



Giacomo Paialunga



WORK EXPERIENCE

UNIVERSITY OF BOLOGNA – FORLÌ, ITALY

INTERN AT RADIO SCIENCE AND PLANETARY EXPLORATION LAB – 15/09/2022 – 14/09/2023

- Software code programming to analyse the Inter-Satellite Link ranging observables within ESA's Hera mission
- Simulation and testing for ESA's Hera mission radio science experiments

EDUCATION AND TRAINING

01/11/2023 – CURRENT Forlì, Italy

PHD IN AEROSPACE SCIENCE AND TECHNOLOGY University of Bologna

- Study and design of GNSS-like satellites constellations for Moon and Mars navigation services
- Characterisation and design of the Inter-Satellite Link for INNOVATOR mission, commissioned by the Italian Space Agency
- Link budget analysis for INNOVATOR mission, commissioned by the Italian Space Agency
- Ground station operations for ESA's YPSat

Website <https://www.unibo.it/en> | **Field of study** Aerospace Engineering | **Level in EQF** EQF level 8

01/09/2020 – 14/10/2023 Bologna, Italy

MASTER'S DEGREE IN TELECOMMUNICATIONS ENGINEERING University of Bologna

- Satellite communication and navigation systems
- Spacecraft orbital dynamics and control
- Spacecraft subsystems and space mission design
- Electromagnetic propagation for wireless systems
- Antennas for wireless systems
- Mobile radio networks

Final grade 110/110 Cum Laude | **Level in EQF** EQF level 7 |

Thesis "Autonomous Deep Space Spacecraft Navigation Via One-Way Uplink Ranging Observables"

01/09/2017 – 03/12/2020 Bologna, Italy

BACHELOR'S DEGREE IN ELECTRONICS AND TELECOMMUNICATIONS ENGINEERING University of Bologna

- Signal processing
- Electromagnetism
- Fundamentals of telecommunications
- Internet of Things
- C and Java programming

Level in EQF EQF level 6 | **Thesis** "Studio Simulativo Del Traffico Smaltito Dalla Rete IoT Di Lepida"

01/09/2012 – 01/06/2017 Senigallia, Italy

HIGH SCHOOL LEAVING QUALIFICATION IN CLASSICAL STUDIES Liceo Classico "G. Perticari"

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	C1	C1	C1	C1

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

SKILLS

General

Excellent command of Microsoft Windows OS | Excellent command of Microsoft Office Suite | Good command of Linux OS | Excellent command of Android OS | Excellent command of Google tools (Drive, Docs, Sheets, Slides, Forms)

Known programming languages

C | Java | Python | Matlab | Simulink

SKILLS

Soft skills

- Excellent verbal and written communication skills acquired through my engineering studies.
- Very good critical thinking acquired through my classical studies.
- Excellent public speaking skills thanks to the various projects I have been involved in.
- Excellent attitude towards teamwork acquired during my internship.
- Being able to understand and empathise with others.
- Active listening.
- Excellent precision and timeliness.
- Excellent ability to manage deadlines.
- Strong attention to detail.
- Excellent approach towards project management.

PROJECTS

11/2023 – CURRENT

INNOVATOR - Intersatellite liNk fOr graVity and ATmOspheRic science (Italian Space Agency)

The INNOVATOR project is part of the ALCOR programme. It has the objective to test an innovative payload in orbit that enables highly precise radio science observations in the fields of gravity science and atmospheric science. The payload is a transceiver for InterSatellite Link (ISL-T). It has the capabilities of Telemetry, Tracking, and Control (TT&C), ranging measurements and range-rate measurements. Currently, such a scientific instrument is not available in Europe. Developing and testing it in orbit would enable the design and implementation of a series of high-profile scientific planetary exploration missions.

Source: *Italian Space Agency website*

01/2024 – 07/2024

Ground Station Support to ESA's YPSat project

YPSat, or Young Professionals Satellite, is a project run in its entirety by ESA Young Professionals to give them direct early experience of designing, building and testing for space, intended as the first of many such projects. The objective of YPSat is to capture all the key phases of Ariane 6's inaugural flight. YPSat was launched on board Ariane 6 on the 9th July 2024 and it was a success from every point of view.

Source: *ESA's YPSat website*

PUBLICATIONS

2025

A Radio Science Experiment for the Ramses Mission to Apophis

Lasagni Manghi R., Zannoni M., Gramigna E., Tortora P., Paialunga G., Negri A., Cucinella G., De Rubeis P., Simone L., (2025). A Radio Science Experiment for the Ramses Mission to Apophis, 2025 AAS/AIAA Space Flight Mechanics Meeting

Authors: Lasagni Manghi R., Zannoni M., Gramigna E., Tortora P., Paialunga G., Negri A., Cucinella G., De Rubeis P., Simone L.

2024

A Radio Science Experiment for the RAMSES Mission to Asteroid 99942 Apophis

Lasagni Manghi R., Zannoni M., Gramigna E., Tortora P., Paialunga G., Negri A., Cucinella G., De Rubeis P. L., Simone L., (2024, September). A Radio Science Experiment for the RAMSES Mission to Asteroid 99942 Apophis, EPSC 2024

Authors: Lasagni Manghi R., Zannoni M., Gramigna E., Tortora P., Paialunga G., Negri A., Cucinella G., De Rubeis P. L., Simone L.

2024

The INNOVATOR CubeSat Mission and the Development of its InterSatellite Link Transceiver (ISL-T)

Tortora P., Modenini D., Locarini A., Curatolo A., Paialunga G., Caruso A., Lombardo M., Ponti A. et al., (2024, May). The INNOVATOR CubeSat Mission and the Development of its InterSatellite Link Transceiver (ISL-T), 4S Symposium 2024

Authors: Tortora P., Modenini D., Locarini A., Curatolo A., Paialunga G., Caruso A., Lombardo M., Ponti A. et al. | **Volume, Issue and Pages:** Vol. 13546, pp. 483-495

COURSES

09/2024 – 12/2024

Spacecraft Deep Space Navigation

The course provides the student with the techniques to perform the navigation of an artificial satellite outside the Earth orbit, from the cis-lunar to the deep space environment. The first part of the course focuses on the orbit determination process, used to estimate the past trajectory of a spacecraft from a set of measurements. In the second part, the main strategies to correct the deviations from the reference trajectory are explained.

27/05/2024 – 31/05/2024

ESA's CubeSat Hands-On Training Week 2024

This Training Week offers university students the chance to improve their skills on spacecraft hardware and software thanks to an hands-on experience with CubeSats together with theoretical lectures held by ESA experts. In particular, participants have the opportunity to perform experiments on Educational Satellites (ESAT) developed by Theia Space, learning about subsystems functioning and interactions, Assembly, Integration and Verification (AIV) as well as how to handle tests using real hardware.

14/11/2023 – 23/01/2024

AcES (Academic English Skills)

The Academic English Skills Courses are dedicated specifically to students enrolled on PhD programmes. These courses aim to broaden the knowledge of syntax, lexis and register of academic English, to acquire greater competence in written and spoken communication, to write articles and to prepare for conferences and seminars.

02/2022 – 06/2022

Project Management and Soft Skills

The course, offered by the University of Bologna, provides basic knowledge of Project Management and addresses the relevance of soft skills, personal attitudes and motivation in professional careers. Students are trained towards good written, oral and interpersonal communication and public speaking. Heterogeneous groups of up to six members are formed and students are assigned tasks (e.g. preparation of Gantt and PERT diagrams, project cost assessment, resolution of conflicts, etc) to be performed in teams. The task assignments include precise and tight deadlines, and rules to follow.

VOLUNTEERING

01/03/2023 – CURRENT Senigallia

Co-founder of the association "Alumni Liceo Perticari"

The "Alumni Liceo Perticari" is an organisation formed by former students of Liceo Perticari high school, including myself. The association is committed to promoting cultural initiatives which reflect the rich academic and humanistic heritage of Perticari high school. It also aims to create concrete initiatives for the students, such as scholarships, that support emerging talents. Lastly, we believe in the power of community and aim to build a lasting network among members, encouraging the exchange of experiences, skills, and passions.

Firma

Forlì, 06/10/2025

A handwritten signature in black ink, which has been partially obscured by a black rectangular redaction box.

Giacomo Paialunga