

PERSONAL INFORMATION

Laura Catenacci



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Sex Female | *Date of birth* 21/05/1974 | *Nationality* Italian

Associate Professor (SSD CHIM/09)

WORK EXPERIENCE

- 1/11/2023- current Associate Professor, academic discipline: SSD: CHEM-08/A; GSD 03/CHEM-08
Department of Drug Sciences, University of Pavia
- 2008 – 31/10/2023 Assistant professor, CHIM/09 Applied Pharmaceutical Chemistry and Technology,
Department of Drug Sciences, University of Pavia
- 2008 Winner of a public competition for a fellow entitled "Optimization and modulation of the site-specific release of antibiotics in tissues where the bone infection is present" at the Applied Pharmaceutical Chemistry laboratory of the Department of Pharmaceutical Chemistry, University of Pavia.
- 2006-2008 Post-doc grant at the Pharmaceutical Department of the University of Pavia for the project "Preformulation studies of site-specific and prolonged release delivery system of glycopeptide antibiotics such as vancomycin and teicoplanin".
- 2003-2004 Visiting PhD student at the laboratory of Supramolecular Chemistry, Department of Chemistry, University of Cape Town, South Africa.
- 2002 Work contract with the Pharmaceutical Chemistry department of the University of Pavia.
- 2010 – current Member of the committee of Master course Preformulation, pharmaceutical development and drug control, University of Pavia, Level EQF: 8
- 2017 – current Member of the committee of Master course cGMP compliance and validation in the pharmaceutical industry, Level EQF: 8

- 2008 – current Assistant professor of the course of "Pharmaceutical Statistics" for the degree in Pharmacy and Pharmaceutical Chemistry and Technology at the University of Pavia.
- 2017 – current Assistant professor of the course "Complements of pharmaceutical and cosmetical technologies" for the degree in Pharmacy, at the University of Pavia.
- 2013-2016 Assistant professor of the course "Elements of Pharmaceutical Technology" for the degree in Biotechnology, at the University of Pavia.
- 2022 - current

EDUCATION AND TRAINING

- 2021 National Scientific Qualification to the position of Associate Professor (SSD CHIM/09)
- 2009 Master degree in Preformulation, Pharmaceutical Development and Drug Control at School Pharmacy of the University of Pavia. (Level EQF: 8)
- 2006 Ph.D. degree in Biopharmaceutics–Pharmacokinetics at the University of Parma (XVIII Cycle).
- 2002 Qualified Pharmacist
- 2001 Degree in Pharmaceutical Chemistry and Technology at the University of Pavia, Italy. (110/110 cum laude)
- 1993 High school diploma at Liceo Scientifico "N. Copernico" in Pavia with the graduation of 58/60.
- Skills acquired Preformulation studies, solid-state characterization, cyclodextrins complexation, drug delivery, pharmaceutical technology

WORK ACTIVITIES

Organizational and management activities

- 2019 - current Member of SITELF (Società Italiana di Tecnologia e Legislazione Farmaceutiche) and Italian Chemical Society (SCI).
- 2018 – current Member of Controlled Release Society Italian Chapter

Editorial activity

- Current** Member of Editorial Board in as Review Editor for journal Frontiers in “Medical Technology - Nano-Based Drug Delivery”, open access (Electronic ISSN:2673-3129); Google Scholar, CrossRef, CLOCKSS.
<https://www.frontiersin.org/journals/medical-technology/sections/nano-based-drug-delivery#editorial-board>
- Current** Member of Editorial Board as Topic Editor for the journal Pharmaceuticals, open access MDPI (ISSN 1424-8247); Science Citation Index Expanded (Web of Science) dal vol. 10 (2017) e in Embase e Scopus. Impact Factor 4,286.
https://www.mdpi.com/journal/pharmaceuticals/topic_editors
- Current** Guest Editor of Special Issue "Co-Crystals as a Pharmaceutical Strategy for Altering API Physicochemical Properties" for journal Molecules, open access MDPI (ISSN 1420-3049); Science Citation Index Expanded (Web of Science), MEDLINE (PubMed), Scopus. Impact Factor: 3,267
https://www.mdpi.com/journal/molecules/special_issues/Co-crystals#editors
- Current** Guest Editor dello Special Issue "New Frontiers in Cyclodextrin Technologies" for journal Pharmaceuticals open access MDPI (ISSN 1424-8247); Science Citation Index Expanded (Web of Science) dal vol. 10 (2017) e in Embase e Scopus. Impact Factor: 4,286
https://www.mdpi.com/journal/pharmaceuticals/special_issues/Cyclodextrin_Tec_h
- 2022** Participant in the drafting of the volume "Silk-based Drug Delivery System", Editors: Elia Bari, Sara Perteghella, Maria Luisa Torre, (Royal Society of Chemistry), as co-author of the chapter "Physico-chemical Characterization of Silk-based Materials", (pp. 165-178). PDF ISBN 978-1-83916-266-4, doi.org/10.1039/9781839162664.
<https://pubs.rsc.org/en/content/ebook/978-1-78801-772-5>
- Current** Reviewer for Pharmaceutics, Journal of Thermal Analysis and Calorimetry, Journal of Pharmaceutical and Biomedical Analysis, Journal of Pharmaceutical Sciences, Acta Crystallographica Section B, Journal of Inclusion Phenomena and Macrocyclic Chemistry, Molecules, Pharmaceutics, Pharmaceuticals, International Journal of Molecular Science

Invited presentations

- 2012** Invited Speaker for the Third Edition of Annual Meeting delle Giornate di Analitica Farmaceutica dal titolo "Il POLIMORFISMO IN AMBITO FARMACEUTICO: ASPETTI ANALITICI, REGOLATORI E BREVETTUALI, TECNICHE DI INDAGINE E STUDY CASE" organizzato dal Pharma Education Center, tenutasi a Milano il 4 Aprile 2012.
Oral: "Studi termoanalitici del polimorfismo e dello pseudopolimorfismo di sostanze farmaceutiche".
- 2007** Invited Speaker for the National Congress "Congresso Nazionale di Chimica e Tecnologia delle Ciclodestrine tenutosi a Asti, dal 6 al 8 Maggio 2007.
Oral: "Thermal and structural characterization and pharmaceutical use of peracetylated alfa-, beta- and gamma-cyclodextrin".

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s) English

Job-related skills Team working ability, team coordination ability
Use digital devices, communication applications, and networks to access and manage information

ADDITIONAL INFORMATION

**Statement of Research
Interests**

Laura Catenacci research work has been mainly in the field of Physical Pharmacy, with particular interest in the study of the solid state of pharmaceuticals (polymorphism, pseudopolymorphism, amorphism, isostructurality, crystal structure, co-crystals) and its biopharmaceutical and technological implications (phase transitions, stability, compatibility, physical properties of powders and tablets, etc.). Her scientific and technical expertise concerns the thermoanalytical techniques of pharmaceutical application (DSC, TGA, TMA, HSM), supported by FT-IR. The research activity also concerns the complexation studies of drugs with natural and derived cyclodextrins. The preparation of these inclusion complexes takes place both in the solid state by techniques normally used to obtain drug-carrier interaction products such as: physical mixing, kneading, co-evaporation by microwave irradiation, co-precipitation and co-fusion, and in solution state by means of construction of phase solubility diagrams according to the Higuchi and Connors model.

The activity is mainly related to a preformulative investigation of the chemical-physical characterization of drug-exipient compatibility and is aimed at supporting subsequent pharmaceutical formulation studies.

In the early works, the interest focused on modified release formulations and mucosal or transmucosal delivery systems. More recently, the research in the preformulation field has focused on characterization studies of different nanostructured systems based on lipids or on natural, protein, and polysaccharide polymers. Several studies have been concerned with the characterization of vesicular systems (exosomes and microvesicles from mesenchymal stem cells).

She is a founding member of the Innovative Start-up "P4P S.r.L." (Polymers for Pharmacy). The company has as object the development, production, and marketing of biopolymeric materials innovative for personalized therapeutic, diagnostic and biotechnological applications.

Publications

Total number of publications in peer-review journals: 62

Total number of citations: 1497

H index (Scopus): 20

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