



Marco Grossi

● WORK EXPERIENCE

FEB 2021 – MAR 2022 Rome, Italy

RESEARCH CONTRACTOR DIMA, SAPIENZA UNIVERSITY OF ROME

"Technical Support Activities for VEGA-C, VEGA-E, and P120C" financed by ESA ESRIN

- Investigation of ballistic performance and unsteady behavior during the static firing tests of Vega C second stage Z40.
- CFD analyses of the internal ballistics of Vega Z9A motor to assess multiphase effects on the nozzle erosion and performances.

DEC 2019 – JUL 2020 Rome, Italy

RESEARCH CONTRACTOR DIMA, SAPIENZA UNIVERSITY OF ROME

"Technical Support to P120C QM2 Static Firing Test" financed by ESA Headquarters

Cross-check analysis and risk assessment regarding ignition transient and quasi-steady-state pressure oscillations phenomena in the frame of P120C solid rocket motor firing tests.

JUN 2018 – DEC 2018 Rome, Italy

RESEARCH CONTRACTOR DIMA, SAPIENZA UNIVERSITY OF ROME

"Technical Support Activities for VEGA-C, VEGA-E and P120C" financed by ESA ESRIN

Analysis of ballistic performance, unsteady behaviour and extrapolation to flight unit of the first static firing test of VEGA-C second stage Z40.

MAY 2018 – NOV 2018 Rome, Italy

GRADUATE RESEARCH FELLOW DIMA, SAPIENZA UNIVERSITY OF ROME

Numerical and theoretical study of acoustics phenomena in aft-finocyl solid rocket motors by means of Q1D modelling.

● EDUCATION AND TRAINING

2018 – 2022 Rome, Italy

PH.D. IN SPACE AND AERONAUTICAL ENGINEERING Sapienza University of Rome

Research activity is mainly focused on pressure oscillations occurring in solid rocket motors. Both CFD and Q1D approaches are employed, exploiting fully reagent multi-phase modelling in order to take care of flow-field phenomenology. Other solid propulsion topics as ignition transient, internal ballistic flow and performance evaluations are addressed in the research work.

Field of study Aerospace Engineering

SEP 2014 – JAN 2018 Rome, Italy

MASTER DEGREE IN SPACE AND ASTRONAUTICAL ENGINEERING Sapienza University of Rome

Fundamental Teachings: Solid and Liquid Propulsion, Gasdynamics, Space Flight Mechanics, Aerospace Structures, Control Systems

Final grade 110/110 cum laude |

Thesis Numerical Simulation of SRMs Internal Ballistic Flow by means of an Immersed Boundary Method

● **DIGITAL SKILLS**

Programming

UNIX Shell script | Fortran (professional experience)

Development Environment

MATLAB&Simulink | Intel VTune Profiler | GIT (GitHub)

Scientific Applications

ParaView | FreeCAD | TecPlot360 (Optimal Knowledge) | GMSH

Office Applications

MS office/Latex; (Full proficiency, daily use)

● **LANGUAGE SKILLS**

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	C1	B2	B2	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **ADDITIONAL INFORMATION**

TEACHING EXPERIENCE

2019 – CURRENT

Master Degree in Space and Astronautical Engineering at Sapienza University of Rome

- Solid Rocket Motors Ignition System

2017 – CURRENT

Master in Space Transportation System at Sapienza University of Rome

- Solid Rocket Motor Ignition Transient
- Pressure and Thrust Oscillations in Solid Rocket Motors

2022 – 2023

Master Degree in Space and Astronautical Engineering at Sapienza University of Rome

- Gas Dynamics Tutoring