

Emanuela Di Biase

Personal profile

Postgraduate Research Fellow at the University of Perugia in Professor Stefano Giovagnoli's research group, with an academic background in Pharmaceutical Chemistry and Technology and a strong interest in nanocarrier-based drug delivery systems. Her current research focuses on the development of biohybrid nanosystems combining lipid-based nanocarriers and extracellular vesicles. Her previous research experience includes the development of protein-polymer nanoparticles using microfluidics and polymeric nanosystems for transdermal drug delivery.

Education

MSc in Pharmaceutical Chemistry and Technology – Single-Cycle Degree (LM-13)

University of Perugia, Italy

October 2024

Experimental thesis in Pharmaceutical Technology: *Development of a microfluidic process for the production of protein-polymer nanoparticles based on direct poly-ionic assembly.*

Supervisors: Prof. Stefano Giovagnoli, Dr. Lorenzo Mancini.

Research Experience

Postgraduate Research Fellowship

University of Perugia, Italy

January 2026 - present

Research activities focus on the design, development, and physicochemical characterization of biohybrid nanosystems combining lipid-based nanocarriers and extracellular vesicles for drug delivery applications.

Supervisor: Prof. Stefano Giovagnoli.

Erasmus+ Traineeship

National and Kapodistrian University of Athens, Greece – School of Health Sciences, Department of Pharmacy, Section of Pharmaceutical Technology

January 2025 - June 2025

Research traineeship focused on the design, development, and physicochemical characterization of polymeric nanosystems for transdermal drug delivery.

Supervisors: Prof. Dimitrios M. Rekkas, Prof. Natassa Pippa.

Scientific Contributions

Publications

1. Bompou, D., **Di Biase, E.**, Sarika, A., Triantafyllopoulou, E., Pippa, N., Rekkas, D. M., & Dallas, P. P. (2026). Design and development of niacinamide lipid and polymeric nanoparticles and *in vitro* permeation studies using human epidermis. *RSC Pharmaceuticals*, 3(4), 991–1006. <https://doi.org/10.1039/D6PM00089D>

Accepted Abstracts

1. **Di Biase, E.**, Maiolini, S., Puccetti, M., Rampacci, E., Mecocci, S., Chillemi, G., Cappelli, K., & Giovagnoli, S. Fluorescence-based assessment of PEG-assisted fusion between cationic liposomes and bovine milk extracellular vesicles. *NanoInnovation 2026*, Rome, Italy, 14-18 September 2026.
2. Puccetti, M., **Di Biase, E.**, di Battista, A., Costantini, C., & Giovagnoli, S. Spray-dried inhalable powders of an *Aspergillus fumigatus* sphingosine-1-phosphate lyase inhibitor for cystic fibrosis airways. *Drug Delivery to the Lungs (DDL) 2026*, Edinburgh, UK, 9-11 December 2026.

Conferences and Workshops

1. *From NANOmedicine to nanoMEDICINE: Converging Innovation for Clinical Adoption*. Sapienza University of Rome, Rome, Italy, 16-18 February 2026.