

## PERSONAL INFORMATION

## MASSIMO SERRA



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

+390382987746

[massimo.serra@unipv.it](mailto:massimo.serra@unipv.it)

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

<https://unipv.unifind.cineca.it/individual?uri=http%3A%2F%2Firises.unipv.it%2Fresource%2Fperson%2F663917>



Sex **Male** | 07/02/1978 | Nationality **Italian**

## WORK EXPERIENCE

- 2022 - current **Professor under contract** SSD CHIM06 (Organic Chemistry 1, cdL Pharmaceutical Chemistry and Technology) at the Department of Drug Sciences of the University of Pavia, Italy.
- 2011 - 2021 **Professor under contract** SSD CHIM06 (Organic Chemistry 2 with Principles of Spectroscopy, cdL Pharmaceutical Chemistry and Technology) at the Department of Drug Sciences of the University of Pavia, Italy.
- 2008 - current **Lecturer** in "Advanced Organic Chemistry course" within the "II Level Master Degree in Drug Design and Development" at the University of Pavia.
- 2008 - current **Lecturer** of organic chemistry and NMR in various academic courses and seminars within the Faculty of Pharmacy, University of Pavia.
- 2008 **Research Technician** at the Department of Drug Sciences of the University of Pavia, Italy.
- 2008 **Italian co.co.co.** (continuous collaboration contract). Project: "Functionalization of silicon surfaces with organic compounds". Department of Drug Sciences of the University of Pavia, Italy.
- 2007 - 2008 **Scholarship** awarded by Regione Lombardia: "Low Environmental Impact processes for the stereoselective synthesis of active principles". Department of Drug Sciences of the University of Pavia, Italy.
- 2006 - 2007 **Teaching Assistant** of "Organic Chemistry 1" and "Organic Chemistry 2" courses within the Degree Course in Pharmaceutical Chemistry and Technology (CTF), Faculty of Pharmacy, University of Pavia.
- 2004 - 2008 **Tutor** of "Organic Chemistry 1" course within the Degree Course in Pharmaceutical Chemistry and Technology (CTF), Faculty of Pharmacy, University of Pavia
- 2004 **Scholarship** awarded by Dipharma Francis, Baranzate (Milan): "Synthesis of new patentable tetrazole-based active pharmaceutical ingredients".

## EDUCATION AND TRAINING

- 2008 **Appointment as "Cultore della Materia"** in Organic Chemistry.
- 2008 **Ph.D.** in "Pharmaceutical Chemistry and Technology" at the University of Pavia (EQF level 8).
- 2007 **2<sup>nd</sup> Level Master Degree** in "Drug Design and Development" at the University of Pavia (EQF level 8).
- 2004 **Qualified pharmacist.**
- 2003 **Degree with honours in Pharmaceutical Chemistry and Technology**, at the University of Pavia (EQF level 7).

## WORK ACTIVITIES

## Statement of scientific research topics and activity

Massimo Serra received his *Summa Cum Laude* Laurea degree and Ph.D. in Pharmaceutical Chemistry and Technology from University of Pavia, working at the synthesis of RGD-based integrin antagonists with potential applications in anticancer therapy.

His research activity was initially focused on new patentable synthesis of active pharmaceutical ingredients (API) exploiting transition metals catalysed coupling reactions, under direct supervision of the grant providing pharmaceutical industry. During this period, Dr. Serra gained experience concerning patent research and patent drafting. Multi-year collaborations with pharmaceutical industries as external consultant allowed he to gain knowledge regarding strategic problem solving and requirements related to industrial production of drug intermediates and API.

In late 2008 he started his work as Research Technician in the group of organic synthesis led by Prof. Lino Colombo at the Department of Drug Sciences of the University of Pavia.

Since 2011, he was appointed as a contract Professor of Organic Chemistry at faculty of Pharmacy. During the last years he spent some time as visiting researcher at the Centre for Amyloidosis and Acute Phase Proteins, UCL (London, UK), to investigate protein-ligand interactions in amyloidosis using advanced NMR techniques.

His research is focused on the development of novel synthetic methods for the obtainment of medicinal relevant compounds, including the asymmetric synthesis of mannose-based oligosaccharides, C-glycosyl- and quaternary amino acids. Dr. Serra is particularly interested in the design of fast synthetic strategies to gain constrained peptide mimics such as azabicycloalkane amino acids.

Another topic of his research activity is the development of one-pot processes exploiting cascade metathetic transformations as key reactions to gain biologically active compounds.

He is also involved in international research programs aimed at the preparation of new peptide anticancer agents, cancer-associated glycopeptides, and chemically modified nanosystems for active drug delivering.

## Organizational and management activities

Organization and supervision of the laboratory of organic synthesis of the department of Drug Sciences, University of Pavia. Coordination of formation activities for undergraduate and graduate students who carry out research in organic synthesis and medicinal chemistry.

Dr. Serra has been tutor or co-tutor of 49 experimental Degree Thesis in Pharmaceutical Chemistry and Technology and Pharmacy in the 2008-2023 period, among which 4 Erasmus Thesis, and 3 Industrial Thesis.

He has been co-tutor of 2 Ph.D. Thesis in Chemical and Pharmaceutical Sciences and Industrial Innovation. Nowadays he is co-tutor of 2 Ph.D. students.

## Editorial activity

Referee activity for scientific journals: Tetrahedron Letters, Tetrahedron: Asymmetry, Current Organic Synthesis, Chirality, Catalysts, Molecules, European Journal of Organic Chemistry.

## Invited presentations

- "Azabicycloalkane lactams: versatile scaffolds through versatile syntheses", Peptides and conjugates for tumor targeting, therapy and diagnosis, RiminiPeptides2018, Rimini, 16-18<sup>th</sup> June, 2018.
- "New synthetic approaches for the obtainment of azabicycloalkane scaffolds en route to cRGD-based bioconjugates", Synthesis and biomedical applications of tumor-targeting peptidomimetics, Bologna, Italy, 14-16<sup>th</sup> February, 2016.
- "Synthesis of Integrin Inhibitors", European School of Medicinal Chemistry (XXVII Advanced Course of Medicinal Chemistry and "E. Duranti" National Seminar for PhD students), Urbino, 1-6<sup>th</sup> July, 2007.

## Grants

Dr. Serra was actively involved in the following research projects funded at national or European level:

- "Immunoterapia: cura e prevenzione di malattie infettive e tumorali (Immuno-HUB), codice progetto T4-CN-02, Traiettorie 4 del Piano operativo salute: "Biotecnologie, bioinformatica e sviluppo farmaceutico";
- H2020-MSCA-ITN-2016, 722171 Project Biocapture (Associated partner);
- PRIN 2015 (prot. 20157WW5EH, "Tumor-targeting peptidomimetics: synthesis and bio-medical applications");
- PRIN 2010 (prot. 2010NRREPL, "Synthesis and biomedical applications of tumor-targeting peptidomimetics");
- PRIN 2008 (prot. 2008J4YNJY, "Sintesi e applicazioni biomediche di ligandi delle integrine e loro coniugati");
- Fondazione CARIPLO (2007-5151, "Sviluppo di un biosensore ottico per la rivelazione dell'interazione fra fibrille amiloidi e ligandi su matrice di silicio microstrutturato");
- PRIN 2006 (prot. 2006030449\_001, "Design and synthesis of peptidomimetic ligands targeting integrins and conjugates for therapeutic applications").

## PERSONAL SKILLS

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Mother tongue(s) Italian

Other language(s) English

Job-related skills Team working ability, team coordination ability

## ADDITIONAL INFORMATION

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### Publications

total number of publications in peer-review journals: **36**

total number of citations: **593**

H index (Scopus): **15**

Massimo Serra ORCID: <https://orcid.org/0000-0002-6724-4355>

Scopus Author ID: 24336323600

<http://www.scopus.com/inward/authorDetails.url?authorID=24336323600&partnerID=MN8TOARS>

SciProfiles: 784640

<https://sciprofiles.com/profile/784640>

Google Scholar

<https://scholar.google.com/citations?user=afLGFVwAAAAJ&hl=it>

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, 20-01-2023

Massimo Serra

