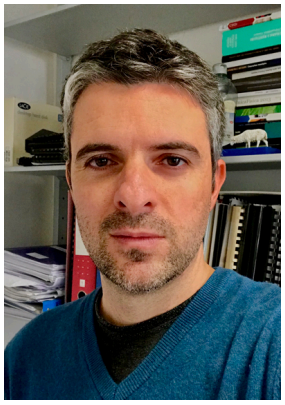
PERSONAL INFORMATION

Michele Baglioni



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Sex Male

Date of birth 04/07/1983

Nationality Italian

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WORK EXPERIENCE

January 2022 – Present

Researcher (RTD-A, SC 03/A2 – CHIM/02)

Department of Biotechnologies, Chemistry and Pharmacy (DBCF), University of Siena

Via Aldo Moro 5, 53100, Siena, ITALY

Nuove prospettive *green* di sostenibilità ambientale attraverso il recupero e la valorizzazione dei prodotti secondari delle produzioni agricole e agroindustriali (*New green perspectives on environmental sustainability through the recovery and exploitation of byproducts of agricultural and agri-industrial productions* – English translation)

- Within this ongoing project, I am studying, characterizing and developing gelled matrixes based on biocompatible polymers, loaded with biocidal and active natural chemicals, extracted from *brassicacee*, *solanacee*, etc., to be used as innovative green systems for the disinfection of soils to be used for cultivation.

December 2018 – December 2021

Research fellow (*Assegno di ricerca ai sensi dell'articolo 22 della legge 240/2010,* SC 03/A2 – CHIM12 – assigned with a peer-review process) - Project PRIN 2017249YEF

Chemistry Department, University of Florence

Via della Lastruccia 3, 50019, Sesto Fiorentino (FI), ITALY

Cleaning di superfici di interesse artistico mediante tecnologie avanzate (*Cleaning of artistic surfaces by means of advanced technologies* – English translation)

- Within this project, I developed, studied and characterized a range of soft matter systems applied to the conservation of cultural heritage, and, possibly, to be employed in other fields. More in detail, nanostructured media, i.e. micelles, microemulsions, and gels, have been the object of my research, both from a physico-chemical and an applicative standpoint. The role of surfactants in the cleaning process, the interaction between nanostructured fluids and hydrogels, and the dependence of dewetting/swelling phenomena on the chemical nature and physical structure of polymer films were the main topics of these studies.

2015 – 2018 **Research fellow (International open position, published on the EU EURAXESS website, and assigned with a peer-review process – NANORESTART EU H2020 Project)**

CSGI and Chemistry Department, University of Florence

Via della Lastruccia 3, 50019, Sesto Fiorentino (FI), ITALY

Expert in microemulsion formulation with pregress experience on the formulation and application to cultural heritage for the cleaning of artifacts

- This work was carried out in the frame of the EU-funded Project NANORESTART, “NANOmaterials for the RESToration of works of ART” (Horizon 2020 – Grant agreement n° 646063). The aim of the research was the development and the study of environmentally-friendly nanostructured fluids for the cleaning of artistic surfaces. To this aim, several analytical techniques were used, including scattering techniques, FTIR spectroscopy, and laser scanning confocal microscopy. Particular attention during the project was dedicated to the development of systems that could be exploited, in order to finally reach the market.

2014 – 2015 **Research fellow (FIRB Italnanonet 8.2.9h)**

CSGI and Chemistry Department, University of Florence

Via della Lastruccia 3, 50019, Sesto Fiorentino (FI), ITALY

Development and characterization of microemulsions for the cleaning of works of art surfaces

- Within this project, the work was focused on the improvement and the fine characterization of the formulations that were selected as the most promising during the previous EU project. CLSM imaging was firstly selected as a very promising technique to investigate the nanofluid/polymer coating interaction.

2012 – 2014 **Research fellow (NANOFORART FP7 EU Project)**

CSGI and Chemistry Department, University of Florence

Via della Lastruccia 3, 50019, Sesto Fiorentino (FI), ITALY

Nanostructured complex fluids for the works of art cleaning

- This work was carried out in the frame of the EU-funded Project NANOFORART, "NANOmaterials FOR the conservation and preservation of movable and immovable ARTworks" (FP7 – Grant agreement n° 22816). The aim of my research within the Project was the formulation and the development of improved cleaning systems, i.e., nanostructured fluids and micelles, with respect to previous formulation available. Their performances were thoroughly assessed both in the lab and on real case studies.

2010 – 2011 **PhD student/Post-Doc researcher (TEM*ART* Project)**

CSGI and Chemistry Department, University of Florence

Via della Lastruccia 3, 50019, Sesto Fiorentino (FI), ITALY

Sintesi e caratterizzazione chimico-fisica di sistemi nanostrutturati quali soluzioni micellari, microemulsioni e gel responsivi (chimici, magnetici, termici) per la pulitura selettiva di superfici pittoriche (*Synthesis and physico-chemical characterization of nanostructured systems, such as micellar solutions, microemulsions and responsive gels (chemical, magnetic, thermal) for the selective cleaning of painted surfaces* – English translation)

- This work was carried out in the frame of the Tuscany Region-funded Project TEM*ART* (POR CReO/FESR 2007-2013, Asse 1 Attività 1.1 Linea d'intervento D) – "Tecniche Avanzate per la Conoscenza Materica e la Conservazione del Patrimonio Storico-Artistico". My role in the project was the development of new microemulsions and gels, which could improve the promising results obtained during the previous decade of research carried out by CSGI on these topics.

2009 **PhD student (ARAN project – FIRB 2001)**

CSGI and Chemistry Department, University of Florence

Via della Lastruccia 3, 50019, Sesto Fiorentino (FI), ITALY

Sintesi di nanoparticelle di idrossidi ed ossidi per applicazioni nei beni culturali (*Synthesis of hydroxide and oxide nanoparticles for the application on cultural heritage* – English translation)

- This work was carried out during my PhD.

EDUCATION AND TRAINING

2008 –2010 **PhD in Science for Conservation of Cultural Heritage (SC 03/A2 – SSD CHIM/12)**

Chemistry Department, University of Florence

- Thesis title: "Development of Nano-systems for the Cleaning of Wall Paintings"
- Tutor: Prof. Piero Baglioni*
- Co-Tutor: Prof. Debora Berti

**No kinship exists with Piero Baglioni.*

2005 – 2007 **Master Degree in Science for Cultural Heritage (LM11, ex 12s)**

University of Florence

- Thesis title (English translation): "Synthesis and Development of Chemical Gels for the Removal of Paraloid from Stones"
- Score: 110/110 cum laude
- Tutor: Prof. Piero Baglioni*
- Co-Tutor: Prof. Rodorico Giorgi

**No kinship exists with Piero Baglioni.*

2002 – 2005 **Degree in Technology for the Conservation and Restoration of Cultural Heritage (L43, ex c41)**

University of Florence

- Thesis title (English translation): "Deacidification of Pine Wood Coming from the Vasa Warship"
- Score: 110/110 cum laude
- Tutor: Prof. Piero Baglioni*
- Co-Tutor: Prof. Rodorico Giorgi

**No kinship exists with Piero Baglioni.*

1998 – 2002 **Diploma di Maturità Scientifica (*High School*)**

Liceo Scientifico Piero Gobetti, Bagno a Ripoli (FI)

- Score: 100/100

SCHOOLS AND MASTERS

28 May 2012 **Training on Differential Scanning Calorimetry and MDSC (TA Instruments)**
Sesto Fiorentino - ITALY

8-16 March 2012 **Berlin School on Neutron Scattering**
Helmoltz Zentrum Berlin, Berlin - GERMANY

12-16 October 2009 **5° Scuola Specialistica di Grafica Interattiva – Conoscenza e Valorizzazione del Territorio e dei Beni Culturali**
Centro di Calcolo del CINECA, Casalecchio di Reno (BO) - ITALY

21-25 September 2009 **I Scuola Nazionale di Chimica per l'Ambiente e I Beni Culturali**
Società Chimica Italiana – Divisione Ambiente e Beni Culturali, Villa Gualino, Torino - ITALY

LANGUAGES

Mother tongue ITALIAN

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
ENGLISH	Excellent	Excellent	Excellent	Excellent	Excellent
FRENCH	Basic	Good	Basic	Poor	Poor

RESEARCH ACTIVITY, SKILLS, AND EXPERTISE

Fields of interest

- Soft matter systems and colloid science
- Microemulsions and micelles formulation and characterization
- Hydrogels (physical, chemical and semi-interpenetrated polymer networks) – synthesis and characterization
- Dewetting of polymeric coatings

- Inorganic nanoparticles' dispersions – synthesis and characterization
- Science for conservation of cultural heritage
- Amphiphilic and biocompatible polymers
- Homecare detergents
- Nutraceutical and natural extracts
- Green chemistry and exploitation of byproducts coming from agricultural productions

Research activity

My research activity up to present has mainly been devoted to the development and characterization of innovative soft-matter systems, i.e. micelles, microemulsions and gels, for the conservation of cultural heritage. In particular I have experience on the removal of undesired organic material from painted or unpainted porous substrates, such as the removal of organic coatings from wall paintings. I also have experience in the synthesis and characterization of inorganic nanoparticles dispersions, i.e., $Ca(OH)_2$ in alcohols, for the consolidation of stones and wall paintings or the pH control of wood, paper, parchment or leather.

In the years 2012-2014, I worked in the frame of the NANOFORART EU-funded project, where I developed several amphiphile-based nanostructured fluids for the cleaning of cultural heritage.

In the years 2015-2018, I worked in the frame of the NANORESTART EU-funded project, with the aim of developing environmentally-friendly novel cleaning systems based on self-degrading surfactants and "green" solvents.

My studies were focused both on the formulation of effective nanostructured cleaning systems and innovative high-retention hydrogels, and on the investigation of their cleaning properties from both a physico-chemical and an applicative standpoint. A large part of my research activity by far was devoted to the study of ionic and nonionic surfactants, and their self-assembly and cleaning properties. The formulation of nanostructured fluids requires phase diagram studies and structural characterization, which I carried out by means of scattering analyses, i.e. quasi-elastic light scattering (QELS), small-angle X-rays scattering (SAXS) and small-angle neutron scattering (SANS, performed at the neutron facilities of LLB, Saclay, France and HZB, Helmoltz-Zentrum Berlin, Germany). I also have experience in confocal laser scanning microscopy (CLSM), Fourier transform infrared spectroscopy (FT-IR), in transmission, ATR or micro-reflectance mode, Raman confocal microscopy, thermal analyses (DTG and DSC), and other common physico-chemical investigation techniques.

The main and most relevant results of my research activity so far regarded the peculiar interactions that take place between aqueous nanostructured fluids and hydrophobic polymer coatings. Dewetting/swelling processes are the key of the cleaning effectiveness of these systems, while classical detergency rules do not apply in this case. The combined action of organic solvents and surfactants, in the presence of water, which is a non-solvent for hydrophobic polymeric coatings, thermodynamically and kinetically drives the cleaning action of nanostructured fluids.

The combination between nanostructured fluids and chemical and semi-interpenetrated hydrogels was also the subject of a part of my research. By means of scattering techniques it was demonstrated that nanostructured fluids can be loaded into the gels without significant alteration of both systems. These synergistic systems represent one of the most advanced aqueous cleaning methods for conservation of cultural heritage and were successfully employed to clean masterpieces by Picasso, Pollock or Roy Lichtenstein. Recently, a method based on nanostructured fluids-loaded highly retentive hydrogels was proposed for the selective removal of vandalism and graffiti from street art and attracted significant attention from the media and the conservators' community.

More recently I began studying colloidal formulations for homecare cleaning products, investigating the role of hydrotropes and amphiphilic polymers in the formation of self-assembly structure, coacervates and capsules in the presence of surfactants and raw perfume materials.

I am also studying, characterizing and developing gelled matrixes based on biocompatible polymers, loaded with biocidal and active natural chemicals, extracted from *brassicacee*, *solanacee*, etc., to be used as innovative green systems for the disinfection of soils to be used for cultivation.

Additional skills and expertise

- Excellent skills in the research field of physical-chemistry applied to art conservation and beyond (*hard* and *soft* nanomaterials, i.e., nanostructured fluids, chemical and physical hydrogels, inorganic nanoparticles' dispersions – synthesis and characterization).

- Excellent attitude to team working, developed during the years spent in research team and within European Projects, with tenths of partners involved (including important research institutions, such as Chalmers University (Goteborg, Sweden), CNR (Italy), or museums and conservation centers, such as Louvre (Paris, France), Peggy Guggenheim Collection (Venice, Italy), Tate Gallery (London, UK), Opificio delle Pietre Dure (Florence, Italy)).

- Excellent skills in planning and organizing work, developed since the PhD years, throughout the many collaborations within the research group, and with external partners (independent conservators, conservators and/or scientists from museums and research institutions).

- Excellent teaching skills, developed thanks to the teaching activity carried out since 2010 (see further sections).

- Excellent knowledge of the following softwares:

    - Microsoft Office® package (Word, Excel, Power Point) – for the creation and editing of texts, spreadsheets and presentations
    - Adobe Photoshop – for graphical elaboration
    - Autodesk AutoCAD – for vector design
    - Wavemetric Igor Pro – for the analysis of scientific data
    - iMovie – for the video editing

- Solid skills in the designing of websites and advanced knowledge of HTML/CSS languages. Excellent knowledge of CMS, such as Joomla, Wordpress, Drupal. Basic knowledge of PHP. I co-created and managed the following websites (of research institutions, EU Projects and EU Clusters):

    - www.nanorestart.eu
    - www.nanoforart.eu
    - www.nanomech.eu
    - www.csgi.unifi.it
    - www.csgi.unifi.it/products/products.html

- Excellent skills in drawing and graphics. I realized most of the original illustrations in the book "*Baglioni, P.; Chelazzi, D.; Giorgi, R. Nanotechnologies in the Conservation of Cultural Heritage: A Compendium of Materials and Techniques; Springer, 2014*", and created the logos for several EU-funded Projects and for the CSGI research center.

PARTICIPATION IN NATIONAL OR

INTERNATIONAL PROJECTS

- EU-funded Project (Horizon 2020) NANORESTART – NANOmaterials for the RESToration of works of ART ". (I had a 42 months collaboration contract with CSGI – Project coordinator)
- EU-funded Project (FP7) NANOFORART – "NANOmaterials FOR the conservation and preservation of movable and immovable ARTworks". (I had a 36 months collaboration contract with CSGI – Project coordinator)
- Tuscany Region-funded Project TEM*ART* (POR CReO/FESR 2007-2013, Asse 1 Attività 1.1 Linea d'intervento D) – "Tecniche Avanzate per la Conoscenza Materica e la Conservazione del Patrimonio Storico-Artistico". (I had a collaboration contract with CSGI – Project partner)

INTERNATIONAL RESEARCH COLLABORATIONS

- **October 2020 – present:** Participation in a research activity on the development of novel approaches for the encapsulation of perfumes in homecare formulations, using natural and green chemicals, biodegradable amphiphilic polymers, and surfactants. The research project was carried on in collaboration with J. Smets and M. Collu (Procter & Gamble, Brussels, Belgium).
- **September 2018 – present:** Participation in a research activity on the development, the physicochemical characterization and the application in the cleaning of cultural heritage of nanostructured fluids based on innovative and highly performing surfactants, such as methyl ester ethoxylates. The research project was carried on in collaboration with T. Ogura and F. H. Sekine (NIKKOL GROUP Nikko Chemicals Co., Tokyo, Giappone; NIKKOL GROUP Cosmos Technical Center Co., Tokyo, Giappone; Research Institute for Science & Technology, Tokyo University of Science, Chiba, Japan). The first results of the ongoing research were published in the following papers:
    - Baglioni, M., et al., ACS Appl. Mater. Interfaces 2020, 12 (23), 26704–26716. https://doi.org/10.1021/acsami.0c06425.
    - Baglioni, M., et al., Journal of Colloid and Interface Science 2022, 606, 124–34. https://doi.org/10.1016/j.jcis.2021.07.078.
- **June 2017 – June 2018:** Participation in a research activity on the physicochemical characterization of spray-can paints commonly used for graffiti and vandalism in Mexico. Two nanostructured fluids were developed and used for graffiti removal tests in the archeological site of Ba' Cuana, Oaxaca, Mexico. The research project was carried on in collaboration with Y. Jaidar Benavides (The Institute of Aesthetic Research, National Autonomous University of Mexico, Mexico City, Mexico) e F. Martinez Camacho (Instituto Nacional de Antropología e Historia-Centro INAH, Oaxaca, Mexico), in the frame of the EU project "NANORESTART - Nanomaterials for the restoration of works of art", H2020- NMP-21-2014/646063, (http://www.nanorestart.eu), which included national and international partners. The results of the research were published in the following paper:
    - Baglioni, M., et al., J. Cult. Herit. 2018 https://doi.org/10.1016/j.culher.2018.04.016.
- **June 2017 – October 2019:** Participation in a research activity on the physicochemical characterization

of acrylic paint layers by means of ATR/FTIR, SEM, AFM and 2D FTIR imaging. The same paint films were then subjected to cleaning test using different cleaning systems. The research project was carried on in collaboration with I. Maguregui and I. Cardaba (Department of Painting, University of the Basque Country, Bizkaia, Spain), in the frame of the EU project "NANORESTART - Nanomaterials for the restoration of works of art", H2020-NMP-21-2014/646063, (http://www.nanorestart.eu), which included national and international partners. The results of the research were published in the following paper:

- Cardaba, I., et al., Microchem. J. 2020, 152, 104311. https://doi.org/10.1016/j.microc.2019.104311.

- **October 2016 – June 2019:** Participation in a research activity on FCS experiments for the study of the interaction between nanostructured fluids and polymeric films. The research project was carried on in collaboration with H. J. Butt and K. Koinov (Max Planck Institute for Polymer Research, Mainz, Germany). The results of the research were published in the following paper:

  - Montis, C., et al., ACS Appl. Mater. Interfaces 2019, 11 (30), 27288–27296. https://doi.org/10.1021/acsami.9b04912.

- **October 2015 – May 2017:** Participation in a research activity on the study of the interaction mechanism between water-based nanostructured fluids and acrylic polymer films, by means of confocal microscopy and SAXS analyses. The research project was carried on in collaboration with I. Meazzini (School of Chemistry, Trinity College, The University of Dublin, College Green Dublin 2, Ireland - Young Investigators Training Program (YITP) scholarship financed by ACRI (Italian Banking Foundation Association)), and with the Elettra laboratory (Trieste, Italia), where SAXS experiments were conducted (local contact M. Wolf), in the frame of the EU project "NANORESTART - Nanomaterials for the restoration of works of art", H2020-NMP-21-2014/646063, (http://www.nanorestart.eu), which included national and international partners. The results of the research were published in the following paper:

  - Baglioni, M., et al., Phys. Chem. Chem. Phys. 2017, 19 (35), 23723–23732. https://doi.org/10.1039/C7CP02608K.

- **January 2013 – November 2014:** Participation in a research activity on the development, characterization and application (in lab and in situ) of a nanostructured fluid for the cleaning of artistic surfaces, composed by a amine-oxide surfactant and an alkyl carbonate solvent. Physicochemical characterization was performed by means of SANS experiments, while the cleaning tests were performed on wall paintings conserved in the archeological site of Tulum, Mexico. The research project was carried on in collaboration with Lilia Rivero Weber (National Co-ordinator for Conservation of Cultural Heritage, INAH-CNCPC, 2010 - 2013), Patricia Meehan Hermanson e Valerie Magar Meurs (heads of conservation project of Tulum INAH-CNCPC) for the cleaning tests in Tulum, and with the Helmoltz Zentrum Berlin, D-14109 Berlin, Germany, where SANS experiments were conducted (7th Framework Programme through the Key Action: Strengthening the European Research Area, Research Infrastructures. Contract no. 226507 (NMI3) - local contact, U. Keiderling), in the frame of the EU project "NANOFORART - Nano-materials for the conservation and preservation of movable and immovable artworks", FP7-ENV-NMP-2011 Project ID 282816" (http://www.nanoforart.eu), which included national and international partners. The results of the research were published in the following paper:

  - Baglioni, M., et al., J. Colloid Interface Sci. 2015, 440, 204–210. https://doi.org/10.1016/j.jcis.2014.10.003.

- **January 2013 – June 2014:** Participation in a research activity on the development and characterization of nanostructured fluids based on nonionic surfactants mixed with water and butanone. Their nanostructure was studied by means of SANS, QELS, and NMR experiments. The research project was carried on in collaboration with K. Holmberg e R. Bordes (Chalmers University of Technology, Goteborg,

Sweden) and with the Helmoltz Zentrum Berlin, D-14109 Berlin, Germany, where SANS experiments were conducted (7th Framework Programme through the Key Action: Strengthening the European Research Area, Research Infrastructures. Contract no. 226507 (NMI3) - local contact U. Keiderling), in the frame of the EU project "NANOFORART - Nano-materials for the conservation and preservation of movable and immovable artworks", FP7-ENV-NMP-2011 Project ID 282816" (http://www.nanoforart.eu), which included national and international partners. The results of the research were published in the following paper:

- Baglioni, M., et al., Soft Matter 2014, 10 (35), 6798–6809. https://doi.org/10.1039/C4SM01084A.

- **December 2011 – February 2016:** Participation in a research activity on the development, the optimization and the application of a combined system (a highly retentive hydrogel loaded with a nanostructured fluid) for the cleaning of leather artifacts. The research project was carried on in collaboration with M. Odlyha (Birkbeck, University of London), L. Bozec e A. Bartoletti (University College London), in the frame of the EU project "NANOFORART - Nano-materials for the conservation and preservation of movable and immovable artworks", FP7-ENV-NMP-2011 Project ID 282816" (http://www.nanoforart.eu), which included national and international partners. The results of the research were published in the following paper:

  - Baglioni, M., et al., Appl. Phys. A 2016, 122 (2), 114. https://doi.org/10.1007/s00339-015-9553-x.

- **September 2009 – September 2012:** Participation in a research activity on the SANS and SAXS structural characterization of nanostructured fluids, composed by water, anionic surfactants and organi solvents, used as innovative systems for the cleaning of works of art. The research project was carried on in collaboration with the Laboratoire Léon Brillouin (CEA/CNRS), Saclay, Gif-sur-Yvette (France), where the SANS experiments were conducted (7th Framework Program: Integrated Infrastructure Initiative for Neutron Scattering and Muon Spectroscopy: NMI3/FP7 − contract no. 226507 - local contact, J. Teixeira), in the frame of the projects "TemArt" − Programma Operativo Regionale − Regione Toscana, cofinanced by Fondo Europeo di Sviluppo Regionale (POR CreO DESR 2007-2013) and "NANOFORART - Nano-materials for the conservation and preservation of movable and immovable artworks", FP7-ENV-NMP-2011 Project ID 282816" (http://www.nanoforart.eu), which included national and international partners. The results of the research were published in the following papers:

  - Baglioni, M., et al., Langmuir 2012, 28 (43), 15193–15202. https://doi.org/10.1021/la303463m.
  - Baglioni, M., et al., Nanoscale 2012, 4 (1), 42. https://doi.org/10.1039/c1nr10911a.

AWARDS AND ACHIEVEMENTS

- **Young Physical Chemistry Award** - "for the outstanding oral presentation given at the XLVII National Congress of the Chemical Physics Division of the Italian Society of Chemistry" – Società Chimica Italiana, Divisione Chimica Fisica, Rome, 1-4 July 2019

- The study titled "*Selective removal of over-paintings using an environmentally friendly nanostructured fluid loaded in highly retentive hydrogels*", which I presented at the ACS Spring meeting on 13th April 2021, was publicized as an **highlight contribution by a dedicated press release by ACS** (https://www.acs.org/content/acs/en/pressroom/newsreleases/2021/april/rescuing-street-art-from-vandals-graffiti.html). I also held a press conference, and more than 30 press articles were published,

about the presented work, on webzines, websites, and newspapers.

- **3 covers on ISI peer-reviewed journals** for the following papers:
    - Baglioni, M. et al., J. Colloid Interface Sci. 2021, 595, 187–201. https://doi.org/10.1016/j.jcis.2021.03.054.
    - Montis, C. et al., ACS Appl. Mater. Interfaces 2019, 11 (30), 27288–27296. https://doi.org/10.1021/acsami.9b04912.
    - Baglioni, M. et al., Phys. Chem. Chem. Phys. 2017, 19 (35), 23723–23732. https://doi.org/10.1039/C7CP02608K.

INSTITUTIONAL ROLES AND ADDITIONAL INFORMATIONS

- "In possesso di **Abilitazione Scientifica Nazionale** per le funzioni di professore di II fascia – SC 03/A2" – Validity: 26/05/2021 – 26/05/2030 (art. 16, comma 1, Legge 240/10)
- **Member of the administration board (CDA) of the Prof. Enzo Ferroni Foundation – onlus**, an institution which promotes research activities in the field of Surface Science, Colloids, Interfaces and Nanosystems, and stimulates the application of fundamental research in these areas to the conservation and restoration of Cultural Heritage. (Since April 2022)
- "**Cultore della Materia**" in CHIM/02 and CHIM/12 since 2013 – nominated by the Chemistry Department of the University of Florence, 12/09/2013.
- **Co-tutor of the following theses**, at the University of Florence and the University of Siena:
    - 5 Bachelor Degree theses in Diagnostic and Materials for Conservation and Restoration (L43)
        - Margherita Alterini – Title (English translation): "*Selective removal of overpaintings in contemporary art by means of chemical gels*"
        - Maria Chiara Sbolci – Title (English translation): "*Analysis and cleaning of waxy materials from cellulosic supports using nanostructured systems*"
        - Paola Rivella – Title (English translation): "*Oil-in-water microemulsions based on nonionic surfactants for the selective removal of overpaintings in contemporary art*"
        - Alice Pertica – Title (English translation): "*A wall painting by Capogrossi in the Airone Cinema in Rome: selective removal of overpaintings by means of microemulsions confined into gels*"
        - Serena Morrocchesi – Title (English translation): "*Development of a green nanostructured fluid for graffiti removal and selective cleaning of street art*"
    - 3 Bachelor Degree theses in Science and Materials for Conservation and Restoration (LM11)
        - Margherita Alterini – Title (English translation): "*The removal mechanism of polymer films from artistic surfaces having different wettability, by means of nanostructured fluids*"
        - Teresa Guaragnone – Title (English translation): "*Chemico-physical characterization of dewetting of polymer films from artistic surfaces*"
        - Gaia Amoroso – Title (English translation): "*Study of the degradation, in different*

environmental conditions, of Vinavil NPC as a constituent of contemporary works of art and removal by using a nanostructured fluid"

- 3 Bachelor Degree theses in Chemistry (L27)
  - Francesco Brandi – Title (English translation): "*Chemico-physical characterization of a nanostructured fluid for the removal of polymeric films*"
  - Orlando Cialli – Title (English translation): "*Nanostructured fluids for the dewetting of polymer films from artistic surfaces*"
  - Angela Mirella Caria – Title (English translation): "*Development and characterization of "green" hydrogels loaded with* brassicacee *extracts for the disinfection of soils in agriculture*"

- **Member of the Final Test Theses Commissions** for Bachelor Degrees in Diagnostic and Materials for Conservation and Restoration (L43), and in Chemistry (L27), and for Master Degrees in Science and Materials for Conservation and Restoration (LM11), (2016, 2017, 2018, 2019, 2021) at the University of Florence.

- **Reviewer of ISI international journals**, such as:
  - *ACS Applied Materials and Interfaces* (ACS Publications, IF 9.229, ISSN 1944-8244, 1944-8252)
  - *Physical Chemistry Chemical Physics* (PCCP, RSC Publishing, IF 3.430, ISSN 1463-9076)
  - *Journal of Cultural Heritage* (Elsevier, IF 2.553, ISSN 1296-2074)
  - *Applied Sciences* (MDPI, IF 2.474, eISSN 2076-3417)
  - *Coatings* (MDPI, IF 2.436, eISSN 2079-6412)
  - *Polymers* (MDPI, IF 3.426, eISSN 2073-4360)
  - *Molecules* (MDPI, IF 3.267, ISSN 1420-3049)

- Currently **member of the Italian Society of Chemistry (SCI)** – Physico-Chemical Division, Tessera N° 16856.

TEACHING EXPERIENCE

- Future teacher of the course "*Chimica Ambientale*" ("*Environmental chemistry*", 48 hours – 6 CFU), II module of the course "Chimica Fisica III e Chimica Ambientale", 3rd year of the bachelor degree in Chemical Sciences (L-27), University of Siena. (To be held in the academic year 2022-2023)

- Teacher of the course "*Smart Materials and Nanocarriers*" (48 hours – 6 CFU), 1st year of the master degree in "Chemistry" (LM54), University of Siena. (Academic year 2021-2022)

- Teacher (2 hours) during the Intensive Laboratory Course "Green methods and products for the restoration of cultural heritage", held at the West University of Timisoara (Romania), Faculty of Arts and Design. (27-28/09/2021)

- In possess of a teaching contract for the course (16 hours) titled "*Nanostructured Fluids For The Cleaning Of Works Of Art – Development And Characterization*" (Advanced Chemistry Course) – Summer School organized by the Institute of Cultural Heritage of the Northwestern Polytechnical University (Xi'an, China), which should have been held on 1st – 31st July 2021. (*The course was canceled due to technical issues*)

- Teacher (8 hours – 3 CFU) of the course "*Nanostructured Fluids For The Cleaning Of Works Of Art –*

Development And Characterization" within the PhD in Chemistry, University of Florence. (2020)

- Teacher (3 hours) during the workshop "Corso CAP: Utilizzo di nanotecnologie per il consolidamento dei materiali costituenti i beni culturali", held by CNR-ISMN, Area della Ricerca Roma 1, Via Salaria km 29,3, Monterotondo, Roma (Italy). (12-13/12/2019)

- Teacher (12 hours) within the internship class IDEA376, organized for a group of visiting American students, by the Lafayette College (Easton, Pennsylvania – USA) in collaboration with Chemistry Department – CSGI, University of Florence. (2016)

- Teacher (15 hours) within the internship class IDEA375, organized for a group of visiting American students, by the Lafayette College (Easton, Pennsylvania – USA) in collaboration with Chemistry Department – CSGI, University of Florence. (2015)

- Laboratory assistant (about 24 hours per year) of the "Physical Chemistry for Cultural Heritage" class (Prof. Piero Baglioni), held in the Master Degree in Chemistry (LM54), University of Florence (1st year, 1st semester). (Years 2013-2018)

- Laboratory assistant (about 28 hours) of the "Chemistry for Cultural Heritage with Laboratory" class (Prof. Rodorico Giorgi), held in the Master Degree in Science and Materials for Conservation and Restoration (LM11), University of Florence (1st year, 1st semester). (2010)

PATENTS AND TECHNOLOGICAL TRANSFER

- The trademark NANORESTORE® refers to a technology developed by CSGI, University of Florence (Italian Patent N° FI/96/A/000255, deposited on 31/10/1996). In 2008, CSGI signed a deal with the CTS company for the distribution of NANORESTORE® alcoholic nanoparticles dispersions. During the years 2009 – 2017 I was co-responsible for CSGI (Project N° 9.3.1) in the preparation and the quality assessment of the product, which was distributed by CTS (up to 1000 L/year).

- Following the EU Projects NANOFORART and NANORESTART (see *Work Experience* and following sections), four additional trademarks were registered, i.e., NANORESTORE PAPER®, NANORESTORE CLEANING®, NANORESTORE GEL®, NANORESTORE GRAFFITI®. I actively worked in the development, assessment and exploitation of some of these products, which are currently available on the market through a dedicated website (www.csgi.unifi.it/products/products.html). I was involved in the set up of the production, selling and shipping organization, and during the years 2015 – 2018 I was co-responsible for CSGI (Project 8.2.13) in the preparation and synthesis of all the sold products. At present I am involved in the supervision of this activity and co-responsible for the assistance to customers and end-users in the use of the products (email assistance, workshops, fairs). A commercial deal (starting from November 2019) was signed with the company Deffner & Johann GmbH (Mühläckerstraße 13, DE-97520, Röthlein – Germany), which became the official distributor of the products available under the aforementioned trademarks in a series of Countries all over the World.

PUBLICATIONS

Author of:

- 28 Papers on ISI journals
- 6 Proceedings paper
- 5 Book chapters

Scopus Metrics (10/06/22)

- Total citations: 646
- H-index: 14

ISI Journals

1. Sofroniou, C.; Baglioni, M.; Mamusa, M.; Resta, C.; Doutch, J.; Smets, J.; Baglioni, P. "Self-assembly of Soluplus in aqueous solutions: characterization and perspectives on perfume encapsulation." ACS Applied Mat. & Int. **2022**. https://doi.org/10.1021/acsami.2c01087. (**IF** = 8.758, **Cited by** 0 papers)

2. Alcalà, S.; Baglioni, M.; Alderson, S.; Neiman, M.; Tallio, S.C.; Giorgi, R. "*The use of nanostructured fluids for the removal of polymer coatings from a Nuxalk monumental carving – exploring the cleaning mechanism*." J. Cultural Heritage, 55 **2022**, 18-29. DOI: 10.1016/j.culher.2022.02.002. (**IF** = 2.955, **Cited by** 0 papers)

3. Kolman, K.; Poggi, G.; Baglioni, M.; Chelazzi, D.; Baglioni, P.; Persson, M.; Holmberg, K.; Bordes, R. "*pH-Controlled assembly of polyelectrolyte layers on silica nanoparticles in concentrated suspension.*" Journal of Colloid and Interface Science 615 **2022**, 265–272. https://doi.org/10.1016/j.jcis.2022.01.120. (**IF** = 7.489, **Cited by** 0 papers)

4. Baglioni, M.; Sekine, F. H.; Ogura T.; Chen, S. H; Baglioni, P. "*Nanostructured Fluids for Polymeric Coatings Removal: Surfactants Affect the Polymer Glass Transition Temperature*." Journal of Colloid and Interface Science 606 **2022**, 124–134. https://doi.org/10.1016/j.jcis.2021.07.078. (**IF** = 7.489, **Cited by** 1 papers)

5. Baglioni, M.; Poggi, G.; Chelazzi, D.; Baglioni, P. "*Advanced Materials in Cultural Heritage Conservation*." Molecules 26, no. 13 **2021**, 3967. https://doi.org/10.3390/molecules26133967. (**IF** = 4.411, **Cited by** 9 papers)

6. Baglioni, M.; Poggi, G.; Giorgi, R.; Rivella, P.; Ogura, T.; Baglioni, P. "*Selective Removal of Over-Paintings from "Street Art" Using an Environmentally Friendly Nanostructured Fluid Loaded in Highly Retentive Hydrogels*". J. Colloid Interface Sci. **2021**, 595, 187–201. https://doi.org/10.1016/j.jcis.2021.03.054. (**IF** = 7.489, **Cited by** 7 papers)

7. Baglioni, M.; Guaragnone, T.; Mastrangelo, R.; Sekine, F. H.; Ogura, T.; Baglioni, P. "*Nonionic Surfactants for the Cleaning of Works of Art: Insights on Acrylic Polymer Films Dewetting and Artificial Soil Removal."* ACS Appl. Mater. Interfaces **2020**, 12 (23), 26704–26716. https://doi.org/10.1021/acsami.0c06425. (**IF** = 8.758, **Cited by** 8 papers)

8. Segel, K.; Brajer, I.; Taube, M.; Martin de Fonjaudran, C.; Baglioni, M.; Chelazzi, D.; Giorgi, R.; Baglioni, P. "*Removing Ingrained Soiling from Medieval Lime-Based Wall Paintings Using Nanorestore Gel® Peggy 6 in Combination with Aqueous Cleaning Liquids*." Stud. Conserv. **2020**, 1–8. https://doi.org/10.1080/00393630.2020.1790890. (**IF** = 0.623, **Cited by** 3 papers)

9. Xu, Q.; Poggi, G.; Resta, C.; Baglioni, M.; Baglioni, P. "*Grafted Nanocellulose and Alkaline Nanoparticles*

for the Strengthening and Deacidification of Cellulosic Artworks". J. Colloid Interface Sci. **2020**, 576, 147–157. https://doi.org/10.1016/j.jcis.2020.05.018. (**IF** = 7.489, **Cited by** 14 papers)

10. Pensabene Buemi, L; Petruzzellis, M. L.; Chelazzi D.; Baglioni, M.; Mastrangelo, R.; Giorgi, R.; Baglioni, P. "*Twin-chain polymer networks loaded with nanostructured fluids for the selective removal of a non-original varnish from Picasso's "L'Atelier" at the Peggy Guggenheim Collection, Venice*" Heritage Science **2020**, 8, 1, Art. N° 77. https://doi.org/10.1186/s40494-020-00420-0. (**IF** = 1.902, **Cited by** 12 papers)

11. Cardaba, I.; Poggi, G.; Baglioni, M.; Chelazzi, D.; Maguregui, I.; Giorgi, R. "*Assessment of Aqueous Cleaning of Acrylic Paints Using Innovative Cryogels*." Microchem. J. **2020**, 152, 104311. https://doi.org/10.1016/j.microc.2019.104311. (**IF** = 3.594, **Cited by** 8 papers)

12. Baglioni, M.; Alterini, M.; Chelazzi, D.; Giorgi, R.; Baglioni, P. "*Removing Polymeric Coatings With Nanostructured Fluids: Influence of Substrate, Nature of the Film, and Application Methodology.*" Front. Mater. **2019**, 6. https://doi.org/10.3389/fmats.2019.00311. (**IF** = 2.705, **Cited by** 6 papers)

13. Montis, C.; Koynov, K.; Best, A.; Baglioni, M.; Butt, H.-J.; Berti, D.; Baglioni, P. "*Surfactants Mediate the Dewetting of Acrylic Polymer Films Commonly Applied to Works of Art.*" ACS Appl. Mater. Interfaces **2019**, 11 (30), 27288–27296. https://doi.org/10.1021/acsami.9b04912. (**IF** = 8.758, **Cited by** 9 papers)

14. Baglioni, M.; Poggi, G.; Jaidar Benavides, Y.; Martínez Camacho, F.; Giorgi, R.; Baglioni, P. "*Nanostructured Fluids for the Removal of Graffiti – A Survey on 17 Commercial Spray-Can Paints.*" J. Cult. Herit. **2018** https://doi.org/10.1016/j.culher.2018.04.016. (**IF** = 2.553, **Cited by** 12 papers)

15. Baglioni, M.; Poggi, G.; Ciolli, G.; Fratini, E.; Giorgi, R.; Baglioni, P. "*A Triton X-100-Based Microemulsion for the Removal of Hydrophobic Materials from Works of Art: SAXS Characterization and Application.*" Materials **2018**, 11 (7), 1144. https://doi.org/10.3390/ma11071144. (**IF** = 3.057, **Cited by** 16 papers)

16. Baglioni, M.; Domingues, J. A. L.; Carretti, E.; Fratini, E.; Chelazzi, D.; Giorgi, R.; Baglioni, P. "*Complex Fluids Confined into Semi-Interpenetrated Chemical Hydrogels for the Cleaning of Classic Art: A Rheological and SAXS Study*." ACS Appl. Mater. Interfaces **2018**. https://doi.org/10.1021/acsami.8b01841. (**IF** = 8.758, **Cited by** 28 papers)

17. Baglioni, M.; Montis, C.; Chelazzi, D.; Giorgi, R.; Berti, D.; Baglioni, P. "*Polymer Film Dewetting by Water/Surfactant/Good-Solvent Mixtures: A Mechanistic Insight and Its Implications for the Conservation of Cultural Heritage*". Angew. Chem. Int. Ed. **2018**, 57 (25), 7355–7359. https://doi.org/10.1002/anie.201710930. (**IF** = 12.959, **Cited by** 34 papers)

18. Giorgi, R.; Baglioni, M.; Baglioni, P. "*Nanofluids and Chemical Highly Retentive Hydrogels for Controlled and Selective Removal of Overpaintings and Undesired Graffiti from Street Art*". Anal. Bioanal. Chem. **2017**, 1–6. https://doi.org/10.1007/s00216-017-0357-z. (**IF** = 3.637, **Cited by** 20 papers)

19. Baglioni, M.; Montis, C.; Brandi, F.; Guaragnone, T.; Meazzini, I.; Baglioni, P.; Berti, D. "*Dewetting Acrylic Polymer Films with Water/Propylene Carbonate/Surfactant Mixtures – Implications for Cultural Heritage Conservation*". Phys. Chem. Chem. Phys. **2017**, 19 (35), 23723–23732. https://doi.org/10.1039/C7CP02608K. (**IF** = 3.430, **Cited by** 23 papers)

20. Baglioni, M.; Bartoletti, A.; Bozec, L.; Chelazzi, D.; Giorgi, R.; Odlyha, M.; Pianorsi, D.; Poggi, G.; Baglioni, P. "*Nanomaterials for the Cleaning and PH Adjustment of Vegetable-Tanned Leather.*" Appl. Phys. A **2016**, 122 (2), 114. https://doi.org/10.1007/s00339-015-9553-x. (**IF** = 1.810, **Cited by** 16 papers)

21. Baglioni, M.; Jáidar Benavides, Y.; Desprat-Drapela, A.; Giorgi, R. "*Amphiphile-Based Nanofludis for the Removal of Styrene/Acrylate Coatings: Cleaning of Stucco Decoration in the Uaxactun Archeological Site (Guatemala).*" J. Cult. Herit. **2015**, 16 (6), 862–868. https://doi.org/10.1016/j.culher.2015.03.008. (**IF** =

2.553, **Cited by** 13 papers)

22. Raudino, M.; Selvolini, G.; Montis, C.; Baglioni, M.; Bonini, M.; Berti, D.; Baglioni, P. "*Polymer Films Removed from Solid Surfaces by Nanostructured Fluids: Microscopic Mechanism and Implications for the Conservation of Cultural Heritage*." ACS Appl. Mater. Interfaces **2015**, 7 (11), 6244–6253. https://doi.org/10.1021/acsami.5b00534. (**IF** = 8.758, **Cited by** 26 papers)

23. Baglioni, M.; Jàidar Benavides, Y.; Berti, D.; Giorgi, R.; Keiderling, U.; Baglioni, P. "*An Amine-Oxide Surfactant-Based Microemulsion for the Cleaning of Works of Art*." J. Colloid Interface Sci. **2015**, 440, 204–210. https://doi.org/10.1016/j.jcis.2014.10.003. (**IF** = 7.489, **Cited by** 38 papers)

24. Baglioni, M.; Raudino, M.; Berti, D.; Keiderling, U.; Bordes, R.; Holmberg, K.; Baglioni, P. "*Nanostructured Fluids from Degradable Nonionic Surfactants for the Cleaning of Works of Art from Polymer Contaminants*." Soft Matter **2014**, 10 (35), 6798–6809. https://doi.org/10.1039/C4SM01084A. (**IF** = 3.140, **Cited by** 31 papers)

25. Baglioni, M.; Berti, D.; Teixeira, J.; Giorgi, R.; Baglioni, P. "*Nanostructured Surfactant-Based Systems for the Removal of Polymers from Wall Paintings: A Small-Angle Neutron Scattering Study*." Langmuir **2012**, 28 (43), 15193–15202. https://doi.org/10.1021/la303463m. (**IF** = 3.557, **Cited by** 40 papers)

26. Baglioni, M.; Giorgi, R.; Berti, D.; Baglioni, P. "*Smart Cleaning of Cultural Heritage: A New Challenge for Soft Nanoscience*." Nanoscale **2012**, 4 (1), 42. https://doi.org/10.1039/c1nr10911a. (**IF** = 6.895, **Cited by** 66 papers)

27. Baglioni, M.; Rengstl, D.; Berti, D.; Bonini, M.; Giorgi, R.; Baglioni, P. "*Removal of Acrylic Coatings from Works of Art by Means of Nanofluids: Understanding the Mechanism at the Nanoscale*." Nanoscale **2010**, 2 (9), 1723. https://doi.org/10.1039/c0nr00255k. (**IF** = 6.895, **Cited by** 49 papers)

28. Giorgi, R.; Baglioni, M.; Berti, D.; Baglioni, P. "*New Methodologies for the Conservation of Cultural Heritage: Micellar Solutions, Microemulsions, and Hydroxide Nanoparticles*." Acc. Chem. Res. **2010**, 43 (6), 695–704. https://doi.org/10.1021/ar900193h. (**IF** = 20.832, **Cited by** 133 papers)

In submission

1. Baglioni, M.; Mastrangelo, R.; Tempesti, P.; Baglioni, P., "*Chemo-physical properties of PVA and semi-interpenetrated PVA/PVA cryogels loaded with nanostructured fluids studied by ultra-small-angle X-ray scattering*", in submission to ACS App. Mat. And Interfaces, **2022**.

2. Poggi, G.; Baglioni, M.; Xu, Q.; Giorgi, R.; Baglioni, P., "*Strengthening and deacidification of paper: development and assessment of a single-step treatment based on cellulose nanocrystals and alkaline nanoparticles*", in submission, **2022**.

3. Bandelli, D.; Guaragnone, T.; Casini, A.; Baglioni, M.; Chelazzi, D.; Baglioni, P., "*Tailoring the properties of poly(vinyl alcohol) cryogels via sebacic acid decoration*", in submission, **2022**.

Proceedings

1. M. Baglioni, M. Alterini, R. Giorgi, Y. Shashoua, I. Brajer, P. Baglioni, "*Nanofluids confined in chemical hydrogels for the selective removal of graffiti from street art*", ICOM-CC 18th Triennal Conference, 2017, Copenhagen – Modern Materials and Conteporary Art.

2. I. Brajer, M. Fossé-Le Rouzic, Y. Shashoua, M. Taube, D. Chelazzi, M. Baglioni, R. Giorgi, P. Baglioni, "*The removal of aged acrylic coatings from wall paintings using microemulsions*", ICOM-CC 17th Triennal Conference, 2014 Melbourne – Murals, Stone and Rock Art.

3. M. Baglioni, G. Poggi, D. Chelazzi, R. Giorgi, P. Baglioni, E. Carretti, D. Berti, L. Dei, H. Xing, M. Cecchin, C. Bortolussi, "Atti del Convegno Nanotecnologie e Restauro – Dalla Ricerca al Cantiere", Laboratorio Vialla Fabris, Vicenza, 4 Ottobre 2014, Edizioni Il Prato, ISBN 978-88-6336-290-9.

4. M. Baglioni, G. Pizzorusso, G. Poggi, "*Conservation science at CSGI – Innovative methods for the conservation of works of art*", Proceedings of the First International Meeting "Youth in Conservation of Cultural Heritage – YOCOCU", Roma, 24-25 Novembre 2008.

5. M. Baglioni, R. Giorgi, D. Chelazzi, E. Carretti, E. Falletta, G. Pizzorusso, P. Baglioni, "*Rimozione di polimeri acrilici da pitture murali mediante sistemi detergenti e gel chimici magnetici*", Atti del XXIV Convegno Internazionale Scienza e Beni Culturali – "Restaurare i Restauri. Metodi, Compatibilità, Cantieri", Bressanone, 24-27 Giugno 2008.

6. R. Giorgi, D. Chelazzi, E. Carretti, M. Baglioni, C. Garcia Solis, M. del Carmen Castro Barrera, M. C. Arroyo, P. Baglioni, "*Rimozione selettiva di Mowilith DM5 da pitture Maya di epoca post-classica mediante sistemi micellari*", Atti del XXIV Convegno Internazionale Scienza e Beni Culturali – "Restaurare i Restauri. Metodi, Compatibilità, Cantieri", Bressanone, 24-27 Giugno 2008.

Articles in Books and Book Chapters

1. P. Baglioni, M. Baglioni, N. Bonelli, D. Chelazzi, R. Giorgi, "*Chapter 9 - Smart Soft Nanomaterials for Cleaning*". In "*Nanotechnologies and Nanomaterials for Diagnostic, Conservation and Restoration of Cultural Heritage*"; Lazzara, G., Fakhrullin, R., Eds.; Advanced Nanomaterials; Elsevier, 2019; pp 171–204. https://doi.org/10.1016/B978-0-12-813910-3.00009-4.

2. P. Baglioni, M. Baglioni, N. Bonelli, D. Chelazzi, R. Giorgi, "*Smart soft nanomaterials for cleaning*" in G. Lazzara and R. Fakhrullin, Eds., "*Nanotechnologies and nanomaterials for diagnostic, conservation and restoration of cultural heritage*", Elsevier, s.l., 2018.

3. N. Bonelli, D. Chelazzi, M. Baglioni, R. Giorgi, P. Baglioni, "*Confined aqueous media for the cleaning of cultural heritage: innovative gels and amphiphile-based nanofluids*" in P. Dillmann, L. Bellot-Gurlet and I. Nenner, Eds., "*Nanoscience and Cultural Heritage*", Atlantis Press, 2016.

4. M. Baglioni, G. Poggi, D. Chelazzi, R. Giorgi, P. Baglioni, "*Introduzione alle nanotecnologie*"; M. Baglioni, G. Poggi, D. Chelazzi, R. Giorgi, E. Carretti, D. Berti, L. Dei, P. Baglioni, "*Pulitura di oggetti di interesse storico artistico mediante l'utilizzo di sistemi nanostrutturati*"; G. Poggi, M. Baglioni, D. Chelazzi, R. Giorgi, P. Baglioni "*Consolidamento di pitture murali e materiale lapideo con nanocalci*"; G. Poggi, M. Baglioni, D. Chelazzi, X. Huiping, R. Giorgi, P. Baglioni, "*Deacidificazione di materiali a base cellulosica*" in "Nanotecnologie e restauro – dalla ricerca al cantiere" atti del convegno, Vicenza, Ottobre 2014 – Ed. Il Prato, 2015.

5. R. Giorgi, M. Baglioni, L. Bernini, L. Dei, I. Natali, P. Baglioni, "*Nanotecnologie per il restauro*" in "Archeometria e restauro" ed. S. Siano, 2012, Nardini Editore, Firenze.

WORKSHOPS AND CONGRESSES

1. M. Baglioni, F. H. Sekine, T. Ogura, S. H. Chen, P. Baglioni "*Nanostructured fluids for polymeric coatings removal: surfactants affect the polymer glass transition temperature*", XXVII Congresso Nazionale della Società Chimica Italiana, 14-23 September 2021, Italy. (***Talk***)

2. M. Baglioni, F. H. Sekine, T. Ogura, S. H. Chen, P. Baglioni "*Nanostructured fluids for polymeric coatings removal: The role of different surfactants in lowering the glass transition temperature*", ACS FALL 2021, Resilience of Chemistry, In-Person & Virtual, 22-26 August 2021, Atlanta (GA), USA. (***Talk***)

3. M. Baglioni, G. Poggi, P. Rivella, T. Ogura, R. Giorgi, P. Baglioni "*Selective removal of over-paintings using an environmentally friendly nanostructured fluid loaded in highly retentive hydrogels*", ACS SPRING 2021, Macromolecular Chemistry: The Second Century, Virtual, Live Events 5-16 April 2021. (***Talk***)

4. M. Baglioni, T.Guaragnone, T. Ogura, R. Giorgi, P. Baglioni "*A methyl ester ethoxylate surfactant for the cleaning of works of art – chemo-physical insight on acrylic polymer films dewetting and artificial soil removal*", XLVII Congresso Nazionale di Chimica Fisica, SCI, 1-4 July 2019, Roma. (***Talk***)

5. M. Baglioni, G. Poggi, P. Rivella, R. Giorgi, P. Baglioni "*Selective Removal Of Overpaintings Using An Environmentally Friendly Nanostructured Fluid Loaded In Highly Retentive Hydrogels*", XVIII ABC Congresso Nazionale di "Chimica dell'Ambiente e dei Beni Culturali", Urbino, 24-27 June 2019. (***Talk***)

6. M. Baglioni, G. Poggi, Y. Jàidar Benavides, M. Alterini, P. Rivella, F. Martìnez Camacho, R. Giorgi, P. Baglioni, "*Nanostructured fluids for the selective removal of graffiti and vandalism from street art*", XXXVI CONVEGNO INTERREGIONALE TUMA 2018, Congresso delle sezioni Toscana – Umbria – Marche – Abruzzo della Società Chimica Italiana, 4 – 5 OTTOBRE 2018, Centro Congressi "Le Benedettine", Pisa. (***Talk***)

7. M. Baglioni, C. Montis, T. Guaragnone, D. Chelazzi, R. Giorgi, D. Berti, P. Baglioni, "*Polymer film dewetting by water/surfactant/good solvent mixtures: a mechanistic insight and its implications for the conservation of Cultural Heritage*", XLV Congresso Nazionale della Divisione di Chimica Fisica, 25-28 June 2018, Bologna. (***Talk***)

8. M. Baglioni, C. Montis, F. Brandi, T. Guaragnone, I. Meazzini, P. Baglioni, D. Berti, "*Dewetting of acrylic polymeric films induced by water/propylene carbonate/surfactant mixtures - Implications for cultural heritage conservation*", XXVI Congresso Nazionale della Società Chimica Italiana, 10-14 September 2017, Paestum. (***Talk***)

9. M. Baglioni, D. Berti, C. Montis, R. Giorgi, G. Poggi, N. Bonelli, D. Chelazzi, P. Baglioni, "*Nanostructured fluids for the conservation of cultural heritage – understanding tehe mechanism of organic coatings removal*", XLIV Congresso Nazionale della Divisione di Chimica Fisica, 20-23 September 2016, Napoli. (***Talk***)

10. M. Baglioni, N. Bonelli, J. Domingues, R. Giorgi, P. Baglioni, "*Cleaning of water-sensitive works of art with innovative hydrogels loaded with amphiphile-based nanostructured fluids*", Nanotechitaly, 25-27 November 2014, Bologna. (***Poster***)

11. M. Baglioni "Cleaning with Nanotechnology: Principle, Properties and Application of Micelles and Microemulsions", Universidad Nacional Autonoma de Mexico (UNAM), Instituto de Física, Mexico City, 20 October 2014. (***Invited talk***)

12. M. Baglioni "Amphiphile-based Nanofluids for the Cleaning of Works of Art", Conferenza a CNCPC - Coordinación Nacional de Conservación del Patrimonio Cultural; Auditorio de la CNCPC, Mexico City, 21 October 2014. (***Invited talk***)

13. M. Baglioni, "*Introduzione alle nanotecnologie*" and "*Pulitura di oggetti di interesse storico artistico mediante l'utilizzo di sistemi nanostrutturati*", Convegno "*Nanotecnologie e restauro – dalla ricerca al cantiere*", Vicenza, October 2014. (***Lesson - Workshop***)

14. M. Baglioni, M. Raudino, D. Berti, R. Giorgi, P. Baglioni, "*Surfactant-based systems for the cleaning of works of art: structure and cleaning mechanism*", XL Congresso Nazionale di Chimica Fisica - Società Chimica Italiana, 23-27 June 2013, Alessandria. (***Talk***)

15. M. Baglioni, Y. Jaidar Benavides, D. Berti, R. Giorgi, U. Keiderling, P. Baglioni, "*A 'green' microemulsion for the cleaning of works of art*", E-MRS Spring Meeting, 25-30 May 2013, Strasbourg. (***Talk***)

16. M. Baglioni, D. Berti, R. Giorgi, P. Baglioni, "*Nanotechnologies applied to art conservation: amphiphile-based formulations for the cleaning of paintings*", NanotechItaly 2012, 21-23 November 2012, Venezia. (***Poster***)

17. M. Baglioni, D. Rengstl, D. Berti, R. Giorgi, M. Bonini and P. Baglioni, "*Micellar Systems for the Removal of Polymer Coatings from Wall Paintings – a Study on the Nano-Structure and the Cleaning Mechanism*", XXIII Congresso Nazionale SISN, 21-22 giugno 2012, Sesto Fiorentino. (***Poster***)

18. M. Baglioni, D. Berti, R. Giorgi, P. Baglioni, "*Development and characterization of nano-fluids for the cleaning of wall paintings*", XXIV Congresso Nazionale della Società Chimica Italiana, Lecce, 11-16 September 2011. (***Talk***)

19. M. Baglioni, D. Rengstl, D. Berti, M. Bonini, R. Giorgi, P. Baglioni, "*Nano-structured fluids for the removal of polymer coatings from wall paintings – a study of the mechanism down to the nanoscale*", XII Congresso Nazionale di Chimica dell'Ambiente e dei Beni Culturali, Taormina, 26-30 September 2010. (***Talk***)

20. M. Baglioni, D. Rengstl, D. Berti, R. Giorgi, M. Bonini, P. Baglioni, "*Micellar systems for the removal of polymer coatings from wall paintings – a study on the nano-structure and the cleaning mechanism*", CSGI - Ottava riunione scientifica annuale delle Unità Operative, Chianciano Terme (SI), 28 June - 1 July 2010. (***Poster***)

21. M. Baglioni, D. Rengstl, D. Berti, J. Teixeira, M. Bonini, R. Giorgi, P. Baglioni, "*Sistemi acquosi nano-strutturati per la rimozione di polimeri organici da dipinti murali*", PhD-Day, 1° Meeting dei Dottorandi del Polo Scientifico Sesto Fiorentino, 22 June 2010. (***Talk***)

22. M. Baglioni, D. Rengstl, D. Berti, R. Giorgi, P. Baglioni "*Microemulsions and micellar solutions for the removal of polymers from painted surfaces: Investigation on the cleaning mechanism*", XXIII Congresso Nazionale S.C.I., Sorrento, 9 July 2009. (***Poster***)

23. M. Baglioni, G. Pizzorusso, G. Poggi, "*Conservation science at CSGI – Innovative methods for the conservation of works of art*", First International Meeting "Youth in Conservation of Cultural Heritage – YOCOCU", Roma, 24-25 November 2008. (***Poster***)

24. M. Baglioni, R. Giorgi, E. Carretti, M. C. Arroyo, C. G. Solis, M. del Carmen Castro Barrera, P. Baglioni, "*Microemulsions and micellar solutions for the removal of vinyl/acrylic copolymers and silicone resins from wall paintings*", VII Riunione Scientifica Annuale delle Unità Operative del CSGI, Vallombrosa, 16-17 October 2008. *(**Talk**)*

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