

CURRICULUM VITAE ET STUDIORUM: Marianna Burello



Personal data: Born in Taranto (TA), 20/09/1994

Present Position: PhD Student

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EDUCATION

- **10/2022 - 12/2024 Master's Degree in Chemistry** (LM-54-R, 110 cum laude) at the University of Modena and Reggio Emilia (UNIMORE) with a thesis entitled 'Synthesis and characterization of Sonogel-Carbon electrodes modified with metallic nanoparticles', under the supervision of Prof. Laura Pigani and Prof. José Maria Palacios Santander
- **09/2017 - 04/2022 Bachelor Degree in Chemistry** (L-27, 99/110) at the University of Modena and Reggio Emilia (UNIMORE) with a thesis entitled 'Intrinsic fluorescence of human Neuroglobine. Study of the urea-induced unfolding process', under the supervision of Prof. Monica Caselli

Attended SCHOOLS

- Professional qualification as Cultural Heritage Restoration Technician, Restoration center "Andrea Mantegna", Via Vittorio Emanuele II, 1, 35016, Piazzola sul Brenta (PD), from 01/2014 to 12/2016
- Highschool Diploma in Graphics and Cultural Heritage, I.T.S. Blaise Pascal, Via Makallè, 12, 42124, Reggio Emilia (RE), from 09/2008 to 07/2013

MEMBERSHIPS AND APPOINTMENTS

- Member of the Division of Organic Chemistry of the Italian Chemical Society
- Member of the National Interuniversity Consortium for Materials Science and Technology (INSTM)
- Member of the Doctorate School 'Models and Methods' of the University of Modena and Reggio Emilia (from the academic years 2025/2026 to in progress)

RESEARCH PROJECTS

- From 01/2025 to 10/2025: Research fellow for INSTM in UNIMORE, scientific tutor: Fabrizio Roncaglia. The project concerned the optimization of composite materials for graphitic bipolar plates.
- From 04/2024 to 07/2024: Internship at Universidad de Cádiz, scientific tutor: José Maria Palacios Santander.
The project regarded sono-synthesis methods for gold coated magnetic nano-particles in order to modified sonogel-carbon electrodes surfaces. The nano-particles obtained were characterized with DLS measurements, STEM studies and UV-Vis measurements, whereas the modified electrodes performances were assessed by means of CV and DPV techniques.
- From 01/2022 to 04/2022: Internship at UNIMORE, scientific tutor: Monica Caselli.
The project aimed to study fluorescence of human neuroglobin and its denaturation caused by urea. Detection methods used comprehended: UV-Vis spectroscopy, fluorescence emission and absorption, fluorescence anisotropy and fluorescence lifetime study.

TEACHING ASSISTANCE

- Tutorship for the course: laboratory of *Chimica Ambientale*, Bachelor Chemistry course (L-27), at University of Modena and Reggio Emilia (during academic year 2022/2023)

BRIEF DESCRIPTION OF THE RESEARCH ACTIVITY

The PhD research activity will focus on the development and study of electro-organic synthetic methods and suitable experimental set-up for aryl–aryl couplings to yield bi-aryl and poly-phenylene structures. The methodology will be extended to heteroaryl–aryl couplings, targeting thiophene–arene systems, to generate conjugated π -systems for functionalization of metallic electrode surfaces. Once deposited onto the electrodes, these materials will undergo comprehensive characterization using advanced electrochemical, surface analysis and in situ spectroscopic techniques.

OTHER INFORMATION

- 15-16/07/2025: Participation at “WASTE-ENERGY-WATER NEXUS: MATERIALS & PROCESSES (WEW)”, Marina di Ravenna

LIST OF SCIENTIFIC PUBLICATIONS ON INTERNATIONAL JOURNALS WITH IF.

- 1- Andrea Severini, Biagio Anderlini, Antonio Lezza, Marianna Burello, Nicola Porcelli, Marco Mazzali, Veronica D'Eusano, Mirco Rivi, Claudio Fontanesi and Fabrizio Roncaglia, ‘Continuous-Flow Glycerolysis of Urea to Glycerol Carbonate: The Critical Role of Operating Pressure’, *Ind. Eng. Chem. Res.*, 2025, 64, 18630–18639, DOI: <https://doi.org/10.1021/acs.iecr.5c02554>
- 2- Andrea Severini, Camilla Ferrari, Marianna Burello, Francesco Vizza, Marco Bonechi, Riccardo Chelli, Massimo Innocenti, Fabrizio Roncaglia e Claudio Fontanesi, ‘The Role of Electronics Structure in the Hydrogen Evolution Reaction Dynamics as Catalysed by Ru-based Complexes’, *Phys. Chem Chem Phys.*, 2025, 27, 21695-21705, DOI: 10.1039/d5cp03035h

Updated on 14/11/2025