

PERSONAL INFORMATION

Marco Pizzoli✉ marco.pizzoli@uniroma1.it

RESEARCH ACTIVITY

November 2022 – Current

Postdoctoral fellow

Sapienza University of Rome, Department of Mechanical and Aerospace Engineering, via Eudossiana, 18, Rome, Italy

Research Topic *Nonlinear Reduced-order models of sloshing in aeronautical fuel tanks for the aeroelastic response of next-generation aircraft*

Research Funder European project H2020 SLOWD (SLOshing Wing Dynamics) led by AIRBUS Operations

EDUCATION AND TRAINING

November 2019 – Current

Ph.D Student in Aeronautics and Space Engineering

Sapienza University of Rome, Department of Mechanical and Aerospace Engineering, via Eudossiana, 18, Rome, Italy

Thesis Experimental assessment and reduced order modeling of nonlinear vertical sloshing for aeroelastic analyses

Research Topic Investigation of fuel-sloshing dynamics in wing tanks and its effects on the global aeroelastic response of aircraft

Research Funder European project H2020 SLOWD (SLOshing Wing Dynamics) led by AIRBUS Operations

Visiting mar. 2022 - jul. 2022 Visiting scholar at University of Washington, Seattle, WA, USA, Applied Mathematics Department (Supervisor Prof. Nathan J. Kutz)

October 2016 – October 2019

MASTER DEGREE in Aeronautical Engineering

Sapienza University of Rome, Piazzale Aldo Moro, 5, Rome, Italy

Graduation Note: 110/110

Thesis *Investigations of sloshing-tank effects on integrated aircraft modelling of aeroelasticity and flight dynamics* (Supervisor: Prof. Franco Mastroddi)

- Honors
- Among the winners of the AIAA-PEGASUS 2020 student conference (2nd ex-aequo position)
 - Paper submitted to the AIAA-PEGASUS 2020 student conference selected for the publication on the Journal of Aerospace Science, Technologies & Systems

October 2011 – March 2016

BACHELOR DEGREE in Aerospace Engineering

Sapienza University of Rome, Piazzale Aldo Moro, 5, Rome, Italy

Graduation Note: 106/110

Thesis *Modellazione semi-analitica di impatti ad alta velocità su Laminati in fibra di vetro* (Supervisor: Prof. Paolo Gaudenzi)

September 2006 – July 2011

High School Diploma

L.S.S. Giovanni Vailati, Via Achille Grandi, 146, Genzano di Roma (RM)

Graduation Note: 86/100

PERSONAL SKILLS

Mother tongue Italian

Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	B2	B2

- Computer skills**
- competent with most Microsoft Office programmes and $\text{\LaTeX}$
 - basic knowledge of Python, Pytorch, Tensorflow, Fortran and Wolfram Mathematica
 - good knowledge of Matlab & Simulink
 - good knowledge of FEM software MSC Nastran & MSC Patran

Driving licence B

ADDITIONAL INFORMATION

- Tutoring activities**
- Tutor of the course *Costruzioni Aerospaziali* (Aerospace Structures) of the Bachelor Degree in Aerospace Engineering at Sapienza University of Rome (academic year 2020-21).
 - Tutor of the course *Costruzioni Aerospaziali* (Aerospace Structures) of the Bachelor Degree in Aerospace Engineering at Sapienza University of Rome (academic year 2021-22).

- Publications**
- Pizzoli, M., (2020). Investigation of sloshing effects on flexible aircraft stability and response. *Aerotecnica Missili & Spazio* vol. 99, pages 297–308
 - Colella, M., Saltari, F., Pizzoli, M. & Mastroddi, F. (2021). Sloshing reduced-order models for aeroelastic analyses of innovative aircraft configurations. *Aerospace Science & Technology*, 118, 107075.
 - Pizzoli, M., Saltari, F., Mastroddi, F., Martínez-Carrascal, J. & González-Gutiérrez, L. M. (2022). Nonlinear reduced order model for vertical sloshing by employing neural networks. *Nonlinear dynamics*, 107(2), pp. 1469–1478
 - Pizzoli, M., Saltari, F., Coppotelli, G., & Mastroddi, F. (2022). Experimental Validation of Neural-Network-Based Nonlinear Reduced-Order Model for Vertical Sloshing. *AIAA Science and Technology Forum and Exposition, AIAA SciTech Forum 2022, AIAA 2022-1186*
 - Saltari, F., Pizzoli, M., Mastroddi, F., Gambioli, F. & Jetzschmann, C. (2022). Nonlinear sloshing integrated aeroelastic analyses of a research wing prototype. *AIAA Science and Technology Forum and Exposition, AIAA SciTech Forum 2022, AIAA 2022-1187*
 - Saltari, F., Pizzoli, M., Coppotelli, G., Gambioli, F., Cooper, J.E. & Mastroddi, F. (2022). Experimental characterisation of sloshing tank dissipative behaviour in vertical harmonic excitation. *Journal of Fluids and Structures*, 109, 103478
 - Saltari, F., Pizzoli, M., Gambioli, F., Jetzschmann, C. & Mastroddi, F. (2022). Sloshing reduced-order model based on neural networks for aeroelastic analyses. *Aerospace Science and Technology*, 127, 107708
 - Pizzoli, M., Saltari, F. & Mastroddi, F. (2022). Linear and Nonlinear Reduced Order Models for Sloshing for Aeroelastic Stability and Response Predictions. *Applied Sciences*, 12(17):8762
 - Pizzoli, M., Saltari, F., Coppotelli, G., & Mastroddi, F. (2022). Neural-network-based reduced order modeling for nonlinear vertical sloshing with experimental validation, accepted for publication on *Nonlinear Dynamics*