Anna Maria Gargiulo
Curriculum Vitae

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Date of Birth: 7 Dec 1996

EDUCATION AND TRAINING

NOV. 2021 – Present	**PhD in Aeronautics and Space Engineering**
	Sapienza University of Rome, Rome (Italy)
	Research topics: investigation of geological features on planetary surfaces; navigation of rovers and deep-space probes
MAR. 2021 – MAR. 2022	**Master in Satellite Systems and Services**
	Sapienza University of Rome, Rome (Italy)
	110/110 *cum laude*
	Thesis: Multi Modal Cooperative PVT Solution Supporting Lunar User Assets Guidance and Navigation
	Supervisor: Professor Paolo Gaudenzi
	Company Supervisor: Ing. Giuseppe Tomasicchio
SEP. 2018 – OCT. 2020	**M. Sc. in Astronautical and Space Engineering**
	Sapienza University of Rome, Rome (Italy)
	110/110 *cum laude*
	Thesis: "Safe Navigation on Planetary Surfaces"
	Supervisor: Professor Antonio Genova
SEP. 2015 – JUL. 2018	**B. Sc. in Aerospace Engineering**
	Sapienza University of Rome, Rome (Italy)
	110/110 *cum laude*
	Thesis: "Studio Aeroelastico e della Inversione dei Comandi di un Velivolo con Ala a Freccia"
	Supervisor: Professor Paolo Gasbarri
SEP. 2010 – JUL. 2015	**Scientific High School Diploma**
	Liceo Scientifico Statale Teresa Gullace, Rome (Italy)
	100/100 *cum laude*

RELEVANT EXPERIENCE

JUL. 2021 – DEC. 2021	**Internship at TELESPAZIO SPA** **"Analysis of Multi-modal Cooperative PVT & COMMS solutions for Lunar/Planetary surface user segment"**
	Telespazio SPA, Rome (Italy)

PERSONAL SKILLS

Mother tongue(s)	Italian
Foreign language(s)	English, conversationally fluent
Certifications	Advanced Certificate in English (CAE) – C1 Advanced

| Digital skills | MATLAB, C++, Python, Tensorflow, QGIS, ENVI, SNAP, M.Office, Gazebo, LATEX, IDM-CIC, STK, XML, MSC Software Patran, SolidEdge, Inkscape. |
| Organizational/ Managerial skills | Team working, Problem-solving, Goal-oriented, Willingness to learn |

PUBLICATIONS

Artificial Intelligence Techniques applied to Remote Sensing data for Volcano-Tectonic Features Extraction

Gargiulo, A.M., Guerrero Tello, J.F., Moriero, I., Coltelli, M., Marsella, M., Genova, A.

AGU Fall Meeting 2022, Chicago, IL, USA, 12-16 December 2022, Abstract in atti di convegno.

Detection of Geological Features on Terrestrial Planets by using Machine Learning

Gargiulo, A.M., Marsella, M., Genova, A., Coltelli, M.

AGU Fall Meeting 2022, Chicago, IL, USA, 12-16 December 2022, Abstract in atti di convegno.

Improving Venus' static and time-variable gravity field with the EnVision Radio Science Experiment

Rosenblatt, P., Genova, A., Petricca, F., Gargiulo, A.M., Dumoulin, C., Tobie, G., Marty, G.C., Lebonnois, S.

AGU Fall Meeting 2022, Chicago, IL, USA, 12-16 December 2022, Abstract in atti di convegno.

Semi-autonomous Guidance, Navigation and Control system for planetary rovers

Andolfo, S., Del Vecchio, E., Gargiulo, A.M., Petricca, F., Genova, A.

73rd International Astronautical Congress (IAC), Paris, France, 18-22 September 2022

Lunar Surface exploration based on LCNS orbiters and Onboard Sensor observables

Tomasicchio, G., Gargiulo, A.M., Genova, A., Marsella, M., Andolfo, S., Del Vecchio, E., Petricca, F., Rodriguez, F., Albanese, C.

73rd International Astronautical Congress (IAC), Paris, France, 18-22 September 2022

An approach for volcano-tectonic features extraction using optical and radar remote sensing data

Gargiulo, A.M., Marsella, M., Coltelli, M., Genova, A.

EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-10037, Abstract in atti di convegno. DOI: 10.5194/egusphere-egu22-10037

Accurate Lunar Surface PNT based on LCNS Orbiter Sources and Onboard Sensor Fusion

Tomasicchio, G., Albanese, C., Rodriguez, F., Spazzacampagna, L., Gargiulo A.M., Gaudenzi, P., Genova, A., Giordano, P., Zoccarato, P., Swinden, R., Ventura-Traveset, J.

NAVITEC 2022, Noordwijk, The Netherlands, 04 – 08 April 2022 ESA/ESTEC.

Numerical Simulations for Planetary Rovers Safe Navigation and LIDAR Based Localization

Gargiulo, A.M., di Stefano, I., Genova, A.

2021 IEEE 8th International Workshop on Metrology for AeroSpace (MetroAeroSpace)*, 2021, pp.* 418-423, doi:10.1109/MetroAeroSpace51421.2021.9511774*.*

Model-Based Slippage Estimation to Enhance Planetary Rover Localization with Wheel Odometry

Gargiulo, A.M., di Stefano, I., Genova, A.

Appl. Sci. 2021, 11, 5490. DOI:10.3390/app11125490.

Safe Navigation and Visual Odometry-based Localization for Planetary Exploration Rovers

Andolfo, S., Gargiulo, A. M., Petricca, F., di Stefano, I., Genova, A

EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-15702, Abstract in atti di convegno. DOI: 10.5194/egusphere-egu21-15702, 2021

ADDITIONAL INFORMATION

| Honors and awards | **2022** Best Student Presentation Award at the virtual NAVITEC 2022 Conference |

Teaching

2019-2020 Excellence Path in Space and Astronautical Engineering, Sapienza University of Rome, Italy
2017-2018 Excellence Path in Aerospace Engineering, Sapienza University of Rome, Italy
"Corso di preparazione ai Giochi di Archimede" - Liceo Scientifico Statale Teresa Gullace, Rome (Italy) (2015–2016)

Projects

AVUM Multi–purpose Module Structure Concept Design (February 2021– July 2021)
Sapienza research group devoted to the Task 9/WP9: AVUM Multi–purpose Module Structure Concept Design (ESA Work Package STS-DVL ESA Work Order STS-DVI) included in the Technical Support Activities for VEGA-C, VEGA- E and P-120C Work Order 3. The task required the optimization of the AVUM MPM structural design and configuration for future applications on VEGA–E and Space Rider.

M. Sc. in Astronautical and Space Engineering
Development of a software that simulates rover's navigation on planetary surfaces based on an accurate dynamical model. Traversability analyses on different terrain types and terrain slopes were performed for a rover compatible in size and mass with the NASA's rovers Spirit and Opportunity.

Interests and hobbies

Volleyball, running, swimming. Arts, painting, reading.
Science divulgation and teaching