

Arianna Remiddi

Email:

Education

- 1 Nov. 2019 – to date **PhD Student in Aeronautical and Space Engineering**
Department of Mechanical and Aerospace Engineering
Sapienza University of Rome
Research topic: Turbulent combustion modeling and thermal characterization
- Nov. 2016 – Oct. 2019 **Master's Degree in Aeronautical Engineering**
Final grade: 110 cum laude/110
Sapienza University of Rome
Thesis title: "Combustion chamber wall heat flux modeling"
- Sep. 2013 – Nov. 2016 **Bachelor Degree in Aerospace Engineering**
Final grade: 105/110
Sapienza University of Rome

Scientific Production

- h-index: 2 [Scopus, Researchgate], 3 [Google Scholar]
- 2022 *Development and validation of an efficient numerical framework for Conjugate Heat Transfer in Liquid Rocket Engines, A. Remiddi, G. Indelicato, P.E. Lapenna, F. Creta, AIAA SciTech 2022 Forum*
- Dataset of wall-resolved large eddy simulations for the investigation of turbulent pseudo-boiling and wall-functions in cryogenic hydrogen pipe flow, G. Indelicato, P.E. Lapenna, N.P. Longmire, A. Remiddi, D.T. Banuti, F. Creta, AIAA SciTech 2022 Forum*
- 2021 *An efficient modeling framework for wall heat flux prediction in rocket combustion chambers using non adiabatic flamelets and wall-functions, G. Indelicato, P.E. Lapenna, A. Remiddi, F. Creta, International Journal of Heat and Mass Transfer, vol. 169, doi: 10.1016/j.ijheatmasstransfer.2021.120913, 2021*
- Thermal characterization in LRE: a parametric analysis on injector arrangement, A. Remiddi, G. Indelicato, P.E. Lapenna, F. Creta, AIAA Propulsion and Energy 2021 Forum*
- Effects of injector lateral confinement on LRE wall heat flux characterization: Numerical investigation towards data-driven modeling, A. Remiddi, G. Indelicato, P.E. Lapenna, F. Creta, AIAA Scitech 2021 Forum*
- Application of wall functions approaches in the context of LRE combustion chambers simulations, G. Indelicato, A. Remiddi, P.E. Lapenna, F. Creta, AIAA Scitech 2021 Forum*
- A flamelet-based numerical framework for Conjugate Heat Transfer in LRE relevant conditions, A. Remiddi, G. Indelicato, P.E. Lapenna, F. Creta, AIDAA XXVI International Congress, 2021*
- Towards high-fidelity numerical simulations of injectors near-field in LRE combustion chambers, P.E. Lapenna, A. Remiddi, G. Indelicato, M. Pizzarelli, M. Valorani, F. Creta, AIDAA XXVI International Congress, 2021*

- 2021 *Theoretical and numerical modelling of multicomponent transcritical diffuse interfaces*, D. Cavalieri, G. Indelicato, A. Remiddi, P.E. Lapenna, F. Creta, AIDAA XXVI International Congress, 2021
- 2020 *A flamelet-based numerical framework for the simulation of low-to-high mach number flows in LRE*, G. Indelicato, F. Vona, A. Remiddi, P.E. Lapenna, F. Creta, AIAA Propulsion and Energy 2020 Forum
- 2019 *Numerical investigation of confinement effects on a supercritical LOX-methane flame*, A. Remiddi, G. Indelicato, R. Lamioni, P.E. Lapenna, F. Creta, Proceedings of the Combustion Institute, 2019

Other Experiences

Public presentation: *"Thermal characterization and heat transfer in Liquid Rocket Engines"*, poster presentation at the International Combustion Institute Virtual Summer School, June 2021

Teaching experience: Master thesis co-advisor
July 2020 - to date

Grants and Awards

- 2022 "Bando di Mobilità Individuale" grant for a research period abroad, received from Sapienza University of Rome
- 2021 IS CRA C Project – Italian SuperComputing Resource Allocation, received from CINECA HPC center
- 2020 "Avvio alla Ricerca" grant for PhD Students, received from Sapienza University of Rome
- Excellent graduate for the Academic Year 2018/19
- 2019 Winner with Fellowship of the XXXV PhD course in Aeronautical and Space Engineering
- Winner without Fellowship of the XXXV PhD course in Theoretical and Applied Mechanics (declined)

Languages

Italian: Native

English: Good - Certificate: FCE lev. B2

French: Basic

Computer Skills

OS: Windows
Linux (Ubuntu, openSUSE)

Programming language: C/C++

Software: OpenFOAM
MATLAB – Simulink
Wolfram Mathematica
MSC Nastran, MSC Patran

Document and Text Processing: MS Office
LATEX

Post-processing: Paraview
Tecplot
Gnuplot