europass Curriculum vitae

PERSONAL INFORMATION

Matteo Fiore

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WORK EXPERIENCE

January 2024 – Present

Postdoctoral Research Fellowship

Sapienza University of Rome, Rome, Italy

April 2020 – November 2020

Post-Graduate Research Fellowship

Sapienza University of Rome, Rome, Italy

- CFD conjugate heat transfer simulations aiming to assess heat transfer enhancement due to the application of longitudinal ribs to the hot-gas surface of LRE combustion chambers
- Development of a numerical framework for the preliminary design of rocket engines sound suppression systems with water injection

June 2013 – August 2013

Internship

General Tecnica SRL, Monte San Giovanni Campano (FR), Italy

CNC machining center programming to produce components of automated assembly lines

EDUCATION AND TRAINING

November 2020 – January 2024

PhD in Aeronautics and Space Engineering

Sapienza University of Rome, Rome, Italy

Research area: CFD conjugate heat transfer analyses to study performance of conventional and ALM cooling channels for liquid rocket engines, involving working fluids in both supercritical and subcritical conditions

January 2022 – June 2022

Visiting PhD

Von Karman Institute for Fluid Dynamics, Sint-Genesius Rode, Belgium

Experimental characterization of subcooled flow boiling in 3D printed minichannels

October 2017 – January 2020

Master of Science in Space and Astronautical Engineering

Sapienza University of Rome, Rome, Italy

Final mark: 110/110 with Honors

Thesis: *Analysis of friction, heat loads and spike truncation impact on the performance of an annular plug nozzle designed for a launcher upper stage*, feasibility study of an annular plug nozzle designed as a replacement of a bell nozzle for a 10-tons class LOX/CH4 rocket engine through CFD simulations

July 2017

CVA Summer School

Institut Supérieur de l'Aéronautique et de l'Espace ISAE-SUPAERO, Toulouse, France

Multidisciplinary courses on Space Transportation Systems

October 2014– October 2017

Bachelor of Science in Aerospace Engineering

Sapienza University of Rome, Rome, Italy

Final mark: 110/110 with Honors

Thesis: *Design and experimental testing of a small-scale KNSU-based solid propellant rocket motor*

PERSONAL SKILLS

Mother tongue: Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills
- Experience in public speaking acquired through presentation of scientific results
- Good communication skills. Participation to group activities with people from different backgrounds and countries
- Good team working skills. I have worked in various types of teams from research teams to volunteer groups

Computer skills
- Operating systems: Linux, Mac OS, Windows
- Programming: Fortran, Matlab, Python, small knowledge of C/C++
- Software: Office Suite, CFD++, Ansys, IDM-CIC, Solid Edge, EcosimPro

Other skills: Passionate about music and drums.

PUBLICATIONS

[1] F. Petricca, E. Del Vecchio, **M. Fiore**, A. Lazzaro, A. Valeriani, L. Pollice, and P. Gaudenzi. “Experiencing a concurrent engineering environment for the preliminary design of a mission to Titan”. In: *XXV International Congress of the Italian Association of Aeronautics and Astronautics (AIDAA)*. 2019.

[2] F. Nasuti, **M. Fiore**, V. Messina, A. Valeriani, and D. Bianchi. “Design and evaluation of aerospike nozzles for an upper stage application”. In: *7th edition of the Space Propulsion Conference SP2020+1*. 2021.

[3] B. Latini, **M. Fiore**, and F. Nasuti. “Heat transfer prediction in rough cooling channels for liquid rocket engines”. In: *XXVI International Congress of the Italian Association of Aeronautics and Astronautics (AIDAA)*. 2021.

[4] B. Latini, **M. Fiore**, and F. Nasuti. “Analysis of coolant flow and heat transfer in highly rough channels for LRE”. In: *9th European Conference for Aeronautics and Aerospace Sciences (EUCASS)*. 2022.

[5] M. T. Migliorino, M. G. Leone, V. Lomanno, T. De Rito, S. Coluzzi, M. Tortorolo, M. Della Monica, A. Cantiello, E. Corradini, C. Salustri L. Di Giovannandrea, **M. Fiore**, and D. Bianchi. “Student Activities in Manufacturing and Launching Advanced Small-Scale Solid-Propellant Rockets”. In: *73rd International Astronautical Congress (IAC)*. 2022.

[6] B. Latini, **M. Fiore**, and F. Nasuti. “Modeling liquid rocket engine coolant flow and heat transfer in high roughness channels”. In: *Aerospace Science and Technology* (2022), pp. 1–12.

[7] P. M. Zolla, **M. Fiore**, P. E. Lapenna, D. Bianchi, and F. Nasuti. “A design strategy for water-based noise suppression systems in liquid rocket engines firing tests”. In: *CEAS Space Journal* (2022), pp. 1–15.

[8] **M. Fiore**, F. Nasuti, M. Pizzarelli, and N. Ierardo. “HEM modeling for subcritical flows in liquid rocket engine cooling systems”. In: *AIAA AVIATION 2022 Forum*. 2022, pp. 1–10.

[9] **M. Fiore**, A. Sereno, D. Bianchi, and F. Nasuti. “Cooling system design for an upper-stage aerospike”. In: *International Symposium on Space Technology and Science 2023, 3-9 June 2023 Kurume, Japan*. 2023.

[10] B. Latini, **M. Fiore**, M. De Maio, S. Pirozzoli, and F. Nasuti. “CFD simulations of flow in LREs rectangular cooling channels”. In: *International Symposium on Space Technology and Science 2023, 3-9 June 2023 Kurume, Japan*. 2023.

[11] A. Sereno, **M. Fiore**, D. Bianchi, and F. Nasuti. “Cooling system analysis of a clustered module aerospike for upper-stage applications”. In: *10th European Conference for Aeronautics and Aerospace Sciences (EUCASS)*. 2023.

[12] **Matteo Fiore**, Vincenzo Barbato, and Francesco Nasuti. “Transient Analysis of Liquid Rocket Engine Chilldown and Startup by Conjugate Heat Transfer Approach”. In: *AIAA SCITECH 2024 Forum*. 2024.