

Curriculum vitae et studiorum

Degree in Pharmaceutical Chemistry and Technology (Università di Torino). Qualified as pharmacist. Research fellow at COSMO S.p.A. (Italy). Research fellow at Università del Piemonte Orientale. Researcher and Adjunct professor of Pharmaceutical Technology, Università del Piemonte Orientale (Department of Pharmaceutical Sciences, Area 03-D2, CHIM09). Specialized in cosmetic formulation (Università di Milano). Principal investigator of APTSol Srl, spin-off of the University of Piemonte Orientale. Affiliation to ADRITELF and SCI. Author and coauthor of publications on peer review international journals, participation at national and international meetings, author of a monography and of contributions to book chapters. Collaborator of Cosmetic Technology magazine.

University Career

2001-	Researcher and Adjunct professor of Pharmaceutical Technology and Legislation, Università del Piemonte Orientale
2000-2001	Research fellow, Università del Piemonte Orientale
1999-2000	Research fellow, Cosmo SpA (Lainate-Milano)

University positions

Member of various University and Departmental Committees, Università del Piemonte Orientale.

Main fields of interest

1. Pre-formulation studies in cosmetic and pharmaceutical fields
2. Formulation studies in cosmetic and pharmaceutical fields
3. Interaction biomolecules-cyclodextrins
4. Characterization of the solid state of bioactive compounds
5. Spray drying and freeze-drying

Current issues of research

1. Preformulative studies

Improvement of physical and technological characteristics (such as solubility, stability, dissolution rate) of pharmaceutical and cosmetic molecules by interaction with solubilizing, stabilizers and promoting excipients; formation of supra-molecular compounds with native and modified cyclodextrins.

2. Study of the solid state of biomolecules

Modification of the physical state of the drugs through various techniques, like milling and melting, freeze-drying and spray drying in the presence of cryo-protectants and stabilizers (i.e., cyclodextrins). Preparation of amorphous forms of poorly soluble molecules to enhance their dissolution rate and subsequently their bioavailability and to reduce their onset time of therapeutic effect.

3. Drug delivery systems

Physico-chemical, technological and biopharmaceutical characterization of innovative drug delivery systems intended for oral and topical administration.

Top five papers

Milanesi, Andrea; Rizzuto, Francesco; Rinaldi, Maurizio; Foglio Bonda, Andrea; Segale, Lorena; Giovannelli, Lorella. 2022. Thermodynamic Balance vs. Computational Fluid Dynamics Approach for the Outlet Temperature Estimation of a Benchtop Spray Dryer. *Pharmaceutics* 14(2), 296.

Lorella Giovannelli, Andrea Milanesi, Elena Ugazio, Letizia Fracchia and Lorena Segale. 2021. Effect of Methyl-Beta-Cyclodextrin and Trehalose on the Freeze-Drying and Spray-Drying of Sericin for Cosmetic Purposes. *Pharmaceutics* 14, 262.

Segale, Lorena; Giovannelli, Lorella; Mannina, Paolo; Pattarino, Franco. 2015. Formulation and characterization study of itraconazole-loaded microparticles. *Pharmaceutical Development and Technology* 20 (2) 153-158.

Segale L., Giovannelli L., Pattarino F., Conti S., Maggi L., Grenier P., Vergnault G. 2010. Thermogravimetric Investigation of the Hydration Behaviour of Hydrophilic Matrices. *Journal of Pharmaceutical Sciences* 99 (4) 2070-2079.

Giovannelli L., Bellomi S., Pattarino F., Albertini B. 2005. Characterization of nifedipine microparticles prepared by Hot Air Coating Technique. *International Journal of Pharmaceutics* 293, 225-234.

Further information

<https://dsf.uniupo.it/it/ricerca/gruppi-ricerca/formulazione-farmaceutica-cosmetica>

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