PERSONAL INFORMATION

Giorgia Fangano

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Sex F | Date of birth 01/07/1999 | Nationality Italian

EDUCATIONAL QUALIFICATION

Master's Degree in Biomedical Engineering | Curriculum Bionanotechnology (LM-21), Politecnico di Torino.

PROFESSIONAL EXPERIENCE

01/06/2025 – 01/10/2025

Research fellowship “Anchoring of DNA Probes on Surface for PCR technique”

Infobiotech S.r.l. (Palermo) - Agreement between the Company and Dipartimento di Scienze del Farmaco e della Salute (Prof. Petralia Salvatore), Università degli Studi di Catania https://www.unict.it/

- Chemical-physical characterization of substrates (e.g. Static Contact Angle Measurement, FTIR-ATR, Surface Zeta Potential) to evaluate every step of functionalization processes
- De-anchoring kinetics via UV-Vis and Fluorimeter to estimate the DNA attachment on the surfaces
- Specific and non-specific recognition with engineered genomic DNA on surfaces

30/01/2025 – 30/05/2025

Research fellowship “Development of hybrid nanostructured materials for biomedicine applications”

Dipartimento di Scienze del Farmaco e della Salute (Prof. Petralia Salvatore) – Agreement between STLab S.r.l. and Università degli Studi di Catania https://www.unict.it/

- Development of biosensors for amino acid recognition
- Colorimetric (UV-Vis) and Fluorescence detection of amino acids
- Enzymatic activity evaluated on surfaces with enzyme anchoring
- Chemical-physical characterization of substrates (e.g. Static Contact Angle Measurement, FTIR-ATR, Surface Zeta Potential)
- Presentation skills (PharmaDay 2025, Catania)

07/01/2024 – 29/01/2024

Research collaborator “Development of DNA sensing technology: detection of small molecules – DNA and Proteins”

Dipartimento di Scienze del Farmaco e della Salute (Prof. Petralia Salvatore) - Università di Catania - https://www.unict.it/

- Laboratory skills
- Data analysis (e.g. Excel)
- Preparation strategies and testing of nanocoating for amino acids and DNA detection.
- Physic-chemical characterization of nanocoating (e.g. UV-Vis-NIR, DLS, Static Contact Angle Measurement)
- Ability to understand and develop a biosensing device (e.g. Phe detection)

01/03/2023 – 13/12/2023

Master's Thesis "Development and characterization of an injectable nanohydrogel for the combined and enhanced treatment of bone pathologies"

Politecnico di Torino (Prof. Chiara Vitale Brovarone) - https://www.polito.it

- Ability to conduct in-depth bibliographic research, analyze and synthesize scientific information relevant to one's field of study.
- Ability to design and conduct experiments accurately, following appropriate protocols and correctly managing experimental variables.
- Ability to face and resolve challenges and technical problems that may arise during research, adopting an analytical and creative approach.
- Ability to clearly and concisely communicate research findings through oral presentations, written reports and scientific publications.

EDUCATION AND TRAINING

10/2021 – 12/2023

Master's Degree in Biomedical Engineering with Bionanotechnology Curriculum (LM-21)

Politecnico di Torino - https://www.polito.it

- Group projects (e.g. "Design of a bioreactor for periodontal ligament tissue", "Weaning from mechanical ventilation" | Artificial Intelligence in Medicine)
- Scientific Review writing skills (e.g. "Watson for Oncology" | Rational Drug Design, "An Overview of the Characteristics of Titanium Surfaces for Osseointegrability and Hemocompatibility")
- Use of software (e.g. Mathlab&Simulink, SolidWorks, MOE)

10/2017 – 09/2021

Bachelor's Degree in Biomedical Engineering (L-9)

Politecnico di Torino - https://www.polito.it

- Presentation skills (e.g. Power Point, Canva)
- Use of software (e.g. Mathlab&Simulink, SolidWorks)

PERSONAL SKILLS

Native language: Italian

Other languages

	COMPREHENSION		SPOKEN		WRITTEN PRODUCTION
	Listening	Reading	Interaction	Speaking	
English	B2	B2	B2	B2	B2
	IELTS – B2				

Levels: A1/A2: Basic User - B1/B2: Intermediate User - C1/C2: Advanced User
Common European Framework of Reference for Languages

Communication skills

- I have excellent presentation skills, which I improved during my fellowship, thanks to the opportunity to present the results of my work during the PharmaDay 2025 event in Catania.
- These presentation skills were acquired during my university years and thanks to my participation, with ICB-CNR, in the 2023 Sharper Nights event held in Catania.
- Good teaching skills acquired through private lessons in mathematics and physics.

Organizational and managerial skills

- Teamwork in a multidisciplinary research team improved during the research fellowship period, as the Nanomaterials laboratory in which I worked includes several figures specialized in different fields and enjoys many corporate collaborations.
- These skills were acquired during the Master's Thesis period at ICB-CNR in which I had the opportunity to interface with numerous Researchers and Technicians.
- Leadership in group projects at the University as a result of my boldness and ability to manage and organize the work of the entire group.

Digital skills

SELF-EVALUATION				
Information Processing	Communication	Content Creation	Safety	Troubleshooting
Advanced	Advanced	Intermediate	Advanced	Advanced

Levels: Basic User - Intermediate User - Advanced User
Digital Skills - Self-Assessment Form

- Good command of the tools of the office suite (Word, Pages, Excel, PowerPoint, Canva).
- Good command of image processing programs acquired during the training period through the use of MATLAB & Simulink and the internship period at a Radiology Center in Syracuse.

Driver's license B

LEARN MORE

Scientific Productions:

- "Photochemical Synthesis of Hybrid Au/Carbon-nanodots and Effect of C-shell precursor on plasmonic properties." Eighth International Conference on Multifunctional, Hybrid and Nanomaterials, Montpellier, March 3rd-6th 2025.
- "Biosensori per la rilevazione di Aminoacidi su piattaforma IoT" 2° Giornata della Ricerca del DSFS, Catania (UniCT), 7 Maggio 2025.
- "Water Dispersible Nanohybrid Pentacene-loaded Carbon-Nanodots: Preparation, Optical and Photothermal Properties" European Materials Research Society (e-mrs) 2025 Spring Meeting, Strasbourg, May 26th-30th 2025.
- "Bioinspired Core-shell Carbon Nanodots and their Supramolecular Systems: One-pot Synthesis, Optical Properties and Biomedical Applications." European Materials Research Society (e-mrs) 2025 Spring Meeting, Strasbourg, May 26th-30th 2025.
- "Emissive and photothermal Carbon-Nanodots based on L-proline: optical properties and pH-sensing investigation." European Materials Research Society (e-mrs) 2025 Spring Meeting, Strasbourg, May 26th-30th 2025.
- "Carbon nanodots-β-cyclodextrin-taurine: synthesis, characterization and supramolecular system" European Materials Research Society (e-mrs) 2025 Spring Meeting, Strasbourg, May 26th-30th 2025.
- "Curcumin-loaded carbon nanodots-β-cyclodextrin: synthesis, characterization and anti-inflammatory activity" European Materials Research Society (e-mrs) 2025 Spring Meeting, Strasbourg, May 26th-30th 2025.
- "Non-Enzymatic Electrochemical Biosensing of Dopamine by Glucose-derived Carbon Nanodots." 5th International Conference on Carbon Chemistry & Materials (Carbon-2025), Rome, October 13th 2025.
- "Photochemical synthesis of hybrid Carbon-gold nanostructures: optical and photothermal properties." 5th International Conference on Carbon Chemistry & Materials (Carbon-2025), Rome, October 13th 2025.

Publications:

- "A DNA-biosensor integrating surface hybridization, thermo- responsive coating, laminar-flow technology and localized photothermal effect for efficiently electrochemical nucleic acids detection" L. Maugeri, G. Fangano, A. Ferlazzo, G. Forte, A. Gulino and S. Petralia, *Sens. Diagn.*, 2024, DOI: 10.1039/D4SD00288A.
- "Luminescent Pentacene-Loaded Carbon Nanodots with Red-Light Triggered Photothermal and Photosensitizing Properties" G. Forte, G. M. L. Consoli, L. Ferreri, L. Maugeri, A. Foti, C. Satriano, G. Fangano and S. Petralia, *ChemPhotoChem*, 2024, DOI: 10.1002/cptc.202400167.
- "Emissive Pentacene-Loaded βcyclodextrin-Derived C-Nanodots Exhibit Red-Light Triggered Photothermal Effect" L. Maugeri, G. Fangano, E. Butera, G. Forte, P. G. Bonacci, N. Musso, F. Ruffino, L. Ferreri, G.M.L. Consoli and S. Petralia. *Pharmaceutics*, 2025, DOI: 10.3390/pharmaceutics17050543.
- "Preparation, characterization and in vitro evaluation of anticancer and antioxidant effects of luteolin-loaded nanocapsules" G. Granata, P. Accardo, C.G. Leotta, G.M. Pitari, G. Fangano, F. Ruffino, C. Geraci and G.M.L. Consoli, *Journal of Drug Delivery Science and Technology*, 2025, DOI: https://doi.org/10.1016/j.jddst.2025.106754
- *Submitted*: "Biomedical Advances and Clinical Challenges of Graphitic Carbon Nitride Quantum Dots (g-C3N4 QDs): A Comprehensive Review." P. Pashootan, J. Gonzalez-Valdivieso, M. A. Moosavi, J. Fernandez-Lucas, M. Cordani, A. Zarepour, A. Khosravi, G. Fangano, S. Petralia, S. Iravani, A. Zarrabi.
- *Submitted*: "Chitosan-derived photo-responsive carbon nanodots: preparation, optical properties, drug loading and cellular uptake." L. Maugeri, G. Forte, G. Fangano, G. M. L. Consoli, L. Ferreri, G. Granata, P. G. Bonacci, N. Musso, L. Lanzanò, E. Longo, M. Marelli, S. Petralia.

Seminars:

- “2° Giornata della Ricerca del DSFS” Catania – UniCT (07/05/2025)
- “PharmaDay 2025” Dipartimento di Scienze del Farmaco e della Salute, Catania (08/05/2025)
- "Biomolecular studies on microbiomes: an overview on the multi-year experience of the Joint International Research Unit "MicroMeNu" (13/04/2023)
- "SCIENTIFIC COFFEE: B2B between the Institute of Biomolecular Chemistry (ICB) and the Institute of Neuroscience (IN)" (18/05/2023)

Certifications:

- Lifeguard – National Lifesaving Society
- BLSD – Salvamento Academy
- B2 – EF-Italy (Language Stay in Cambridge 2017)
- B2 – IELTS (2021)

Associations:

- Salvamento Academy (volunteering)

Projects:

- Sharper Nights 2023 – Catania (ICB-CNR)

Personal data

The data contained in this curriculum are truthful and correspond to the factual and and are signed by me pursuant to art. 46 and 47 of D.P.R. no. 445 of 28 December 2000; I authorize the processing pursuant to Legislative Decree 2018/101 and the GDPR (EU Regulation 2016/679).

July 9th 2025, Catania

Sign: