Francesca Papa

Nuclear Energy Engineer

Language

- Italian ●●●●●●
- English ●●●●○○
- Spanish ●●○○○○

A1: ● C2: ●●●●●●

Software

- Office ●●●
- LaTeX ●●○
- Autocad 2D ●●○
- Matlab ●●○
- RELAP5 ●○○
- CFD ●○○

1: Good basic knowledge

3: Expert

Skills

- Data analysis
- Problem solving
- Project implementation
- Teamwork and coordination

Education

2017-2019 **Master Degree in Energy Engineering (110/110)**

Sapienza, University of Rome

Nuclear Curriculum. Thesis: *"Experimental Characterization of Instrumentation for Lead-Lithium Eutectic alloy in IELLLO and TRIEX-II Facilities"*.

2014-2017 **Bachelor Degree in Energy Engineering (110/110)**

Sapienza, University of Rome

Thesis: *"Monitoring of a Micro Hydroeletric System in Honduras"*.

Internship and Professional Experience

2019-today **PhD in Energy and Enviroment** Sapienza, University of Rome

Nuclear Curriculum. Carried out at ENEA Brasimone. Engineering design of a Permeator Against Vacuum mock-up for tritium extraction from lead-lithium, starting from a conceptual design: study of the test section integration in TRIEX-II facility, selection of materials, instrumentation and heating systems. Collaboration in the choice of the types of joint of the components, for example on the correct type of welding between niobium and P22. Application for tokamak fusion reactor (DEMO). Design of APRIL, experimental facility for the characterization of antipermeation barriers, created by ALD (Atomic Layer Deposition) and PLD (Pulsed Laser Deposition) coating technologies. Application for LFR (Lead-cooled Fast Reactor) fission and tokamak fusion systems.

2019 **Internship** ENEA Brasimone R.C.

Management of an experimental campaign for the qualification of instrumentation and components in flowing lead-lithium in the IELLLO facility. The tested instrumentation will be used in the ITER fusion reactor. Analysis of experimental data, evaluation of the experimental error and presentation of the results. Commissioning of the TRIEX-II, a lead-lithium facility that will test different kinds of extractor of tritium from the liquid metal. Commissioning activities included calibration and background of instrumentation, such as mass spectrometer, fluid dynamics analysis of the facility and preparation of the vacuum system. Duration of 6 months.

Publication

2020 **“Experimental Qualification of New Instrumentation for Lead-Lithium Eutectic in IELLLO Facility”** A. Venturini et al.

Scientific article published in the international journal "Fusion Engineering and Design". Fusion Engineering and Design, Volume 156, July 2020, https://doi.org/10.1016/j.fusengdes.2020.111683.

2021 **“Engeneering design of a Permeator Against Vacuum mock-up with niobium membrane”** F.Papa et al.

Scientific article published in the international journal "Fusion Engineering and Design". Fusion Engineering and Design, Volume 166, May 2021, https://doi.org/10.1016/j.fusengdes.2021.112313.

2021 **“Experiments on the MHD Effect on the Drainage of a LiPb Channel and Supporting Numerical Computations with the Level Set Method”** L.Candido et al.

Scientific article published in the international journal "Fusion Science and Technology". Fusion Science and Technology, August 2021, https://doi.org/10.1080/15361055.2021.1893574.

2021 **“Overview on Lead-Cooled Fast Reactor Design and Related Technologies Development in ENEA”** M. Tarantino et al.

Scientific article published in the international journal "Energies". Energies, Volume 14, August 2021, https://doi.org/10.1080/15361055.2021.1893574.