Fabio Alcaro   *Curriculum Vitae*

PERSONAL INFORMATION		
Current Address:	Westerdijk 4-0424, 3513EW Utrecht, Netherlands	
Personal Email:	fabio.alcaro@outlook.com	
Contact:	+31 (0)6 26 34 43 25	
WWW:	LinkedIn Profile	

EDUCATION

Polytechnic of Turin, Turin, ITALY, 2012
Ph.D. in Nuclear Engineering - Reactor Physics

Polytechnic of Turin, Turin, ITALY, 2008
M.S. in Energy and Nuclear Engineering, **110/110 Cum Laude**

> Erasmus student exchange program at SCK-CEN, in collaboration with University of Luvain-la-Neuve, BELGIUM, 2008 (5 months)

University of Bologna, Bologna, ITALY, 2006
B.S. in Energy Engineering, **110/110 Cum Laude**

PROFESSIONAL SKILLS

- Calculus, linear algebra and numerical analysis
- Scientific software development
- Nuclear reactor physics and power plant design
- Thermo-fluid dynamics of single and two-phase flow, CFD
- Statistical and data analysis, stochastic calculus, Monte Carlo simulations
- Nuclear plant safety analysis and risk assessment

COMPUTER SKILLS

Programming:	FORTRAN, R, Python, Java, Scala, Wolfram Language
OS:	Microsoft Windows (Xp/Vista/7/10), Linux (Debian/Ubuntu)
Productivity:	Microsoft Office suite, LibreOffice suite
Research tools:	Markdown, Jupyter notebook, IBM Watson Studio, LaTeX
Other:	MATLAB/Simulink, Mathematica, RStudio

EXPERIENCE

Nuclear Engineering Consultant, **NRG**   **2014-present**

- Performed extensive consultancy analyses in support of the design and safety assessment of several types of nuclear reactor systems (commercial plants and research facilities).
- Increased quality assurance and speed of the development of thermal-hydraulic code models by automating the generation of the input decks from raw data in python.
- Publication of comprehensive documentation of safety/system design calculations for the internal management, clients and regulatory authorities.
- Participation in several research projects in the domain of thermal-hydraulics and reactor physics, for the analysis and design of next-generation nuclear reactors within European and world-wide project frameworks (FP7, H2020, OECD-NEA), with publication of the results.

Post-doctoral Researcher,
Polytechnic of Turin   **2012-2013 (1 year)**

Performed design and safety calculations for a liquid-fueled nuclear system prototype within the European FP7-EURATOM EVOL framework.

Development of a FORTRAN nuclear reactor program for the model of liquid-fueled nuclear system dynamics in the framework of accident analysis and system behavior.

Research Engineer, **CEA**   **2010 (6 months)**

Development of JAVA-based package for the model of the dynamics of the French advanced sodium-cooled reactor. Implementation of the package within the CEA production code framework (NetBeans/SVN).

Innovative implementation of the quasi-static algorithm to angle-dependent neutron transport solver for reactor kinetic applications.

Research Engineer (Intern), **SCK-CEN**   **2008 (3 months)**

Development of computational model with Monte Carlo code (MCNPX) of the spallation target of MYRRHA research reactor.

Performed extensive calculations for the windowless spallation target configuration and publication of an internal report for the project team.

ADDITIONAL CERTIFICATIONS (ONLINE)

- Software Development in R (Johns Hopkins University)
- IBM Data Science (IBM)
- Functional Programming in Scala (École Polytechnique Fédérale de Lausanne)
- Machine Learning (Stanford University)
- Stochastic Processes (Higher School of Economics, Moscow)
- Financial Engineering & Risk Management (Columbia University)
- Interest Rate Models (École Polytechnique Fédérale de Lausanne)

TEACHING EXPERIENCE

Teaching Assistant, **Polytechnic of Turin**   **2009-2010 (4 months)**

Assistant for the Nuclear Reactor Physics course of the Master Degree in Nuclear Engineering

AWARDS

ENEN Association, Barcelona, SPAIN, 2010
EMSNE certificate, European Master of Science in Nuclear Engineering

LANGUAGE PROFICIENCY

Italian (Mother Tongue)

English (C1 level of CEFR standard)

French (A2 level of CEFR standard)

Dutch (A2 level of CEFR standard)

INTERESTS

Reading, travelling, motor-riding, running, hiking, programming.

PUBLICATIONS

ResearchGate