

EUROPEAN CURRICULUM VITAE



PERSONAL INFORMATION

Name **Simona Ortelli**
E-mail **simona.ortelli@issmc.cnr.it**
simona.ortelli@cnr.it

WORK EXPERIENCE

- Dates **From 3, July, 2017**
- Name and address of the employer **ISTEC-CNR Institute of Science and Technology for Ceramics (CNR-ISTEC), National Research Council of Italy, Via Granarolo 64, 48018 Faenza RA, Italy**
- Type of business or sector **Participation to European research project "PROTECT".**
- Occupation or position held **Fixed-term researcher**
CNR-ISTEC protocol N. 0002584 – date: 03/07/2017
CNR-ISTEC protocol N. 0001442 – date: 21/06/2018
- Main activities and responsibilities **The main activities carried out by me are:**
 - Synthesis and characterization of inorganic nanoparticles with antibacterial properties,
 - Study inherent to application of antibacterial nanoparticles onto textile substrate,
 - Development of Safety by Process Design for the three pre-commercial lines: sonochemical continuous technology spray coating continuous technology and sonochemical batch-mode technology.
- Dates **From 2, April, 2015 to 30, June, 2017**
- Name and address of the employer **ISTEC-CNR Institute of Science and Technology for Ceramics (CNR-ISTEC), National Research Council of Italy, Via Granarolo 64, 48018 Faenza RA, Italy**
- Type of business or sector **Participation to European research project "SUN".**
- Occupation or position held **Research assignee**
CNR-ISTEC protocol N.0001167 – date: 23/03/2017
CNR-ISTEC protocol N.0000863 – date: 30/03/2016
CNR-ISTEC protocol N.0000762 – date: 24/03/2015
- Main activities and responsibilities **The main activities carried out by me were:**
 - Study on functionalization of substrates through the application of nanostructured coatings,
 - Characterization of nanomaterials in biological and eco-tox media,
 - Study inherent to nano-bio interactions,
 - Development of risk remediation strategy based on "safety by molecular design" approach,
 - Bibliographic research at libraries, internet, scientific databases,
 - Reporting and intermediate planning.*This activity allowed important progress towards the "safety by design" approach and the physicochemical characterization of nanoparticles in different biological and eco-tox media.*
- Dates **From 2, April, 2014 to 1, April, 2015**
- Name and address of the employer **ISTEC-CNR Institute of Science and Technology for Ceramics (CNR-ISTEC), National Research Council of Italy, Via Granarolo 64, 48018 Faenza RA, Italy**
- Type of business or sector **Participation in ISTEC research activities for the development of nanostructured surfaces.**
- Occupation or position held **ISTEC competition announcement N. 073.14.03.02**
Research assignee
CNR-ISTEC protocol N.0000803 – date: 02/04/2014
- Main activities and responsibilities **The main activities carried out by me were:**
 - Synthesis, characterization, functionalization and applications of ceramic nanoparticles,
 - Functionalization of different supports with nanostructured coatings,
 - Bibliographic research at libraries, internet, scientific databases,
 - Reporting and intermediate planning.
- Dates **From 2, April, 2013 to 1, April, 2014**

- Name and address of the employer
ISTEC-CNR Institute of Science and Technology for Ceramics (CNR-ISTEC), National Research Council of Italy, Via Granarolo 64, 48018 Faenza RA, Italy
- Type of business or sector
Participation to European research project "Sanowork".
ISTEC competition announcement N. 073.13.03.01
- Occupation or position held
Research assignee
CNR-ISTEC protocol N.0000510 – date: 19/03/2013
- Main activities and responsibilities
The main activities carried out by me were:
 - Engineering of surfaces,
 - Development of risk remediation strategy based on "safety by molecular design" approach
 - Synthesis, characterization, functionalization and applications of nanomaterials,
 - Bibliographic research at libraries, internet, scientific databases,
 - Reporting and intermediate planning.

During this experience, important results inherent to the risk remediation strategies based on "safety by design" approach were obtained and summarized in several papers: "S. Ortelli et al., Silica matrix encapsulation as a strategy to control ROS production while preserving photoreactivity in nano-TiO₂, Environ. Sci.: Nano, 3 (2016) 602-610"; "V. Marassi, S. Ortelli et al., Hollow-Fiber Flow Field-Flow Fractionation and Multi-Angle Light Scattering as new analytical solution for the quality control in pharmaceutical nanotechnology Microchemical Journal 2016 <http://dx.doi.org/10.1016/j.microc.2016.12.015>"; "A. Stoccoro, S. Ortelli et al., A panel of in vitro tests to evaluate genotoxic and morphological neoplastic transformation potential on Balb/3T3 cells by pristine and remediated titania and zirconia nanoparticles, Mutagenesis, (2016) 31 (5): 511-529"; "M. Allegri, S. Ortelli et al., Shape-related toxicity of titanium dioxide nanofibers, PLoS ONE 11 (2016) e0151365"; "V. Marassi, S. Ortelli et al., Hollow-Fiber Flow Field-Flow Fractionation and Multi-Angle Light Scattering Investigation of the Size, Shape and Metal-Release of Silver Nanoparticles in Aqueous Medium for Nano-risk Assessment, Journal of Pharmaceutical and Biomedical Analysis 106 (2015) 92-99"; "S. Ortelli et al., Multiple approach to test nano TiO₂ photo-activity, Journal of Photochemistry and Photobiology A: Chemistry 292 (2014) 26-33" and "D. Gardini, S. Ortelli et al., Silica-coating as protective shell for the risk management of nanoparticles, Journal of Physics: Conference Series 429 (2013) 012052".
- Dates
From 1, July, 2011 to 1, April 2013
- Name and address of the employer
CIRI-MAM - Centro Interdipartimentale di Ricerca Industriale Meccanica Avanzata e Materiali - Alma Mater Studiorum University of Bologna
ARIC - Via Zamboni 33, 40138, Bologna Italy
- Type of business or sector
Participation to the research project "Nano-structured composite materials with high chemical-mechanical performance".
CIRI-MAM competition announcement - date: 05, May 2011
- Occupation or position held
Research assignee for technology transfer projects
- Main activities and responsibilities
The main activities carried out by me were:
 - Continue collaboration with people of the University of Bologna, CNR-ISTEC institute and companies,
 - Coordination activities of the various subjects involved in the project,
 - Preparation of an "action plan" (objectives, detailed activities and duration),
 - Synthesis of nanoparticles,
 - Study on functionalization of substrates through the application of nanostructured coatings,
 - Engineering of surfaces,
 - Bibliographic research at libraries, internet, scientific databases,
 - Reporting and intermediate planning.
- Dates
From 4, November, 2010 to 24, June 2011
- Name and address of the employer
Adler S.r.l
Via Calabria, 6 - Osteria Grande, 40060 (BO) Italy
- Occupation or position held
Post-graduate internship in collaboration with Alma Mater Studiorum University of Bologna
- Main activities and responsibilities
The main activities carried out by me were:
 - Characterization of azo dyes in application on leather in accordance with current industry standards (IUF),
 - Research concerning the properties and applications of organic dyes,
 - Development of new materials and their properties,
 - Bibliographic research in libraries, Internet, scientific databases,
 - Development of organizational capabilities and integration within a workgroup.
- Dates
From January 2010 to September 2010
- Name and address of the employer
ISTEC-CNR Institute of Science and Technology for Ceramics (CNR-ISTEC), National Research

- Occupation or position held
- Main activities and responsibilities

Council of Italy, Via Granarolo, 64 - Faenza, 40060 (RA) Italy
 Voluntary research activities during an internship for the Master's degree

The main activities carried out by me were:

- Optimization and characterization of the synthesis of nanoparticles by a process with low environmental impact,
- Deep physicochemical characterization of bimetallic nanoparticle systems Au-Cu,
- Innovative properties of nanoparticle materials,
- Bibliographic research in libraries, Internet, scientific databases,
- Study of the catalytic activity of nanomaterials synthesized in the reduction of 4-nitrophenol and other nitro compounds.

*This activity allowed important progress to the synthesis optimization and physicochemical and functional characterization of metallic and bimetallic nanoparticles. The great results obtained were reported in the following paper: "M. Blosi, S. Ortelli et al., Bimetallic nanoparticles as efficient catalysts: facile and green microwave synthesis, *Materials* 9 (2016) 550"; "M. Blosi, S. Ortelli et al., Green and easily scalable microwave synthesis of noble metal nanosols (Au, Ag, Cu, Pd) usable as catalysts, *New J. Chem.* 38 (2014) 1401–1409" and "M. Blosi, S. Ortelli et al., Green synthesis of noble metal and bimetal nanosols and their applications as catalysts, *Technical Proceedings of the NSTI-Nanotech 2013 1 (2013) 327-330*".*

From April 2008 to July 2008

Alpi S.p.a
 Viale della Repubblica, 34 - Modigliana, 47015 (FC) Italy

Voluntary research activities during an internship for the Bachelor's degree

The main activities carried out by me were:

- Bibliographic research in libraries, Internet, scientific databases,
- Study, synthesis and use of azo dyes soluble in water and suitable for application on wood dyeing,
- Purification by crystallization of the dyes synthesized and characterization by several analysis: Electronic Spectroscopy UV-Vis, IR spectroscopy, HPLC, NMR and mass spectrometry MS,
- Study on the photochemical degradation dye; tests of light fastness by Xenotest.

EDUCATION

- Dates
- Name and type of organisation providing education and training
 - Title of qualification
- Dates
- Name and type of organisation providing education and training
 - Title of qualification awarded
- Level in national classification
 - Dates
- Name and type of organisation providing education and training
 - Title of qualification awarded
- Level in national classification
 - Dates
- Name and type of organisation providing education and training
 - Title of qualification awarded
- Level in national classification

April 2015

Alma Mater Studiorum University of Bologna
 ARIC - Via Zamboni 33, 40138, Bologna Italy
 PhD, Doctorate Degree in Chemistry - XXVII Cycle

Thesis entitled "TAILORING PROPERTIES AND FUNCTIONALITIES OF TiO₂ AND Ag NANOPARTICLES INVOLVED IN SURFACES ENGINEERING PROCESSES", under supervision of Prof. S. Albonetti, Dott. ssa A. L. Costa and Prof. A. Vaccari

October 2010

Faculty of Industrial Chemistry, Alma Mater Studiorum, University of Bologna
 Viale Del Risorgimento 4, 40136, Bologna (IT)

Master's Degree in "Industrial Chemistry"

Thesis entitled "MICROWAVE ASSISTED SYNTHESIS OF NANOPARTICLES Au - Cu FOR CATALYTIC APPLICATIONS ", under supervision of Prof. D. Nanni, Prof. S. Albonetti, Dott. ssa M. Blosi and Dott. M. Dondi

108/110

October 2008

Degree Course "Chemistry of materials and Ceramic Technologies", Via Granarolo, 620, 48018, Faenza (RA) Italy - Faculty of Industrial Chemistry, Alma Mater Studiorum, University of Bologna
 Bachelor's Degree in "Chemistry of materials and Ceramic Technologies"

Thesis entitled "SYNTHESIS, CHARACTERIZATION AND STABILITY OF AZO DYES FOR WOOD", under supervision of Prof. D. Nanni and Dott. S. Selli

105/110

2005

High School - Artistic study
 "G. Ballardini", Corso Baccarini, 17 Faenza 48018 (RA) Italy

Artistic High School Diploma

100/100

**PARTECIPATION AND
COORDINATION OF NATIONAL AND
INTERNATIONAL PROJECTS**

- | | |
|---|--|
| <ul style="list-style-type: none"> • Date • Name of project • Type of project • Occupation or position held • Main activities and responsibilities | <p>30 November 2023 – 26 February 2026
 DOMANI – Dynamic Observation and Machine learning-assisted profiling for fast Assessment of submicroplastics and Native ecocorona In exposure media Project number: P2022SET7C
 Programma Nazionale di Ricerca e Progetti di Rilevante Interesse Nazionale (PRIN) Piano Nazionale di Ripresa e Resilienza (PNRR)
 Head of CNR unit and Co-Principal Investigator (Co-PI)
 The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Coordination of research activities on the static characterization of micro- and nanoplastics (MNPs) in environmental and food (pollen, milk...) media. • Characterization of the eco-corona surrounding the MNPs. • Participation in project meetings. • Reporting, literature review, report writing, and planning of experimental activities. |
| <ul style="list-style-type: none"> • Date • Name of project • Type of project • Occupation or position held • Main activities and responsibilities | <p>28 September 2023 – 26 February 2026
 SECURE-COATS – Safe, eco-friendly and durable coatings to prevent deterioration of heritage stones Project number: 202288LY27
 Programma Nazionale di Ricerca e Progetti di Rilevante Interesse Nazionale (PRIN)
 Head of CNR unit and Co-Principal Investigator (Co-PI)
 The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Coordination of research activities on the integration of nanoparticles and essential oils into coatings with anti-fouling, anti-stain, and self-tracing properties for cultural heritage preservation. • Synthesis, characterization, and application of Ag- and ZnO-based nanoparticles and essential oils (lavender and citronella). • Application of encapsulation techniques for nanoparticles and essential oils. • Participation in project meetings. • Reporting, literature review, report writing, and planning of experimental activities. |
| <ul style="list-style-type: none"> • Date • Name of project • Type of project • Occupation or position held • Main activities and responsibilities | <p>1 January 2023 - 31 December 2027
 INTEGRANO – Multidimensional Integrated Quantitative Approach To Assess Safety And Sustainability Of Nanomaterials In Real Case Life Cycle Scenarios Using Nanospecific Impact Categories, coordinated by Università degli studi Milano-Bicocca (Italy) Grant Agreement number 101138414
 European project – H2020
 Team member
 The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Development of nanomaterial re-design strategies in terms of safety and sustainability, promoting the SSbD approach and based on LCA and LCC models. • Participation in project meetings. • Literature review, contribution to report writing, and planning of experimental activities. |
| <ul style="list-style-type: none"> • Date • Name of project • Type of project • Occupation or position held • Main activities and responsibilities | <p>1 April 2021 - 31 March 2025
 PlasticsFaTE – Plastics fate and effects in the human body, coordinated by da OPTIMAT LIMITED (UK)
 Grant Agreement number 965367
 European project – H2020-NMBP-12-2017
 Team member
 The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Characterization of micro(nano)plastics in various biological and environmental matrices. • Participation in an intercomparison study on microplastic sizing using DLS technique. • Literature review, contribution to report writing, and planning of experimental activities. |

- Date
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- 1 February 2024 – 31 December 2026**
INTECH4WATER – Integrate technologies for pollutants in (waste)water services coordinated by University of Ferrara
 Project financed by Regione Emilia-Romagna PR FESR 2021-2027
 Team member
 The main activities carried out by me were:
- Integration of various water purification technologies, primarily adsorbents and antibacterial systems.
 - Implementation of pilot-scale water purification plants.
 - Literature review, contribution to report writing, and planning of experimental activities.
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- Date
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- 1 February 2022 – 28 February 2026**
SANOSIL – Sustainable nanosilver design as prime defense against bacterial colonisations and virus propagation
 Project financed by CNR (progetti@CNR)
 Team member
 The main activities carried out by me were:
- Development of antiviral and antibacterial nasal sprays applying Safe-and-Sustainable-by-Design (SSbD) techniques.
 - Investigation of the antibacterial and antiviral mechanisms of Ag nanoparticles.
 - Literature review, contribution to report writing, and planning of experimental activities.
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- Date
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- 1 January 2021 - 31 December 2025**
SUNSHINE – Safe and sustainable by design for advanced materials, coordinated by University of Venice Cà Foscari
 Grant agreement number: 952924
 European project – H2020- NMPB-16
 Team member - Involvement in research activities related to the application of Safe-and-Sustainability-by-Design strategies in various case studies (WP5).
 The main activities carried out by me were:
- Production of multicomponent materials modified using Safe-and-Sustainability-by-Design strategies.
 - Analysis of production processes of various nanomaterials and the nano-enabled products in which they are incorporated to identify process hot spots.
 - Identification and application of strategies to enhance the safety and sustainability of products and processes in the different case studies.
 - Physicochemical characterization of multicomponent nanomaterials involved in the case studies: SiO₂-APTES, SiO₂-ZnO, SiC-TiO₂, GO-Chitosan, Au-Citrate.
 - Participation in meetings related to the various case studies.
 - Literature review, report writing, and planning of experimental activities.
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- Date
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- 1 March 2020 - 29 February 2024**
SAbyNA – The Guidance Platform for the Development of Safer Nanomaterials and Nano-Enabled Products, coordinated by LEITAT – Technological Center (Spain)
 Grant agreement number: 862419
 European project – H2020- NMPB-15
 Team member - Involvement in research activities related to the selection and application of Safe-by-Design strategies (WP4, coordinated by ISTECCNR), the development of the platform (WP6), and the implementation of industrial case studies (WP7).
 The main activities carried out by me were:
- Analysis of literature and documents from European projects on Nanosafety, aimed at selecting Safe-by-Design strategies to apply to nanomaterials involved in the case studies.
 - Participation in monthly meetings of WP4, WP6, and WP7.
 - Literature review, report writing, and planning of experimental activities.

- Date
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- 1 March 2020 - 29 February 2024**
ASINA – Anticipating Safety Issues at the Design Stage of NANO Product Development, coordinated by ISSMC-CNR
Grant agreement number: 862444
European project – H2020-NMPB-15
Team member - Involvement in research activities related to: the selection of nanomaterials and the development of 'safe-by-product-design' solutions (WP1); process-line monitoring to define 'safe-by-process-design' solutions (WP3); and the implementation of 'safe-by-process-design' measures on industrial pilot plants (WP5).
The main activities carried out by me were:
- Selection and characterization of nanomaterials for applications in clean nanotechnology and cosmetics.
 - Application of 'safe-by-design' solutions to the selected nanomaterials.
 - Study of lab-scale and industrial plants involved in the production processes of materials for clean nanotechnology and cosmetic applications.
 - Monitoring campaigns in industrial plants across various production lines and development of 'safe-by-process-design' solutions.
 - Literature review, report writing, and planning of experimental activities.
- Date
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- 1 January 2020 - 31 December 2020**
SOS Water – Sistema di decontaminazione e sviluppo sostenibile di energia dall'acqua. Progetto Nazionale finanziato dal Ministero della Difesa, coordinated by ISTECC-CNR
Team member
The main activities carried out by me were:
- Study and development of the filtration unit, where the first purification step takes place through a filtering membrane.
 - Study and development of the unit's anodic section, where the oxidation of organic contaminants occurs.
 - Engineering and integration of the filtration unit and the electrochemical cell into the portable system.
 - Literature review, report writing, and planning of experimental activities.
- Date
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- 1 November 2017 - 31 October 2021**
BIORIMA – BIOmaterial Risk Management, coordinato da Institute of occupational medicine coordinated by Institute of Occupational Medicine (UK)
Grant agreement number: 760928
European project – H2020-NMBP-12-2017
Team member
The main activities carried out by me were:
- Physicochemical characterization of nanomaterials for biomedical applications.
 - Application of "safe-by-design" strategies to nanomaterials intended for biomedical use.
 - Literature review, report writing, and planning of experimental activities.
- Date
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- 1 January 2018 - 31 December 2021**
PATROLS – Physiologically Anchored Tools for Realistic nanOMaterial hazard aSsessment, coordinated by Swansea University (UK)
Grant agreement number: 760813
European project – H2020-NMBP-29-2017
Involvement in the physicochemical characterization of nanomaterials to support the biological and toxicological investigation of the materials themselves within WP1.
The main activities carried out by me were:
- Preparation of nanosuspensions following dispersion protocols developed within previous European projects on Nanosafety (NANOREG, NANOREG2, GUIDENANO, CALIBRATE, etc.).
 - Physicochemical characterization of nanosuspensions in biological and environmental media.
 - Literature review, report writing, and planning of experimental activities.

<ul style="list-style-type: none"> • Dates • Name of project 	<p>From 1, January, 2017 to 31, December, 2020 PROTECT – Pre-commercial lines for production of surface nanostructured antimicrobial and anti-biofilm textiles, medical devices and water treatment membranes, coordinated by Universitat Politecnica de Catalunya Grant agreement number: 720851 European project – H2020- PILOTS-02-2016 Involvement in the research activity of Task 2.2 “Defining Safety by Process Design for the three pre-commercial lines” and collaboration in the research activity of WP4 “Environment and human safety evaluation of the coating processes and products”.</p>
<ul style="list-style-type: none"> • Type of project • Occupation or position held 	<p>The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Synthesis and characterization of inorganic nanoparticles with antibacterial properties, • Study inherent to application of antibacterial nanoparticles onto textile substrate, • Development of Safety by Process Design for the three pre-commercial lines: sonochemical continuous technology spray coating continuous technology and sonochemical batch-mode technology, • Bibliographic research at libraries, internet, scientific databases, • Writing reports, • Reporting and intermediate planning.
<ul style="list-style-type: none"> • Main activities and responsibilities 	<p>The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Synthesis and characterization of inorganic nanoparticles with antibacterial properties, • Study inherent to application of antibacterial nanoparticles onto textile substrate, • Development of Safety by Process Design for the three pre-commercial lines: sonochemical continuous technology spray coating continuous technology and sonochemical batch-mode technology, • Bibliographic research at libraries, internet, scientific databases, • Writing reports, • Reporting and intermediate planning.
<ul style="list-style-type: none"> • Dates • Name of project 	<p>From 1, February, 2016 to 31, January, 2018 FabricSafe - Defense of the individual through fabrics acting as active and passive protection CNR-ISMN protocol N.0004223 – date: 24/12/2015</p>
<ul style="list-style-type: none"> • Type of project • Occupation or position held 	<p>National project financed by Ministry of Defence, coordinated by ISMN-CNR Responsible of technical activities and scientific reporting for ISTECC unit. CNR-ISMN protocol N.0002273 – date: 20/07/2016</p>
<ul style="list-style-type: none"> • Main activities and responsibilities 	<p>The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Development of inorganic and inorganic/organic hybrid coating in textile support, • Development of textiles with self-cleaning, antibacterial and flame retardants properties • Characterization of coated textiles, • Study on functional performance tests, • Bibliographic research at libraries, internet, scientific databases, • Reporting and intermediate planning, • Writing reports.
<ul style="list-style-type: none"> • Dates • Name of project 	<p>From 15, February, 2016 to 31, July, 2016 ProBioType - Prototyping ProBioPol results, coordinated by ISTECC-CNR CNR-ISTECC protocol N.0000147 – date: 05/02/2016</p>
<ul style="list-style-type: none"> • Type of project • Occupation or position held 	<p>Progetto Bandiera “La Fabbrica del Futuro Piattaforma Manifatturiera Nazionale” Involvement in the research activity of WP1.</p>
<ul style="list-style-type: none"> • Main activities and responsibilities 	<p>The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Development of catalyst with antibacterial and photocatalytic for post-treatments in working lab-scale system for production of polyhydroxyalcanoates (PHA), • Development of TiO₂ NPs based photocatalyst for purification of waste water, • Study, physicochemical and functional characterization of TiO₂ catalyst, • Bibliographic research at libraries, internet, scientific databases, • Writing reports, • Reporting and intermediate planning.
<ul style="list-style-type: none"> • Dates • Name of project 	<p>From 15, February, 2016 to 31, July, 2016 Autospin - Automated electrospinning plant for industrial manufacturing of functional composite nanofibres, coordinated by ISMAC-CNR CNR-ISMAC protocol N.0000140 – date: 05/02/2016</p>
<ul style="list-style-type: none"> • Type of project • Occupation or position held 	<p>Progetto Bandiera “La Fabbrica del Futuro Piattaforma Manifatturiera Nazionale” Responsibility in the characterization of electrospun nanofibers by FE-SEM analysis</p>
<ul style="list-style-type: none"> • Main activities and responsibilities 	<p>The main activities carried out by me were:</p> <ul style="list-style-type: none"> • Development of a user-friendly image analysis tool for quality control of the electrospun products, • Bibliographic research at libraries, internet, scientific databases, • Writing reports, • Reporting and intermediate planning.
<ul style="list-style-type: none"> • Dates • Name of project 	<p>From 15, February, 2016 to 31, July, 2016 ProBioType II - Prototyping ProBioPol Results II (UV/TiO₂ Photocatalytic Reactor), coordinated</p>

	by ISTEC-CNR CNR-ISTEC protocol N.0000151 – date: 05/02/2016
• Type of project	Progetto Bandiera “La Fabbrica del Futuro Piattaforma Manifatturiera Nazionale”
• Occupation or position held	Leader of WP1 on design and testing of the UV/TiO ₂ photocatalytic reactor prototype
• Main activities and responsibilities	The main activities carried out by me were: <ul style="list-style-type: none"> • Realization of photoreactor and development of TiO₂ NPs based catalyst in photocatalytic pilot plant to ProBioPol waste-to-bioplactic system, • Study, physicochemical and functional characterization of TiO₂ catalyst, • Bibliographic research at libraries, internet, scientific databases, • Writing reports, • Reporting and intermediate planning. <p><i>During the project important results inherent to the scale-up of UV/TiO₂ photoreactor were obtained. The pilot photoreactor achieved allowed to collect satisfactory photocatalytic data.</i></p>
• Dates	From 1, October, 2013 to 31, March, 2016
• Name of project	SUN – Sustainable nanotechnologies, coordinated by Cà Foscari University of Venice Grant agreement number: NMP4-LA-2013-604305
• Type of project	European project - FP7-NMP-2013-LARGE-7
• Occupation or position held	Leader of ISTEC characterization unit in WP1. Active participation to the research activity of WP7.
• Main activities and responsibilities	The main activities carried out by me were: <ul style="list-style-type: none"> • Characterization of nanomaterials in biological and eco-tox media, • Identification of key properties that drive nano-bio/eco interactions, • Development of risk remediation strategy based on “safety by molecular design” approach, • Bibliographic research at libraries, internet, scientific databases, • Writing reports, • Reporting and intermediate planning. <p><i>During the project important results inherent to the colloidal characterization of NPs in relevant media for nano (eco) toxicology were obtained and summarized in the paper “S. Ortelli, A.L. Costa, et al., Colloidal characterization of CuO nanoparticles in biological and environmental media, Environ. Sci.: Nano 4 (2017) 1264-1272”.</i></p>
• Dates	From 1, February, 2014 to 15, July, 2016
• Name of project	ProBioPol – Innovative and sustainable production of biopolymers, coordinated by ISTEC-CNR CNR-ISTEC protocol N.0000733 – date: 24/03/2014
• Type of project	Progetto Bandiera “La Fabbrica del Futuro Piattaforma Manifatturiera Nazionale”
• Occupation or position held	Involvement in the research activity of WP3 and WP5.
• Main activities and responsibilities	The main activities carried out by me were: <ul style="list-style-type: none"> • Development of catalyst (nanoparticles and nano-coated textile supports) with antibacterial and photocatalytic for pre- and post-treatments in production process of polyhydroxyalcanoates (PHA), • Development of electrospun nanofibers doped with TiO₂ and Ag NPs for pre- and post-treatments in production process of polyhydroxyalcanoates (PHA), • Study and physicochemical characterization of TiO₂ and Ag NPs based catalyst, • Functional characterization of TiO₂ and Ag NPs based catalyst in the production process of PHA, • Bibliographic research at libraries, internet, scientific databases, • Writing reports, • Reporting and intermediate planning.
• Dates	From 15, January, 2013 to 15, January, 2015
• Name of project	NanoTWICE – Composite Nanofibres for Treatment of air and Water by an Industrial Conception of Electrospinning, coordinated by ISMAC-CNR Prot.CNR-ITIA protocol N.0001830 (2012) Prot.CNR-ITIA protocol N.0000159 (2014)
• Type of project	Progetto Bandiera “La Fabbrica del Futuro Piattaforma Manifatturiera Nazionale”
• Occupation or position held	Leader of WP2 on the development of electrospinnable formulation based on keratin solutions doped with ceramic nanoparticles.
• Main activities and responsibilities	The main activities carried out by me were: <ul style="list-style-type: none"> • Study on compatibility of TiO₂ and Ag nanoparticles (NPs) in keratin suspension, • Study and characterization of electrospinnable formulations, • Physicochemical and functional characterization of electrospun nanofibers,

- Bibliographic research at libraries, internet, scientific databases,
 - Writing reports and papers,
 - Reporting and intermediate planning.
- During the project important results inherent to the integration of inorganic NPs in electrospinnable formulation were obtained and summarized in the paper "A. Varesano, S. Ortelli et al., Multifunctional Hybrid Nanocomposite Nanofibers Produced by Colloid Electrospinning from Water Solutions, Current Nanoscience 11 (2015) 41-48" and "M. Borrotti, S. Ortelli, et al., Defect minimisation and feature control in electrospinning through design of experiments, J. Appl. Polym. Sci. 134 (2017) 44740"*
- Dates
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- From September, 2013 to September, 2014**
- Development of organic-inorganic coating adding with metal or metal oxide nanoparticles, coordinated by ISTEC-CNR
- National industrial project financed by FILA SpA
- Design and experimental realization of nanostructured coatings.
- The main activities carried out by me were:
- Study on compatibility of TiO₂ and Ag nanoparticles in commercial product,
 - Development of formulations with self-cleaning, photocatalytic and antibacterial functional properties,
 - Study, physicochemical and functional characterization of TiO₂ and Ag nanoparticles based coating on ceramic tiles,
 - Bibliographic research at libraries, internet, scientific databases,
 - Writing reports,
 - Reporting and intermediate planning.
- Dates
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- From 20, October, 2014 to 24, October 2014**
- Advanced physicochemical characterization of SiO₂ coating as design strategy to harmonize and control the biological reactivity of TiO₂ nanosols** – in collaboration with Advanced Microscopy Laboratory, CRANN, Trinity College Dublin
- QNano Transnational Application Program
- PhD student
- The main activities carried out by me were:
- Preparation of TEM sample
 - TEM analysis on TiO₂, TiO₂/SiO₂, Ag and Ag/SiO₂ nanoparticles, synthesized in ISTEC,
 - Writing report.
- This experience allowed the achievement of excellent results in the morphological characterization of TiO₂/SiO₂ and Ag/SiO₂ systems, produced during Sanowork project, and summarized in the paper: "S. Ortelli, A.L. Costa, Nanoencapsulation techniques as useful tool towards "safer by molecular design", Nano-Structures & Nano-Objects, 2016, doi:10.1016/j.nanoso.2016.03.006 (accepted)".*
- Dates
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- From 15, March, 2012 to 15, March, 2015**
- Sanowork** – Safe Nano Worker Exposure Scenarios, coordinated by ISTEC-CNR
- Grant agreement number: NMP4-SL-2012-280716
- European project - FP7-NMP-2011-SMALL-5
- Active participation to WP4 and WP6.
- The main activities carried out by me were:
- Engineering of surfaces,
 - Development of risk remediation strategy based on "safety by molecular design" approach
 - Synthesis, characterization, functionalization and applications of nanomaterials,
 - Bibliographic research at libraries, internet, scientific databases,
 - Study inherent to nano-bio interactions,
 - Writing reports and papers,
 - Reporting and intermediate planning.
- Dates
 - Name of project
 - Type of project
 - Occupation or position held
 - Main activities and responsibilities
- From April, 2011 to June, 2012**
- Development of "ceramization" process on textile with self-cleaning properties, coordinated by ISTEC-CNR
- National industrial project financed by Novaresin SpA
- Design and development of textile ceramization process.
- The main activities carried out by me were:
- Study on TiO₂ nanomaterials; synthesis, characterization and optimization of commercial products,
 - Development of nano-TiO₂ and nano-Ag coating on different textile supports,

- Synthesis of organic/inorganic hybrid nanomaterial and application on textile support,
- Development flame retardant systems for textiles,
- Study and physicochemical characterization of nano-coated textiles,
- Fine tuning of set-up in photocatalytic tests,
- Bibliographic research at libraries, internet, scientific databases,
- Writing reports and papers,
- Reporting and intermediate planning.

*This experience allowed the achievement of important results inherent to the technology transfer for the production of self-cleaning and antibacterial textiles. The meaningful data obtained were summarized in the following papers: "S. Ortelli et al., TiO₂ nanosols applied directly on textiles using different purification treatments, **Materials 8 (2015) 7988–7996**"; "S. Ortelli et al., TiO₂ based nano-photocatalysis immobilized on cellulose substrates, **Journal of Photochemistry and Photobiology A: Chemistry 276 (2013) 58–64**" and "A.L. Costa, S. Ortelli et al., TiO₂ based photocatalytic coatings: From nanostructure to functional properties, **Chem. Eng. J. 225 (2013) 880–886**".*

PUBLICATIONS

Bibliografy

h-index = 9, i-10 index = 8, total citations = 240, source Google Scholar

2025

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2018

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2017

M.G. Bianchi, M. Allegri, M. Chiu, A.L. Costa, M. Blosi, S. Ortelli, O. Bussolati, E. Bergamaschi, Lipopolysaccharide Adsorbed to the Bio-Corona of TiO₂ Nanoparticles Powerfully Activates Selected Pro-inflammatory Transduction Pathways, *Front. Immunol.* 8 (2017), 866

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PROCEEDINGS

R.D.O. Sanchez, R.A. Carletto, C. Tonetti, A. Varesano, C. Vineis, G. Mazzuchetti, S. Ortelli, M. Blosi, A.L. Costa, Protein-based nanofiber membranes with functional nanoparticles, *NART 2015-Nanofibers, Applications and Related Technologies (2015)* 243-250

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PARTICIPATION IN MEETINGS AND SCIENTIFIC DIVULGATION

- Luogo e data
• Contesto
• Descrizione
Ravenna (Italy), 05-06 Giugno, 2025
Workshop PLASTICHE & AMBIENTE
Partecipazione al workshop – Presentazione Orale "Studio della dispersione e valutazione del potere ossidativo di micro e nanoplastiche" S. Ortelli, I. Zanoni, M. Blosi, A.L. Costa
- Luogo e data
• Contesto
• Descrizione
Milano (Italy), 29 Aprile, 2025
Micro(nano)plastiche in ambiente
Partecipazione alla conferenza – Presentazione Orale "Studio della dispersione e valutazione del potere ossidativo di micro e nanoplastiche" S. Ortelli, I. Zanoni, M. Blosi, A.L. Costa
- Luogo e data
• Contesto
• Descrizione
Ravenna (Italy), 06 Giugno, 2024
Workshop PLASTICHE & AMBIENTE
Partecipazione al workshop – Presentazione Orale "Caratterizzazione chimico-fisica e colloidale di microplastiche in matrici ambientali" S. Ortelli, I. Zanoni, M. Blosi, A.L. Costa
- Luogo e data
• Contesto
• Descrizione
Lamezia Terme (Italy), 03-04 Ottobre, 2019
7[^] Incontri Mediterranei di Igiene Industriale, Inquinamento indoor e outdoor: valutazione dei rischi, figure e competenze
Partecipazione alla conferenza – Presentazione Orale "Monitoraggio indoor di nanoparticelle durante la produzione di rivestimenti antibatterici nanostrutturati" S. Ortelli, F. Belosi, F. Ravegnani, C. Baldisserri, M. Blosi, F.C. Simeone, M. Perucca, A.L. Costa
- Luogo e data
• Contesto
• Descrizione
Salerno (Italy), 28-30 Agosto, 2019
Chemistry meets Industry and Society – CIS19
Partecipazione al workshop "Chemistry for Secure Societies", all'interno della conferenza – Presentazione Orale "Coatings based on TiO₂ nanoparticles and biomacromolecules as a new flame retardant approach for cotton fabrics" S. Ortelli, G. Malucelli, A.L. Costa
- Luogo e data
• Contesto
• Descrizione
Roma (Italy), 11-14 Giugno, 2019
Nanoinnovation 2019
Partecipazione alla conferenza – Presentazione Poster "Monitoring occupational exposure scenarios during the production of nanostructured antibacterial textiles" S. Ortelli, F. Belosi, F. Ravegnani, P. Mantecca, C. Baldisserri, M. Blosi, F.C. Simeone and A.L. Costa
- Luogo e data
• Contesto
• Descrizione
Roma (Italy), 05 Giugno, 2019
Incontro "Sicurezza e Rischio CBRNe"
Partecipazione all'incontro – Presentazione Orale "Rivestimenti di tessuti antifiama ibridi" S. Ortelli
- Luogo e data
• Contesto
• Descrizione
Grenoble (France), 05-09 Novembre, 2018
6th International Conference nanoSAFE 2018
Partecipazione alla conferenza – Presentazione Orale "Safe-by-design approach applied to the production of antibacterial textiles" S. Ortelli, P. Mantecca, F. Belosi, F. Ravegnani, C. Baldisserri, F. C. Simeone, M. Blosi, A.L. Costa
- Place and date
• Context
• Description
Roma (Italy), 11-14 September, 2018
Nanoinnovation 2018
Participation in the conference – Poster Presentation - "Coatings based on TiO₂ nanoparticles and biomacromolecules as a new flame retardant approach for cotton fabrics" S. Ortelli, G. Malucelli, A.L. Costa
- Place and date
Bari (Italy), 11-13 June, 2018

- Context 12th International Symposium on SiO₂ advanced dielectrics and relative devices
- Description *Participation in the conference – Oral Presentation - "Silica coating as "safer by molecular design" strategy to control nano-TiO₂ biological reactivity" S. Ortelli, M. Blosi, D. Gardini, A.L. Costa*
- Place and date **Roma (Italy), 13-17 May, 2018**
- Context SETAC
- Description *Participation in the conference – Oral Presentation - "Silica coating for the control of nano-reactivity" S. Ortelli, M. Blosi, D. Gardini, A.L. Costa*
- Place and date **Parma (Italy), 22-24 March, 2018**
- Context MECSPE2018
- Description *Participation in the exhibition – Oral Presentation - "Novel inorganic antibacterial coatings for cotton fabrics" S. Ortelli*
- Place and date **Roma (Italy), 26-29 September, 2017**
- Context Nanoinnovation 2017
- Description *Participation in the conference – Poster Presentation "Water purification with active cotton membrane: photo- and photoelectrochemical treatments in semi-pilot plant" S. Ortelli, C. Baldisserrri, M. Blosi, A.L. Costa*
- Place and date **Paris (France), 28-30 June, 2017**
- Context Nanotech France
- Description *Participation in the conference – Oral Presentation "Colloidal characterization of surface modified CuO nanosuspensions in media relevant for nano (eco) toxicology" S. Ortelli, M. Blosi, I. Zanoni, C. Baldisserrri, A.L. Costa*
- Place and date **Faenza (Italy), 07-09 June, 2017**
- Context Ceramics for energy (CEn 2017) – 2nd International forum on ceramics and inorganic materials
- Description *Participation in the conference – Poster Presentation "Pilot-scaling of nanophotocatalytic reactors for water purification treatments" S. Ortelli, M. Blosi, C. Baldisserrri, A.L. Costa*
- Place and date **Valencia (Spain), 04 April, 2017**
- Context NanoMONITOR 1st Stakeholders' Day
- Description *"Development of a real-time information and monitoring system to support the risk assessment of nanomaterials under REACH"*
- Description *Participation in the workshop*
- Place and date **Bologna (Italy), 06-10 February, 2017**
- Context "Pier Giorgio Merli" International TEM school in Materials Science 2016
- Description *Participation in the practical course*
- Place and date **Bologna (Italy), 14-18 November, 2016**
- Context "Pier Giorgio Merli" International TEM school in Materials Science 2016
- Description *Participation in the theoretical course*
- Place and date **Grenoble (France), 07-10 November, 2016**
- Context 5th international conference Nanosafe 2016
- Description *Participation in the conference – Poster Presentation "Colloidal characterisation of surface modified CuO nanosol" S. Ortelli, M. Blosi, L. Viale, A. L. Costa*
- Place and date **Milano (Italy), 04-08 October, 2016**
- Context Exhibition Bi-MU 2016
- Description *Participation in the "La fabbrica del futuro" stand, showing two pilot plants (photoreactors), developed under the ProBioType and ProBioType II projects, for the photodegradation of water organic pollutants.*
- Place and date **Bologna (Italy), 09-10 June, 2016**
- Context 7° Corso nazionale di introduzione alla fotochimica (CNIF16)
- Description *Participation in the school*
- Place and date **Torino (Italy), 15-16 February, 2016**
- Context Fire retardants & textiles: past, present and future – COST MP1105 FLARETEX
- Description *Participation in the conference – Poster Presentation "Ceramer coating on non-woven fabric as potential flame retardant" S. Ortelli, A.L. Costa*
- Place and date **Venezia (Italy), 24-29 January, 2016**
- Context 2nd Sustainable Nanotechnology School
- Description *Participation in the conference – Oral Presentation and Tutorial & Lab exercise "Synthesis, characterization and feasible application of silver and titanium dioxide nanomaterials" S. Ortelli, A.L. Costa*
- Place and date **Roma (Italy), 26-28 October, 2015**
- Context XI national conference on nanophase materials

- Description *Participation in the conference – Oral Presentation* “Control of nanoAg toxicological and antibacterial activity through Safety by Design approach” S. Ortellì, D. Gardini, M. Blosi, O. Bussolati, M. G. Bianchi, M. Allegri, E. Bergamaschi, A. L. Costa
- Place and date **Erice (Italy), 27-31 July, 2015**
 - Context International summer workshop “NANOSCIENCE meets METROLOGY: size and shape engineering of nanoparticles towards improved technologies for energy, environment and health”
- Description *Participation in the conference – Oral Presentation* “Control of nanotitania surface photoreactivity to address safety issues” S. Ortellì, M. Blosi, C. Delpivo, I. Gualandi, D. Tonelli, I. Fenoglio, A.L. Costa
- Place and date **Mestre (Italy), 09-11 March, 2015**
 - Context SUN-SNO-GUIDENANO Sustainable Nanotechnology Conference 2015
 - Description *Participation in the conference – Oral Presentation* “SANOWORK: towards a “Safety by Design” management of nanomaterials” S. Ortellì, C. Delpivo, A.L. Costa
- Place and date **Grenoble (France), 18-20 November, 2014**
 - Context 4th International Conference NANOSAFE 2014
 - Description *Participation in the conference – Oral Presentation* ““Safety by design” to control the biological reactivity of nanosilver” S. Ortellì, M. Blosi, C. Delpivo, D. Gardini, M. G. Bianchi, M. Allegri, O. Bussolati, E. Bergamaschi, A.L. Costa
- Place and date **Madrid (Spain), 15-18 June, 2014**
 - Context 4th International Colloids Conference
 - Description *Participation in the conference – Poster Presentation* ““Safety by design” approach to manage nanotitania surface photoreactivity” S. Ortellì, M. Blosi, C. Delpivo, I. Gualandi, D. Tonelli, I. Fenoglio, P. Matteucci, C. Poland, A.L. Costa
- Place and date **Bologna (Italy), 18 December, 2013**
 - Context XIII Giornata di chimica dell’Emilia Romagna
 - Description *Participation in the conference – Poster Presentation* “Electrospun keratin based nanofibers with embedded ceramic nano-phases” S. Ortellì, M. Blosi, S. Albonetti, A. Vaccari, A. L. Costa, A. Varesano, C. Vineis, G. Mazzucchetti
- Place and date **Faenza (Italy), 08-11 October, 2013**
 - Context International Conference - MiMe - Materials in Medicine
 - Description *Participation in the conference – Poster Presentation* “Green synthesis of noble metal nanosols usable as theranostic fluids” M. Blosi, S. Ortellì, S. Albonetti, M. Raimondo, M. Dondi, A. L. Costa
- Attribution Fellowship
- Place and date **Thessaloniki (Greece), 06-13 July, 2013**
 - Context International Conference on Nanosciences & Nanotechnologies and International Summer Schools “N&N, OE & Nanomedicine”
 - Description *Participation in the school and Participation in the conference with Oral Presentation* “Ceramic textiles: a view to improve fabrics performances” S. Ortellì, A. L. Costa, M. Blosi, M. Dondi
- Place and date **Ferrara (Italy), 17 December, 2012**
 - Context XII Giornata di chimica dell’Emilia Romagna
 - Description *Participation in the conference – Poster Presentation* “Self cleaning textile: a basic approach for photocatalytic characterization” S. Ortellì, A. L. Costa, M. Blosi, S. Albonetti, A. Vaccari
- Place and date **Venezia (Italy), 21-23 November, 2012**
 - Context NanotechItaly 2012 – International showcase for nanotechnologies
 - Description *Participation in the conference – Poster Presentation* “Self cleaning textile: a basic approach for photocatalytic characterization” S. Ortellì, A. L. Costa, M. Blosi, S. Albonetti, A. Vaccari
- Place and date **Verbania (Italy), 11-15 September, 2012**
 - Context EFCATS 2012 Summer School – 2012 1st Italian-Spanish School on Catalysis
“Recent Advances and New Trends in Catalysis”
 - Description *Participation in the conference – Poster Presentation* “Self cleaning textile: a basic approach for photocatalytic characterization” S. Ortellì, A. L. Costa, M. Blosi, S. Albonetti, A. Vaccari
- Attribution Fellowship
- Place and date **Firenze (Italy), 11-14 June, 2012**
 - Context XVIII Congresso Nazionale della Divisione di Chimica Industriale della Società Chimica Italiana (SCI) – The challenges of industrial chemistry for sustainable innovation”
 - Description *Participation in the conference – Poster Presentation* “Influence of hydrophilic properties on photocatalytic activity of TiO₂ based nanocoatings” S. Ortellì, A. L. Costa, M. Blosi, S. Albonetti, A. Vaccari
- Attribution Fellowship
- Place and date **Bologna (Italy), 23-27 September, 2011**

- Context "Questione...di chimica"
- Description Laboratory experiments "Synthesis of gold nanoparticles and demonstration of superhydrophobic properties"

CONTRIBUTION IN MEETINGS AND SCIENTIFIC DIVULGATION

- Luogo e data **Bologna (Italy), 10-12 Settembre, 2025**
- Contesto 21st Global Conference on Sustainable Manufacturing
- Decision Contributo alla conferenza con Presentazione Orale "Next-Generation Flame Retardant Additives: A Path Toward Sustainability and Safety", A. Serrano-Lotina, E. Villaro, M. Martínez, J. Gómez, M.A. Bañares, M. Blosi, S. Ortelli, A. Costa, A. Brunelli, E. Badetti, A. Martínez-Serra, M. Monopoli, J. López de Ipiña, A. Saccardo, S. Doak, R. Vandebriel, F. Cassee, W. Peijnenburg, H. Hong; B. Nowack, S. Devecchi, A. Livieri, L. Pizzol, D. Hristozov
- Luogo e data **Bologna (Italy), 10-12 Settembre, 2025**
- Contesto 21st Global Conference on Sustainable Manufacturing
- Decision Contributo alla conferenza con Presentazione Orale "SSbD Industrial Case Study: Sustainable Alternatives to Anti-Stick Coatings for Aluminum Molds in Bakery Application", M Blosi, I Zanoni, A Brigliadori, S Ortelli, AL Costa, M Lopez Tendero, C Silvestre, A Serrano Lotina, M Banares, A Brunelli, E Badetti, W Peijnenburg, R Vandebriel, C Fito, E Barbero Colmenar, A Saccardo, S. Doak, H. Hong, B. Nowack, S Devecchi, A Livieri, L Pizzol, D. Hristozov
- Luogo e data **Bologna (Italy), 10-12 Settembre, 2025**
- Contesto 21st Global Conference on Sustainable Manufacturing
- Decision Contributo alla conferenza con Presentazione Orale "Micro-engineered capsules: a powerful tool in green chemistry", AL Costa, S Ortelli, I Zanoni, M Vespignani, S Amadori, C Artusi, M Blosi
- Luogo e data **Cyprus 20-24 Giugno 2022**
- Contesto "Nano-week" and NanoCommons Final Conference
- Decision Contributo alla conferenza con Presentazione Poster "Monitoring measurements of Ag Nanoparticle Spray-Coated on Textiles", S. Ortelli, S. Trabucco, B. Del Secco, F. Belosi, F. Ravegnani, I. Zanoni, M. Blosi, A.L. Costa
- Luogo e data **Grenoble (France), 16-20 Novembre, 2020**
- Contesto First nanoSAFE Digital Conference
- Decision Contributo alla conferenza con Presentazione Orale "Safety by Process Design Implementation for Coating Processes", S. Ortelli, C. Baldisserri, F. Belosi, F. Ravegnani, R. Bengalli, P. Mantecca, M. Blosi, A.L. Costa
- Luogo e data **Bressanone (Italy), 28-30 Ottobre, 2019**
- Contesto Conferenza di dipartimento DSCTM (Dipartimento di scienze chimiche e tecnologie dei materiali)
- Descrizione **Premiazione YIA2019 (Young Investigator Award 2019) Area: Chimica Verde - Premio ricevuto: Menzione d'onore**
- Luogo e data **Roma (Italy), 11-14 Giugno, 2019**
- Contesto Nanoinnovation 2019
- Descrizione *Partecipazione alla conferenza – Presentazione Orale "Managing occupational safety issues of nanomaterials in manufacturing processes: the PROTECT case studies"* F.C. Simeone, S. Ortelli, F. Belosi, F. Ravegnani, P. Mantecca, C. Baldisserri, M. Blosi, and A.L. Costa
- Place and date **Malaga (Spain), 07-09 February, 2017**
- Context New tools and approaches for nanomaterial safety assessment Conference
- Description *Contribution in the conference with oral presentation "Justification of safer-by-design solutions for CuO-NPs: a case study"*, M. Blosi, S. Ortelli, C. Baldisserri, E. Badetti, A. Brunelli, A. Bonetto, D. Hristozov, A. Marcomini, A.L. Costa
- Place and date **Monte Verità – Ascona (Switzerland), 12-17 March, 2017**
- Context NanolImpact Conference 2017
- Description *Contribution in the conference with oral presentation "From design to properties evolution of nanomaterials in a safer-by-design framework"* D. Gardini, C. Baldisserri, M. Blosi, S. Ortelli, A.L. Costa
- Place and date **Grenoble (France), 07-10 November, 2016**
- Context 5th international conference Nanosafe 2016
- Description *Contribution in the conference with oral presentation "Electrochemical characterization of suspensions of oxidic nanoparticles in biological media"*, C. Baldisserri, M. Blosi, S. Ortelli, L. Viale, A. L. Costa
- Place and date **Sevilla (Spain), 11-15 September, 2016**
- Context 6° EuChemES Chemistry Congress
- Description *Contribution in the conference with poster Presentation "Characterization and properties of*

- modified engineered nanoparticles dispersed in environmental and biological media", E. Badetti, A. Bonetto, A. Brunelli, S. Ortelli, A. Marcomini, M. Blosi, L. Viale, D. Hristozov, A. L. Costa
- Place and date **Lille (France), 02-04 May, 2016**
 - Context E-MRS 2016 Spring Meeting
 - Description *Contribution in the conference with poster Presentation "Keratin-based nanofibers with antibacterial and photo-catalytic activities"*, C. Vineis, A. Varesano, C. Tonetti, D.O. Sánchez Ramírez, R. A. Carletto, S. Ortelli, M. Blosi, A. L. Costa
 - Place and date **Bologna (Italy), 25-27 November, 2015**
 - Context ExpoChimica
 - Description *Contribution in the conference with oral Presentation "Nuove sfide tecnologiche grazie a materiali tessili ceramizzati"*, A.L. Costa, S. Ortelli, M. Blosi
 - Place and date **Grenoble (France), 18-20 November, 2014**
 - Context 4th International Conference NANOSAFE 2014
 - Description *Contribution in the conference with oral Presentation "Nano CuO case study: integration of safety by molecular approach"* A.L. Costa, L. Viale, M. Blosi, S. Ortelli
Contribution in the conference with oral Presentation "Wet state characterization as a key step in a Safety by design approach" C. Delpivo, S. Ortelli, M. Blosi, A. Vaccari, T. Syed, A.L. Costa
 - Place and date **Aveiro (Portugal), 04 July, 2014**
 - Context Workshop on Electrospinning for advanced nanocomposite production, 5th International conference on Advanced Nanomaterials
 - Description *Contribution in the conference with oral Presentation "Functional Nanocomposite Keratin-based Nanofibers by Colloid Electrospinning from Water Solutions"*, A. Varesano, C. Vineis, C. Tonetti, D.O. Sánchez Ramírez, G. Mazzuchetti, S. Ortelli, M. Blosi, A.L. Costa
 - Place and date **Washington DC, 12-16 May, 2013**
 - Context Tech Connect World Summit & Innovation Showcase
 - Description *Contribution in the conference with oral Presentation "Green synthesis of noble metal and bimetal nanosols and their applications as catalysts"* M. Blosi, S. Ortelli, S. Albonetti, A. L. Costa, L. Ortolani, M. Dondi
 - Place and date **Prague (Czech Republic), 27 February-1 March, 2013**
 - Context 2nd QNano Integrating Conference "Quality in nanosafety assessment – driving best practice and innovation"
 - Description *Contribution in the conference with Presentation Poster "Noble Metal Nanosols Catalysts Synthesized by a Total Green Approach: Ideal Candidate for Application in Cancer Therapy"* M. Blosi, S. Ortelli, S. Albonetti, A. L. Costa, M. Dondi
Contribution in the conference with Presentation Poster "Dose-metric issues of commercial engineered nanoparticles" D. Gardini, M. Blosi, C. Delpivo, S. Ortelli, E. Bergamaschi, O. Bussolati, A. L. Costa - **Best poster prize.**
 - Place and date **Venezia (Italy), 21-23 November, 2012**
 - Context NanotechItaly 2012 – International showcase for nanotechnologies
 - Description *Contribution in the conference with Presentation Poster "Silica coating of nanosurfaces: strategy for risk control and process improvement"* A. L. Costa, M. Blosi, C. Delpivo, D. Gardini, S. Ortelli, S. Albonetti, A. Vaccari, G. Baldi, A. Barzanti, M. Dondi
Contribution in the conference with Presentation Poster "An eco-friendly and versatile route to noble bimetallic nanosols. Catalytic applications" M. Blosi, S. Ortelli, A. L. Costa, S. Albonetti, L. Ortolani, V. Tonini, M. Dondi

PEER REVIEWER ACTIVITY

Collaboration as referee of several international scientific journals:

Journal of Environmental Chemical Engineering, Membranes, Journal of Materials Science, Journal of Cleaner Production, Fire and Materials, NanoImpact, Science of the Total Environment, Journal of Coatings Technology and Research, Inorganics, Catalysts, Materials Chemistry and Physics, Ceramics International, Journal of Hazardous Materials, Carbohydrate Polymers, Materials Letters, Molecules, Journal of Nanomaterials, Textile Research Journal, Coatings, Metals, Applied Sciences, Applied Surface Science, Nanomaterials, Materials, Journal of Nanomedicine & Nanobiotechnology, Journal of Clinical Medicine, Mutagenesis, Dyes and Pigments, Progress in Color, Colorants and Coatings Journal, Comparative Biochemistry and Physiology - Part C: Toxicology & Pharmacology, Science of the Total Environment, Journal of Applied Biomaterials & Functional Materials and Journal of Sol-Gel Science and Technology.

RESEARCH ACTIVITY

Research sectors and scientific subjects

Synthesis, surface engineering and characterization of nanomaterials and their application for the production of nanostructured bulk or coating materials. Fields of interest are:

- **Sol-gel synthesis and colloidal properties characterization:** Synthesis, design and characterization of nano metals, nano metal oxides, hybrid nanophases for the production of nano catalysts and nano carriers. Study of colloidal properties for the control of the nano confinement and engineering.
- **Granulation processes (spray-drying, spray-freeze drying):** Production of nanostructured micro-capsules. Inorganic / Organic micro granules for the protection and transport of nano-phases. Strategy for the encapsulation of molecular/nano phases into macro matrix.
- **Functionalized textile:** Nanosols synthesis / formulation and sol-gel deposition techniques for the integration of organic/inorganic and hybrid nanophases. Development of technical textile with antibacterial, self-cleaning, flame retardant, control of wettability properties.
- **Advanced oxidation processes for the treatment of water:** Materials and process engineering for the advanced oxidation treatment of water pollutants. Photocatalytic systems integrated into lab to pilot scale plants.
- **Development of "safer by design" strategies as preventive tool for the nano-risk management:** Control of potentially dangerous human and environmental impact of nanostructures with special focus on their synthetic and system dependent characterization.

EDUCATIONAL SUPERVISOR ACTIVITY

Co-supervisor of the following PhD thesis in Materials Science and Technology (University of Parma):

- **2018-2022** – Nano-photocatalysts: design, up-scale and characterisation (presentata da Lara Faccani)

Co-supervisor of the following master thesis of Industrial Chemistry (Bologna University):

- **2021-2022** – Sviluppo ed ingegnerizzazione di nuovi sistemi ibridi a base di nanoparticelle inorganiche e bio-tensioattivi (presented by Maurizio Vespignani)
- **2021-2022** – Sintesi di compositi nanostrutturati a base di TiO₂ per la depurazione delle acque (presented by Enrico Ercolani)
- **2018-2019** – Sviluppo di sistemi fotocatalitici per l'ossidazione selettiva di 5-idrossimetilfurfurale (presented by Alessandro Allegri)
- **2016-2017** – Catalizzatori a base di Aquivion® PFSA per la produzione di etilene (presented by Riccardo Bacile)
- **2016-2017** – Preparazione di materiali nanostrutturati a base di MgO/CaO per applicazioni in catalisi (presented by Andrea Brigliadori - Bachelor's degree)
- **2015-2016** – Preparazione di materiali nanostrutturati a base di Pt per applicazioni in catalisi (presented by Francesca Carella)
- **2015-2016** – Ingegnerizzazione di materiali nanostrutturati fotocataliticamente attivi (presented by Matteo Bonoli)
- **2015-2016** – Incapsulamento di complessi organometallici e lantanoidei con silice e sviluppo come traccianti di supporti ceramici (presented by Ilaria Zanoni)
- **2014-2015** – Microincapsulazione di nanoparticelle di argento tramite tecnica spray-freeze-drying (presented by Lorenzo Preti)
- **2013-2014** – Sviluppo di protettivi antibatterici, a base di nano-argento, per superfici ceramiche (presented by Matteo Bonoli - Bachelor's degree)
- **2011-2012** – Sintesi e caratterizzazione di nanoparticelle bimetalliche Pd/Au e Pd/Cu (presented by Valentina Tonini)

EDUCATIONAL ACTIVITY

- **From 2024** – Outreach lessons entitled "Let's get our hands on the nano world" accompanied by demonstrations of laboratory experiments at lower and upper secondary schools as part of the scientific outreach project promoted by researchers from the Bologna Research Area of the National Research Council (CNR) and the National Institute for Astrophysics (INAF) "The language of research"
- **From 2013** – Annual seminars at Bachelor's degree students (Chemistry of materials and Ceramic Technologies), University of Bologna
- **From 2013** – Periodical scientific training about nanotechnology at ISTECCNR

Prot.CNR-ISTEC protocol N.0000863 – date: 13/05/2018
 Prot.CNR-ISTEC protocol N.0000558 – date: 05/03/2015
 Prot.CNR-ISTEC protocol N.0001884 – date: 24/07/2014
 Prot.CNR-ISTEC protocol N.0001330 – date: 03/06/2014
 Prot.CNR-ISTEC protocol N.0001135 – date: 13/05/2014
 Prot.CNR-ISTEC protocol N.0001054 – date: 27/04/2014
 Prot.CNR-ISTEC protocol N.0000792 – date: 02/04/2014

TECHNICAL SKILLS AND COMPETENCES

- Knowledge about the consultation of international databases (SciFinder, Crossfire, Reaxys) and chemical and scientific literature,
- Skills in the use of common laboratory instruments,
- Theoretical and technical skills on the use of the main analytical instrumentation such as IR spectroscopy, X-ray diffraction (XRD), UV-vis spectrophotometry, DLS and ELS techniques, microscopy (TEM, SEM, FE-SEM and STEM), thermal analysis (TGA and DSC) and skills in the interpretation of their results,
- Good knowledge and use of software Windows Operating System.
- **From July 2024 to February 2025**, appointed as **Head of the Chemical Laboratory**
 CNR-ISSMC protocol No. 0252958 – date: 17/07/2024
 CNR-ISSMC protocol No. 0057081 – date: 27/02/2025
- **From September 2023**, appointed as **Purchasing Manager** for the research line: Nanotechnologies and Nanosafety
 CNR-ISSMC protocol No. 0263949 – date: 11/09/2023
- **From January 2019**, appointed as **Head of the Nanotechnologies Laboratory**
 CNR-ISTEC protocol No. 0000171 – date: 30/01/2019
- **From 23, January, 2018** appointed as the **Chemical products' deposit Manager**
 CNR-ISTEC protocol N. 0000131 – date: 23/01/2018
 CNR-ISTEC protocol N. 0000830 – date: 10/04/2018

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE

ITALIAN

OTHER LANGUAGE

ENGLISH

- | | |
|------------------|-----------|
| • Reading skills | GOOD |
| • Writing skills | VERY GOOD |
| • Verbal skills | GOOD |

I hereby declare that the information provided in this CV is true and accurate. I also authorize the processing of my personal data in accordance with the applicable data protection regulations

Faenza, 05/12/2025

Simona Ortelli