

## Fabrizio Stesina

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Birth Date: 21/05/1980  
Gender: Male  
Nationality: Italian



### WORK EXPERIENCE:

10/21- now

**Assistant Professor (RTDA – Ricercatore a Tempo Determinato di tipo A) at Politecnico di Torino**, Department of Mechanical and Aerospace Engineering (DIMEAS).

- Lecturer in Courses of Bachelor and Master Degrees in Aerospace Engineering, 30+ hours of lecture (up-to-now)
- Tutor of 10+ Master Theses and 2 Bachelor Theses
- Responsible for *ESA-uProp* programs sponsored by the European Space Agency (ESA) for the development of test platforms for the verification of miniaturized electrical propulsion systems
- Responsible for GNC in *SROC (Space Rider Observer Cube)* program, sponsored by ESA for the development of a small satellite able to perform proximity operations, rendezvous and docking maneuvers with Space Rider
- Responsible of *SINAV (Soluzioni Innovative per la Navigazione Autonoma Veloce)* project, funded by Agenzia Spaziale Italiana (ASI) for the development of new technologies to support the navigation of martian rovers.
- Director of the DIANA students Team of Politecnico di Torino
- Responsible of the *Spacecraft Development* unit of the CubeSat students Team at Politecnico di Torino
- System Engineers in international projects (such as MESPAC that investigates the use of satellites for marine applications and WIVERN2 focused on remote sensing applications), funded by ESA
- Authors of 10+ publications in international journal and international congresses proceedings
- Member of the Editorial Board of MDPI journal “Aerospace”, responsible for the special issue “Interplanetary small satellites”
- Member of national and international associations: IEEE (International Electrical and Electronics Engineers), and AIDAA (Associazione Italiana di Aeronautica e Astronautica))

10/21- now

**Researcher at POLITECNICO DI TORINO**, CO.CO.CO at Department of Mechanical and Aerospace Engineering

- Teaching activity in Courses of Bachelor and Master Degrees in Aerospace Engineering. 50+ hours of lecture in four different courses
- Responsible of the activity for *ESA-uProp* program sponsored by the European Space Agency for the development of test platforms for the verification of miniaturized electrical propulsion systems
- GNC engineer in international programs for interplanetary small-sats missions
- Authors of 10+ publications in international journal and international congresses proceedings

01/14 – 12/19

**Post doc Research Fellow at POLITECNICO DI TORINO**, Department of Mechanical and Aerospace Engineering

- Teaching activity in Courses of Bachelor and Master Degrees in Aerospace Engineering. 150+ hours of lecture in four different courses
- Co-tutor of more than 20+ Master Theses
- AIV manager and Director of Operations for the CubeSats mission e-st@r-2 of Politecnico di Torino
- AIV manager of the ESA-Prop project sponsored by the European Space Agency for the development of test platforms for the verification of miniaturized electrical propulsion systems
- Senior member of the CubeSat Team of Politecnico di Torino
- Avionics Engineer of ARTE, payload tested on board the International Space Station in 2016 and 2017
- GNC Engineer in national programs for design and development of control systems of spacecraft involved in space mission of rendezvous and docking with not cooperative targets
- Member of the Editorial Board of “Avionics and Control System”, Cambridge School Publishing
- Authors of 30+ publications in international journal and international congresses proceedings

01/11– 12/13

**PhD candidate in Aerospace Engineering at POLITECNICO DI TORINO**

- Teaching activity in Courses of Bachelor and Master Degrees in Aerospace Engineering. 50+ hours of lecture in four different courses
- Research on Aerospace Engineering, working on the definition of methodologies for the design and verification of Guidance Navigation and Control System for space applications
- Student Leader of the CubeSat Team of Politecnico di Torino
- Authors of 10+ publications in international journal and international congresses proceedings

01/05 – 12/10

**Research fellow at POLITECNICO DI TORINO**, Department of AeroSpace Engineering

- System and Test Engineer in Research projects on autonomous and unmanned ground and aerial vehicles
- Member of the research team “Integrated Systems for the Security” at SiTI (Istituto Superiore sui Sistemi Territoriali per l’Innovazione)
- Member of the research team “ASSET (AeroSpace System Engineering Team) of the Department of Aerospace Engineering at Politecnico di Torino
- Co-founder of the company SPAIC s.r.l.

## **EDUCATION AND TRAINING:**

04/2014

PhD Graduation in Aerospace Engineering, PhD Thesis title: “Design and Verification of Guidance Navigation and Control systems for space applications” (Advisor: Prof. Sabrina Corpino). Politecnico di Torino (Italy)

02/2005

Engineering Career qualification, Politecnico di Torino (Italy)

09/2004

MS Degree in Information Technology Engineering. MS Thesis title: “Controllo robusto: progettazione in forma digitale ed esempi” - Robust control: digital design and applications (Advisor: Prof. D. Carlucci). Politecnico di Torino (Italy)

07/1999

High School Degree in Science Education. Liceo Scientifico Statale “Amedeo”  
Avogadro, Cossato, Biella (Italy)

**TEACHING ACTIVITY:**

2008-today

**Teaching activities at Politecnico di Torino** on the AeroSpace Systems courses for 250+ hours in the following MS courses:

- “Sistemi Spaziali” - *Master Degree Course in Space Engineering* (a.a. 2008-2009, a.a. 2009-2010),
- “Sistemi Aerospaziali” – *Master Degree Course in Aerospace Engineering* (from a.a. 2010-2011 to a.a. 2021-2022)
- “Progetto di missioni e sistemi spaziali” - *Master Degree Course in Aerospace Engineering* (from a.a. 2011-2012 to a.a. 2014-2015, and from a.a. 2016-2017 to a.a. 2021-2022)
- “Equipaggiamenti di Bordo” - *Bachelor Degree Course in Aerospace Engineering* (from a.a. 2012-2013 to a.a. 2021-2022)

**SKILLS AND COMPETENCES:**

**Technical Skills and competences**

- Knowledge of methods and tools for the design and verification of advanced and complex systems
- Knowledge of the procedures and standards applicable along the life cycle of a space system (i.e. ECSS standards)
- Capability to define and execute Assembly, Integration and Verification (AIV) Plans.
- Specific knowledge for design and verification tools for small satellites missions
- Knowledge of most space systems: general characteristics and disciplines involved in their design
- Knowledge and ability to design automated control systems
- Knowledge and ability to design basic electronic circuits and hardware interfaces
- Knowledge of the most important techniques to study and design safety and reliability
- Ability to program in C/C++ language, for micro-controllers with real time operative systems (RTOS)
- Knowledge on Unmanned Ground-Sea-Aerial Vehicles, and their on-board systems (Guidance, Navigation and Control System, Propulsion System, Communications System)

**Computer skills and competences:**

- Operative systems: Windows, Linux, and specific RTOS such us Linux Embedded and Salvo.
- Microsoft Office Suite, Matlab and Simulink, LabView, Eagle-Cad

**Languages:**

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B1	Independent user	B2	Independent user	B1	Independent user	B1	Independent user	B2	Independent user

**OTHER INFORMATION**

- “ASN for Associate Professor (2020-2029)
- Author of 20+ articles in national and international journals and 40+ articles in national and international conferences and congresses.
- Organization of and participation in 21 funded research programs / projects
- Member of CDA and co-founder of SPIAC srl, spin-off of PoliTO up to November 2015
- Winner of STARCUP 2005 3<sup>rd</sup> place prize for the creation of a new enterprise
- Patented Radio amateur
- Presenter in 20+ national and international congresses/conferences

Torino, 12/05/2022

Firma

