

SUBSTITUTE DECLARATION OF CERTIFICATION / AFFIDAVIT

(Articles 46 and 47 of Presidential Decree 445/2000)

The undersigned, Andrea Bartoletti, fully aware of the criminal liability provided by Art. 76 of Presidential Decree 445/2000 for cases of false statements and untruthful declarations therein indicated,

DECLARES

the truthfulness of all qualifications listed in the attached signed curriculum vitae submitted with this application (Personal data, educational background, professional titles, foreign language skills, computer skills, training and professional experiences, scientific competences, training activities, technical reports, participation in national and international conferences, scientific publications).

Curriculum Vitae



Andrea Bartoletti

EDUCATION AND TRAINING

2020 – 2024 – PhD in Molecular Science, Chemical Science curriculum – XXXVI cycle, University of Padua (Italy).

Project title: *“Nanostructured ceramic proton conductors for hydrogen separation”*.

Thesis defended on 25/03/2024.

2017 – 2020 – MSc in Industrial Chemistry, Alma Mater Studiorum – University of Bologna (Italy).

Thesis title: *“Synthesis and characterization of $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ (CCTO) for photoelectrocatalysis applications”*.

Final grade: 105/110. Thesis defended on 25/03/2020.

2013 – 2017 – BSc in Chemistry and Technologies for the Environment and Materials, Traditional and Innovative Materials curriculum, Alma Mater Studiorum – University of Bologna (Italy).

Thesis title: *“Characterization of thermomechanical properties of green ceramic tapes*

obtained by tape casting”.

Final grade: 106/110. Thesis defended on 13/10/2017.

2013 – High School Diploma in Industrial Chemistry, Istituto Tecnico Industriale Statale “Guglielmo Marconi”, Forlì (Italy).

LANGUAGE SKILLS

- Good command of written and spoken English.
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COMPUTER SKILLS

- Proficient in Windows OS and Microsoft Office Suite (Word, Excel, PowerPoint).
 - Skilled in image analysis (ImageJ) and data processing (Origin).
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PROFESSIONAL EXPERIENCE

Dec 2024 – present – Researcher (Level III) in the H2-AdC ENEA/CNR POR HYDROGEN Project, funded by the European Union – NextGenerationEU, Ministry of Environment and Energy Security (CUP: B93C22000630006).

Main tasks:

- Fabrication of solid oxide half-cells and full cells (fuel cells and electrolyzers) with oxide-ion and proton conduction, using both conventional forming techniques (pressing, tape casting, screen printing, etc.) and innovative methods (freeze casting, freeze tape casting).
- Formulation and development of organic/water-based suspensions for electrode and electrolyte preparation.
- Preparation of catalyst suspensions and impregnation by drop casting (with or without vacuum assistance) and dip coating.

Jan 2024 – Dec 2024 – Postdoctoral Research Fellow in the project NICENESS “*Nanocomposite multi-ionic Ceria Carbonate Electrodes for New reversible Electrolysis*” (N.2022S999EK, CUP: B53D23006400006), funded by the EU – NextGenerationEU, at CNR – ISSMC.

Main tasks:

- Synthesis of nanocomposite materials based on $\text{Sm}_x\text{Ce}_{1-x}\text{O}_{2-\delta}$ – Na_2CO_3 , and production of thin, dense, planar electrolytes by pressing.
- Formulation and development of tailored screen-printing inks for reversible solid oxide cell electrodes (air and fuel).
- Fabrication of electrolyte-supported fuel cells.
- Chemical, morphological and structural characterization of the produced materials.

Feb 2019 – Mar 2020 – Research Internship at CNR-ISTEC, Institute of Science and Technology for Ceramics, Faenza (Italy).

Objective: MSc thesis work.

Main tasks:

- Formulation and synthesis of ceramic powders (sol-gel, molten salts).
- Structural and morphological characterization (XRD, SEM), optical (UV-Vis, Raman) and compositional (ICP-OES).
- Photocatalytic degradation tests of organic pollutants.
- Preparation of ceramic inks and electrodes via screen printing.
- Electrochemical characterization (CV, EIS, MS) and CO₂ conversion tests in photoelectrochemical (PEC) cells.

Mar 2017 – Sep 2017 – Research Internship at CNR-ISTEC, Institute of Science and Technology for Ceramics, Faenza (Italy).

Objective: BSc thesis work.

Main tasks:

- Production of zirconate-based green ceramic tapes via tape casting.
- Optimization of a dynamic mechanical analysis (DMA) protocol for tape characterization and lamination process optimization.

RESEARCH TOPICS

- Formulation and optimization of organic- and water-based inks and suspensions of cerates and zirconates, mainly BaCe_{1-x-y}Zr_xY_yO_{3-δ} (BCZY) and Gd₂Ce_{1-z}O_{2-δ} (GDC), with tailored properties depending on the selected shaping technique.
- Fabrication of ceramic multilayers via tape casting and screen printing for solid oxide fuel cells/electrolyzers (ion- and/or proton-conducting) and membranes for hydrogen separation.
- Production of highly porous, unidirectional asymmetric supports and structures using unconventional techniques such as freeze casting and microextrusion (also UV-assisted) for hydrogen separation membranes.
- Surface functionalization with ceramic suspensions or metal precursors (catalysts) using dip coating or impregnation techniques.
- Design and validation of a setup for low-temperature densification via cold sintering.
- Production and morphological/structural characterization of electrolytes for reversible solid oxide fuel cells based on Sm_xCe_{1-x}O_{2-δ} (SDC) – Na₂CO₃.
- Synthesis of NASICON powders and production of dense solid-state battery electrolytes.
- Synthesis and characterization of CaCu₃Ti₄O₁₂ powders for photocatalysis and photoelectrocatalysis applications in organic pollutant degradation, water splitting, and CO₂ reduction.

TECHNICAL SKILLS

1. Dry ceramic powder shaping processes at room temperature (uniaxial and isostatic pressing).
2. Production of stable aqueous- or solvent-based suspensions with low, medium, or high ceramic powder content.
3. Wet ceramic powder shaping processes such as freeze casting.
4. 3D printing via microextrusion (also UV-assisted) of simple (discs, bars, grids) and complex (honeycomb) ceramic shapes.
5. Thin- and thick-film deposition via tape casting, screen printing, and dip coating.
6. Use of air furnaces for debinding and sintering treatments.
7. Experience in designing various devices, including molds for thermocompression, benchtop equipment for manual screen printing, and gas-tightness testing of membranes/electrolytes.
8. Use of cutting and lapping machines for sample preparation for SEM/EDX analyses and mechanical characterizations.
9. Solid-state and sol-gel synthesis of ceramic powders.
10. Use of solar simulators for photochemical tests and photoelectrochemical characterizations.
11. Characterizations:
 - Thermal (TG, DSC) and thermomechanical analyses;
 - Optical and scanning electron microscopy (SEM);
 - Rheological analyses of suspensions (rotational rheometer) and viscous solids (dynamic mechanical analyzer, DMA);
 - DLS analyses for ζ -potential and particle size in dilute suspensions;
 - Optical emission spectroscopy (ICP-OES);
 - IR and UV-Vis spectroscopy;
 - Electrochemical analyses (EIS, voltammetry).

SCHOOL PARTICIPATION

1. Autumn School: Inorganic electrochemical reactors for sustainable chemicals, fuels and power production, 24–26 October 2023, Valencia, Spain – Poster presentation: *Nanostructured cer-cer composite ceramics for H₂ separation* (p. 18, book of abstract).
2. ISMES-X Summer School “Materials for Energy and Sustainability,” 2–9 July 2023, Erice, Italy – Poster presentation: *Nanostructured cer-cer composite ceramics for H₂ separation*.

3. Non-Conventional Sintering: Science and Technology School 2023, 5–7 June, Trento, Italy.
4. Shaping 8 School – 14–16 September 2022, Dübendorf, Switzerland.
5. Inomat Winter School “Inorganic Materials: synthesis, modelling, and characterization,” 15–18 December 2021, Bardonecchia – Participation in Flash presentation contest: *Tailoring structural and photocatalytic properties of $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ through high energy ball milling*, ID PEOPLE: 477727.

PROJECTS (Principal Investigator)

- Project: *High temperature structural evolution of the $\text{BaCe}_{0.7}\text{Zr}_{0.15}\text{Y}_{0.15}\text{O}_{3-d}$ perovskite during sintering*, ELETTRA Proposal number: 20240186. Awarded 3 shifts (24 h) at Elettra – Sincrotrone (MCX line – X-ray diffraction), 29–30/10/2024.
- Project: *Nanostructured ceramic proton conductors for reactive membranes and hydrogen-based applications*, funded by JECS-Trust (€6200, Fund Contract – 2023355). Activities included high-temperature electrochemical characterizations and CO₂ hydrolysis testing of ceramic membrane prototypes produced during the PhD period.

INTERNSHIPS/VISITS

- 5 August–5 September 2024: Internship at the Department of Chemistry, University of Liverpool (UK) as part of the European project “Integration of Advanced Experiments, Computation and Data for innovation in Freeze Casting and Advanced Porous Structures” – ice-Link. Call HORIZON-MSCA-2022-SE-01-01. Prot. N. 0184503, 16/06/2023.
- 15 September–15 December 2023: Three-month internship at Instituto de Tecnología Química (ITQ), Valencia (Spain) for high-temperature electrochemical characterizations and CO₂ hydrolysis testing of prototypes produced during the PhD, funded by JECS-Trust (€6200, Fund Contract – 2023355).

PROJECT PARTICIPATION

1. **01/01/2024 – ongoing:** Participant in the project *Integration of Advanced Experiments, Computation and Data for innovation in Freeze Casting and Advanced Porous Structures* – ice-Link. Call HORIZON-MSCA-2022-SE-01-01. Prot. N. 0184503, 16/06/2023. Project Coordinator: Dr. Alessandra Sanson (CNR - ISSMC). Duration: 48 months. Total budget: €515,200. CNR unit budget: €92,000. Project: 101130406
Role:

- One-month internship (05/08/2024–05/09/2024) at the Department of Chemistry, University of Liverpool (UK). Activities included scientific knowledge exchange, establishing future collaborations, and laboratory work with Prof. Zhang Haifei (UniLiv) to produce ceramic prototypes (perovskites and fluorites) with aligned porosity and asymmetric architecture.
 - Scientific seminar *Ice templating for energy applications* presented on 20/11/2024 for project partners, including Accent PRO 2000 s.p.a. (Romania) and the research group of Prof. Kazi Md. Salim Newaz (Department of Mechanical Engineering, Faculty of Engineering, University of Malaya).
2. **01/11/2022 – ongoing:** Participant in the Research and Innovation program *NEST - Network 4 Energy Sustainable Transition* - PE00000021, funded under the National Recovery and Resilience Plan, Mission 4, Component 2, Investment 1.3 – Extended partnerships among universities, research centers, and companies for funding basic research projects. Funded by the European Union – NextGenerationEU. Prot. n. 1561, 11/10/2022. Total budget: €118,000,000. CNR unit budget: €327,000
- Role:
- Design and production of a mold for thermocompression with integrated temperature control.
 - Validation of a setup for cold sintering of ceramic powders.
 - Construction of predominance and existence diagrams for the BCZY–H₂O–CO₂ and GDC–H₂O–CO₂ systems.
 - Production and morphological/structural characterization of hydrogen separation membrane prototypes based on BCZY-GDC using cold sintering.
3. **01/07/2022 – ongoing:** Participant in LA 1.1.11 *Development of innovative materials and components for intermediate-temperature (<750°C) steam electrolysis in solid oxide cells and validation in laboratory prototypes*, Objective 1 – Production of green and clean hydrogen. Project: *Research and development of technologies for the hydrogen value chain*, MiTE-ENEA Program Agreement under the National Recovery and Resilience Plan (PNRR), Mission 2 “Green revolution and ecological transition”, Component 2 “Renewable Energy, Hydrogen, Grid and Sustainable Mobility”, Investment 3.5 “Hydrogen R&D”. Budget for ISSMC: €160,000
- Role:
- Development of a protocol for formulating and preparing BaCe_{1-x-y}Zr_xY_yO_{3-δ} (BCZY) screen-printing inks.

- Production of highly unidirectional porous BCZY supports via freeze casting.
- Fabrication and morphological/structural characterization of innovative BCZY prototypes with a thin dense layer screen-printed on highly porous supports.
- Fabrication of electrode-supported protonic cells via impregnation of porous backbones with metal catalyst precursors and screen printing of air electrodes (e.g., Pt or BCZY – $\text{La}_{x}\text{Sr}_{1-x}\text{Co}_{y}\text{Fe}_{1-y}\text{O}_3$).

4. **01/01/2022 – ongoing:** Participant in the Thematic Project *Frontier Materials for Energy Applications*, Three-Year Plan 2022–2024, DM n. 337, 15 September 2022, CUP B53C22008550001. Total budget: €1,800,000, Operational Unit budget: €400,000.

Coordinator:

Lidia

Armelaio

Role:

- Formulation and production of BCZY–GDC–ZnO aqueous inks for microextrusion.
- Optimization of osmotic drying protocols for 3D-printed ceramic samples.
- Production and morphological/structural and thermomechanical characterization of dense BCZY-GDC ceramic membranes via microextrusion.
- Production and characterization of asymmetric BCZY-GDC ceramic membranes via tape casting.
- Production of dense BCZY, GDC, and BCZY-GDC membranes via dry pressing and wettability studies using various aqueous and organic solutions.
- Morphological/structural characterization of membranes activated with different catalyst amounts after hydrogen permeation tests.

5. **31/10/2020 – 31/12/2021:** Participant in the Thematic Project *Frontier Materials for Energy Applications*, MiSE-CNR Program Agreement PAR 2019–2021. Total budget: €700,000, Operational Unit budget: €180,000. Coordinator: Lidia Armelaio

Role:

- Development of protocols for microextrusion inks.
 - Fabrication of highly engineered porous supports via (UV-assisted) microextrusion of BCZY and BCZY-GDC.
 - Production and morphological/structural characterization of unidirectional high-porosity supports via freeze casting.
 - Formulation of screen-printing inks for dense thin films of BCZY-GDC.
 - Production and characterization of innovative asymmetric membranes via freeze casting (support) and screen printing (dense layer).
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SCIENTIFIC PUBLICATIONS

1. A. Brioliadori, F. Suzzi, A. Bartoletti, E. Mercadelli, D. Gardini, E. Orfei, A. Fasolini, J. De Maron, F. Basile, A. Gondolini, A. Sanson "Development of a nickel-based catalyst for syngas production via tri-reforming of biogas" *International Journal of Hydrogen Energy* 168 (2025) 150939 DOI: [10.1016/j.ijhydene.2025.150939](https://doi.org/10.1016/j.ijhydene.2025.150939)
2. M. C. Diaz Lacharme, A. Bartoletti, K. Monzillo, R. Ceccato, F. Parrino, E. Callone, S. Dirè, V. Vaiano, A. Sanson, A. Gondolini, A. Donazzi "Sintering-driven optimization of multi-ionic SDC-Na₂CO₃ nanocomposite electrolytes for low-temperature solid oxide cell applications" *Fuel Processing Technology* 276 (2025) 108284 DOI:10.1016/j.fuproc.2025.108284.
3. A. Bartoletti, E. Mercadelli, V. Saraceni, A. Sangiorgi, A. Gondolini, C. Melandri, P. Pinasco, P. Gramazio, A. Fasolini, J. De Maron, F. Basile, A. Sanson "3D-printed ceramic membranes: Fabrication and hydrogen permeation performance" *Journal of Membrane Science* 733 (2025) 124311 DOI:10.1016/j.memsci.2025.124311.
4. A. Bartoletti, E. Mercadelli, A. Gondolini, V. Saraceni, A. Fasolini, J. De Maron, F. Basile, A. Sanson "Nanostructured ceramic membranes for hydrogen separation" *Separation and Purification Technology* 372 (2025) 133436 DOI:10.1016/j.seppur.2025.133436
5. M. Barbalinardo, F. Chiarini, G. Teti, F. Paganelli, E. Mercadelli, A. Bartoletti, A. Migliori, M. Piazzzi, J. Bertacchini, P. Sena, A. Sanson, M. Falconi, C. Palumbo, M. Cavallini, D. Gentili "Surface charge overrides protein corona formation in determining the cytotoxicity, cellular uptake, and biodistribution of silver nanoparticles" *ACS Appl. Bio Mater.* 2025 DOI: [10.1021/acsabm.5c00392&ref=pdf](https://doi.org/10.1021/acsabm.5c00392&ref=pdf)
6. A. Bartoletti, E. Mercadelli, A. Gondolini, A. Sanson, Exploring the Potential of Cold Sintering for Proton-Conducting Ceramics: A Review *Materials* 2024, 17, 5116. <https://doi.org/10.3390/ma17205116>
7. P. Gramazio, A. Bartoletti, A. Gondolini, E. Mercadelli, J. De Maron, E. Tosi Brandi, V. Saraceni, A. Fasolini, A. Sanson, F. basile, "High-temperature planar asymmetric ceramic membranes: Effect of the Pt amount and dispersion on the H₂ separation performance" *Journal of Membrane Science* 712 (2024) 123196 DOI: 10.1016/j.memsci.2024.123196
8. A. Bartoletti, A. Sangiorgi, E. Mercadelli, C. Melandri, A. Gondolini, S. Garcia-Gonzalez, L. Ortiz-Membrado, M. Morales, E. Jimenez-Pique, A. Sanson, "Production strategies and microextrusion of eco-friendly water based cer-cer composite pastes for

- hydrogen separation applications” Open Ceramics 16 (2023) 100504 DOI:10.1016/j.oceram.2023.100504
9. A. Gondolini, A. Bartoletti, E. Mercadelli, P. Gramazio, A. Fasolini, F. Basile, “Development and hydrogen permeation of freeze-cast ceramic membrane” Journal of Membrane Science 684 (2023) 121865 DOI:10.1016/j.memsci.2023.121865.
 10. A. Bartoletti, A. Sangiorgi, A. Gondolini, E. Mercadelli, S. Casadio, S. Garcia-Gonzalez, M. Morales, E. Jimenez-Pique, A. Sanson “Dispersant- and solvent-free pastes for UV-assisted micro-extrusion of porous proton conductive membrane supports”, J Eur Ceram Soc, 2023 DOI:10.1016/j.jeurceramsoc.2023.04.038.
 11. A. Bartoletti, A. Gondolini, N. Sangiorgi, M. Aramini, M. Ardit, M. Rancan, L. Armelao, S. A. Kondrat, A. Sanson “Identification of structural changes in $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ on high energy ball milling and their effect on photocatalytic performance”, Catal. Sci. Technol, 2022 DOI: 10.1039/d2cy01299e.

THESIS SUPERVISION

- Co-supervisor of the Bachelor's thesis in Chemistry and Environmental and Materials Technologies, curriculum: Environment, Energy, and Waste (University of Bologna, Rimini campus) by Alessia Mulas: *Development of nanostructured washcoatings based on $\text{BaCe}_{0.65}\text{Zr}_{0.20}\text{Y}_{0.15}\text{O}_{3-\delta}$ - $\text{Ce}_{0.80}\text{Gd}_{0.20}\text{O}_{2-\delta}$ for hydrogen-permeable ceramic membranes*, defended on 17/10/2024.
- Co-supervisor of the Bachelor's thesis in Industrial Chemistry (University of Bologna) by Kilian Zigler: *Development of methods for producing dense symmetric membranes functionalized for hydrogen permeability*, defended on 07/10/2024.

TECHNICAL/PROJECT REPORTS

- A. Bartoletti et al., *Procedure for RSOC assembly*, Report PORH2-D 3.2.2.11, June 2025 – Co-author, SEM/EDX characterization operator.
- A. Bartoletti et al., *Formulation of inks for screen-printing electrodes*, Report PORH2-D 3.2.2.9, January 2025 – Co-author, rheological characterization operator.
- A. Brigliadori et al., *Electrolyte pellet preparation and RSOC cell realization*, Report PORH2-D 3.2.2.10, January 2025 – Co-author, lapping optimization operator.
- F. Bagioni et al., *Porous/dense backbone prototype based on cerate-zirconates and conventional electrode-supported cell*, Report PORH2-D 1.1.11.4, September 2023 –

Co-author, operator for suspensions, freeze casting, screen printing, thermal treatments, morphological/structural characterization.

- A. Bartoletti et al., *Cer-Cer Membranes: production of asymmetric structures with porous support via unconventional technologies*, RT 2022-21, 22/06/2022 – Co-author, operator for freeze casting, screen printing, tape casting, dense/symmetric membranes, thermal treatments, morphological-structural characterization.

CONFERENCES (*N.B.: name underlined indicates presenter*)

1. A. Bartoletti, A. Gondolini, E. Mercadelli, Z. Hafsi, M. Lo Faro, A. Sanson, *Development and testing of ceramic proton conducting solid oxide cells with vertically aligned negatrode*, 25th ECerS Forum 2025, Dresden, Germany, 1–4/09/2025 (Oral).
2. E. Mercadelli, A. Bartoletti, A. Gondolini, A. Sangiorgi, V. Saraceni, A. Fasolini, J. De Maron, F. Basile, A. Sanson, *Ceramic Membranes: Strategies to Improve Hydrogen Permeation*, 25th ECerS Forum 2025, Dresden, Germany, 1–4/09/2025 (Oral).
3. A. Gondolini, A. Bartoletti, E. Mercadelli, A. Sanson, *Design of Proton Conducting Nanostructured Materials for Intermediate Temperature Hydrogen Technologies*, Nanosmat 2025, Naples, Italy, 6–10 July (Oral).
4. J. Isopi et al., *Advanced Synthesis of BGLC Double Perovskite for Oxygen Electrode Applications*, 1st Joint Conference GISEL (ACee – GISEL), Padua, Italy, 21–23 July 2025 (Poster).
5. E. Mercadelli, N. Sangiorgi, A. Bartoletti, A. Gondolini, A. Sanson, *Sodium batteries as an alternative to lithium use*, Accademia Nazionale dei Lincei & Fondazione «Guido Donegani», 22–23 May 2025 (Poster + Flash presentation).
6. A. Bartoletti et al., *Synthesis and development of dual-conduction electrolyte for Solid Oxide Fuel Cells*, European Fuel Cell Forum 2024, Lucerne, Switzerland, 2–5 July 2024 (Poster).
7. E. Mercadelli et al., *Production strategies for proton conducting SOC*, European Fuel Cell Forum 2024, Lucerne, Switzerland, 2–5 July 2024 (Oral).
8. P. Gramazio et al., *High temperature H₂ purification and water splitting performances of Pt deposited over dense ceramic membranes*, Europacat 2023, Prague, Czech Republic, 27 August–1 September 2023 (Oral).
9. F. Basile et al., *High temperature H₂ purification and water splitting performances of Pt deposited over dense ceramic membranes*, Europacat 2023, Prague, Czech Republic, 27 August–1 September 2023 (Poster).

10. A. Sangiorgi et al., *Production of complex BCZY-GDC supports by 3D micro-extrusion*, yCAM 2022, Barcelona, Spain, 9–11 November 2022 (Poster), ID PEOPLE: 477669.
11. A. Bartoletti et al., *Production strategies for complex shapes cer-cer structures by microextrusion*, Shaping 8, Dübendorf, Switzerland, 14–16 September 2022 (Oral), ID PEOPLE: 477664.
12. A. Bartoletti et al., *3D printed proton-conducting substrates for hydrogen separation*, ECerS Ceramics in Europe 2022, Krakow, Poland, 10–14 July 2022 (Oral), ISBN: 978-83-942760-9-6.
13. E. Mercadelli et al., *Design and fabrication of proton-conducting ceramic membranes for H₂ separation*, ECerS Ceramics in Europe 2022, Krakow, Poland, 10–14 July 2022 (Oral), ISBN: 978-83-942760-9-6.

APPOINTMENTS

- Guided Dante Alighieri Primary School (Cesena) students at CNR-ISSMC labs: setup of educational laboratory on renewable energy, UOR 732 PROT 0095388, 27/03/2025.
- Appointed head of the “Chemical Synthesis L25” laboratory at CNR-ISSMC, UOR 732 PROT 0057081, 27/02/2025.
- Setup and participation in the exhibition *Materials and devices for solar energy conversion* during Researchers’ Night 2024, UOR 729 PROT 0356664, 01/10/2024.
- Setup and participation in the *Fuel Cells* educational corner during CNR-ISSMC Open Day, 24/05/2024, UOR 729 PROT 0175754.
- Guided Bendandi Middle School (Faenza) students at CNR-ISSMC labs, UOR letters: 31/03/2023 – 27/03/2023 (various prot. numbers).

EXTRACURRICULAR TRAINING COURSES

- *Grant Graphics Masterclass: Visuals That Win Funding*, online, ECOSISTER Pillar Training, 25/09/2025.
- *How to Design an Award-Winning Scientific Poster*, online, ECOSISTER Pillar Training, 24/09/2025.
- Waste producer and ADR management courses, May–June 2025.
- Technical training by FCT Systeme GmbH for FAST-SPS furnace operation and training, 19/03/2025.
- CNR safety courses: chemical, carcinogenic, mutagenic, and biological risks, 2021–2023.

- Workshops: *Coffee and Nanophotonics*, University of Padua, 9/09/2022.
- C5 Pilot training course, 30h, *How to choose scientific journals?*, CNR Bologna Library, 09/09–22/10/2021.

CURRICULAR TRAINING COURSES

Theoretical:

- 8h online lessons, Dr. Alberto Mezzetti, *Time-resolved infrared spectroscopy: A valuable tool in the study of the mechanism of chemical reactions*, 6–8 February 2023.
- Academic English mini-course for PhD students, University of Padua, March–April 2022.
- 30h Academic English course, University of Padua, January–February 2022.
- Lectures on SARS-CoV-2 antivirals, IBM Research Zurich quantum simulations, surfactant micelles, 2021.
- Information literacy courses (Reaxys, Scopus, Open Science), 2020.

Practical:

- Advanced theoretical and mathematical methods for materials synthesis, 19–23/06/2023.
- Design, Development and Delivery of Innovative Biopharmaceuticals, 05–26/07/2022.
- Metal-, organo- and photocatalysis, 01–16/07/2021.

OTHER INFORMATION

- Member of the Italian Ceramic Society since 2022 (n. 1790).
- I authorize the processing of personal data pursuant to Italian Legislative Decree 196/2003.

Faenza, 10/10/2025

FIRMA



I authorize the processing of my personal data pursuant to Legislative Decree 196/03