



Leandro Lucchese

ESPERIENZA LAVORATIVA

Università La Sapienza

Città: Roma | **Paese:** Italia

[31/07/2024 – Attuale]

Postdoctoral researcher

- Development of reduced-order models for studying green aerospace propulsion systems
- Multi-objective optimization of gas turbine combustors

Avio S.p.A

Città: Colleferro | **Paese:** Italia

[01/03/2022 – Attuale]

Ph.D Secondment

- Liquid rocket engines injectors design
 - Design of swirled coaxial injector operating in super-critical conditions.
 - Design of pintle injector for variable thrust manoeuvres.
 - Design of shear coaxial injectors for super-critical and sub-critical conditions
- Combustion chambers design
 - Numerical simulations of multi-phase, multi-component cryogenic flows inside the combustion chamber.

Palazzo de Cupis

Città: ROMA | **Paese:** Italia

[01/01/2014 – 01/09/2017]

Receptionist

- Addetto alla reception
- Vendita e gestione camere e prenotazioni

ISTRUZIONE E FORMAZIONE

[01/10/2015 – 01/10/2018]

Laurea Triennale

Univeristà "La Sapienza" <https://www.uniroma1.it>

Città: Roma | **Paese:** Italia | **Campi di studio:** Ingegneria Aerospaziale | **Voto finale:** 110 e lode | **Tesi:** Three-Dimensional Gravity assist manoeuvres for interplanetary missions

[01/10/2018 – 01/03/2021]

Laurea Magistrale

Università "La Sapienza" <https://www.uniroma1.it>

Città: Roma | **Paese:** Italia | **Campi di studio:** Ingegneria Spaziale e Astronautica | **Voto finale:** 110 e lode | **Tesi:** Development of a Finite-Element model generator and launch vehicles multidisciplinary design optimization

[01/05/2021 – Attuale]

Dottorato di ricerca

Univeristà "La Sapienza" <https://www.uniroma1.it>

Città: ROMA | **Paese:** Italia | **Campi di studio:** ingegneria Aerospaziale | **Tesi:** Numerical modeling of sub-critical pressure injection for variable thrust engines with Pintle injector

- Numerical modelling of combustion chambers for Liquid Rocket Engines.
- Spray Combustion, multi-phase flows.
- Injectors design and Computational Fluid Dynamics simulations.

[29/08/2022 – 20/01/2023]

Ph.D. Course "CFD with OpenSource software"

Chalmers University of Technology <https://www.chalmers.se/en/>

Città: Götaland | **Paese:** Svezia |

COMPETENZE LINGUISTICHE

Lingua madre: italiano , portoghese

Altre lingue:

inglese

ASCOLTO C2 LETTURA C2 SCRITTURA C1

PRODUZIONE ORALE C2 INTERAZIONE ORALE C2

francese

ASCOLTO B1 LETTURA B1 SCRITTURA A2

PRODUZIONE ORALE B1 INTERAZIONE ORALE B1

Livelli: A1 e A2: Livello elementare B1 e B2: Livello intermedio C1 e C2: Livello avanzato

COMPETENZE

Windows | Padronanza del Pacchetto Office (Word Excel PowerPoint ecc) | MSC Nastran/Patran | C++ | python | MATLAB | OpenFOAM (Advanced user) | esteco modeFRONTIER | MSC Adams | Solid Edge | Fusion 360

PUBBLICAZIONI

[2024] [Impact of chemical modeling on the numerical analysis of a lox/gch4 rocket engine pintle injector](#)

Riferimento: Acta Astronautica Journal

[2024] [Radial Mass Flow Rate Partition on a Pintle Injector Configuration](#)

Riferimento: Journal of Propulsion and Power

[2024] [Pintle injector performance sensitivity to the radial injection arrangement](#)

Riferimento: AIAA SchiTech 2024 Forum

[2022] [Surrogate finite-element modelling for launch vehicle multidisciplinary optimization](#)

Riferimento: AIAA SciTech Forum 2022

[2022] [Implementation of non-reflecting boundary conditions in OpenFOAM](#)

Riferimento: Proceedings of CFD with OpenSource Software

[2025] [Sensitivity Analysis of a Continuous-Slit Pintle Injector to the Chemical Kinetics Modeling](#)

Riferimento: AIAA Scitech 2025

[2025] **A CRN-CFD Incremental Fidelity Framework for the Design and Optimization of Ammonia-Fueled Combustors (under review)**

Riferimento: International Journal of Hydrogen Energy

A CRN-Based Framework for the Design and Optimization of Ammonia-Fueled Combustors: Pareto-Optimal Configurations in Lean and Rich Operation

Riferimento: 13th Mediterranean Combustion Symposium 2025

Numerical study on the interaction of multiple subsequent jets in a subsonic cross-flow

Riferimento: 11th International Symposium on Turbulence, Heat and Mass Transfer 2025