Fusaro Roberta

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Professional background

01/08/2014 – 31/01/2015	**Post-graduate research fellowship** *Theme:* Stochastic simulation of fleet of Unmanned Aerial Systems. The aim of the high-level analysis has been a detailed and accurate evaluation of the obtained results in order to obtain useful feedbacks for the design of these UAS. The research activities were carried out within the framework of SMAT 2 project, an Italian project funded by Piedmont Region.
14/10/2013 – 13/04/2014	**Post-graduate research fellowship** *Theme:* Automatic Methodology for simulation of bi-dimensional orbital, suborbital and stratospheric trajectories. The research activities were carried out within the framework of STEPS 2 project, an Italian project funded by Piedmont Region.

Education and Academy

01/01/2014 - current	**PhD Student** Politecnico di Torino - DIMEAS Department of Mechanical and Aerospace Engineering Corso Duca degli Abruzzi 24, 10129 Torino,Italy *Thesis Title:* Comparative analysis of new configurations of aircraft aimed to competitiveness, environmental compatibility and safety.
29/03/2015	**Qualification Exam for Italian Engineers** Industrial sector - Section A Certified by: Politecnico di Torino Corso Duca degli Abruzzi 24, 10129 Torino (Italy)
13/10/2011 - 16/10/2013	**MSc – Aerospace Engineering** Politecnico di Torino

	Corso Duca degli Abruzzi 24, 10129 Torino (Italy) *Specialization:* Flight mechanics and Aerospace systems *Grade:* 110/110 *MSc Thesis:* Hybrid Propulsion in Aeronautics
08/09/2008 - 12/10/2011	**BSc – Aerospace Engineering** Politecnico di Torino Corso Duca degli Abruzzi 24, 10129 Torino (Italy) *Grade:* 98/110 *BSc Thesis:* Preliminary design of a communication system aimed at flight test data transmission
08/09/2003 - 04/07/2008	**High School – Second level college focusing on humanities** Liceo Newton Via Paleologi, 22, 10034 – Chivasso, Turin, Italy *Grade:* 95/100

Personal skills

Spoken Languages

Italian	Native Language			
English	*Reading*	*Listening*	*Speaking*	*Writing*
	C2	C2	C2	C2
	Certificates: - IG (Test Inglese Generale): C2 (07/05/2015) - FCE (First Certificate in English): "Pass"			
German	*Reading*	*Listening*	*Speaking*	*Writing*
	A1	A1	A1	A1
	Certificates: - Fit in Deutsch 1: "Sehr Gut"			

Interaction skills	Good interaction and communications skills acquired during research activities and academic experience within team work and presentation of student projects.
Management skills	Team spirit and good management capabilities within a group acquired during professional experience. Good familiarity with the organization and the timeline of a wide Project as well as with project planning. Proneness to productive discussion within a team,aim at driving the work in the best direction both in academic and industrial domain.
Professional skills	The following MSc course with specialization in flight mechanics and aerospace gave methe basis for the design activities of complex and safety-critical systems with particular attention to 'Systems Engineering' methodologies.

	The current doctoral activities allow me to face with real case studies especially focused on innovative configurations, in particular on suborbital and hypersonic spacecraft. In this context, I have the opportunity to work in cooperation with Thales Alenia Space Italy (Turin), Altec and ESA (ESTEC - Noordwijk)
Software skills	Daily use of Microsoft Office platform (Word, Excel, Power Point). Good knowledge of Matlab/Simulink Good knowledge of Simio, software for stochastic simulation environment. Good knowledge of Solidworks, basic knowledge of Catia for Computer-Aided Desin. Basic knowledge of IBM Rational DOORS for Requirements management. Basic knowledge of STK, software for trajectory and mission analysis. Basic knowledge of Patran and Nastran software for structural analysis. Machine language: C, Matlab.
Other skills	Driving license: B

Conferences and Congress Proceedings

09/09/2013 – 12/09/2013, Naples (Italy)	**Conference** – XII AIDAA Conference (Italian Association Aeronautics and Astronautics) *Role:* Co-author of the paper *Title:* "Hybrid configuration - Advanced A.P.U. concept for future turboprop." Authors: Sergio Chiesa, Sabrina Corpino, Marco Fioriti, Andrea Furlan, Francesco Brunetti, Roberta Fusaro
23/04/2014 – 25/04/2014 Prague (Czech Republic)	**Conference** – X Pegasus AIAA Student Conference (Italian Association Aeronautics and Astronautics) *Role:* Author of the paper and presenter *Title*: "Hybrid propulsion in Aeronautics"
29/06/2014 - 01/07/2014 Rome (Italy)	**Conference** – CESMA - 1st International Symposium on "Hypersonic flight: from 100.000. *Role:* Co-author of the presentation

	Title: "Hypothesis for Hypersonic flight development" *Authors:* Sergio Chiesa, Sara Cresto Aleina, Marco Fioriti, Roberta Fusaro
07/09/2014 - 12/09/2014 S. Petersburg (Russia)	**Conference** – ICAS 2014 (29th Congress of the International Council of the Aeronautical Sciences) *Role:* Co-author of the paper *Title*: "Autonomous take-off and landing for unmanned aircraft system: risk and safety analysis " *Authors:* Sergio Chiesa, Sara Cresto Aleina, Giovanni Antonio Di Meo, Roberta Fusaro, Nicole Viola *Role:* Co-author of the paper and Presenter *Title*: "UAV Based Advanced Monitoring System: Fleet And Logistic System Sizing By Object Based Model And Monte-Carlo Simulation. " *Authors:* Sergio Chiesa, Roberta Fusaro, Marco Fioriti
15/10/2014 - 17/10/2014 Vilnius (Lithuania)	**Conference** – READ 2014 (Research and Education in Aircraft Design 2014) *Role:* Co-author of the paper *Title*: "Possible hybrid propulsion configuration for transport jet aircraft " *Authors:* Sergio Chiesa, Marco Fioriti, Roberta Fusaro *Role:* Co-author of the paper and Presenter *Title*: "An educational experience at Politecnico di Torino to state and increase capability in aircraft layout comprehension and definition. " *Authors:* Sergio Chiesa, Marco Fioriti, Roberta Fusaro *Role:* Author of the paper and Presenter *Title*: "The advantage of a hybrid piston prop aircraft"
29/09/2014 - 03/10/2014 Toronto (Canada)	**Conference** – IAC 2014 (65th International Astronautical Congress) *Role:* Co-author of the paper *Title*: "On-orbit technology demonstration and validation: methods and tools for mission, system and operations design." *Authors:* Maria Antonietta Viscio, Nicole Viola, Roberta Fusaro, Valter Basso, Manuela Marello, Mauro Pasquinelli, Francesco Santoro.
29/06/2015 – 03/07/2015 Krakow (Poland)	**Conference** – EUCASS (6th European Conference for Aeronautics and Space Sciences) *Role:* Co-author of the paper *Title*: "Civil RPAS integration in future ATM: avionics system architecture design." *Authors:* Sara Cresto Aleina, Roberta Fusaro, Nicole Viola and Giovanni Antonio Di Meo *Role:* Co-author of the paper and Presenter *Title*: "Performance analysis of an integrated hyperspectral sensor for

	civil applications on Unmanned Aerial Vehicles (UAV)." *Authors:* Roberta Fusaro, Sara Cresto Aleina, Marta Casti, Nicole Viola and Pierantonio Catella
07/07/2015 – 09/07/2015 Turin (Italy)	**Conference** – 9th IAA Symposium On The Future Of Space Exploration *Role:* Co-author of the paper *Title*: "The importance of technology roadmaps for a successful future in space exploration." *Authors:* Sara Cresto Aleina, Luca Levrino, Nicole Viola, Roberta Fusaro and Giorgio Saccoccia
06/07/2015 – 09/07/2015 Glasgow (United Kingdom)	**Conference** – Hypersonics 2015 (20th AIAA International Space Planes and Hypersonic Systems and Technologies Conference) *Role:* Co-author of the paper and Presenter *Title*: "Assessment of Hypersonic Flights Operation Scenarios: analysis of launch and reentry trajectories, and derived top-level vehicle system and support infrastructure concepts and requirements". *Authors:* Francesco De Vita, Nicole Viola, Roberta Fusaro, Francesco Santoro
07/09/2015 – 11/09/2015 Delft (The Netherlands)	**Conference** – CEAS 2015 (5th CEAS Air & Space Conference) *Role:* Co-author of the paper *Title*: "Impacts of a Prognostics and Health Management System on Aircraft Fleet Operating Cost during Conceptual Design Phase by using Parametric Estimation". *Authors:* Marco Fioriti, Guido Pavan, Roberta Fusaro
16/10/2015 – 18/10/2015 Turin (Italy)	**Conference** – IEEE-RTSI (1st Int. Forum on Research and Technologies for Society and Industry) *Role:* Co-author of the paper and Presenter *Title*: " **Hyperspectral sensor for civil applications to Unmanned Aerial Vehicles within monitoring scenario**". *Authors:* Roberta Fusaro, Marta Casti, Sara Cresto Aleina, Nicole Viola, Pierantonio Catella, F. Butera, L. Chiarantini
16/10/2015 – 18/10/2015 Jerusalem (Israel)	**Conference** – IAC 2015 (65th International Astronautical Congress) *Role:* Co-author of the paper and Presenter *Title*: "Conceptual design and operations of a crewed reusable space transportation system". *Authors:* Nicole Viola, Roberta Fusaro, Francesco De Vita, Alberto Del Bianco, Franco Fenoglio, Federico Massobrio, Francesco Santoro. *Role:* Co-author of the paper *Title*: "Approaches to development of commercial spaceport and associated ground segment driven by specific spaceplane vehicle and mission operation requirements." *Authors:* Francesco Santoro, Alberto Del Bianco, Alessandro Bellomo, Giovanni Martucci, Nicole Viola, Roberta Fusaro

	Role: Co-author of the paper and Presenter *Title*: "Effective methodologies to derive strategic decisions from ESA Technology Roadmaps." *Authors:* Sara Cresto Aleina, Luca Levrino, Nicole Viola, Roberta Fusaro, Giorgio Saccoccia
26/11/2015 – 17/11/2015 Naples (Italy)	**Conference** – Congresso Nazionale di Futurologia *Role:* Co-author of the presentation and Presenter *Title*: " Hypersonics: Near and far future advantages for Aeronautics and space industry." *Authors:* Roberta Fusaro and Nicole Viola
15/12/2015 – 16/12/2015 Noordwijk (The Netherlands)	**Conference** – MOON 2020-2030 *Role:* Co-author of the presentation and Presenter *Title*: " Use of Exploration Technology Roadmaps in support of Moon initiatives and Technology Prioritization". *Authors:* Giorgio Saccoccia, Sara Cresto Aleina, Roberta Fusaro and Nicole Viola

Publications in journals

2014	*Sergio Chiesa, Marco Fioriti, Roberta Fusaro.* **Support and Maintenance Strategies for Future, Innovative and Largely Widespread Air Personal Transportation Systems.** In: INTERNATIONAL JOURNAL OF MECHANICAL ENGINEERING AND AUTOMATION, vol. 1 n. 4, pp. 203-212. - ISSN 2333-9179
2014	*Sergio Chiesa, Gennaro Russo, Sabrina Corpino, Marco Fioriti, Roberta Fusaro.* **Volo ipersonico per l'accesso allo Spazio: passato, presente e futuro**. In: FUTURI, vol. 1 n. 1, pp. 38-39. - ISSN 2284-0923
2015	*Maria Antonietta Viscio, Nicole Viola; Roberta Fusaro; Valter Basso* **Methodology for requirements definition of complex space missions and systems.** In Acta Astronautica 114 p.79-92. doi:10.1016/j.actaastro.2015.04.018
2015	*Marco Fioriti, Roberta Fusaro, Sergio Chiesa* **MALE UAV and its Systems as basis of future definitions.** In: Aircraft Engineering and Aerospace Technology - DOI: 10.1108/AEAT-08-2014-0131. (2015)
2015	*Roberta Fusaro, S. Chiesa, S. Cresto Aleina, M. Fioriti* **Contribution To R.A.M.S Estimation In Early Design Phases Of Unmanned Aerial Vehicles – UAVS.** Accepted to be published in JOMAC (2015)