

Mattia Sturlese, PhD.**• BRIEF DESCRIPTION:**

The scientific interests of Dr. Sturlese are in the field of the recognition between small molecules and peptides with proteins, with the goal to investigate the molecular basis of the interaction processes in order to rationally design specific products and drugs. He has solved several peptides and protein structures utilizing nuclear magnetic resonance (NMR) spectroscopy applying the most modern techniques (three dimensional experiments, Sparse Sampling and Fast Multidimensional NMR) to the conformational study of proteins. In particular, he has focused his attention in the use of NMR in Drug Discovery (Fragment Based Drug Discovery, Protein-Ligand complex elucidation, binding affinity determination). These competences were acquired during a visiting period in a renowned laboratory in this field (Pellecchia Lab. Sanford Burnham Institute for Medical Research, San Diego CA) and further implemented in Italy during his postdoctoral fellow. Dr. Sturlese is also competent in computational chemistry, mainly applied in the medicinal chemistry field. During his experience he has worked on pharmacophore modelling, chemoinformatics, bioinformatics, molecular docking and molecular dynamics. During his career Dr. Sturlese has developed a good level in programming with Python and in scripting languages like Bash, tcl and Scientific Vector Language (SVL). He has actively participated in coding software tool freely available to the community.

Dr. Sturlese has also gained competence in molecular biology, in particular, in the production of recombinant protein samples using bacteria as expression system. Dr. Sturlese is well-experienced in bacterial transformation, protein expression and protein purification and Phage Display technique.

• PERSONAL INFORMATION

Family name, First name: Sturlese, Mattia

URL for web site: <http://www.dsfarm.unipd.it/mattia-sturlese>

• EDUCATION

January 2008- March 2011: **PhD Program** in [Bioscience and Biotechnology](#)
Department of Chemical Science, University of Padova, Italy
Project title: *The anti-apoptotic proteins DJ-1 and Mcl-1: molecular basis of different protein-ligand interactions leading to apoptosis.*
Supervisor: *Prof. Stefano Mammi*

Nine months Visiting Ph.D. program (2010)
[Sanford/Burnham Medical Research Institute](#), La Jolla, CA, USA.
Project title: *New inhibitor design of antiapoptotic B-cell lymphoma/leukemia-2 (Bcl-2) family proteins.*
Supervisor: *Prof. Maurizio Pellecchia*

Scientific collaboration with [SIENABIOTECH](#); (2008-2009)
Project title: *Rational design and synthesis of antiproliferative and neuroprotective molecules through modulation of protein-protein interaction. ([Molecular Modeling Section](#), Department of Pharmaceutical Science, Italy).*
Supervisors: *Prof. Stefano Moro (UNIPD) and Alessandro Padova (SIENABIOTECH)*

2002 – 2007	Medicinal Chemistry and Pharmaceutical Technology degree <i>University of Padova, Italy</i> Thesis title: <i>Three-dimensional model optimization of A_{2B} adenosine receptor and its application on new antagonist design.</i> Supervisor: <i>Prof. Stefano Moro</i>
2000 – 2002	Medicinal Chemistry and Pharmaceutical Technology Studies University of Florence, Italy
1995 – 2000	High School Certificate Liceo Scientifico E. Fermi, Cortina d'Ampezzo, Italy

- **CURRENT POSITION**

March 2023 – Today:	Associate Professor (CHIM/08) <i>Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Italy.</i> <i>Principal Investigator of Drug Discovery by NMR Lab.</i>
March 2020 – Feb2023:	Researcher (RTD-B, CHIM/08) <i>Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Italy.</i> <i>Principal Investigator of Drug Discovery by NMR Lab.</i>

- **PREVIOUS POSITIONS**

March 2017 – Feb 2020:	Researcher (RTD-A, CHIM/08) <i>Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Italy.</i> <i>Principal Investigator of Drug Discovery by NMR Lab.</i>
March 2014 – February 2017:	Senior Postdoctoral Fellowship <i>Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Italy</i> Field: <i>Drug Discovery by NMR and Computer-Aided Drug Design</i> Supervisor: <i>Prof. Stefano Moro</i>
March 2012 – February 2014:	Junior Postdoctoral Fellowship <i>Department of Chemical Science, University of Padova, Italy</i> Project title: <i>Identification of lead compounds by NMR and Computational strategies against African trypanosomiasis</i> Supervisor: <i>Dr. Massimo Bellanda.</i>
March 2011 - February 2012:	Postdoctoral Fellowship <i>Department of Chemical Science, Padova University.</i> Project title: <i>Structural Characterization of STAS domains of SulP anion transporters</i> Supervisor: <i>Dr. Massimo Bellanda.</i>
April 2007 – December 2007	Post graduate fellowship <i>Molecular Modeling Section</i> , <i>Department of Pharmaceutical Science</i> University of Padova grant by <i>SIENABIOTECH</i> , Italy

Project title: *Rational design and synthesis of antiproliferative and neuroprotective molecules through modulation of protein-protein interaction.*

Supervisors: Prof. Stefano Moro (UNIPD)

Dr. Alessandro Padova (SIENABIOTECH)

• TEACHING ACTIVITIES

2020-2022	Lecturer/Docente: [ENG] Drug Analysis, Five years single cycle degree in Pharmacy. [ITA] ANALISI DEI MEDICINALI, Corso di studio: FARMACIA [FA1732]. University of Padova, Italy.
2021-2022	Lecturer/Docente: Meccanismi di azione dei farmaci: Basi molecolari dell'azione dei farmaci. Scuola di Specializzazione in Farmacia Ospedaliera.
2016-2019	Lecturer/Docente: [ENG] Drug Analysis 1 [MEP3051728] Five years single cycle degree in Pharmacy. [ITA] ANALISI DEI MEDICINALI 1 [MEP3051728] M-Z, Corso di studio: FARMACIA [FA1732]. University of Padova, Italy.
2012-2015	Teaching Assistant: Industrial Organic Chemistry Industrial Chemistry Master, University of Padova, Italy

• MEMBERSHIPS OF SCIENTIFIC SOCIETIES

2008-2022	Member, Scientific Association, <i>Gruppo Italiano Discussioni Risonanze Magnetiche</i>
2012-2014	User, European Research Network, <i>BioNMR</i>
2021-22	Italian Chemical Society (SCI), Medicinal Chemistry Division
2021	Italian Chemical Society (SCI), Chemical Biology Division

• PROFESSIONAL QUALIFICATION

31/10/2018- 31/10/2024	[ITA] Abilitazione nazionale a professore di II fascia (ASN). National qualification to Associate Professor (ASN).
2007	[ENG] Professional qualification of Pharmacist. [ITA] Abilitazione all'esercizio della professione di Farmacista.

• DIRECTION OF RESEARCH GROUP/UNIT

From 03/2018	Principal Investigator of Drug Discovery by NMR Laboratory at the Department of Pharmaceutical and Pharmacological Sciences, University of Padova
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• PROFESSIONAL SKILLS

Biomolecular NMR	<ul style="list-style-type: none"> ○ One-dimensional and Multidimensional (2D, 3D) spectra acquisition, processing and analysis (both homonuclear and hetero-nuclear). Drug discovery by NMR. ○ Peptide and Protein NMR Assignment (homonuclear and heteronuclear assignment).
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	<ul style="list-style-type: none">○ Peptide and Protein NMR structure determination.○ Non-uniform Sampling (NUS) and SOFAST pulse strategy experience.
Computational Chemistry	<ul style="list-style-type: none">○ Structure- based and ligand-based drug design, docking and virtual database screening, Molecular Dynamics, Drug-likeness Optimization, structure and ligand-based pharmacophore modeling, Lead optimization, homology modeling, Protein-Protein Docking, molecular database management. Coding: python, Bash, SVL, TCL.
Molecular Biology and Biochemistry	<ul style="list-style-type: none">○ Recombinant protein expression and purification from Escherichia Coli.○ Thermal Shift Assay/Differential Scanning Fluorimetry (TSA/DSF), Fluorescence Polarization Assay (FPA).○ Isotope-labeled, residue-specific-labeling, reverse-specific-labeling protein expression for NMR purpose.○ Phage Display.○ Gel electrophoresis of Proteins and Peptides.○ Plasmid and construct design.
Spectroscopic techniques	<ul style="list-style-type: none">○ Fluorescence Spectroscopy, CD, UV, IR, NMR

- **Publications:**

- <https://www.researchgate.net/profile/Mattia-Sturlese/research>