CURRICULUM VITAE
EU FORMAT

PERSONAL INFORMATION

Full name	FRANCESCO CASAMICHIELA
Date of birth	29/09/1992
Place of birth	RAGUSA (RG)
Telephone	+39 3348126859
E-mail	francesco.casamichiela@polimi.it
Current position	Laboratory technician

EDUCATION

• Dates (from – to)	November 2020 – October 2023
• Name and type of organization providing education and training	Politecnico di Milano - Piazza L. Da Vinci, 32 - 20133 Milano
• Title of qualification awarded	**Ph.D. student in *Energy and Nuclear Science and Technology***
• Dates (from – to)	October 2014 – October 2019
• Name and type of organization providing education and training	Politecnico di Milano - Piazza L. Da Vinci, 32 - 20133 Milano
• Title of qualification awarded	**Master of Science in *Nuclear Engineering*** (Class LM-30)
• Level in National classification	110/110 cum laude
• Dates (from – to)	September 2011 – September 2014
• Name and type of organization providing education and training	Politecnico di Milano - Piazza L. Da Vinci, 32 - 20133 Milano
• Title of qualification awarded	**Bachelor of Science in *Materials Engineering and Nanotechnology*** (Class L-9)
• Level in National classification	100/110

WORK EXPERIENCE

• Dates (from – to)	November 2023 – Today
• Name and address of employer	Politecnico di Milano - Piazza L. Da Vinci, 32 - 20133 Milano
• Type of business or sector	University
• Occupation or position held	**Laboratory technician**
• Main activities and responsibilities	

- Development and management of an irradiation facility for X-ray imaging and X-ray Fluorescence Spectroscopy based on a high-power medical X-ray tube.
- Technical support to the LAT 104 metrology and calibration laboratory (accredited by the Italian national accreditation body, ACCREDIA), pertaining to the university's Quality Service.
- Supervision of Master of Science thesis students at the Nuclear Measurements Laboratory.

MOTHER TONGUE	**ITALIAN**
OTHER LANGUAGES	
	ENGLISH
• Reading	EXCELLENT
• Writing	EXCELLENT
• Speaking	EXCELLENT

TECHNICAL SKILLS

• Radiation-related skills

Radiation fields:
- Advanced knowledge of the workings, control and use of an X-ray tube.
- Experience with radioisotope sources emitting gamma-rays (eg.: Cs-137, Co-60, Am-241, Eu-152, Ba-133) and neutrons (^{241}Am-Be).

Monte Carlo simulations:
- Advanced knowledge of the general-purpose FLUKA Monte Carlo code (X-ray generation from X-ray tubes and linacs, optical photon transport in scintillators, efficiency calculation of X-ray and gamma photon detectors, prompt neutron and gamma fields generated in hadrontherapy, moderation of neutron fields generated by isotopic sources, charged particle transport in magnetic fields, X-ray imaging simulation by ray tracing).

Radiation detection and measurement:
- Advanced knowledge of semiconductor detectors (HPGe, CdZnTe) and software (MAESTRO, Genie 2000) for X-ray or gamma spectrometry.
- Advanced experience with ionization chambers and related electronics for photon field dosimetric characterization.
- Advanced knowledge of indirect detectors for X-ray and neutron imaging.

• IT skills

Microsoft Office:
- Advanced knowledge of Word, PowerPoint ed Excel.

Programming languages:
- Python, MATLAB, LabVIEW, Arduino, FORTRAN.

Operative systems:
- Windows, Linux (Ubuntu 18.04, 20.04).

PUBLICATIONS

• Publications on peer reviewed journals

A. Missaglia, A. B. Idrissi, F. Casamichiela *et al.*, "Prompt-gamma fall-off estimation with C-ion irradiation at clinical energies, using a knife-edge slit camera: a Monte Carlo study", *Physica Medica*, 107(5) (2023).

F. Mirani, A. Maffini, F. Casamichiela *et al.*, "Integrated quantitative PIXE analysis and EDX spectroscopy using a laser-driven particle source", *Science Advances*, Vol. 7, No. 3 (2021).

• Presentations

F. Casamichiela, L. Grisoni, A.M. Fontanilla, D. Bortot, D. Mazzucconi, A. Pola, S. Agosteo, "A new irradiation facility for non-destructive analysis with X-rays: Monte Carlo simulations, spectrometric and dosimetric characterization", Oral, *SSD20 Conference*, Viareggio, Italy, 17 September 2023.

F. Casamichiela, A. Pola, D. Bortot, D. Mazzucconi. "Feasibility study of a novel technique for laser-driven proton beam diagnostics", Poster, *TARG 4 Conference*, Politecnico di Milano, Milan, Italy, 10 June 2019.

• Teaching experience

Teaching assistant at Politecnico di Milano on the courses:

• "Medical Applications of Radiation fields" (head Prof. S. Agosteo), A.A. 2023-2024.

• "Laboratory of Nuclear physics" (head Prof. A. Pola), A.A. 2020-2021, 2021-2022, 2022-2023, 2023-2024.

Lesson on CCD and CMOS sensors in the course "Advanced Detection Systems for Nuclear Technologies II" (head Prof. D. Bortot), Politecnico di Milano, A.A. 2022-2023.

Teaching collaborator in the master "Specializing Master course on Nuclear Safeguards" offered by Politecnico di Milano and the European Nuclear Education Network (ENEN), (1st and 2nd edition).

• Tutoring

Tutor of the "Nuclear Engineering Laboratory" course (head of the course Prof. S. Lorenzi), Politecnico di Milano, A.A. 2022-2023, 2023-2024.

Co-supervisor of 3 Master Degree theses during the Ph.D. course.

Tutor of the "Nuclear Physics and Engineering" course offered by the Polytechnic of Milan as part of the "PoliCollege" project in the 2020 and 2021 editions. Co-author of the course notes.

TRATTAMENTO DEI DATI PERSONALI, INFORMATIVA E CONSENSO

Autorizzo al trattamento dati ai sensi del GDPR 2016/679 del 27 aprile 2016 (Regolamento Europeo relativo alla protezione delle persone fisiche per quanto riguarda il trattamento dei dati personali).

Autorizzo la pubblicazione del Curriculum Vitae sul sito istituzionale del Politecnico di Milano (sez. Amministrazione Trasparente) in ottemperanza al D. Lgs n. 33 del 14 marzo 2013 (e s.m.i.).

FIRMA: