PERSONAL INFORMATION

Raffaele Mozzillo

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Sex M | Date of birth 24/07/1986 | Nationality Italian

WORK EXPERIENCE

03/2013 to date — **Team leader of the CubeSat Team at Politecnico di Torino**

Politecnico di Torino, Corso Duca degli Abruzzi, n 24, 10129 Torino (Italy)
Contact person: Prof. Sabrina Corpino, (+39) 0110906867, sabrina.corpino@polito.it

- Provide technical guidance to other personnel and assigned teams
- Periodical elaboration of reports and deliverables
- Tracking and submission of milestones, KPI & deliverables
- Lead System Engineer and Test Manager of the e-st@r-II CubeSat
- Lead ADCS Engineer of e-st@r-II and 3-STAR CubeSats
- Participation in ESA "Fly Your Satellite!" initiative: call conference, meeting in ESA-ESTEC (Noordwijk, Netherlands) with ESA experts, implementation of ECSS standards, environmental test campaign, practical experience with RID, NCR, RFD, RFW, Procedure variation
- Test activities in conjunction with ESA-ESTEC during the environmental test campaign on March-May 2015 (vibration test) and on May-June 2015 (thermal vacuum cycling test)
- Website Manager and contact person for companies

Business or sector Research, Systems and aerospace technology laboratory

08/2012 to 03/2013 — **Consultant for CubeSats research projects e-st@r-II and 3-STAR**

Politecnico di Torino, Corso Duca degli Abruzzi, n 24, 10129 Torino (Italy)
- Simulation, testing and verification of ADCS system of the e-st@r-II CubeSat (1U)
- Creation and testing of the new interface of the ground station of the e-st@r-II CubeSat
- Responsible for the design, simulation, testing and verification of ADCS system of the 3-STAR CubeSat (3U)

Business or sector Research, Systems and aerospace technology laboratory

03/2011 to 07/2012 — **Member of the CubeSat Team**

Politecnico di Torino, Corso Duca degli Abruzzi, n 24, 10129 Torino (Italy)
- Design, simulation, testing and verification of ADCS system of the 3-STAR CubeSat (3U)

Business or sector Research, Systems and aerospace technology laboratory

04/2009 – 09/2009 — **Internship for Bachelor final thesis**

Seconda Università degli Studi di Napoli, Facoltà di Ingegneria, via Roma, n 29, 81031 Aversa (Italy)
- Development of a ceramic coating for structures made of aluminium alloy subjected to thermo-structural shock

Business or sector Research, Science and technology of materials Laboratory in collaboration with MBDA Missile System

EDUCATION AND TRAINING

03/ 2013 to date — **Grant holder – PhD candidate in Aerospace Engineering**

Politecnico di Torino, Corso Duca degli Abruzzi, n 24, 10129 Torino (Italy)
- Research activities on the topic: Technologies and methodologies for CubeSats performances improvement, from education missions to scientific/commercial services.
- Educational and tutoring activities as assistant tutor professor of 'Space Systems and Mission Engineering' 2013-2014-2015 classes

10/2009 to 07/2012 — **Master of Science in Aerospace Engineering (Mark: 110/110 cum laude)**

Politecnico di Torino, Corso Duca degli Abruzzi, n 24, 10129 Torino (Italy)
Thesis: *Development of the Attitude Determination and Control System for a nanosatellite*

09/2005 to 10/2009 — **Bachelor in Aerospace Engineering (Mark: 110/110 cum laude)**

Seconda Università degli Studi di Napoli, Facoltà di Ingegneria, via Roma, n 29, 81031 Aversa (Italy)
Thesis: *Development of a ceramic coating for structures made of aluminium alloy subjected to thermo-structural shock*

PERSONAL SKILLS AND COMPETENCES

Mother tongue

Italian

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Listening	

English

C1 – Advanced level	C2 – Advanced level	B2 – Intermediate level	C1 – Advanced level	B2 – Intermediate level

IELTS held on 17/12/2011; Overall band: 7 (Listening: 7; Reading: 8.5; Writing: 6; Speaking: 6.5)

Communication skills

- Aptitude for **teamwork**, shown as first member and then leader of the CubeSat Team
- **Teaching skills** refined as assistant tutor professor of university courses
- Good ability to adapt to **multicultural environments**, gained through participations in international conferences and workshops

Organisational / managerial skills

- Effective **organisation skills,** ability to prioritize and plan work activities, and to handle unexpected problems with ease
- **Leadership** (at the moment I am the Team Leader of the CubeSat Team, composed of about 20 people)
- Ability to identify key points and problems, including the ability to consider alternative options and their impact on results
- Ability to **cope concurrently** with different tasks and to **work under pressure**

Job-related skills

- Both practical and theoretical experience in the analysis and design of an Attitude Determination and Control System (several courses and design / integration of 1U CubeSat e-st@r-II and 3U CubeSat 3-STAR)
- Experience with design, procedures and instruments for space missions
- Experience with Assembly, Integration e Verification of space systems;
- Good knowledge of communication systems for satellites and equipment for Ground Control Stations
- Experience with Hardware In the Loop simulator of satellites (design, development and verification)

Computer skills

- Excellent knowledge of **system engineering** (Functional analysis, requirements derivation and management, SysML, Doors)
- Excellent knowledge of **programming language and simulation model design**: Matlab, Simulink, ANSI C, Fortran, APDL, Labview
- Excellent knowledge of **space missions related software**: Satellite Tool Kit (STK)
- Excellent knowledge of **Embedded Software** for ARM9
- Good knowledge of **FEM analysis software**: Ansys
- Excellent knowledge of operating system: Windows, MAC OS and UNIX
- Excellent knowledge of Microsoft Office and LaTeX
- Good knowledge of graphic software: Photoshop, Paint.Net, Gimp, Illustrator, Lightroom

Driving licence

- Driving licence: B

OTHER INFO

Publications

[1] *"Design of the Active Attitude Determination and Control System for the e-st@r CubeSat"* – (Stesina F., Corpino S., **Mozzillo R.**, Obiols-Rabasa G.) – IAC2012, Naples, Italy (1-5 October 2012)

[2] *"The active attitude determination and control system for e-st@r-2"* – (Stesina F., Corpino S., **Mozzillo R.**) – 2nd IAA Conference on University Satellite Missions and Cubesat Workshop, Rome, Italy (7 February 2013)

[3] *"E-st@r-I lessons learned and their application"* – (Obiols-Rabasa G., Corpino S., **Mozzillo R.**, Nichele F.) – 6th European CubeSat Symposium, Estavayer-le-Lac, Switzerland (14–16 October 2014) – No proceedings

[4] *"A tool for nano-satellite functional verification: comparison between different in-the-loop simulation configurations"* – (Feruglio L., **Mozzillo R.**, Corpino S., Stesina F.) – 6th European CubeSat Symposium, Estavayer-le-Lac, Switzerland (14–16 October 2014) – No proceedings

[5] *"e-st@r-I experience: valuable knowledge for improving the e-st@r-II design"* – (Obiols-Rabasa G., Corpino S., **Mozzillo R.**, Nichele F.) – IAC2014, Toronto, Canada (29 September – 03 October 2014)

[6] *"Lessons learned of a systematic approach for the e-st@r-II CubeSat environmental test campaign"* – (Obiols-Rabasa G., Corpino S., **Mozzillo R.**, Stesina F.) – IAC2015, Jerusalem, Israel (12 - 16 October 2015)

[7] *"Autonomous neuro-fuzzy solution for fault detection and attitude control of a 3U CubeSat"* – (Feruglio L., Franchi L., **Mozzillo R.**, Stesina F., Corpino S.,) – IAC2015, Jerusalem, Israel (12 - 16 October 2015)

[8] *"CubeSat Team of Politecnico di Torino: past, present and future projects"* – (**Mozzillo R.**, Franchi L., Feruglio L., Stesina F., Corpino S.,) – 1st Symposium on Space Educational Activities, Padua, Italy (9 - 12 December 2015)

[9] *" E-st@r-I experience: valuable knowledge for improving the e-st@r-II design"* – (Corpino S., Obiols-Rabasa G., **Mozzillo R.**, Nichele F.) – Acta Astronautica, accepted for publication