Ludovica Maugeri

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maugeri.ludovica@phd.unict.it

EDUCATION AND TRAINING

08/2023 – current (Catania, Italy)
PhD student in Basic and Applied Biomedical Science – University of Catania
24/11/2021(Catania, Italy)
Chemical Qualification sez. A– Order of chemists and physicists of Catania
17/04/2020 (Catania, Italy)
Master's degree in Biomolecular Chemistry 110/110 with honors – University of Catania
03/2019 – 03/2020 (Catania, Italy)
Traineeship at the Chemical Sciences Department – University of Catania
03/2017 (Catania, Italy)
Bachelor's degree in Applied Pharmaceutical Sciences 110/110 with honors – University of Catania
07/2013 (Catania, Italy)
High School Scientific Diploma –Catania, Italy

WORK EXPERIENCE

08/2023 – current (Catania, Italy)
PhD student in Basic and Applied Biomedical Science – University of Catania
02/2023 – 08/2023 (Catania, Italy)
Research grant at the Electrical, Electronical and Computer Engineering Department and Pharmaceutical and Health Sciences Department – University of Catania
11/2022 – 02/2023 (Catania, Italy)
Chemical Consultant at the Pharmaceutical and Health Sciences Department and STLab srl – University of Catania/ Via Anapo, 53 (Catania, Italy)
06/2022 – 11/2022 (Catania, Italy)
Research grant at the Electrical, Electronical and Computer Engineering Department and Pharmaceutical and Health Sciences Department – University of Catania
05/2021 – 06/2022 (Catania, Italy)
Research grant at University Hospital Company "G. Rodolico-San Marco" – University of Catania
03/2021 – 05/2021 (Catania, Italy)
Volunteer worker at Pharmaceutical and Health Sciences Department – University of Catania

LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s): **SPANISH (A1)** | **ENGLISH (B1)**

DIGITAL SKILLS

Microsoft (Word, Excel, Power Point) | OriginLab | Software (UV WinLab-PerkinElmer, Zetasizer Malvern,) | Pubmed, Google Scholar, Google Drive

LABORATORY and TECHNICAL SKILLS

- Preparation, storage and management of commonly used reagents and solutions for laboratory activities, ensuring safety and accuracy;
- Proficient in utilizing application software such as Origin, UVWinLab and PerkinElmer for data analysis and instrument control;
- Experience with spectroscopic techniques such as UV-Vis, fluorescence and infrared absorption spectroscopy;
- Conducting photothermal analyses employing lasers at varying wavelenghts and powers ;
- Performing capacitive measurements with multimeters for electrical property assessments ;
- Experience in synthesis and characterization of new carbon-based nanomaterials with applications in drug delivery and interactions with biomolecules and/or cells ;
- Development and characterization of metallic nanomaterials bases on gold and silver precursors ;
- Design and development of functionalized surfaces for anti-cell adhesion measurements ;
- Physical-chemical surface treatments, including surface activation, cleaning with O3/UV treatments and deposition of functional layers ;
- Development of sensor systems (PoC) for biomolecules detection

Soft Skills and Professional Attributes

- Strong team player with excellent collaboration abilities;
- Adaptable and flexible, capable of functioning efficiently under stress and in dynamic work evironments;
- Effective time management skills and methodical work approach;
- Highly motivated to achieve objectives, manage information efficiently and pursue continuous learning;

LAST PUBLICATIONS

- Nicolò Musso, Paolo Giuseppe Bonacci, Grazia M. L. Consoli, Ludovica Maugeri, Morena Terrana, Luca Lanzanò, Elisa Longo, Gianpiero Buscarino, Antonino Consoli, and Salvatore Petralia. Biofriendly Glucose-derived Carbon Nanodots: GLUT2-mediated Cell Internalization for an Efficient Targeted Drug Delivery and Light-Triggered Cancer Cell Damage. Journal of Colloid And Interface Science, **2025** https://doi.org/10.1016/j.jcis.2025.137873
- Ludovica Maugeri, Ester Butera, Giorgia Fangano, Giuseppe Forte, Paolo Giuseppe Bonacci, Nicolò Musso, Francesco Ruffino, Loredana Ferreri, Grazia M. L. Consoli, and Salvatore Petralia. Emissive Pentacene-Loaded β-Cyclodextrin-derived C-nanodots Exhibit Red-Light Triggered Photothermal effect. MPDI, Pharmaceutics, **2025** https://doi.org/10.3390/pharmaceutics17050543
- Regina Maria Chiechio, Antonino Scandurra, Riccardo Reitano, Paolo Musumeci, Maria Grazia Grimaldi, Annalinda Contino, Giuseppe Maccarrone, Valerie Marchi, Ludovica Maugeri, Salvatore Petralia, Francesco Ruffino. Quantum fluorescent gold nanoclusters for PCR-free ultrasensitive DNA detection. Applied Surface Science Advances. **2025** https://doi.org/10.1016/j.apsadv.2025.100762.
- Grazia M. L. Consoli, Ludovica Maugeri, Giuseppe Forte, Dafne Bongiorno, Emanuele Nicitra, Danilo Aleo, Fabiola Spitaleri, Loredana Ferreri, Gianpiero Buscarino, Tiziana Campagna, Nicolò Musso and Salvatore Petralia. Bioinspired β-Cyclodextrin-Derived Carbon Dots with Emissive and Photothermal Properties as Nanocarrier for Bioactive Agents. ACS Applied Nano Materials, **2024** https://doi.org/10.1021/acsanm.4c05858.
- Ludovica Maugeri, Giorgia Fangano, Angelo Ferlazzo, Giuseppe Forte, Antonino Gulino and Salvatore Petralia. A DNA biosensor integrating surface hybridization, thermo-responsive coating, laminar-flow technology and localized photothermal effect for efficient electrochemical detection of nucleic acids. Sens. Diagn. **2024**, DOI: https://doi.org/10.1039/D4SD00288A.
- Salvatore Petralia, Grazia M. L. Consoli, Giuseppe Forte, Ludovica Maugeri, Alice Foti, Cristina Satriano, Loredana Ferreri and Giorgia Fangano. Luminescent Pentacene-Loaded Carbon Nanodots with Red-Light Triggered Photothermal and Photosensitizing Properties. ChemPhotoChem. **2024**, https://doi.org/10.1002/cptc.202400167.
- Grazia M. L. Consoli, Ludovica Maugeri, Nicolò Musso, Antonino Gulino, Luisa D'Urso, Paolo Bonacci, Gianpiero Buscarino, Giuseppe Forte and Salvatore Petralia. One-Pot Synthesis of Luminescent and Photothermal Carbon Boron-Nitride Quantum Dots Exhibiting Cell Damage Protective Effects. Adv. Healthcare Mater. **2024**, 2303692 DOI: 10.1002/adhm.202303692.
- Grazia M. L. Consoli, Giuseppe Forte, Ludovica Maugeri and Salvatore Petralia. Photo-Responsive TiO2-Gold Nanoparticle-Polymer Nanohybrid Exhibits Photothermal, Thermo-Release, and Photocatalytic Effects. ChemPhotoChem **2024**, e202400088 DOI: https://doi.org/10.1002/cptc.202400088
- Grazia M. L. Consoli, Ludovica Maugeri, Giuseppe Forte, Gianpiero Buscarino, Antonino Gulino, Luca Lanzano', Paolo Bonacci, Nicolo` Musso and Salvatore Petralia. Red light-triggerable nanohybrids of graphene oxide, gold nanoparticles and thermo-responsive polymers for combined photothermia and drug release effects. Journal of Materials Chemistry B, **2024**, 12, 952 DOI: 10.1039/d3tb01863f

PROJECT

- IT 02022000027090 (29/12/2022) Title: **Method and device for the detection of phenylalanine in biological samples**. Inventors: Petralia Salvatore, Forte Giuseppe, Andò Bruno, Messina Maria Anna, Maugeri Ludovica, Spoto Guido, Puccio Riccardo, Faga Massimo, Verardo Roberto.
- **N. 102025000009081** (23/04/2025) Title : **Nanometric coating to counteract cell adhesion**. Inventors: Petralia Salvatore, Musso Nicolò, Camarda Massimo, Moscato Samuele, Maugeri Ludovica, Bonacci Paolo, Lanzanò Luca, Gulino Antonino, Stefani Stefania.

CONFERENCE

- A novel luminescent, photothermal and biocompatible Carbon nanodots from (2-Hydroxypropyl)-β-cyclodextrin for biomedical applications. **L. Maugeri** (**poster presenter**) at E-MRS 2024 SPRING MEETING (Strasbourg)
- Investigation of the interaction between carbon based nanostructured materials and human cells through -potential measurements. **L. Maugeri** (**poster presenter**) at E-MRS 2025 SPRING MEETING (Strasbourg)
- Curcumin-loaded carbon nanodots--cyclodextrin: synthesis, characterization and anti-inflammatory activity. **L. Maugeri** (**oral presenter**) at E-MRS 2025 SPRING MEETING (Strasbourg)