LUCIA SIROTTI

Forlí (FC), Italy
lucia.sirotti4@unibo.it

EDUCATION

Jan. 2022 - present	**PhD in Mechanics and Advanced Engineering Sciences** *Alma Mater Studiorum - University of Bologna* PROJECT: Development of a numeric platform for the simulation of liquid metals flows, focused on the turbulence behavior and the heat transfer mechanism in a power plant context.	
July 2021	**Qualifying examination for the profession of INDUSTRIAL AND INFORMATION ENGINEER** *Alma Mater Studiorum - University of Bologna*	Final Mark 59/60
Dec. 2018 - Mar. 2021	**Master's Degree in Energy Engineering** *Alma Mater Studiorum - University of Bologna*	Final Mark 110/110L
Sept. 2015 - Dec. 2018	**Bachelor's Degree in Energy Engineering** *Alma Mater Studiorum - University of Bologna*	Final Mark 110/110L

WORK AND TEACHING EXPERIENCE

Mar. 2024 - Jun. 2024	**Visiting Scholar at Texas A&M University** *Dep. of Nuclear Engineering, Texas A&M University, College Station, Texas, USA* PROJECT: 3D multi-physics simulation of the steady state regime of the lead fast nuclear reactor (ALFRED), using the OpenFOAM based application, named GeN-FOAM.
Sept. 2023 - Dec. 2023	**Teaching Tutor for *Foundations of Informatics*** *Course of BCs Mechanical Engineering at University of Bologna*
Mar. 2023 - Jun. 2023	**Teaching Tutor for *Foundations of Informatics*** *Course of BCs Energy Engineering at University of Bologna*
Mar. 2022 - Jun. 2022	**Teaching Tutor for *Foundations of Informatics*** *Course of BCs Energy Engineering at University of Bologna*
May 2021 - Dec. 2021	**Software Engineer** *Nier Ingegneria S.p.a.*

ADVANCED SCHOOL COURSES

January 2024	**Core Modelling For Transient** *GRE@T-PIONEeR project*
July 2023	**Summer School on Parallel Computing** *CINECA Academy*
March 2022	**Introduction to Parallel Computing with MPI and OpenMP** *CINECA Academy*
February 2022	**Introduction to Python programming** *CINECA Academy*

June 2021	**Introduction to Web-Technologies**
	Nier Software Academy - Nier Ingegneria S.p.a.
April 2021	**Introduction to Scientific and Technical Computing in C and C++**
	CINECA Academy

CONFERENCES

September 2023	**ICNAAM 2023**
	21st International Conference of Numerical Analysis and Applied Mathematics
June 2022	**ECCOMAS CONGRESS 2022**
	8th European Congress on Computational Methods in Applied Sciences and Engineering

CONFERENCE PAPERS

- G. Barbi, A. Chierici, L. Chirco, V. Giovacchini, S. Manservisi and **L. Sirotti**, 2021. *Numerical simulation of a low Prandtl number flow with a four-parameters turbulence model through an explicit algebraic definition of Reynolds stress and turbulent heat flux.* 38th UIT Heat Transfer Conference.
- G. Barbi, A. Chierici, V. Giovacchini, S. Manservisi and **L. Sirotti**, 2022. *Validation on a new anisotropic four-parameter turbulence model for low Prandtl number fluids.* 8th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS Congress 2022).
- G. Barbi, A. Chierici, V. Giovacchini, L. Manes, S. Manservisi and **L. Sirotti**, 2022. *Dirichlet boundary control of a steady multiscale fluid-structure interaction system.* 8th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS Congress 2022).
- G. Barbi, A. Cervone, A. Chierici, V. Giovacchini, S. Manservisi, R. Scardovelli and **L. Sirotti**, 2022. *A new projection method for Navier-Stokes equations by using Raviart-Thomas finite element.* 8th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS Congress 2022).

JOURNAL PAPERS

- S. Baldini, G. Barbi, A. Cervone, F. Giangolini, S. Manservisi and L. Sirotti, 2025. *Optimal Control of Heat Equation by Coupling FVM and FEM Codes* . Mathematics, MDPI.
- G. Barbi, A. Cervone, F. Giangolini, S. Manservisi and L. Sirotti, 2024. *Numerical Coupling between a FEM Code and the FVM Code OpenFOAM Using the MED Library.* Applied Sciences, MDPI.
- A. Cervone, S. Manservisi, R. Scardovelli and L. Sirotti, 2024. *Computing Interface Curvature from Height Functions using Machine Learning with a Symmetry-preserving Approach for Two-phase Simulations.* Energies, MDPI.

TECHNICAL SKILLS

Operating System: Windows, Linux
Programming Languages: C, C++, Python
Software: OpenFOAM, Ansys

LANGUAGES

Italian: Native Speaker
English: Upper Intermediate
IELTS Certification: level B2 - 2020

Bologna, 19/07/2024