

PERSONAL INFORMATION **Francesco Saltari**✉ [francesco.saltari@uniroma1.it](mailto:francesco.saltari@uniroma1.it)CURRENT POSITION **Postdoctoral researcher at Sapienza University of Rome**

## RESEARCH ACTIVITY

Main research interests

- Virtual sensing applied to ships and flexible aircrafts.
- Integrated models of aeroelasticity and flight dynamics.
- Sloshing effects on aeroelastic stability and response.
- Semi-aeroelastic hinge device modelling.
- Aeroelasticity of flexible launch vehicles.

sep. 2019 – current **Postdoctoral fellow**

Sapienza University of Rome, Rome, IT

SLOWD H2020 project *Research activity on reduced order models for the integration of sloshing effects in the aeroelastic stability and response of wing structures.* (P.I. Prof. Franco Mastroddi)nov. 2018 – aug. 2019 **Research scholarships**

Sapienza University of Rome &amp; CNR-INM (Institute of Marine Engineering), Rome, IT

Visiting July 2019 Visiting scholar at University of Bristol, Bristol, UK.

Objectives *Experimental tests for the assessment of the role of non-dimensional parameters in vertical sloshing.*

## TEACHING ACTIVITY

Part-time Lecturer **Strutture Aeronautiche (Aeronautical structures) A.Y. 2020-21 – 30 hours**

## EDUCATION

nov. 2015 – feb. 2019 **Ph.D fellowship in Aerospace Engineering**

Sapienza University of Rome &amp; CNR-INM (Institute of Marine Engineering), Rome, IT

Thesis *Methodologies for virtual sensing applied to aeronautical and ship structures* (Supervisors PhD Daniele Dessi and Prof. Franco Mastroddi)Project Involved on ONR-NICOP project denoted *Analysis of global and local slamming induced responses* (P. I. PhD Daniele Dessi)Visiting mar. 2018 – jun. 2018 Visiting scholar at University of Michigan, Ann Arbor, MI, USA, *Naval Architecture and Marine Engineering Department.* (Supervisor Prof. Matthew Collette)oct. 2013 – oct. 2015 **Master Degree in Aeronautical Engineering**

Sapienza University of Rome, Rome, IT

Graduation note: 110/110 cum laude

Thesis *A dynamically coupled model for maneuvering flexible aircraft* (Supervisor Prof. Franco Mastroddi)Honors

- *Excellent graduate student award* from the Alumni Noi Sapienza Association – 2015
- Participation to the *Excellence program*
- Participation to *AIAA-PEGASUS student conference* – Valencia 2016

oct. 2010 – nov. 2013 **Bachelor Degree in Aerospace Engineering**

Sapienza University of Rome, Rome, IT

Graduation note: 110/110

Thesis *Bending modes in ionic polymer-metal composite induced by non homogeneous distribution of electric potential* (Supervisor Prof. Paola Nardinocchi)

sept. 2005 – jul. 2010 **High School Diploma**

Liceo Scientifico Edoardo Amaldi, Rome, IT  
Graduation note: 90/100

**OTHER PROFESSIONAL ACTIVITIES**

feb. 2018 – jul. 2018 **Technical consultant**

MSC.Software, Rome, IT

Objectives *Teaching on aeroelastic flutter solutions concerning application cases of interest.* (P. I. Eng. Marco Calcagni)

nov. 2016 – feb. 2017 **Technical consultant**

University of Naples Federico II, Naples, IT

Objectives *Consulting for software development of a simplified modeling of wing structural layout for aeroelastic analyses to be used in the preliminary aircraft design.* (P. I. Prof. Fabrizio Nicolosi)

**PERSONAL SKILLS**

Mother tongue Italian

Other languages

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

**PUBLICATIONS**

- [1] F. Saltari, A. Traini, F. Gambioli, and F. Mastroddi. "A linearized reduced-order model approach for sloshing to be used for aerospace design". In: *Aerospace Science and Technology* 108 (2021), p. 106369.
- [2] M. Pizzoli, F. Saltari, F. Mastroddi, J. Martinez-Carrascal, and L. M. González-Gutiérrez. "Nonlinear reduced-order model for vertical sloshing by employing neural networks". In: *Nonlinear Dynamics* (2021).
- [3] G. Coppotelli, G. Franceschini, F. Mastroddi, and F. Saltari. "Experimental investigation on the damping mechanism in sloshing structures". In: *AIAA Scitech 2021 Forum*. 2021, pp. 1–19.
- [4] F. Saltari, D. Dessi, and F. Mastroddi. "Mechanical systems virtual sensing by proportional observer and multi-resolution analysis". In: *Mechanical Systems and Signal Processing* 146 (2021).
- [5] F. Mastroddi, F. Saltari, A. Traini, A. Barile, and F. Gambioli. "Sloshing roms for fluid-structure interactions in aerospace applications". In: *AIAA Scitech 2020 Forum 1 PartF* (2020).
- [6] A. Castrichini, T. Wilson, F. Saltari, F. Mastroddi, N. Viceconti, and J.E. Cooper. "Aeroelastic flight dynamics coupling effects of the semi-aeroelastic hinge device". In: *Journal of Aircraft* 57.2 (2020), p. 333.
- [7] C. Conti, F. Saltari, F. Mastroddi, T. Wilson, and A. Castrichini. "Quasi Steady Aeroelastic Analysis of the Semi Aeroelastic Hinge Including Geometric Nonlinearities". In: *Journal of Aircraft* (2021).
- [8] M. Eugeni, F. Saltari, F. Mastroddi, and C. Riso. "Structural damping models for passive aeroelastic control". In: *International Forum on Aeroelasticity and Structural Dynamics 2019, IFASD 2019* (2019).

- [9] F. Saltari, D. Dessi, E. Faiella, and F. Mastroddi. “Estimation of the deflection field over a ship structure model based on pointwise measurements”. In: *Trends in the Analysis and Design of Marine Structures - Proceedings of the 7th International Conference on Marine Structures, MARSTRUCT 2019* (2019), pp. 285–292.
- [10] B. Titurus, J.E. Cooper, F. Saltari, F. Mastroddi, and F. Gambioli. “Analysis of a sloshing beam experiment”. In: *International Forum on Aeroelasticity and Structural Dynamics 2019, IFASD 2019* (2019).
- [11] A. Castrichini, F. Saltari, N. Viceconti, T. Wilson, J.E. Cooper, and F. Mastroddi. “Aeroelastics flight dynamics coupling effects of the semi aeroelastic hinge device – IFASD 2019”. In: *International Forum on Aeroelasticity and Structural Dynamics 2019, IFASD 2019* (2019).
- [12] F. Mastroddi, F. Saltari, M. Wright, A.G. Malan, S. Simeone, and F. Gambioli. “Aircraft-fuel sloshing ROMs for aeroelastic analyses”. In: *International Forum on Aeroelasticity and Structural Dynamics 2019, IFASD 2019* (2019).
- [13] F. Saltari, D. Dessi, E. Faiella, and F. Mastroddi. “Load and deflection estimation of a fast catamaran towing-tank model via reduced order modeling and optimal natural observer”. In: *Proceedings of ISMA 2018 - International Conference on Noise and Vibration Engineering and USD 2018 - International Conference on Uncertainty in Structural Dynamics* (2018), pp. 3495–3509.
- [14] F. Saltari, C. Riso, G. De Matteis, and F. Mastroddi. “Finite-element-based modeling for flight dynamics and aeroelasticity of flexible aircraft”. In: *Journal of Aircraft* 54.6 (2017), pp. 2350–2366.
- [15] M. Eugeni, F. Saltari, G. Coppotelli, and D. Dessi. “A Method for the estimate of modal parameters of time-dependent aerospace structural systems using operational data”. In: *IOMAC 2017 - 7th International Operational Modal Analysis Conference* (2017), pp. 78–81.
- [16] E. Conti, F. Saltari, M. Eugeni, V. Camerini, and G. Coppotelli. “Modal parameter estimate of time-varying system using operational modal analysis based on hilbert transform”. In: *17th International Forum on Aeroelasticity and Structural Dynamics, IFASD 2017 2017-June* (2017).
- [17] F. Saltari, F. Mastroddi, C. Riso, G. De Matteis, and S. Colaianni. “On the control of aeroelastic/flight dynamic integrated stability of maneuvering aircraft”. In: *17th International Forum on Aeroelasticity and Structural Dynamics, IFASD 2017 2017-June* (2017).
- [18] D. Dessi, E. Faiella, F. Saltari, C. Pigna, C. Celli, T. Miliante, and E. Di Paolo. “Experimental analysis of the station keeping response of a double-barge float-over system with an elastically scaled physical model”. In: *Proceedings of the International Off-shore and Polar Engineering Conference* (2017), pp. 1175–1182.