

ARIELE ZURRIA

CURRICULUM VITAE

EDUCATION

PhD in Space and Astronautical Engineering

La Sapienza, University of Rome (11/2022 – ongoing)

Topic: Data analysis and numerical simulations of spatial geodesy and relativity experiments with interplanetary probes

Supervisor: Prof. Luciano Iess

Master of Science in Space and Astronautical Engineering

La Sapienza, University of Rome (09/2020 – 10/2022)

Thesis: Preliminary Design of a Martian Semi-autonomous Global Navigation Satellite System

Supervisors: Prof. Luciano Iess, Prof. Daniele Durante

Final mark: 110 with Honors

Bachelor of Science in Aerospace Engineering

La Sapienza, University of Rome (09/2017 - 07/2020)

Thesis: Genetic Algorithms and Application in a Multi-Rendezvous Problem

Supervisor: Prof. Alessandro Zavoli

Final mark: 110 with Honors

High School

Liceo Scientifico Newton (09/2012 - 07/2017)

Final mark: 100/100

PROJECTS

ROMULUS: Radio Occultation Miniaturized Unit for Low earth orbit and Upper Stratosphere

Currently involved in the 32nd cycle of the BEXUS program hosted by the European Space Agency (ESA) as part of the team responsible for the software of the ROMULUS experiment. This project aims at testing a novel balloon-borne software-defined receiver for radio occultation measurements. The project was proposed in the context of the Sapienza Space Systems and Space Surveillance Laboratory (S5Lab) activities and was selected by ESA in December 2021. The experiment will be launched on a stratospheric balloon in September 2023.

EXPERIENCE ABROAD

Visiting student at ESA's European Space Research and Technology Center (ESTEC)

ESTEC, Noordwijk (16/05/2022 – 20/05/2022)

The experience was aimed at the presentation of the Critical Design Review (CDR) of the ROMULUS experiment for the 32nd cycle of the BEXUS program.

LANGUAGES

Italian (mother tongue), **English** (independent user)

COMPUTER SKILLS

Programming languages

Good knowledge of MATLAB and Python

Basic knowledge of C++

Software

STK, NASA's MONTE, ESA's Godot, Office Suite, Final Cut, Photoshop, Adobe Illustrator

SCIENTIFIC PUBLICATIONS

A. Rossi, **A. Zurria**, D. Porpora *et al.*, **Balloon-Borne Software Defined Receiver for GNSS Radio Occultation Measurements: ROMULUS Experiment**, 2022 IEEE 9th International Workshop on Metrology for AeroSpace (MetroAeroSpace), 2022, pp. 208-212, doi: 10.1109/MetroAeroSpace54187.2022.9855995.

C. Di Nunzio, L. Misericola, D. Porpora, L. Rossi, A. Rossi, **A. Zurria**, E. Depaolis, F. Pasquale, G. Agresti, G. Morichetti, G. Boccacci, E. Valant, P. Marzioli, F. Santoni, F. Piergentili, **Concept, Set-Up, And Planned Data Analysis Of A Low-Cost Software Defined Receiver For Balloon-Borne GNSS Radio Occultation: ROMULUS Experiment**, Proceedings of the 73rd International Astronautical Congress (IAC), Paris, France, 2022.

Rome, 27/06/2023