** additional activities and high specialization technical projects

**Link** http://www.ingaero.uniroma1.it/index.php?option=com_content&view=article&id=1095&Itemid=1501&lang=it

09/2020
**Sapienza Superior School of Advanced Studies (SSAS)**

05/2018
**Italian national final of Maths High School Olympiads**

## HOBBIES AND INTERESTS

**amateur level violin player**

**Member of the Isernia youth Orchestra (during High School)** Small city orchestra of young passionate music students

## WORKSHOPS AND TRAINING COURSES

17/07/2023 – 20/07/2024
**NASA Juno Data Analysis Workshop for Science Capacity Building**

Digital Phase Locked Loop for Juno Probe doppler-ranging, assisted by the NASA Juno Science Team.

10/2023 – CURRENT
**Tsunami and earthquake detection using GNSS**

Satellites positioning and ranging techniques, variometric GPS seismology.

13/03/2023 – 17/03/2023
**ESA Ladybird Guide to Spacecraft Communications Training Course**

Live pass simulation from the ESOC main control room assisted by the OPS-SAT team, real-case problem-solving tasks.