

WORK EXPERIENCE

Sep. 2021 – Ongoing

Research Collaborator

Politecnico di Milano, Italy

- **Main activities:** Supporting the development of a tool capable of simulating GNSS scenarios. Requirements identification, design and development of a high-precision Inertial Measurement Unit (IMU) simulator. Identification of useful inertial and body-fixed reference systems for the cislunar space and development of the associated state conversion functions.

EDUCATION AND TRAINING

Sep. 2018 – Present

Master Degree in Space Engineering

Politecnico di Milano, Italy

- **Thesis:** Bearing-Only Strategies for Proximity Operations on Cislunar Orbits.
- **Main courses:** Orbital Mechanics, Dynamics and Control of Space Structures, Space Propulsion, Spacecraft Attitude Dynamics and Control, Space Mission Analysis and Design, Launch Systems.
- **Projects:**
 - Phase A mission analysis design of a micro-satellite constellation to monitor Earth’s cryosphere.
 - ESA’s Academy Concurrent Engineering Challenge 2019
 - Trajectory design of an interplanetary mission employing multiple gravity-assist manoeuvres.
 - Preliminary design of a versatile, green and reusable sounding rocket missile.
 - Design of an attitude determination and control system for a 6U CubeSat.
 - Satellite constellation analysis and optimisation for lunar communication and navigation services.
 - Replacement of the AVUM stage propulsion unit with a hybrid LOX/Paraffin rocket.

▪ **Graduation mark:** 110 cum Laude

Oct. 2015 – Sep. 2018

Bachelor Degree in Aerospace Engineering

Politecnico di Milano, Italy

- **Main courses:** Fluid dynamics, Aerospace Systems Dynamics, Aerospace Mechanics, Aerospace Propulsion, Flight Mechanics, Aerospace Technologies and Materials, Analysis of Space Missions.
- **Projects:**
 - Orbit characterisation and analysis of possible transfer trajectories.

▪ **Graduation mark:** 110 cum Laude.

Sep. 2010 – Jun. 2015

High School

Liceo Scientifico Statale Leonardo, Brescia

- Mathematics, Physics, Science, English, Technical Drawing

PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	C1
TOEIC Listening and Reading – C1 Equivalent Score					
French	A1	A2	A1	A1	A1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](https://www.europecouncil.eu/en/common-european-framework-of-reference-for-languages)

- Communication skills**
- Enhanced communication and synthesis skills in international environments through university projects and online collaborators. Delivered private lectures to more than 20 people in mathematics, physics, and science.
 - Developed listening and respect for everyone's needs through several local volunteering experiences.

- Organisational / managerial skills**
- Developed and organised events on an international streaming channel. Improved time-management skills by following tight weekly deadlines.
 - Managed the event schedule of a local cinema.

- Digital skills**
- **Programming languages:**
 - C, C++, C#, MATLAB/Simulink, Python, Julia, Git
 - **Software:**
 - Systems Tool Kit (STK): L2 Master Certification
 - Experience with CAD programs: Solid Edge, Inventor and SolidWorks.
 - Microsoft Office Suite.
 - OS: Windows, Linux.
 - IDE: Visual Studio Code, Pycharm.

Driving license B

ADDITIONAL INFORMATION

- Publications**
- M. Ceresoli, G. Zanotti, M. Lavagna, *Bearing-Only Navigation to Support Proximity Operations on Cislunar Orbits*, SpaceOps 2021, Cape Town (RSA), May 2021
 - M. Ceresoli, G. Zanotti, M. Lavagna, *Bearing-Only Navigation for Proximity Operations on Cislunar Non-Keplerian Orbits*, IAC 21, Dubai (UAE), October 2021.
 - G. Tomasicchio, C. Albanese, L. Spazzacampagna, M. Lavagna, G. Zanotti, A. Pasquale, J. Prinetto, M. Ceresoli, *Satellite Constellation Mission Analysis and Design Aspects for Future Lunar Exploration Services*, 26th Ka Broadband Communication Conference, September 2021
 - A. Pasquale, G. Zanotti, M. Ceresoli, A. Capannolo, M. Lavagna, *Cislunar Distributed Architectures for Communication and Navigation Services of Lunar Assets*, IAC 21, Dubai (UAE), October 2021