



Maurizio Vespignani

● ABOUT MYSELF

I'm a researcher specializing in nanomaterials science and design, with several years of experience in industrial and research fields. Starting from an engineering approach, I got a Bachelor's in Chemistry for the environment and materials and a Master's in Industrial Chemistry. Also, I'm passionate about nutrition and sports in all their facets.

● WORK EXPERIENCE

 **CNR-ISSMC (FORMER ISTEC)** – FAENZA (RA), ITALY

PH.D STUDENT – 23/10/2022 – CURRENT

I work in Nanotechnology and Nanosafety Group mainly with the following tasks:

- Synthesis and characterization of clay-based materials
- Engineer of clay-based materials with inorganic nanoparticles (ex: Fe_3O_4 , Ag, TiO_2) with the aim to obtain a multifunctional composite
- Engineer of ceramic and bioceramic materials like metal oxides with particular properities (ex: photocatalytic, antibacteric, antiviral, pollutant adsorbent)

 **FITNESS AYRTON A.S.D.** – CASTEL BOLOGNESE (RA), ITALY

PERSONAL TRAINER – 01/04/2024 – CURRENT

- Personal and Online Coaching

 **CNR-ISSMC (FORMER ISTEC)** – FAENZA (RA), ITALY

CHEMIST (INTERNSHIP) – 01/02/2022 – 21/10/2022

- Nanoparticles synthesis using various techniques
- Study of different surfactants and their characterization using different type of techniques such as UV-Vis., FT-IR, SEM-FEG, BET, DLS-ELS, XRD.
- Study of different nanometric systems
- Study of the interaction between nanometric systems and surfactants
- Nanoparticles characterization using different type of techniques such as UV-Vis., FT-IR, SEM-FEG, BET, DLS-ELS, XRD.

 **ALPI S.P.A** – MODIGLIANA (FC), ITALY

CHEMIST – 21/06/2021 – 30/07/2021

- Chemical analysis of pollutants present in wastewater
- Study and analysis of wastewater treatment plants

 **ANGELO CELOTTI** – MARZENO (RA), ITALY

MIXED FARMER – 21/09/2020 – 09/10/2020

- Grape harvest
- Wine production

 **SACMI IMOLA S.C.R.L** – IMOLA (BO), ITALY

CHEMIST (INTERNSHIP) – 20/04/2020 – 04/06/2020

- Research on the applications of photocatalytic materials applicable in the ceramic field
- Research on the properties of photocatalytic materials and occupied by the main ones
- Research on methods of training and improvement of photocatalysts

 **OFFICINE PERINI S.R.L.** – MODIGLIANA (FC), ITALY

MECHATRONICS TECHNICIAN (INTERNSHIP) – 13/06/2016 – 11/07/2016

- Design of systems, groups and precision mechanical components
- Realization of assembly systems / equipment
- Revision and drafting of manuals related to the various mechanical components
- Review and modification of projects for the construction of systems and equipment

 **U. EMME S.R.L.** – MODIGLIANA (FC), ITALY

MECHATRONICS TECHNICIAN (INTERNSHIP) – 08/02/2016 – 22/02/2016

- Construction of agricultural hydraulic backhoes and industrial backhoes
- Construction of industrial sweepers, mixing buckets and snow blades
- Inventory and warehouse

 **AUREL S.P.A** – MODIGLIANA (FC), ITALY

MECHATRONICS TECHNICIAN (INTERNSHIP) – 08/06/2015 – 17/07/2015

- Testing of electronic circuits
- Assembly of mechanical components
- Electronic card engraving using the laser machine
- Analysis of internal defects in electronic boards

● **EDUCATION AND TRAINING**

25/10/2022 – CURRENT Parma , Italy

PH.D IN MATERIALS SCIENCE AND TECHNOLOGY University of Parma

Website https://scvsa.unipr.it/dottorato_stm | **Level in EQF** EQF level 8

11/03/2025 – CURRENT Rome (RM), Italy

MASTER'S DEGREE IN NUTRITIONAL BIOLOGY San Raffaele University

Website <https://www.uniroma5.it/> | **Level in EQF** EQF level 7

15/08/2020 – 21/10/2022 Bologna (BO), Italy

MASTER'S DEGREE IN INDUSTRIAL CHEMISTRY University of Bologna

Thesis title: Development and engineering of new hybrid systems based on inorganic nanoparticles and bio-surfactants
Vote: 104/110

Website <https://corsi.unibo.it/magistrale/ChimicaIndustriale> | **Level in EQF** EQF level 7

02/10/2017 – 15/07/2020 Bologna (BO), Italy

BACHELOR'S DEGREE IN CHEMISTRY AND TECHNOLOGIES FOR THE ENVIRONMENT AND MATERIALS

University of Bologna

Thesis title: Study of chemical-physical mechanisms that determine the photocatalytic activity of metallic oxides usable in ceramic sector
Vote: 102/110

Website <https://corsi.unibo.it/laurea/ChimicaMateriali> | **Level in EQF** EQF level 6

04/2025 – 04/2025 Brussels, Belgium

EUROPEAN CERTIFIED PERSONAL TRAINER EurEthICS ETSIA

Website <https://www.eurethicsport.eu/> | **Level in EQF** EQF level 5

01/2023 – 01/2023 Brescia (BS), Italy

CERTIFIED PERSONAL TRAINER Project InVictus Srl

Thesis title: Body Recomposition path of a novel female subject

Website <https://www.projectinvictus.it/>

Website <https://www.itipfaenza.edu.it/> | Level in EQF EQF level 4**LANGUAGE SKILLS**Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

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

Autodesk AutoCAD (Optimal Knowledge) | CAD (Solid Edge, Solid Works) | Ability to work with several operating systems including Windows and Mac OSX | Microsoft Office, Microsoft Word, Microsoft Excel, Outlook, Facebook, Google | Social Media including Facebook, WhatsApp and Twitter

PUBLICATIONS**2023**

Simona Ortelli; Maurizio Vespignani; Ilaria Zanoni; Magda Blosi; Claudia Vineis; Andreana Piancastelli; Giovanni Baldi; Valentina Dami; Stefania Albonetti; Anna Luisa Costa. Design of TiO₂-Surfactin Hybrid Systems with Multifunctional Properties. *Molecules* 2023, 28, 1863.

Link <https://www.mdpi.com/1420-3049/28/4/1863>**2024**

Irina Furxhi; Lara Faccani; Ilaria Zanoni; Andrea Briigliadori; Maurizio Vespignani; Anna Luisa Costa. Design rules applied to silver nanoparticles synthesis: a practical example of machine learning application. *Computational and Structural Biotechnology Journal* 2024, 25, 20-33.

Link [https://www.csbj.org/article/S2001-0370\(24\)00033-3/fulltext#](https://www.csbj.org/article/S2001-0370(24)00033-3/fulltext#)**2025**

Maurizio Vespignani, Ilaria Zanoni, Lara Faccani, Simona Ortelli, Magda Blosi, Andreana Piancastelli, Cesare Melandri, Irina Furxhi, Anna Luisa Costa. High shear granulation of clay: Effect of experimental variables, *Powder Technology*, 2025, 121082.

Maurizio Vespignani, Ilaria Zanoni, Simona Ortelli, Magda Blosi, Chiara Artusi, Andreana Piancastelli, Cesare Melandri, Irina Furxhi, Anna Luisa Costa. Performance by design of TiO₂ nanostructured granules exploitable in water remediation applications. *Environmental Nanotechnology, Monitoring & Management*, 2025, 23, 101071.

Link <https://doi.org/10.1016/j.powtec.2025.121082>; <https://doi.org/10.1016/j.enmm.2025.101071>**CONFERENCES & SEMINARS**

25/06/2023 – 28/06/2023 Venice, Italy

NINE2023, 5th International Conference on Nanotechnology Based Innovative Applications for the Environment

S.Ortelli; M.Vespignani; I.Zanoni; M.Blosi; C.Vineis; A.Piancastelli; G.Baldi; V.Dami; S.Albonetti; A.L.Costa. Design of TiO₂-Surfactin Hybrid Systems with Multifunctional Properties. *Molecules* 2023, 28, 1863 (Oral presentation).

Link <https://www.aidic.it/nine2023/>

10/09/2025 – 12/09/2025 Bologna, Italy

21st Global Conference on Sustainable Manufacturing

M.Vespignani, M.H.P.Araújo, J.C.Tristão, M.Mazzocchi, M.Blosi, I.Zanoni, S.Ortelli; C.Artusi, S.Amadori, M.T.Ghahfarokhi, A.Costa. Calcium Ferrites: Innovative and Multifunctional Solutions for Wastewater Treatment. Lecture Notes in Mechanical Engineering (2025). (Oral presentation).

Link <https://gcsm.eu/>

● PH.D SCHOOLS

11/12/2023 – 14/12/2023

Aldo Armigliato SEM School in Materials Science

Link <https://www.sism.it/Details/196>

15/01/2024 – 18/01/2024

PhD Winter School on Inorganic Materials InoMat2024

Link <https://www.inomat.unito.it/home-page>

25/11/2024 – 26/11/2024

Winter School on Contaminants of Emerging Concern (CECs) and Disinfection By-Products (DBPs)

M.Vespignani, M.H.P.Araújo, J.C.Tristão, M.Mazzocchi, M.Blosi, I.Zanoni, S.Ortelli; C.Artusi, S.Amadori, M.T.Ghahfarokhi, A.Costa. Calcium Ferrites: Innovative and Multifunctional Solutions for Wastewater Treatment. Lecture Notes in Mechanical Engineering (2025). (Oral presentation).

Link <https://mar2protect.eu/winter-school-2024/>

● PERSONAL DATA TREATMENT

Personal data treatment

I authorize the processing of personal data contained in my curriculum vitae on the basis of art. 13 of Legislative Decree 196/2003 and art. 13 of EU Regulation 2016/679 concerning the protection of individuals with regard to the processing of personal data.