

# Martina Ferri, PhD



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## PROFILE

I hold a Bachelor's and Master's degree in **Industrial Chemistry**, and I got a **PhD in Polymer Science**.

My research expertise is mainly focused on developing bioplastics for food packaging and biomedical uses. Specifically, I have worked on different projects involving the use of bio-based and/or biodegradable polymers (i.e. PLA, PHAs, bio-LDPE, chitosan, alginate...), studying the incorporation of antimicrobial, antioxidant, and uv blocking additives (mainly polyphenols). I have expertise on various polymer processing techniques and characterizations.

## SKILLS

- Characterization of polymeric materials
- Oral presentations, papers, and reports
- Teamwork
- Problem-solving
- Inkscape, Origin, Chemdraw
- Good knowledge of Microsoft Office
- Bibliographic research skills
- Italian, English (C1), Spanish (B1)

## EXPERIENCE

**Nov 2024 – Present**

### Post-doc position in collaboration with “Gruppo Mauro Saviola”

Department of Civil, Chemical, Environmental, and Materials Engineering, University of Bologna

#### Title of the project:

“Development of new bioplastic formulations using wood-derived tannins”

**Nov 2021 – Nov 2024**

### PhD student in Material Science and Engineering

Department of Civil, Chemical, Environmental, and Materials Engineering, University of Bologna

**Supervisor:** Professor Paola Fabbri

The PhD aims to develop innovative bioplastic formulations for advanced applications. In particular, the research is focused on the valorization of wood tannins as functional additives for bio-plastic composites, exploring their use for different targets and aims, referring to many application fields such as packaging, coatings, and biomedical applications.

#### PUBLISHED PAPERS:

M. Ferri, F. Ganzerli, A. Portone, T. Petrachi, E. Veronesi, D. Morselli, M. Degli Esposti, and P. Fabbri, Skin Barrier Restoration by Waste-Derived Multifunctional Adhesive Hydrogel Based on Tannin-Modified Chitosan, *ACS Applied Materials & Interfaces* **2025** 17 (24), 35066-35079

M. Ferri, Kseniya Papchenko, M. Degli Esposti, G. Tondi, M. G. De Angelis, D. Morselli, and P. Fabbri, Fully Biobased Polyhydroxyalkanoate/Tannin Films as Multifunctional Materials for Smart Food Packaging Applications, *ACS Applied Materials & Interfaces* **2023** 15 (23), 28594-28605

**Sep 2023 – March 2024 (6 months)**

● **PhD abroad research in Malaga, Spain**

Institute for Mediterranean and Subtropical Horticulture "La Mayora", CSIC-UMA, Malaga, Spain

**Supervisor:** Dr. José Alejandro Heredia-Guerrero

PUBLISHED PAPER:

**M.Ferri**, L. Lenzi, M. Degli Esposti, L. Martellosio, J. J. Benítez, J. Hierrezuelo, M. Grifé-Ruiz, D. Romero, S. Guzmán-Puyol, J. A. Heredia-Guerrero, D. Morselli, P. Fabbri, Triphenyl Acetic Glyceroate as a sustainable multifunctional additive for developing transparent, biodegradable, and flexible polylactide green alternative to polyethylene-based films for food packaging, *Chemical Engineering Journal*, 508, 2025

**Feb 2023 – March 2023 (1 month)**

● **PhD abroad research in Torun, Poland**

Nicolaus Copernicus University

**Supervisor:** Professor Ewa Olevnik-Kruszkowska

PUBLISHED PAPER:

Olevnik-Kruszkowska, E.; **Ferri, M.**; Cardeira, M.C.; Gierszewska, M.; Rudawska, A. Comparison of Polylactide-Based Active Films Containing Berberine and Quercetin as Systems for Maintaining the Quality and Safety of Blueberries. *Polymers* **2024**, *16*, 1577. <https://doi.org/10.3390/polym16111577>

## EDUCATION

**Oct 2019 – Oct 2021 (2 years)**

● **Master's degree in Industrial Chemistry, 110/110 L**

Department of Industrial Chemistry "Toso Montanari", University of Bologna

Master's course internship (800 h):

**Developed skills:**

- Formulation and processing of thermoplastic polymers
- Thermal and mechanical characterization of polymeric materials (DSC, TGA, DMA, TMA, tensile test)
- 3D printing optimization
- Morphological analysis (SEM and 3D microscope)

**Oct 2016 – Oct 2019 (3 years)**

● **Bachelor's degree in Industrial Chemistry, 110/110**

Department of Industrial Chemistry "Toso Montanari", University of Bologna

Bachelor's course internship (400 h):

**Developed skills:**

- Chemical synthesis skills
- Spectroscopic techniques for the characterization of chemical compounds, i.e. Nuclear Magnetic Spectroscopy (NMR), Mass Spectroscopy (MS) and Fourier-Transform Infrared Spectroscopy (FT-IR)