

SIMONE SIRIANO

ENERGY AND NUCLEAR ENGINEER



ACADEMIC STUDIES

Nuclear Engineering program, Energy and Environment Ph.D. | Sapienza University of Rome

Nov. 2018 – Nov. 2021 (expected)

Computational modelling of Magnetohydrodynamics (MHD) flows for nuclear fusion application.

Energy and Nuclear Engineering Master's Degree | Sapienza University of Rome

Sep. 2015 – Oct. 2018

- **Final Dissertation:** "Numerical study of MHD thin-film flows for Plasma Facing Components: fundamental phenomena and code validation"
- **Degree Mark:** 110/110 cum Laude
- **Final GPA (exams):** 28.8/30

Energy and Nuclear Engineering Bachelor's Degree | Sapienza University of Rome

Sep. 2011 - Dec. 2014

- **Final Dissertation:** "Reprocessing for closed nuclear fuel cycle"
- **Degree Mark:** 110/110 cum Laude
- **Final GPA (exams):** 27.8/30

High School Scientific Diploma | ITAS Colomba Antonietti, Rome (RM)

Sep. 2006 - Jul. 2011

- **Final Diploma Mark:** 100/100



WORK EXPERIENCES

Operator of the DIAEE | Sapienza University of Rome

Feb. 2013 – May 2018

University cooperation of 150 hours each for the Department of Astronautical, Electrical and Energy Engineering (DIAEE): 02/13 – 01/14 operator of the Nanotechnology Laboratory; 02/14 – 01/15, 02/16 – 01/17 and 02/18 – 05/18 operator of the Library; 02/17 – 01/18 operator of the Calculation Center.

- **Main activities and responsibilities:** instrumentation management, mechanical and electrical measurements, processing of metal and plastic plates by numerical control cutter, management and optimization of the library archive, management of software and hardware
- **Acquired skills:** mechanical and electrical measurements, numerically controlled cutter, database management, problem solving

Collaboration | GenColor Srl, Rome (RM)

Jun. 2010 – Jan. 2013

Occasional collaboration within three years.

- **Main activities and responsibilities:** graphic design and maintenance of the corporate website, inventory management, warehouse management, maintenance and optimization of corporate computers

- **Acquired skills:** website design and management (HTML), database management, problem solving, teamwork, communication



STUDIES and EXPERIENCES ABROAD

Worthing, United Kingdom

Mar. 2015 – Aug. 2015

Autonomous stay in the UK with the aim of strengthening the English language and testing myself with a different reality and an independent life. I worked 2 months for the McDonald's Corporation chain and 4 months as a waiter and cashier in an Italian restaurant.

- **Acquired skills:** communication, teamwork, leadership, adaptability, autonomy, English listening and speaking



PROFESSIONAL ACCOLADES and GRANTS

Enrollment in the Professional Register of Industrial Engineer

Jun. 2021

Register A, ID 39606

“Progetti per Avvio alla Ricerca - Tipo 1” | Sapienza University of Rome

Oct. 2020

University founding for the research “3D MHD analysis of prototypical manifold for liquid metal blankets”

ENEN+ mobility grant | European Nuclear Education Network

Jan. 2019

ENEN+ mobility grant on the Nuclear Engineering Field (could not be carried out due to the spread of the SARS-CoV2 pandemic)



CONFERENCES and SEMINARS

- “FuseNet PhD Event 2020 The Virtualalternative”, FuseNet-EUROfusion, 23-24 October 2020
- “Thermal Hydraulics in Liquid Metal Fast Reactors”, Generation IV International Forum Education and Training Task Force
- “MHD Modelling School 2019”, University of Latvia, Riga (Latvia), 14-18 October 2019
- “14th International Symposium on Fusion Nuclear Technology”, Budapest (Hungary), 22-27 September 2019
- “11th Pamir International Conference Fundamental and Applied MHD”, Reims (France), 1-5 July 2019
- “Summer School on Magnetosciences”, Université de Reims Champagne Ardenne, Reims (France), 2-5 July 2019
- “ESFR-SMART European Workshop on Instrumentation for the Safety of Liquid Metal Facilities”, Helmholtz-Zentrum Dresden-Rossendorf, Dresden (Germany), 10-12 April 2019



PUBLICATIONS

- “Numerical simulation of thin-film MHD flow for non-uniform conductivity walls”, S. Siriano et al., Fusion Science and Technology 77, February 2021
- “Electromagnetic coupling phenomena in co-axial rectangular channels”, S. Siriano et al., Fusion Engineering and Design 160, November 2020
- “MHD pressure drop estimate for the WCLL in-vessel PbLi loop”, A. Tassone, S. Siriano et al., Fusion Engineering and Design 160, November 2020
- “MHD forced convection flow in dielectric and electro-conductive rectangular annuli”, S. Siriano et al., Fusion Engineering and Design 159, October 2020

- “Numerical study of MHD thin-film flows for plasma facing components”, S. Siriano et al., Proceedings 11th PAMIR International Conference Fundamental and Applied MHD



SKILLS

Languages skills

- Italian, First Language
- English, Second Language, English EF Level 10 – Upper Intermediate – CEFR Level B2, Jan. 2020

Computer skills

- OpenFOAM
- Ansys CFX, DM and Meshing
- Paraview
- AutoCAD
- Excel advanced user
- Unix shell
- C++
- Python
- Fortran
- Visual Basic for Applications
- Windows OS
- Linux OS
- Office suite

Technical skills

- CFD/CMHD simulation
- Computer Modelling
- Advanced Mathematics
- Magnetohydrodynamics (MHD)
- Computational fluid dynamics (CFD)
- Thermo-Fluid Dynamics
- Nuclear Physics
- Nuclear Power Plant
- Nuclear fusion technology

Soft skills

Accuracy, Adaptability, Autonomy, Fast Learning, Focus, Problem Solving, Team working, Time Management

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