Michele Marra

EDUCATION AND TRAINING

Master's degree in Energetics and Nuclear Engineering
Sapienza University of Rome - Faculty of Civil and Industrial Engineering [2019 – 20/10/2022]

Field(s) of study: Nuclear Engineering
Final grade: 110/110 – **Level in EQF:** EQF level 7
National classification: Laurea Magistrale – **Type of credits:** ECTS – **Number of credits:** 120
Thesis: Evaluation of core deformation effects in coupled Neutron-Kinetics Thermal-Hydraulic Analysis of Fast Flux Test Facility's Loss of Flow Without Scram Transient

Brief description of the thesis work:

1. Use of ECCO module of ERANOS code for multigroup Macroscopic cross section calculation for a sodium cooled fast reactor model
2. Temperature and Geometrical parametric study on cross sections
3. Evaluation of the cross sections parametrization effects on the coupled Neutron-Kinetics Thermal-Hydraulic simulation of the FFTF LOFWOS Test #13 Transient

Principal subjects/occupational skills covered:

1. Production, distribution and economics of electric power
2. Nuclear reactor theory and nuclear physics
3. Thermal hydraulic design of Nuclear power plants
4. NPP Safety and Mitigation Systems, transport and release of radionuclides
5. Radiation protection, Radiation Measurements, Uses of Ionizing Radiation

Bachelor's Degree in Energetics Engineering
Sapienza University of Rome - Faculty of Civil and Industrial Engineering [2016 – 2019]

Final grade: 110/110 cum laude – **Level in EQF:** EQF level 6
National classification: Laurea Triennale – **Type of credits:** ECTS – **Number of credits:** 180
Thesis: Spent Nuclear Fuel: technologies for the reduction of radiotoxicity

Principal subjects covered

- Basic Engineering sciences
- Energy conversion technologies and systems
- Numerical Analysis, computation and Operations research
- Application of nuclear technologies

Scientific High School Diploma
Liceo A. Righi [2011 – 2016]

Address: Rome (Italy)
Final grade: 96/100

JOB RELATED SKILLS

Expertise Achieved on Nuclear Reactor Simulation

1. Numerical methods for neutron kinetics, thermal hydraulic and coupled calculations
2. Familiarity with ERANOS code system for Fast Reactor Calculations
3. Thermal Hydraulic analysis of nuclear power plants through RELAP5 and VBA programming
4. Severe accident source term estimation, radionuclide transport and release in the environment

ADDITIONAL COURSES AND TRAININGS

Gre@t Pioneer - "Core modelling for core design"

[09/01/2023 – 13/01/2023]

Certificate of Completion

Main subject / occupational skills covered :

1. Steady State neutron transport at the core level
2. Application of deterministic and stochastic neutronic codes
3. Core design and operation for PWRs and BWRs

Formative Credits: 3 ECTS

https://great-pioneer.eu/

Gre@t Pioneer - "Core modelling for transients"

[06/02/2023 – 10/02/2023]

Certificate of Completion

Main subject / occupational skills covered :

1. Space/time discretization methods for coupled NK/TH calculations
2. Factorization techniques
3. Power reactor noise analysis
4. Thermal Hydraulics codes and data visualization
5. Fuel Thermomechanical simulation
6. TRACE/PARCS coupling
7. Stability Analysis and Reduced Order Modelling

Formative Credits: 3 ECTS

https://great-pioneer.eu/

ELSMOR 2022 - International Summer School on Early-deployable Small Modular Reactors

[05/07/2022 – 08/07/2022]

Certificate of Attendance

Politecnico di Milano - Polo Territoriale di Lecco

1. Early deployable SMR technologies
2. Modelling and safety analysis of LWR - SMR
3. Licensing process and difficulties

Formative Credits: 2 ECTS

https://www.nuclearenergy.polimi.it/elsmor2022ss/

European Nuclear Experimental Educational Platform (ENEEP)

[24/01/2022 – 04/02/2022]

Certificate of Completion

Slovak University of Technology in Bratislava, Czech Technical University in Prague

Main subject / occupational skills covered :

Two-week international course organized by ENEEP focused on lectures and hands-on experience in the fields of:

1. Core, spent fuel, and source reactivity computer simulations
2. Radiation detection, measurement and monitoring
3. Safety and Security of nuclear facilities
4. Reactor physics, dynamics and practical operation of the reactor

https://www.eneep.org/demonstration-courses/prospectuses/safe-and-secure-operation-of-nuclear-installations/

WORK EXPERIENCE

Calculus and physics tutor
[2021 – Current]

Tutoring to high school students and university freshmen on calculus and physics homework through personalized approaches.

Student Collaborator
Università di Roma La Sapienza [11/2020 – 04/2021]

Technical support for devices used in online streamed courses (whiteboards, classroom webcam etc.), preparation of easy to use manuals and assistance in the department of energy library.

LANGUAGE SKILLS

Mother tongue(s): **Italian**

Other language(s):

English

LISTENING B2 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

German

LISTENING A1 **READING** A1 **WRITING** A1

SPOKEN PRODUCTION A1 **SPOKEN INTERACTION** A1

DIGITAL SKILLS

Microsoft Office / Visual Basic / Matlab / Microsoft Excel / Python / ERANOS Simulation / Basics of RELAP5-3D

DRIVING LICENCE

Driving Licence: B