

PERSONAL INFORMATION

Elena Amoroso



POSITION

Nuclear Coordinator - System Level Engineering

WORK EXPERIENCE

February 2025 - Present

Nuclear Coordinator - System Level Engineering

DTT S.C.ar.l. – Frascati ENEA Research Center, 45 Via Enrico Fermi, Italy - <https://www.dtt-project.it>
Responsible for the interfaces between nuclear design and plant systems and components design in terms of neutronics, impurity of materials, layouts and 3D CAD model for the design of a nuclear fusion reactor DTT, Divertor Tokamak Test facility.
DTT is a fusion experiment under construction to explore alternative solutions for the extraction of the heat generated by the fusion process.
Responsible of Radiation protection officer for DTT project; in particular responsible for updating all authorization documentation for obtaining the nuclear plant operating licensing in compliance with current nuclear safety regulations.

July 2019 – March 2021

Radiation Protection Expert

NUCLECO S.p.a. – Casaccia ENEA Research Center, 301 Via Anguillarese, Rome (RM), 00123, Italy
As part of Sogin work, I held the position of **Radiation Protection expert** on call in the event of a nuclear emergency at Nucleco S.p.a. with a 30% working commitment.

March 2017 – July 2018

As part of the "**Dual Use and Arms Control**" Course, I conducted an in-depth study with Professor Angelo Minotti on international policy issues related to nuclear proliferation and export controls, including safeguards agreements and the EU regulatory framework on dual-use. I focused on the case study of nuclear materials and components of nuclear power plants with potential dual-use. The case study also included a comparison between European Regulation and Iranian Export Control Regulation. This work was a preparation for participation in the 29th Summer Symposium on Science and World Affairs.

April 2013 – January 2025

Nuclear Design Engineer

SOGIN S.p.a. – 51/c Via Marsala, Rome (RM), 00185, Italy – <http://www.sogin.it>

Nuclear designer focused on NPPs decommissioning and radiation protection: for multiple projects responsible of NPPs procedures and processes definition according to Safety Nuclear and European regulatory. Elaboration of reporting for Managers and Steering committee attendance for Project status updates. Main activities currently in charge of:

- Designer in the context of radiological characterization system for proper management and safety of radioactive waste and materials from the dismantling of NPPs and installations in the nuclear fuel cycle;
- Designer in the context of Nuclear Safety to handling proper operating conditions, such as the prevention of accidents and/or mitigation of accident consequences in order to ensure the protection of workers, the public and the environment from undue radiation hazards.
- Radiation Protection Expert available in case of nuclear emergency for Nucleco Spa company.
- Design of pre-treatment, treatment, conditioning and management processes for radioactive waste including transport, storage and disposal phases, taking into account nuclear safety issues and regulatory constraints;
- Technical and regulatory documentation preparation according to European Community and Italian government agreements for "Ispra 1" NPP handover
- Feasibility studies and preliminary design concerning Vessel and Internals Dismantling of Garigliano and Trino NPPs;
- Shielding Calculations and Dose Evaluations using different nuclear codes (VISIPLAN 3D ALARA, MICROSHIELD, MCNP5, ORIGEN SCALE) on several projects;
- Knowledge of IAEA Safety Standards and Regulations (in particular for classification of radioactive waste and for the safe transport of radioactive materials).

EDUCATION AND TRAINING

March 2017	Course on Dual Use and Arms Control University of Rome "La Sapienza" – Rome, Italy	9 CFU
December 2014 - December 2016	Training for professional qualification Radiation Protection Expert, first, second and third degree SOGIN S.p.a. – NPP Latina	EQF level 8
October 2010 – March 2013	Master's degree, summa cum laude, in Nuclear and Energy Engineering LM 30 University of Rome "La Sapienza" – Rome, Italy	EQF level 7
September 2006 – September 2010	Bachelor's degree in Energy Engineering University of Rome "La Sapienza" – Rome, Italy	EQF level 6
September 2001 – July 2006	High School Scientific Diploma Liceo Scientifico Statale "C. C. Cavour" - Rome, Italy	EQF level 4

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Fluent	Fluent	Fluent	Fluent	Fluent

Skills

- Leadership, influencing and communication
- People Management and Teamwork
- Organization and Analytics

Digital competence

- **Nuclear Software (knowledge: ***=advanced, **=intermediate, *=basic):**
 - MCNP**, VISIPLAN 3D ALARA**, MICROSHIELD**, GENII 2.0**, SCALE/ORIGEN*, RELAP*
- **Programming Software (knowledge: ***=advanced, **=intermediate, *=basic):**
 - C++**, Matlab / Simulink*
- **CAD Software (knowledge: ***=advanced, **=intermediate, *=basic):**
 - Autocad 2D**, Solid Edge*,
 - SolidWorks*.

ADDITIONAL INFORMATION

Courses and Conferences

- Expert radon abatement course, July 2025.
- Summer Symposium on science and world affairs sponsored by Union of Concerned Scientists with an oral presentation about “CERMET Fuel Materials for Nuclear Thermal Rocket Propulsion high performance and safeguard/security concerns”, Liu Institute for Global Issues of the University of British Columbia, July 2018;
- 31st Winter Course of ISODARCO (International School on Disarmament and Research on Conflicts) about “The evolving nuclear order: new technology and nuclear risk”, January 2018.
- Fundamentals of Nuclear Engineering for Astronautics, University of Rome “La Sapienza” – Rome, Italy, October 2017
- Summer Symposium on science and world affairs sponsored by Union of Concerned Scientists with an oral presentation about “Nuclear Proliferation and Export Control”, Technical University of Darmstadt, July 2017;
- Dual Use and Arms Control, University of Rome “La Sapienza” – Rome, Italy, March 2017
- Management of nuclear materials and dangerous goods transport in compliance with ADR regulation, Italian Radwaste Management School, September 2016.
- Management of Radioactive Waste, Italian Radwaste Management School, May 2015.
- General approach to decommissioning, Italian Radwaste Management School, November 2014.
- Strategic planning of decommissioning and waste management activities, Italian Radwaste Management School, November 2014.
- External dose evaluation and calculation with VISIPLAN, MICROSHIELD and MICROSKEYSHINE computer codes, Italian Radwaste Management School, October 2014.
- Environmental dose assessment with GENII 2.0 computer code, Italian Radwaste Management School, March 2014.
- Internal dose evaluation

Memberships

- Registered since 2014 at “Ordine degli ingegneri della provincia di Roma” – Industrial sector
- Registered since 2019 at “Elenco nominativo degli Esperti di Radioprotezione con il grado TERZO di abilitazione”