

PERSONAL INFORMATION **Sonia Pignatiello**✉ sonia.pignatiello@uniroma1.it

Date of birth [REDACTED] | Nationality Italian

EDUCATION AND TRAINING

2023 – Present **Ph. D. in Energy and Environment**

Sapienza University of Rome (Rome, Italy) – Renaissance Fusion (Fontaine, France) – ENEA Frascati (Frascati, Italy)

Research topic: Modeling and analysis of liquid-metal magnetohydrodynamic phenomena for the development of advanced plasma-facing components in magnetic confinement fusion reactors.2020–2023 **Master Degree in Energy Engineering - Nuclear curriculum**

Sapienza University of Rome – Rome, Italy

Passed with **110/110 with honors**. *Thesis:* Computational magnetohydrodynamic simulation of bubble motion for fusion reactor applications.2017–2020 **Bachelor Degree in Energy Engineering**

Sapienza University of Rome – Rome, Italy

Passed with **109/110**. *Thesis:* Analysis of Small Modular Reactors Strategic Aspects.

PERSONAL SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	B2	C1	C2
Spanish	B1	B1	B1	B1	B1
French	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Computer skills

- Microsoft Office package - Proficient User
- Latex - Independent User
- Visual Studio Code - Independent User
- MATLAB - Independent User
- Python - Independent User
- Linux/BASH - Independent User
- OpenFOAM - Independent User

PUBLICATIONS

- [1] Sonia Pignatiello, Simone Siriano, and Alessandro Tassone. “Bubble dynamics in Magnetohydrodynamics conditions: Numerical simulation and flow characterization for high density ratio mixture”. In: *Fusion Engineering and Design* 219 (2025), p. 115215.
- [2] Simone Siriano, Lorenzo Melchiorri, Sonia Pignatiello, and Alessandro Tassone. “A multi-region and a multiphase MHD OpenFOAM solver for fusion reactor analysis”. In: *Fusion Engineering and Design* 200 (2024), p. 114216.

AWARDS

2025 Poster AWARD in the 20th OpenFOAM Workshop - Vienna, Austria

Title: Eulerian–lagrangian transport of solid spherical inclusions in a liquid metal MHD flow for fusion reactor applications.