

# Vittorio Franzese

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Date of Birth: 19<sup>th</sup> January 1993 | Italian  
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Profiles: [Scopus](#), [Google Scholar](#), [Linkedin](#)



## Education

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due on 04/2021 **Philosophiæ Doctor** in Aerospace Engineering, NPI among Politecnico di Milano, ESA, and Tyvak.  
Thesis: "Autonomous Navigation for Interplanetary CubeSats at different scales".  
2017 **Master of Science** with full marks (110/110) in Space Engineering, Politecnico di Milano.  
Thesis on "Autonomous Navigation for Interplanetary CubeSats".

## Experience

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2020 **MILANI mission phase B**, PoliMi, ESA Contract 4000131925/20/NL/GLC  
○ GNC design and analysis; Dev. of center-of-brightness optical navigation filter  
2020 **MILANI mission phase A**, PoliMi, ESA Contract 4000131925/20/NL/GLC  
○ Mission analysis and GNC proposals preparation; Dev. of asteroids rendering tool  
2019 **LUMIO mission phase A**, PoliMi, ESA Contract RFP/3-16361/19/NL/AS  
○ Mission analysis proposal preparation; Dev. of Kalman filter for full-disk navigation  
2018 **M-ARGO mission phase A**, PoliMi, ESA Contract 4000127373/19/NL/AF  
○ Asteroids target mission analysis; Dev. of line-of-sight optical navigation algorithm  
2017 **LUMIO mission phase 0**, PoliMi, ESA Contract 4000120225/17/NL/GLC/as  
○ Dev. of Lunar images rendering and processing tool; Dev. of full-disk OpNav algorithm

## Research Stays

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2020 **ESTEC**, the Netherlands, 9 months: Dev. of asteroids radiometric model and far detection study.  
2019 **ESTEC**, the Netherlands, 6 months: Dev. of line-of-sight Kalman filter for M-ARGO mission.

## Teaching and Supervision

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2020 **Teaching Assistant**, PoliMi, Course: "Modeling and Simulation of Aerospace Systems", MSc degree.  
2018 - **Supervision for MSc thesis**, PoliMi, Supervision of 7 students for their MSc theses work.

## Awards

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2018 **"Best Paper"** for "LUMIO: achieving autonomous operations for Lunar exploration with a CubeSat" in SpaceOps Conference, Marseille, France, 2018. DOI: [10.2514/6.2018-2599](https://doi.org/10.2514/6.2018-2599).

## List of journal papers

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2020 **Franzese, V.**, Topputo, F., "Optimal Beacons Selection for Deep-Space Optical Navigation", *The Journal of Astronautical Sciences*, Vol. 38, pp. 1-18, DOI: [10.1007/s40295-020-00242-z](https://doi.org/10.1007/s40295-020-00242-z).  
2019 **Franzese, V.**, Di Lizia, P., Topputo, F., "Autonomous optical navigation for the Lunar Meteoroid Impacts Observer", *JGCD*, Vol. 42, 1579-1586, DOI: [10.2514/1.G003999](https://doi.org/10.2514/1.G003999).

Author of more than 15 works presented at international congresses and workshops.