

Curriculum Vitae

Personal information



First name(s) / Surname(s) **Mariano Tarantino**
Address(es) Via Carviano Lama 64/E, 40032, Grizzana Morandi (Bo), Italy
Telephone(s) +39 0534 801 262 Mobile: +39 334 1558769
E-mail mariano.tarantino@enea.it
Nationality Italian
Date of birth 09 March 1976
Place of birth Foggia, Italy
Gender Male

Occupational field **Innovative Technologies Researcher**

Work experience

Dates	From July 2022
Occupation or position held	Head of Nuclear Safety and Sustainability Division by the Fusion and Technology for Nuclear Safety and Security Department, ENEA
Main activities and responsibilities	Responsible for the research activities carried out at ENEA Bologna Research Centre by the Division for Nuclear Safety and Sustainability: The main activities are regard design an analysis of innovative systems, with particular reference to advanced lead-cooled generation IV nuclear reactors (LFR) and modular small/medium-sized reactors (SMR), closing of the fuel cycle, analysis of accidents and ensuring preparedness for nuclear and radiological emergencies, characterization and traceability of isotopes, relative to the national disposal facility and environmental monitoring, nuclear security, forensic and mitigation of chemical, biological, radiological and nuclear risks (CBRN), safety assessment of fusion reactors, with particular focus on DTT facility presently under construction. Coordination and Project Management in nuclear components and systems design, development and experimental characterization. Member of the Executive Board of FALCON Consortium (Fostering ALfred CONstruction). Responsible of ALFRED DEMO-LFR RD&Q task force in FALCON. Responsible for the implementation and Operation of the Automation and Control Laboratory (A&C Lab) in the frame of EXADRONE Project, funded by the Regione Emilia Romagna (RER). Responsible for the implantation of CBRN task by the A&C Lab.
Name and address of employer	Italian National agency for new technologies, Energy and sustainable economic development – ENEA Brasimone Research Centre
Type of business or sector	Research and technology development in the field of Innovative Nuclear System (Fusion & Gen-IV Fission), Innovative Technologies, Prototypical Instrumentations, CBRN, DRONE.
Dates	From July 2022 (Interim) From January 2020 to July 2022
Occupation or position held	Head of Innovative Projects Section by the Fusion and Technology for Nuclear Safety and Security Department, ENEA

Main activities and responsibilities	<p>Responsible for the research activities carried out at ENEA Brasimone Research Centre by the Innovative Projects Section, aiming at supporting innovative nuclear systems development, including Gen-IV Led-cooled Fast Reactors, Accelerator Driven Systems cooled by heavy liquid metal, ITER, DEMO (EUROFUSION), DTT.</p> <p>Coordination and Project Management in nuclear components and systems design, development and experimental characterization.</p> <p>Member of the Executive Board of FALCON Consortium (Fostering ALfred CONstruction).</p> <p>Responsible of ALFRED DEMO-LFR RD&Q task force in FALCON.</p> <p>Responsible for the implementation and Operation of the Automation and Control Laboratory (A&C Lab) in the frame of EXADRONE Project, funded by the Regione Emilia Romagna (RER).</p> <p>Responsible for the implantation of CBRN task by the A&C Lab.</p>
Name and address of employer	Italian National agency for new technologies, Energy and sustainable economic development – ENEA Brasimone Research Centre
Type of business or sector	Research and technology development in the field of Innovative Nuclear System (Fusion & Gen-IV Fission), Innovative Technologies, Prototypical Instrumentations, CBRN, DRONE.
Dates	From July 2015 to December 2019
Occupation or position held	Head of Experimental Engineering Division of Brasimone by the Fusion and Technology for Nuclear Safety and Security Department, ENEA
Main activities and responsibilities	<p>Responsible for the research activities carried out at ENEA Brasimone Research Centre by the Experimental Engineering Division, aiming at supporting innovative nuclear systems development, including ITER, DEMO (EUROFUSION), DTT, ALFRED (DEMO-LFR, GEN-IV).</p> <p>Coordination and Project Management in nuclear components and systems design, development and experimental characterization.</p> <p>Scientific Advisor in Prototypical instrumentations development for thermal-fluid dynamic systems.</p> <p>Responsible for experimental facilities design and operation both in the frame of nuclear fission (ADS and LFR-GEN-IV) and nuclear fusion (ITER, DEMO, IFMIF, DONES, DTT).</p> <p>Coordination and Project Management in experimental campaign conceptualization, implementation and results analysis.</p> <p>Participation as Project Coordinator (SESAME), Work Package Leader (MAXSIMA, SEARCH) in EURATOM H2020 & FP7 Project funded by the EC.</p> <p>Member of Executive Board of the FALCON Consortium (Fostering ALfred CONstruction).</p>
Name and address of employer	Italian National agency for new technologies, Energy and sustainable economic development – ENEA Brasimone Research Centre
Type of business or sector	Research and technology development in the field of Innovative Nuclear System (Fusion & Gen-IV Fission)
Dates	From January 2013 to July 2015
Occupation or position held	Head of Thermal Fluid Dynamic and Experimental Facilities Laboratory by the Experimental Engineering Technical Unit of Brasimone, ENEA
Main activities and responsibilities	<p>Responsible for the research activities carried out by the Thermal Fluid Dynamic and Experimental Facilities Laboratory, aiming at supporting the technological development of innovative nuclear systems, including ITER, DEMO (EUROFUSION), IFMIF (Broader Approach), MYRRHA-ADS (EURATOM) and ALFRED (DEMO-LFR, EURATOM).</p> <p>Member of the FALCON Consortium (Fostering ALfred CONstruction).</p> <p>Project leader in nuclear components and systems design, development and experimental characterization.</p> <p>Project leader in prototypical instrumentations development for thermal-fluid dynamic systems.</p> <p>Responsible for experimental facilities design and operation both in the frame of nuclear fission (LFR/ADS) and nuclear fusion (ITER/DEMO).</p> <p>Project leader and coordination in experimental campaign conceptualization, implementation and results analysis.</p> <p>Scientific responsible of CIRCE facility, the largest heavy liquid metal pool-type integral test facility worldwide.</p> <p>Responsible for the conceptualization, design, procurement, installation, commissioning and operation of CIRCE test sections, and HLM facilities @ Brasimone (HELENA and NACIE loop).</p>

Name and address of employer	Italian National agency for new technologies, Energy and sustainable economic development – ENEA Brasimone Research Centre
Type of business or sector	Research and technology development in the field of Innovative Nuclear System (Fusion & Gen-IV Fission)
Dates	From November 2010 to December 2018
Occupation or position held	Scientific Advisor of Gen. IV R&D domain in the frame of the Research Program Agreement (ADP) between Minister for the Economic Development (MiSE) and ENEA.
Main activities and responsibilities	Project Leader and Project Manager for the research and development of Lead-cooled Fast Reactor Gen-IV nuclear system in the frame of the ADP MiSE-ENEA. Senior Scientist in the heavy liquid metal technology development, prototypical components design, operation and experimental characterization. Responsible for knowledge dissemination in the frame of the Gen. IV R&D domain.
Name and address of employer	Italian National agency for new technologies, Energy and sustainable economic development – ENEA Brasimone Research Centre
Type of business or sector	Research and technology development in the field of Gen-IV nuclear systems (Gen-IV Fission).
Dates	From January 2009 to July 2015
Occupation or position held	Nuclear Researcher
Main activities and responsibilities	Research and development in the frame of innovative nuclear systems. Liquid metal technology development for Lead-cooled Fast Reactor (LFR) and Accelerator Driven System (ADS). Lead-Lithium Technology development in support of WCLL-BB, HCLL-BB. Helium System analysis and design for HCPB-BB. Lithium technology development for IFMIF. Nuclear components design, development and experimental characterization. Prototypical instrumentations development for thermal-fluid dynamic systems. Experimental facilities design and operation. Experimental campaign conceptualization, implementation and results analysis. Scientific responsible of the CIRCE pool facility for the heavy liquid metal pool thermal fluid dynamic characterization and forced/mixed convection studies. Scientific responsible of CIRCE pool facility for gas lift investigation in large pool. Scientific responsible of the NACIE loop for the natural circulation studies in heavy liquid metal systems. Studies on the forced to natural circulation transition.
Name and address of employer	Italian National agency for new technologies, Energy and sustainable economic development – ENEA Brasimone Research Centre
Type of business or sector	Research and technology development in the field liquid metal technology (Fusion & Gen-IV Fission).
Education and training	
Dates	June 2008
Title of qualification awarded	Ph.D. on Industrial and Nuclear Safety (cycle 2005-2007) with a work on “Experimental Investigation of the Thermal Hydraulic behaviour of Heavy Liquid Metal Cooled Reactors”
Principal subjects/occupational skills covered	Thermal fluid dynamic on innovative nuclear systems with particular reference on heavy liquid metal cooled reactor (LFR/ADS). Experimental activities conceptualization, implementation, carrying out and analysis. Experimental test section design and operation.
Name and type of organisation providing education and training	University of Pisa, Italy
Dates	October 2004
Title of qualification awarded	Master Science on Nuclear Engineering (110/110 cum laude) with a work on “Theoretical and experimental analysis on natural and gas enhanced circulation in heavy liquid metal cooled systems” (in Italian)
Principal subjects/occupational skills covered	Thermal fluid dynamic of heavy liquid metal cooled systems. Experimental activities conceptualization, implementation, carrying out and analysis. Experimental test section design and operation.

Name and type of organisation providing education and training

University of Pisa, Italy

Personal skills and competences

Mother tongue(s)

Italian

Other language(s)

English

Self-assessment

European level (*)

Language

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
B2	C1	C1	C1	C1

(*) [Common European Framework of Reference for Languages](#)

Social skills and competences

Father of two lively kids.

Organisational skills and competences

Coordinator of a research group of more than 60 people among scientist, young researcher, Ph.D. student, Master student, high skilled technicians.
Large Project Coordination and Management in the European context (EURATOM, FP7 & H2020) and international context (CASHIPS – China) with the involvement of the national industry.
Responsible for the facilities operation (thermal fluid dynamic, corrosion, component qualification, safety analysis) with different coolant (water, lead, lead-lithium, lead-bismuth, lithium, helium).
Scientific Advisor of the Gen. IV R&D domain in the frame of the ADP MiSE-ENEA, which involves the main Italian Universities as well as different technical units in ENEA. About 35 researchers and more than 15 technicians are involved into the domain.
Responsible of the contract between ENEA and INEST (Institute of Nuclear Energy and Safety Technology by the Chinese Academy of Science) for the design, construction, follow-up, installation on site, start-up and joint experimental program of a Lead-Bismuth thermal-hydraulic loop (KYLIN-II in HEFEI).
Responsible of the contract between ENEA and INEST (Institute of Nuclear Energy and Safety Technology by the Chinese Academy of Science) for the design of a Lead-Bismuth large pool multipurpose facility (CLEAR-S in HEFEI).
Responsible of the contract between ENEA and INEST (Institute of Nuclear Energy and Safety Technology by the Chinese Academy of Science) for the design of a Lead-Bismuth pool multipurpose facility (CLEAR-M1x in HEFEI).
Responsible of the contract between ENEA and Westinghouse Electric Company for the Advanced Modula Reactor (AMR) Program funded by the BEIS-UK.

Technical skills and competences

Large competencies in heavy-liquid metal technologies for nuclear systems.
Expert on Gen. IV Lead-cooled Fast Reactors and liquid metal fast reactors.
Fusion Breeding Blanket and Divertor Technologies cooled by Liquid Metals.
Knowledge on IFMIF-DONES/ITER/DEMO/DTT/SORGENTINA nuclear system.
Thermal fluid dynamic of innovative nuclear systems.
Structural materials characterization in harsh conditions (irradiation, liquid metal corrosion)
Components characterization in experimental infrastructures.
Instrumentations conceptualization and development.
Heat removal systems design and qualification.
Thermo-mechanic analysis of systems and components.
Task Leader and Work package leader in the frame of 6th and 7th FP EC.
Project Management and Coordination in the frame of H2020.
Project Management and Coordination of complex projects involving tens of senior and young researchers and technicians.
Project Manager for the Automation and Control Laboratory (A&C Lab) in the frame of EXADRONE Project
Skills on Chemical, Biological, Radiological and Nuclear (CBRN) risk assessment and security.

Computer skills and competences	Windows OS. Microsoft Office Tools: MATLAB, MATHCAD, PRO-ENGINEERING, AUTOCAD, CATIA Codes: ANSYS-FLUENT, RELAP5/Mod 3.2, ANSYS, SIMMER III
Others	Training Course for Security and Safety Managers, in compliance with art.18, c.1, lett.1), art.37, c.7 and art.55, c.5, lett. c) of Legislative Decree 81/08 and subsequent amendments 9 th April 2019
Additional information	
Annexes	List of Publications

I authorize the processing of my personal data in the curriculum vitae pursuant to Legislative Decree 30 June 2003, n. 196 and of the GDPR (EU Regulation 2016/679)

Bologna, 17/07/2023

