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Sara Amadori

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EDUCATION AND TRAINING

PhD in Materials Science and Technology (XXXIX cycle)

University of Parma in partnership with ISSMC-CNR (Faenza) [01/11/2023 – Current]

City: Faenza | **Country:** Italy

The activity will fit into the production of inorganic nanophases with adsorptive, antimicrobial and photocatalytic that can be used in different industrial sectors (water treatment, coatings, biomedical) and obtained through processes aligned with the principles of safe&sustainable by design also by valorizing waste products from the marine sector (algae, microalgae, bioactive molecules produced from marine biota). In particular, the activity aims as an objective to prepare new hybrid materials, coupling inorganic nanophases with natural compounds capable of maximizing functionality through synergistic effects and meeting the three main requirements of efficacy, safety and sustainability. The hybrid nanomaterials obtained in suspension will be properly -processed to meet the needs of the explored application areas: deposition techniques on textile surfaces (dip coating), controlled granulation (e.g., spray freeze drying, spray drying), incorporation into multi-component porous scaffolds (freeze drying).

Master's Degree in Industrial Chemistry

Alma Mater Studiorum University of Bologna - Dept. of Industrial Chemistry "Toso Montanari" [15/10/2020 – 24/03/2023]

City: Bologna | **Country:** Italy | **Final grade:** 110/110 cum Laude | **Thesis:** "Development and engineering of multifunctional composite materials applicable in the abatement of pathogenic microorganisms and in water treatment."

- Development and engineering of multifunctional nanocomposite materials that can be implemented in different fields; • Applications through processes aligned with the principles of safe&sustainable by design: antiviral nasal sprays and bionanocomposite scaffolds for water purification.
- Optimization of environmentally friendly synthesis procedures of antimicrobial inorganic nanophases coupled with phytocompounds and antiviral/ antimicrobial biopolymers in order to explore new synergistic effects, maximize functionality and reduce impact on humans and the environment.
- Chemical and physical characterization by analysis: ELS, DLS, XRD, UV-Vis, FT-IR, pH, TEM, BET, SEM-FEG, SEM-EDS.
- Evaluation of functional performance of nanocomposites by antiviral, antibacterial and adsorption tests of model pollutants (Cu , Methyl Orange and Rhodamine B).

Degree in Chemistry and Technologies for the Environment and Mterials

Alma Mater Studiorum University of Bologna - Campus of Faenza [02/10/2017 – 14/10/2020]

City: Faenza | **Country:** Italy | **Final grade:** 108/110 | **Thesis:** "Development of filters Innovative Water Purification."

- Study and development of innovative materials for water purification (biomass, TiO_2 , AgNPs, biopolymers) addressing the need to innovate materials used in this application field, adding to the ability to photodegrade also the ability to absorb pollutants such as heavy metals.
- Exploration of different immobilization techniques: embedding in hydrogel matrices, granulation via sprayfreeze-drying

WORK EXPERIENCE

ISSMC-CNR – Faenza, Italy

City: Faenza | **Country:** Italy

Curricular Intership

[27/06/2022 – 24/03/2023]

- Research and development of multifunctional nanocomposite materials using processes aligned with the principles of safe&sustainable by design: antiviral nasal sprays and bionanocomposite scaffolds for water purification.
- Optimization of synthesis procedures for antimicrobial silver nanoparticles (AgNPs) coupled with phytochemicals and antiviral/antibacterial biopolymers in order to explore new synergistic effects
- Study of antibacterial, antiviral (SARS-CoV-2), and pollutant adsorption activity.

CNR-ISSMC – Faenza, Italy

City: Faenza | **Country:** Italy

Curricular Intership

[04/04/2020 – 30/07/2020]

Contribution to the development of innovative solutions for water treatment, through the design and testing of high-efficiency filters aimed at improving the sustainability and performance of purification processes.

PUBLICATIONS

[2025]

Hybrid materials for water treatment: coupling of Neochloris oleoabundans with Titania NPs

Authors: Sara Amadori, Ilaria Zanoni

Ilaria Zanoni, Sara Amadori, Andrea Brigliadori, Anna Luisa Costa, Simona Ortelli, Pierluigi Giacò, Costanza Baldisserotto, Simonetta Pancaldi, Magda Blosi; Pubblicato 11 Maggio 2025, Nanoscale Advanced, 2025, 7, 3803-3816,

[2023]

Development and engineering of multifunctional composite materials applicable in the elimination of pathogenic microorganisms and in water treatment

Authors: Sara Amadori, Magda Blosi

Sara Amadori, Andrea Brigliadori, Magda Blosi, Stefania Albonetti.

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING B2 **READING** B2 **WRITING** B1

SPOKEN PRODUCTION B1 **SPOKEN INTERACTION** B1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

HONOURS AND AWARDS

[2019] University of Bologna - Dept. Industrial Chemistry "Toso Montanari"

Merit scholarship for second-year students - C.d.S 8515

[2020] University of Bologna - Dept. Industrial Chemistry "Toso Montanari"
Merit scholarship for third-year students - C.d.S 8515

DRIVING LICENCE

Driving Licence: B

I authorize the processing of my personal data contained in my CV pursuant to Article 13 of Legislative Decree No. 196 of June 30, 2003 - "Code regarding the protection of personal data“ and Article 13 of GDPR 679/16 - ”European Regulation on the protection of personal data."

FAenza, 01/10/2025