

Giada Diana

BIO AND EDUCATION

Classical High School Diploma from the Liceo Classico "E. Fermi" in Arona (NO), followed by a master's degree in pharmacy and professional qualification as a pharmacist from the University of Piemonte Orientale, Department of Pharmaceutical Sciences, Novara. PhD in Drug Innovation from the Department of Pharmaceutical Sciences of the University of Piemonte Orientale, Novara. Currently, postdoctoral researcher in the scientific-disciplinary sector CHIM-08/A, Pharmaceutical-Applied Technology, at the Department of Pharmaceutical Sciences of the University of Piemonte Orientale. The main scientific skills concern pharmaceutical technology, focusing on production techniques, formulation, and physicochemical, technological, and biopharmaceutical control of oral solid pharmaceutical forms. Teaching skills concern pharmaceutical technology and legislation.

ACADEMIC CAREER

2025-	Postdoctoral fellowship, University of Piemonte Orientale
2022-2025	PhD Student, University of Piemonte Orientale

MAIN FIELDS OF INVESTIGATION

1. Solid Dosage Forms
2. Microparticles
3. Formulation
4. Controlled release

CURRENT RESEARCH TOPICS

1. Pharmaceutical formulation

The scientific activity is primarily focused on the design, development, and optimization of pharmaceutical formulations containing active ingredients of natural, synthetic, and biotechnological origin, intended for various therapeutic and application areas. The goal is to modulate and improve the chemical-physical, technological, and biopharmaceutical properties of active ingredients through targeted formulation strategies, to increase their stability, solubility, bioavailability, and acceptability, and to control their release. The research includes the development of mainly solid, single-dose, and multi-unit dosage forms for pharmaceutical, biomedical, nutraceutical, and food applications. Attention is paid to the selection of excipients, the definition of production processes, and the technological and biopharmaceutical characterization of the developed products, with the aim of correlating the formulation and process characteristics to the properties of the final product.

2. Multi-unit systems

The research activity concerns the design and development of micro- and nanoparticle systems for the delivery and modulated release of active ingredients of natural, synthetic and biotechnological origin. The systems developed include polymer, lipid and hybrid platforms, obtained using structuring excipients of natural and synthetic origin. The research focuses on selecting materials, optimizing formulation and process variables, and evaluating the technological and biopharmaceutical properties of the resulting systems. Among the main production techniques used are ionotropic gelation, spray drying and spray congealing, which are also considered in relation to the possibility of obtaining solid, stable and reproducible formulations. The activity also includes the development of complex systems, including nano-in-micro systems, and the study

of the relationships between composition, production process, structural characteristics and product performance.

THE FIVE MOST SIGNIFICANT PUBLICATIONS

Bertania, E.; Modena, A.; Caimi, A.; Bellotti, M.; Romizi, L.; Rinaldi, M.; Miletto, I.; Bari, E.; Segale, L.; **Diana, G.**; Candiani, A.; Torre, M.L.; Auricchio, F. Microfluidic production of silk fibroin nanoparticles: Process optimization and modelling. *International Journal of Pharmaceutics* 2026, 126727.

Candiani, A.; **Diana, G.**; Disca, V.; Jaouhari, Y.; Stampini, M.; Salamone, S.; Pollastro, F.; Baima, J.; Prodam, F.; Tini, S.; Bertolino M.; Giovannelli L.; Segale L.; Coïsson, J. D.; Arlorio M, Alginate-Based Beads Containing *Artemisia absinthium* L. Extract as Innovative Ingredients for Baked Products. *Gels* 2026, 12, 43.

Diana, G.; Milanesi, A.; Candiani, A.; Sodano, A.; Rassè, P.; Foglio Bonda, A.; Alessandroni, L.; Giovannelli, L.; Segale, L.; Coïsson, J. D. Spray drying of an oil-in-water emulsion containing vitamin D3: a synergy between formulation and process conditions to obtain microparticles. *International Journal of Pharmaceutics* 2025, 673, 125384.

Diana, G.; Candiani, A.; Picco, A.; Milanesi, A.; Stampini, M.; Bari, E.; Torre, M.L.; Segale, L.; Giovannelli, L. Chitosan for improved encapsulation of thyme aqueous extract in alginate-based microparticles. *International Journal of Biological Macromolecules* 2024, 270 (Pt 2).

Candiani, A.; Milanesi, A.; Foglio Bonda, A.; **Diana, G.**; Bari, E.; Segale, L.; Torre, M.L.; Giovannelli, L. Solid Lipid Microparticles by Spray Congealing of Water/Oil Emulsion: An Effective/Versatile Loading Strategy for a Highly Soluble Drug. *Pharmaceutics* 2022, 14, 2805.