ING. LIBERA VITIELLO

MATERIALS ENGINEER

MY PROFILE

My research activity began in 2019 at the CNR IPCB laboratories in Pozzuoli, immediately after earning my Master's degree in Materials Engineering. Since then, I have focused on the production and characterization of polymeric and composite materials, with a particular emphasis on eco-sustainable systems. In November 2019, I began a Ph.D. at the University of Naples Federico II, focusing on the biodegradability and structure of natural fiber-based composites. I completed my Ph.D. in April 2023, and in February 2024, I joined CNR IPCB in Catania as a fixed-term researcher, where I continue my research activity.

My research involves the production and characterization of polymeric composites and nanocomposites using both traditional and additive manufacturing techniques. I specialize in advanced chemical and structural analysis, as well as thermal and mechanical characterization methods.

I am the author of 18 publications in international journals and 3 contributions in conference proceedings, with a total of 229 citations and an H-index of 9 (Source: Scopus, consulted on 20/03/2025).
I have also participated in 9 conference presentations (7 oral).

CONTACTS

(+39) 3319577520

libera.vitiello@cnr.it

WORK EXPERIENCES

Researcher Level III | 01/02/2024 – current

CNR - IPCB ss Catania

Topic: "Characterization of composite and nanocomposite polymeric systems with chelating, adsorptive, and/or photocatalytic functionality, or for release applications for environmental purposes" within the MUR-PNRR SAMOTHRACE research project.

- Development of functional polymeric composites and nanocomposites using traditional and additive manufacturing methods.
- Advanced characterization of chemical, structural (SEC, ICP-MS, MALDI-TOF, Py-GC-MS), thermal (TGA, DSC), and optical properties (UV-Vis, SEM).

RESEARCH ACTIVITIES

PhD student | 2019 – 2023

University of Naples "Federico II" - DICMaPI

- Study of the biodegradation process of biocomposites
- Identification of the percolation threshold in green composites
- Design and development of auxetic structures
- Life Cycle Analysis (LCA) of biocomposites

Visiting PhD student | 2022 – 3 months

University of Malta - Metamaterials Unit

- Design of auxetic structures
- Study of the stress state in auxetic samples
- 3D printing and characterization of auxetic samples

Visiting PhD student | 2021 – 3 months

University of Catania - DICAR

- 3D printing polymer filaments with natural fibres
- Additive manufacturing of natural fibre composites

Research Collaborator | 2019 – 6 months

CRdC Tecnologie Scar, Naples

- Thermal, mechanical, and morphological analysis of materials
- Extrusion and film production of polymeric materials
- Development of high-performance composite materials

EDUCATION

University of Naples "Federico II" – DICMaPI

- **Ph.D.** in Industrial Products and Processes Engineering (35th cycle) | April 2023
- **Master's degree** 110/110 cum laude in Materials Engineering | February 2019
- **Bachelor's degree** 110/110 cum laude in Materials Science and Engineering | September 2016

AWARDS AND RECOGNITIONS

Award for Best Oral Presentation at the national conference Macrogiovani 2022, 16-17 June, Florence (IT).