

PERSONAL INFORMATION

ERSILIA DE LORENZI



University of Pavia
Department of Drug Sciences
Viale Taramelli 12
27100 Pavia, Italy

+39 0382 987747

ersidelo@unipv.it

[State personal website\(s\)](#)



<https://unipv.unifind.cineca.it/individual?uri=http%3A%2F%2Firises.unipv.it%2Fresource%2Fperson%2F657171>

Sex **Female** | 26/06/1965 | Nationality **Italian**

WORK EXPERIENCE

- 2007 – current **Full professor SSD CHIM08 (Pharmaceutical Analysis)** at the Department of Drug Sciences of the University of Pavia, Italy.
- 2022 – 2025 **Honorary professor (Pharmaceutical Analysis)**
Department of Chemistry and Chemical Engineering, Queen's University Belfast, Belfast, UK
- 2017 – current **Member** of the Scientific Committee of the Master course "Expert in Analytical Chemistry for the Pharmaceutical Industry", University of Pavia.
- 2019 – current **Member** of the Council
Language Centre, University of Pavia
- 2017 – current **Member** of the Scientific Committee
Language Centre, University of Pavia
- 2017 – 2022 **Elected Member** of the Scientific Committee of the PhD Summer School in Pharmaceutical Analysis (SSPA)
Italian Chemical Society (SCI), Division of Medicinal Chemistry
- 2008 – 2017 **Member** of the Board of the Ph.D. course in "Biomolecular Sciences and Biotechnology"
IUSS, Scuola Universitaria Superiore, Pavia.
- 2008 – 2010 **Elected Member** of the Scientific Committee of the PhD Summer School in Pharmaceutical Analysis (SSPA)
Italian Chemical Society (SCI), Division of Medicinal Chemistry
- 2001 – 2017 **Associate professor SSD CHIM08 (Pharmaceutical Analysis)**
Department of Drug Sciences, University of Pavia, Pavia, Italy
- 2010 – 2015 **Elected Member** and **Secretary** of the Board of Directors
Medicinal Chemistry Division (DCF) of the Italian Chemical Society (SCI)
- 1995 **Visiting scientist**
Meakins-Christie Laboratories, McGill University, Montreal, Canada
- 1994 - 2001 **Assistant professor SSD CHIM08 (Pharmaceutical Analysis)**
Department of Drug Sciences, University of Pavia, Pavia, Italy
- 2019 – current **Teaching** to Pharmaceutical Analysis Master course
Department of Chemistry and Chemical Engineering, Queen's University Belfast, Belfast, UK
- 2018 – current **Teaching** to International Erasmus Mundus Joint Master course "Nanomedicine for Drug Delivery" (NANOMED) at the Department of Drug Sciences, University of Pavia, Pavia, Italy
- 2004 – current **Teaching** to Biotechnology Bachelor course of the University of Pavia
- 2004 – current **Teaching** to Medical and Pharmaceutical Biotechnology Master course of the University of Pavia
- 2002 – 2004 **External scientific and training consultant**
Agilent Technologies
- 1998 – current **Teaching** to Medicinal Chemistry and Pharmaceutical Technology Master courses of the University of Pavia.

EDUCATION AND TRAINING

- 1993 – 1994 **Post Doc scholarship funded by Recordati S.p.A.** (Pharmaceutical Analysis)
Department of Drug Sciences, University of Pavia, Pavia, Italy
- 1989 – 1992 **Ph.D in Pharmaceutical Analysis** (EQF level 8)
Department of Drug Sciences, University of Pavia, Pavia, Italy
- 1991 – 1992 **Visiting PhD student**
School of Pharmacy, University of Bradford, UK
- 1990 **Qualified pharmacist**
- 1984 – 1989 **Master's Degree in Industrial Pharmacy cum laude**
University of Pavia, Italy (EQF level 7)

List of principal subjects covered
or skills acquired

Pharmaceutical analysis, Pharmaceutical sciences, medicinal chemistry, Molecularly imprinted polymers, nanoparticles, affinity studies, separation science, analytical validation, chiral chromatography, capillary electrophoresis, affinity chromatography, affinity capillary electrophoresis

WORK ACTIVITIES

Statement of scientific research
topics and activity

Over the past 20 years I have been involved in the application of analytical separation techniques (HPLC, capillary electrophoresis, CE, capillary electrochromatography, CEC) to molecular recognition and drug discovery. To this end my activity is centered on two main research lines: i.) Studies on the molecular basis of amyloidoses, with the ultimate aim of discovering new entities of pharmaceutical interest for these pathologies; ii.) Synthesis, characterization and validation of innovative "tailor made" synthetic receptors (Molecularly Imprinted Polymers, MIPs) designed for the recognition of a specific molecule (template) and exploited as novel extraction materials, analytical separation packings or sensing (Project "Smart capture phases for proteomics, glycomics and biomarker assays" H2020-MSCA-ITN n. 722171 BIOCAPTURE). Since 2002 I have been collaborating with foreign academics and companies within a European network.

Organizational and
management activities

- 2017 – current **Member of Scientific and/or Organizing committee and session chair** of the international biannual conference Recent Developments in Pharmaceutical Analysis (<https://rdpa2023.uniupo.it/>)
- 2017 – 2021 **President** of the Staff-Student Consultative Committee
Department of Drug Sciences, University of Pavia
- 2016 – 2020 **Founder and Member of Board of Directors**
Academic spin-off Polymerix Ltd, University of Pavia, Viale Taramelli 1, 27100 Pavia, Italy. Annual budget 40000 €
- 2015 **Member of Scientific and Organizing Committee and session chair** of the Spanish Italian Medicinal Chemistry Congress SIMMC 2015 (Barcelona, Spain)
- 2011 – 2016 **Member of Scientific and Organizing Committee and session chair** of the annual National Meeting on Medicinal Chemistry (NMMC). Italian Chemical Society, Medicinal Chemistry Division
- 2011 **Co-Chairperson** of the 14th RDPA conference, Pavia, Italy
- 2002, 2004, 2007 **Organizer and Scientific coordinator** of the Summer School "CE DAYS", Certosa di Pontignano, Siena, Italy
- 2008 **Member of the Scientific Committee and session chair** of Microscale Bioseparations and Methods for Systems Biology MSB 2008, Berlin, Germany

Editorial activity

- 2011 – current **Member of Editorial Board of** Journal of Chromatography B (Elsevier).
<https://www.journals.elsevier.com/journal-of-chromatography-b/editorial-board>
- current **Reviewer:** Journal of Chromatography B, Journal of Chromatography A, Journal of Pharmaceutical and Biomedical Analysis, Analytical Chemistry, Electrophoresis.
- 2004, 2011, 2013, 2014 **Project reviewer:** Invited assessor for 42 research project proposals (total number over the years) submitted to WADA (World Antidoping Agency) covering "Detection of Prohibited Substances/Methods: methodologies in analytical chemistry"; "Substances with biological and toxicological activity, drugs and their metabolites". "Detection of Prohibited Substances/Methods: classic methodologies in analytical chemistry".

Invited presentations

1998-2018

Keynote and plenary lectures

Characterization and Applications of separation Materials, Chromatographic characterisation of polymers Meeting EU BioCapture, Tromsø (Norway).
Development and chromatographic evaluation of molecularly imprinted polymers for the selective recognition of drugs XXVI Congresso Nazionale della Società Chimica italiana, Paestum, Italy.
Beta2-microglobulin and amyloidosis: advanced analytical techniques in drug discovery 10th International Drug Discovery Science and Technology IDDST, Nanjing (China).
Beta₂-microglobulin and amyloidosis: separation and characterization of protein folding conformers 27th International Symposium on Microscale Bioseparations MSB 2012, Geneva (Switzerland).
The use of analytical techniques for interaction studies 18th International Symposium on Electro-and Liquid Phase-separation techniques ITP, Tbilisi (Georgia).
Folding intermediates and transient oligomers: difficult protein targets to find new drugs for amyloidoses XIX National Meeting on Medicinal Chemistry, Verona (Italy).
Identification and characterisation of transient protein conformers along the amyloidogenic pathway 22nd International Symposium on Microscale Bioseparations and Methods for Systems Biology, Berlin (Germany).
Capillary electrophoresis is a powerful tool to study amyloidosis Recent Developments in Pharmaceutical Analysis, Rimini (Italy).
Feasible innovative approaches for DRA amyloidosis: pharmaceutical strategies 1st Italian-Japanese Workshop, Pavia (Italy).
The impact of capillary electrophoresis in drug analysis and bioanalysis 4th European Congress of Pharmaceutical Sciences, Milano (Italy).

Grants

(Last 10 years)

- 2016 - 2021 **Project H2020-MSCA-ITN n. 722171** 3M euro
Smart capture phases for proteomics, glycomics and biomarker assays (Biocapture)
Role: PI of Pavia unit
- 2015 - 2016 **Industrial contracts** Merck-Serono 50k euro
Set up of a CZE method for the analysis of a biotech protein
- 2011 - 2013 **Project PRIN 2009Z8YTYC_001**
Screening by analytical methodologies for searching bioactive molecules

Patents

SEPARATION AND QUANTIFICATION OF TWO BETA2-MICROGLOBULIN ISOFORMS Chiti F., De Lorenzi E., Grossi S., Mangione P., Giorgetti S., Caccialanza G., Dobson C.M., Merlini G., Ramponi G., Bellotti V.
WO 03/021270 A1.

The patented capillary electrophoresis method allows the separation and quantification of native beta₂-microglobulin and its amyloidogenic isoform, under physiological conditions. This method can be a starting point for more sensitive methods for monitoring beta₂microglobulin plasma levels in dialysed patients or for studying function and compatibility of dialysis membranes on the basis of the quantity of the released isoform. The method has been applied in affinity capillary electrophoresis mode, as by this method the native protein and its amyloidogenic isoform can be considered two independent targets.

DERIVATI ANTRACENEDIONICI E AZA-ANTRACENEDIONICI COME AGENTI CAPACI DI INIBIRE L'AGGREGAZIONE DI PEPTIDI BETAAMILOIDI Colombo R., De Lorenzi E., Carotti A., Catto M., Racchi M., Lanni C., Verga L., Caccialanza G. n. 0001387037.

The patent shows how mitoxantrone and pixantrone inhibit amyloid aggregation, in particular inhibit Abeta42 fibril deposition and the building up of toxic oligomers which are associated to Alzheimer's Disease

PERSONAL SKILLS

- Mother tongue(s) Italian
- Other language(s) English C1.2
- Job-related skills Team working ability, research team coordination ability, PhD student coordination
- Digital skills Microsoft Office, communication applications (Zoom, Teams, Skype), and networks to access and manage information

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Other skills Knowledge and competences on validation and specifications of Analytical procedures, also for biological/biotechnological drugs (ICH guidelines). Proficient in the use of English language to teach academic subjects

ADDITIONAL INFORMATION

Publications total number of publications in peer-review journals: **77**
total number of citations: **2133**
H index (Scopus): **27**
Scopus Author ID: 7003611579
Ersilia De Lorenzi ORCID: <https://orcid.org/0000-0002-5450-7208>

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Pavia, 03-04-2024

Ersilia De Lorenzi

