



## Europass Curriculum Vitae

### Personal information

First name / Surname **Aurel Zeqaj**  
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Nationality Italian  
Date of birth 02/08/1991  
Gender M

### Work experience

Dates 2016-Present  
Occupation or position held Collaboration on the HELIOS (Highly rEliable Links during sOLar conjunctionS) project, founded by the European Space Agency.  
Main activities and skill acquired

- Good knowledge of both basic criteria for the design of radio communication and radar systems, and the metrics to evaluate the performance of such systems.
- Good knowledge of the different types of modulations (BPSK, DBPSK, FSK etc.) and coding schemes (BCH, Turbo, LDPC, etc.) used in TT&C deep space telecommunications;
  - Good knowledge of the instruments used for the radiometric data processing and in particular of the methods used to extract the frequency of a signal (Phase Locked Loop, Costas Loop etc.);
- Experience in the calibration process of the radiometric data used to remove all the noise component generated by the propagation means of the spatial environment (solar plasma, Troposphere, etc.).
- Good knowledge of the Matlab environment, used to develop (partially) and improve the HELIOS baseband simulator, a software capable of simulating the effects of the signal introduced by the solar plasma environment, for different tracking geometries, and with which it is possible to simulate a complete chain from ground to spacecraft and back.

At University of Bologna

Dates 2016-Present  
Occupation or position held Member of the Radio Science and Planetary Exploration Lab  
Main activities and responsibilities participation to radio science experiments (Cassini, Juno, Bepi Colombo, Juice), working on data analysis for calibration applications.  
At University of Bologna

## Education and training

Dates	2010-2014
Title of qualification awarded	Bachelor degree in Aerospace Engineering
Name and type of organisation providing education and training	Alma Mater Studiorum - Università di Bologna - School of ENGINEERING and ARCHITECTURE
Title of the thesis	<i>Studio e implementazione di un codice per l'impacchettamento di un propellente solido</i>
Dates	2014-2017
Title of qualification awarded	Master degree in Aerospace Engineering
Name and type of organisation providing education and training	Alma Mater Studiorum - Università di Bologna - School of ENGINEERING and ARCHITECTURE
Title of the thesis	<i>Study of Reliable Deep Space Communication Links during Solar Conjunctions</i>

## Personal skills and competences

Mother tongue(s) **Italian, Albanian**

Other language(s) **English**

Self-assessment

European level (\*)

**English**

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	B2

(\*) Common European Framework of Reference for Languages

Computer skills and competences

- I am skilled in the use of Microsoft Office, especially Excel, Word and Power Point.
- I am skilled in the use of Matlab and Simulink, that I used intensively during the Bachelor and Master thesis.

Driving licence Class B