

PhD STUDENT

# SILVIA CROSA

## SKILLS

- Teamwork
- Problem-Solving
- Experimental activities
- Data acquisition and control
- System modelling
- Data analysis
- Labview
- Matlab/Simulink
- Office

## LANGUAGES

- Italian, Native
- English, Advanced

## OBJECTIVE

PhD student on Polymeric Electrolyte Membrane Fuel Cell system degradation. Experiences on laboratory experimental activities on PEMFC, experimental data analysis, and modeling of PEMFC, SOFC and SOFC-mGT systems in Matlab/Simulink environment. PhD work focus on PEMFC and SOFC systems performances studies.

Presenter at ICAE (International Conference on Applied Energy) with the work "Validation of Voltage degradation coefficients on 30 kW PEM Fuel Cell stacks", selected for the special issue on Applied Energy.

Poster presentation at EFCF23 (European Fuel Cell Forum 2023) with the work "Voltage degradation coefficients validation on PEMFC stacks tested in different operating conditions".

Experimental activities done at the European JRC (Joint Research Centre) in Petten on a PEMFC system, for the study of the effects of operating and ambient conditions on PEMFC performance.

Experimental activities at the IES (Innovative Energy Systems Laboratory) in Savona on FC systems for Maritime applications, with the use of the Hydrogen and cooling lines and the resistive load of the laboratory.

Publication of the work "Modelling and Control System Development of a Turbocharged Proton-Exchange Membrane Fuel Cell System" at the ASME Turbo EXPO conference 2023. Modelling activities on SOFC-mGT hybrid system fueled by ammonia, methane and biogas and study on ammonia SOFC-mGT techno-economic analysis.

## EXPERIENCES

### **PhD student**

University of Genoa

Genoa (IT)

2021-11 - Present

PhD project on PEMFC and SOFC systems performances analysis

### **Work activity at the IES Laboratory (SV)**

University of Genoa

Genoa (IT)

From 17-07-2023 to 31-12-2023

Support to update the data acquisition and PEMFC performance monitoring system (“Supporto all’aggiornamento del sistema di acquisizione dati e monitoraggio delle prestazioni di celle a combustibile PEM”)

**Teaching support activity**

University of Genoa

Genoa (IT)

March 2023 - May 2023 (20 hours)

Laboratory and classroom exercises (PEMFC degradation, PID controller)

Course: “Sperimentazione di sistemi energetici innovativi e a fonti rinnovabili” (cod. 104758 SSD ING.IND/09 2°SEM del Corso di Laurea in Ingegneria Meccanica: Energia e Produzione (cod. 10800))

**EDUCATION**

**Master’s Degree in Energy Engineering**

University of Genoa

Savona University Campus (IT), 2019-09 - 2021-10

**Bachelor’s degree in Industrial and Management Engineering**

University of Genoa

Savona University Campus (IT), 2015-09 - 2019-07

**COURSES**

**LabView Core 1**

**Technical Gases use (Corso Di Formazione PA Impianti Di Distribuzione Gas Tecnici)**

**Corso di formazione specifica ai sensi degli art.li 36-37 del D.Lgs. 81/08**