Pasquale Tartaglia

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Gender: Male **Date of birth:** 25/07/1998 **Nationality:** Italian

EDUCATION AND TRAINING

[10/2017 – 10/2020]

Bachelor Degree in Aerospace engineering

University of Rome - "La Sapienza"   www.ingaero.uniroma1.it

City: Rome
Country: Italy
Final grade: 110/110 cum laude
Thesis: Image processing for optical guidance with structured light
Basic skills in: mathematics, physics and engineering among which stand out: materials and construction sciences, numerical calculation, applied mechanics, thermal exchanges, telecommunications and programming language C. In addition, specific skills for aerospace: space propulsion, aerodynamics, introduction to satellite subsystems, fundamentals of attitude control and dynamics, and finally, introduction to space trajectories and orbital maneuvers.

[10/2020 – 01/2023]

Master Degree in Space and Astronautical engineering

University of Rome - "La Sapienza"   www.ingaero.uniroma1.it

City: Rome
Country: Italy
Final grade: 110/110 cum laude
Thesis: Improving orbit determination of a lunar constellation via terrestrial GNSS measurements.
Orbit determination (batch/sequential processing) with attached study of the main types of observables (range, doppler and optical measurements) and sources of error (plasma, thermal noise, troposphere). Consolidation of skills in orbital and attitude dynamics: study of perturbations and driving algorithms for their compensation, optimization applied to orbital transfer and finally attitude determination and control algorithms through momentum wheel. Study of the main space thrusters (chemical and electrical). Basic knowledge in: Artificial Intelligence, space robotics (multibody system dynamics and search algorithms for rover), electronics and control theory.

[01/11/2023 – Current]

Ph.D. student in Space Engineering

University of Rome - "La Sapienza"   www.ingaero.uniroma1.it

City: Rome
Country: Italy
Development of software for planetary propagation and satellite systems, aimed at processing real data to produce planetary and satellite ephemeris based on real measurements. Particular focus on the Earth-Moon system and the processing of Lunar Laser Ranging (LLR) observables for the description of the orbital motion of the Moon and its orientation (librations) in time.

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

Inglese

LISTENING B2 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

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

DIGITAL SKILLS

Programming lenguage: C, python, matlab/simulink | Godot (software being developed by ESA) | Office

WORK EXPERIENCE

[04/2023 – 10/2023]

Junior Researcher

University of Rome - "La Sapienza"

City: Rome
Country: Italy

- Study of a semi-autonomous lunar constellation, using GNSS and Intersatellite Doppler observables
- Processing of optical observables for positioning of interplanetary probes (in association with German Aerospace Center - DLR)
- Software development for satellite and planetary ephemerides (in association with GeoAzur - Observatoire de la Côte d'Azur)

[05/06/2023 – 21/07/2023]

Visiting Researcher

GeoAzur Laboratory - Observatoire de la Côte d'Azur

City: Sophia Antipolis
Country: France

Initial phase of the development of a software for the determination of planetary and satellite ephemeris: analysis of the numerical precision of the integrators, planetary and satellite dynamic implementation with particular attention to the Earth-Moon system for comparison with the ephemeris generated by the INPOP software.