ANDREA TORRICELLI

Aerospace Engineer

Summary

Determined and versatile aerospace engineer currently involved in CFD and propulsion research projects at university. Responsible for the research and development of CFD algorithms and their industrial application to engines in state of development. Actively looking for new opportunities.

Core Competencies

- Results Oriented
- Excellent Prioritizating
- Problem Solving
- Fluent English
- German
- Strong Communication Skills
- Project Management
- Multi Tasking
- Highly Analytical
- Data Postprocessing and Analysis
- Coworkers Training
- Fast Learner
- Team player
- Can-do attitude
- Fluid Dynamics

Professional Experience

2020 - Present

Research Fellow

Sapienza University of Rome

Involved with multiple CFD research projects:

- **Direct Numerical Simulations** of turbulent flows in porous media
- Research and Development of methodologies and algorithms for the solution of **Conjugate Heat Transfer** problems and their application to regenerative cooling systems in **Liquid Rocket Engines**

2018 - 2020

Postgraduate Researcher

Sapienza University of Rome

R&D of numerical methodologies for the analysis of coolant flows, such as **transcritical methane**, and thermo-fluid dynamics phenomena within **Liquid Rocket Engines** thrust chambers, being developed in the framework of a top tier European project. Main responsibilities:

- Developing, validating and applying in-house CFD solvers designed for the solution of coolant flows in rocket engines, carried out with a **Conjugate Heat Transfer** approach.
- **Liaising** with contractor companies and agencies in the framework of consulting activities.
- Managing resources and prioritizing tasks to satisfy **deadlines**.
- Producing periodic **reports and presentations** to submit to clients.
- Coworkers **training**.

Professional Accomplishments

- Provided a major contribution to the development of state-of-the-art CFD numerical methodologies and algorithms, and their application to the analysis of cooling of rockets in current state of production.
- Delivered highly specialized scientific and technological support to the development of innovative European liquid rocket engines.
- Trained coworkers, sharing advancements in order to make further research possible, as well as contributing to develop the academic culture associated to it.

Academic Accomplishments

- **12/12/2019 -** *Research Grant Winner:"Direct Numerical Simulations of flows over porous media"*
- **10/09/2019** - *Conference paper:* A. Torricelli, F. Nasuti, S. Pirozzoli, "Conjugate Heat Transfer Analysis For Rocket Cooling Channels By RANS And DNS Approaches ", AIDAA 2019 Congress,
- **28/11/2018** - *Research Grant Winner:* "Analysis of flows in cooling channels for liquid rocket engines"
- **25/10/2018** - *Pegasus Certificate, "The European Network of Excellence in Aerospace Engineering Education"*

Technological Proficiencies

- MS Office
- Fortran
- Tecplot 360
- Thermodynamics
- OpenFOAM
- Linux OS
- C++
- Propulsion
- CAD
- LaTeX
- SolidEdge
- Matlab

Education

2014 - 2018

Master of Science in Space and Astronautical Engineering

Sapienza University of Rome

- **Thesis title**: "Conjugate Heat Transfer Analysis of Rocket Cooling: Validation of the Approach and Application to Supercritical Methane"
- **Subject**: Liquid Rocket Engines

Personal Data Authorization

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