Giulia Lodigiani

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Nationality: Italian

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EDUCATION

2016-2021 **Master's degree in Chemistry and Pharmaceutical technologies, University of Milan (Italy)**

- Thesis title: "Computational calculations, synthesis, separation and characterization of optical isomers of benzoxathian- 2- and 3-carboxylic acids". Supervisors: Prof. Ermanno Valoti, Dr. Valentina Straniero and Prof. Alessandro Contini
- Relevant courses: inorganic and organic chemistry, medicinal chemistry and pharmaceutical technology

2011-2016 **Liceo Scientifico Nicola Moreschi, Milan (Italy)**

- Exchange year at Webster Schroeder High School, Penfield, (USA) (2014-2015)
- Attended AP Chemistry courses and public speaking classes
- Player of the volleyball team during fall season

WORK EXPERIENCE

Dec 2023 – current **PhD in chemical engineering and industrial chemistry, Politecnico di Milano**

- Project title: "Development of fluorinated lipid nanoparticles as theranostic drug delivery vector". Scientific supervisor: Prof. Francesca Baldelli Bombelli and Dr. Greta Bergamaschi.
- This research project will include the synthesis and characterization of cationic fluorinated lipids. The selfassembling behavior of these lipids will be studied in physiological conditions by dynamic light scattering (DLS) and small angle x-rays scattering.
- Core technologies: quartz crystal microbalance (QCM-d), Raman imaging, neutron reflectometry (NR), immunohistochemistry, immunofluorescence, LNP, confocal microscopy and flow cytometry.

Jan 2023 to Dec 2023 **Research fellowship at SCITEC, CNR, Milan**

- Project title: "TRAPping tumor growth: designing molecules to perturb the chaperone TRAP1, from enzymatic activities to cell-cell interaction (TRAP)". Scientific supervisor: Dr. Greta Bergamaschi.
- The scientific work is focused on the application of peptide and DNA science in multidisciplinary research activities at the interface of chemistry, biology and materials. The main topics of interest are: design and synthesis of bioactive peptides/peptidomimetics for drug development, chemistry for protein engineering, peptide & DNA based analytical platform.
- Core technologies: Microwave-assisted peptide synthesis, native chemical ligation, HPLC (Diode array, UV, RID), spectroscopy (UV, CD, FT-IR) and peptide microarrays.

Apr 2022 to Dec 2022 **Research fellowship at the Department of Pharmaceutical Sciences, University of Milan**

- Project title: "Development of new antimicrobials: design and synthesis of molecules targeting enzymes involved in degradation of mRNA". Scientific supervisor: Prof. Ermanno Valoti
- I have been working on projects involving international researchers from different universities, like Stanford.

Dec 2020 to Dec 2021 **Master's degree thesis project at the Department of Pharmaceutical Sciences, University of Milan**

- Worked on design, development and synthesis of new derivates. Purification of compounds via flash chromatography, crystallization, distillation and preparative HPLC
- Physical-chemical properties assed by NMR, HPLC, MS, spectrophotometry UV-Vis, polarimetry, circular dichroism
- Computational studies evaluating reaction mechanisms, conformational evaluation and quantomechanic calculations

Apr 2020 to Dec 2020 **Curricular internship in Farmacia Internazionale snc, Corsico, Milan (Italy)**

- Handled medicinal products, medical devices, food supplements, and services and galenic preparations
- Used informatic systems to manage medicinal products from storage to sale
- Understood bureaucratic procedures to handle sale of medicinal products for different clinical needs

PUBLICATION	Straniero V, <u>Lodigiani G</u>, Suigo L, Valoti E. Resolution via diastereomeric amides of enantiopure 1,4-benzoxathian-2- and 3-carboxylic acids and determination of their configuration. Chirality. 2022;34(8):1053-1064. doi:10.1002/chir.23474. Suigo L, <u>Lodigiani G</u>, Straniero V, Valoti E. (3-Methylene-2,3-dihydronaphtho[2,3-b][1,4]dioxin-2-yl)methanol. *Molbank* 2022, *2022*, M1521. <u>https://doi.org/10.3390/M1521</u>. Straniero V, Suigo L, <u>Lodigiani G</u>, Valoti E. Obtainment of Threo and Erythro Isomers of the 6-Fluoro-3-(2,3,6,7,8,9- hexahydronaphtho[2,3-b][1,4]dioxin2-yl)-2,3dihydrobenzo[b][1,4] dioxine-5-carboxamide. Molbank 2023, 2023, M1559. https:// doi.org/10.3390/M1559. Gori A, <u>Lodigiani G</u>, Colombarroli S, Bergamaschi G, Vitali A. Cell Penetrating Peptides: classification, mechanisms, methods of study and applications. ChemMedChem2023, e202300236, doi.org/10.1002/cmdc.202300236
POSTER	Suigo L, Straniero V, <u>Lodigiani G</u>, Zanotto C, Sobrinos-Sanguino M, Monterroso B, Zorrilla S, Rivas G, Valoti E. Design, synthesis and antimicrobial evaluation of benzodioxane-benzamides FtsZ inhibitors: modification of the linker between the two scaffolds. ESMEC 2022, 3th – 7th July 2022. <u>Lodigiani G</u>, Straniero V, Suigo L, Valoti E. Resolution via diastereomeric amides of enantiopure 1,4-benzoxathian-2- and 3-carboxylic acids and determination of their configuration. MYCS 2022, 21st – 23rd November 2022. Suigo L, Chojnacki M, Zanotto C, Sebastián-Perez V, <u>Lodigiani G</u>, Dunman P, Valoti E, Straniero V. RnpA inhibitors as potential antistaphylococcal agents: computational design, synthesis, and biological evaluation. ESMEC 2022, 3th – 7th July 2022.
COMMUNICATION	<u>Lodigiani G</u>, Straniero V, Suigo L, Valoti E. Resolution via diastereomeric amides of enantiopure 1,4-benzoxathian-2- and 3-carboxylic acids and determination of their configuration. MYCS 2022, 21st – 23rd November 2022, Flash communication.
LANGUAGES	**English:** Fluent (IELTS, 8), **Italian:** Native
IT SKILLS	**Advanced** skills in ChemDraw, MestreNova, Reaxys, SciFinder and Citavi. **Intermediate** skills in Powerpoint and Word. **Beginner** skills in Excel.
ADDITIONAL INFORMATION	Active member of SCI (Società Chimica Italiana), organic and medicinal chemistry divisions Passionate about sports, such as tennis and volleyball. Keen on reading, watching movies, skiing and travelling

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