

CECILIA VELINO

Via del Rondone, 20
40122, Bologna (BO)
Cell: +393406252868
E-mail: cecilia.velino992@gmail.com

EDUCATION

Ph.D. in Chemistry, University of Bologna 01/11/2019 – 31/01/2023

Thesis: *“Historic and modern alloys: atmospheric corrosion and development of accelerated ageing methodologies” (submitted)*

Supervisor: Prof. Elena Bernardi

Co-supervisors: Prof. Ivano Vassura, Prof. Fabrizio Passarini

MSc in Photochemistry and Molecular Materials, University of Bologna, 2018 [110/110]

Thesis: *“Tissue engineering of biocompatible nanostructured materials for biomedical applications”*

Supervisor: Prof. Nelsi Zaccheroni

Co-supervisors: Prof. Maria Letizia Focarete; Dott. Benedetta del Secco

BSc, Chemistry and Materials Chemistry, University of Bologna, 2016 [104/110]

Curriculum: Materials Chemistry

Thesis: *“Solvatochromic dyes for the characterization of core/shell nanoparticles for drug delivery”*

Supervisor: Prof. Nelsi Zaccheroni

Co-supervisor: Prof. Enrico Rampazzo

High school diploma in classical studies, 2011 [75/100]

Liceo Classico Statale “M. Minghetti”, Bologna (BO)

RESEARCH EXPERIENCE

PhD student, University of Bologna, Department of Industrial Chemistry (2019-2022)

Study of degradation mechanisms of outdoor-exposed materials (metal and metal alloys, ceramics and polymeric resins) through the development of accelerated ageing methods; chemical and morphological characterization of materials by SEM-EDS, TEM, Atomic absorption and emission spectroscopy, Raman, FT-IR, UV-Vis, XRD, HPLC, IC.

Visiting Researcher at the Centre d'Élaboration de Matériaux et d'Études Structurales (CEMES-CNRS) in Toulouse, France (Feb-Apr 2022)

Microstructural characterisation of historic aluminium alloys used in aeronautics within the European JPI-CH project “PROCRAFT: PROtection and conservation of heritage airCRAFT”

Visiting Researcher at the Arc'Antique Laboratories in Nantes, France (Jan-Feb 2022)

Study of microgalvanic corrosion occurring in historical WWII aircraft wrecks within the European JPI-CH project “PROCRAFT: PROtection and conservation of heritage airCRAFT”

Research Fellow at Istituto di Scienza e Tecnologia dei Materiali Ceramici (ISTEC-CNR), Faenza, Italy

Development of calcium phosphate nanoparticles embedded with antimicrobial peptides to be used as drug delivery systems for the treatment of Cystic Fibrosis related diseases

Main activities: synthesis and characterization of calcium phosphate nanoparticles (TEM, SEM, DLS, FT-IR, XRD, ICP-OES; quantification of peptide loading and determination of drug release kinetics (TGA, DSC, UV-Vis, HPLC, FT-IR).

MSc research thesis project, University of Bologna (Apr-Oct 2018)

Development and characterization of electrospun P(L)LA scaffolds functionalised with luminescent and magnetic nanoparticles for theranostic applications (SEM, TEM, DLS, fluorescence microscopy).

Post-graduate internship, University of Bologna (Apr-Jul 2016)

Synthesis of silica core/shell nanoparticles and characterization of their heterogeneous polarity using solvatochromic dyes (UV-Vis, DLS, Single photon counting, TEM, transient absorption).

PUBLICATIONS

Chiavari, C.; Martini, C.; Balbo, A.; Monticelli, C.; Velino, C.; Masi, G.; Bernardi, E., *"Atmospheric corrosion of Cu-Si-Mn bronze for contemporary art under simulated runoff and continuous immersion conditions"*, «CORROSION SCIENCE», 2022, 205, pp. 1 - 15.

Velino C.; Carella F.; Adamiano A.; Sanguinetti M.; Vitali A.; Catalucci D.; Bugli F.; Iafisco M., *"Nanomedicine Approaches for the Pulmonary Treatment of Cystic Fibrosis"*, «FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY», 2019, pp 1-22.

Palomba, F.; Genovese, D.; Petrizza, L.; Rampazzo, E.; Zaccheroni, N.; Prodi, L. *"Mapping heterogeneous polarity in multicompartement nanoparticles"*, «SCIENTIFIC REPORTS», 2018, 8, pp. 1 - 8

(Acknowledgements)

Montané, C.; Velino, C.; André, E.; Aufray, M.; Gayet, F.; Robbiola, L.; Brouca-Cabarrecq, C.; Sciau, P.; Brunet, M., *"Historical primers and paints used for aeronautical protection and colouring during WWII: a multi-techniques approach on archaeological parts"* ***(Submitted)***

Velino, C.; Bernardi, E.; Martini, C.; Lorenetti, L.; Balbo, A.; Monticelli, C.; Brunet, M.; Robbiola, L.; Guilminot, E.; Fiser, J.; Chiavari, C., *"Corrosion of aircraft heritage: a comparison between modern and historic Duralumin alloys"* ***(Ongoing)***

ORAL PRESENTATIONS

Cecilia Velino (2020) *"Atmospheric corrosion of Silicon Bronze for contemporary art."* EUROCORR2020 7th-11th September 2020 (Brussels, Belgium).

Cecilia Velino (2021) *"Study of the effect of ambient PM on bronze corrosion by accelerated sampling and ageing"*, EUROCORR2021 20th-24th September 2021 (Budapest, Hungary).

Cecilia Velino (2021) *"PROCRAFT project: conservation strategies of aircraft heritage from excavation to museum"* XXVII NATIONAL CONGRESS OF THE ITALIAN CHEMICAL SOCIETY, 14th-23rd September 2021 (Online)

Cecilia Velino (2021) *"Investigation of the corrosive effects of ambient particulate matter on bronze through accelerated sampling and ageing"* XXVII NATIONAL CONGRESS OF THE ITALIAN CHEMICAL SOCIETY, 14th-23rd September 2021 (Online).

Cecilia Velino (2021). *"Towards conservation of historic Al-Cu-Mg alloys for aeronautics: a case study within the PROCRAFT project"* FIRST SYMPOSIUM OF YOUNG CHEMISTS (SYNC2022) 20th-23rd June 2022 (Rome, Italy)

CONTRIBUTION TO CONFERENCE PROCEEDINGS

A. Timoncini; E. Brattich; E. Bernardi; C. Chiavari; I. Vassura; C. Velino; L. Tositti, *“Challenges and guidelines for artificial ageing testing of cultural heritage materials exposed to a changing troposphere”* EUROCORR2022 28/08 – 01/09 2022 (Berlin, Germany)

C. Escobar Carlos, C. Velino, M. Brunet, L. Robbiola, E. Bernardi, C. Martini, C. Chiavari, A. Balbo, E. Guilminot, *“Galvanic corrosion over World War II aircraft wrecks”* EUROCORR2022 28/08 – 01/09 2022 (Berlin, Germany)

A. Timoncini, E. Brattich, E. Bernardi, C. Chiavari, I. Vassura, C. Velino, P. Morozzi, L. Tositti, *“Esposizione dei beni culturali a una troposfera che cambia: sfide e linee guida per la progettazione di test di invecchiamento artificiale”* X CONVEGNO SUL PARTICOLATO ATMOSFERICO 18th-20th May 2022, (Bologna, Italy)

S. Spadavecchia, C. Velino, C. Chiavari, S. Gualtieri, A.C. Hillar, E. Bernardi, *“Evaluation of the effectiveness of coatings for the protection of outdoor terracotta artworks through artificial ageing”* XXVII NATIONAL CONGRESS OF THE ITALIAN CHEMICAL SOCIETY, 14th-23rd September 2021 (Online).

SCHOOLS AND CONFERENCES ATTENDED

Avogadro colloquia, 17th – 18th December 2019, Rome, (IT)

School of multivariate analysis, 13th – 17th January 2020 Genova (IT)

VI national school of environmental and cultural heritage chemistry, 3rd – 6th February 2020, Siena (IT).

Aldo Armigliato SEM school, 9th - 13th November 2020, Bologna (IT)

VII national school of environmental and cultural heritage chemistry, 1st - 3rd December 2020, Venice (IT).

XX Giornata della Chimica dell'Emilia Romagna 2021 (GdC-ER 2021), 17th December 2021, Ferrara (IT)

School of Nanomedicine 8th - 10th June 2022, Rome (IT)

PROFESSIONAL MEMBERSHIPS

Società Chimica Italiana (Membership number: 23254)

PROFESSIONAL SKILLS

- Experience in writing scientific papers, reviews, posters, abstracts and presentations to conferences;
- Good predisposition to teamwork;
- Good organizational skills (collaboration and cooperation with project co-workers)
- Good ability to manage a section in a chemical laboratory.
- Good ability to manage student projects, acquired by supervising more than 10 MSc and BSc thesis during PhD.

OTHER RELEVANT SKILLS

- Very fluent in English language
- Basic knowledge of French language
- Good communication skills