

Giulia Martelli, PhD – Curriculum vitae

PERSONAL INFORMATION

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Nationality: Italian

Date of birth: 09/09/1990



CURRENT POSITION

Scientific Research Technician at Department of Industrial Chemistry “Toso Montanari”, University of Bologna - D1 category (permanent contract since 01/12/2021)

MAIN TASKS AND RESPONSABILITIES

- Technical assistance for the research groups of inorganic chemistry
- Technical-scientific referent for Solid State NMR
- Third party analytics and consulting for chemical companies
- Instrumental assistance and maintenance (HPLC; GC; Solid State NMR; NMR; IR; UV-VIS spectrophotometer; fluorimeter)
- Administrative responsible in tenders
- Technical purchasing of scientific equipments and consumables
- Supervision of bachelor, master and PhD students
- Tutoring in teaching laboratories for bachelor and master students

EDUCATION & WORK EXPERIENCES

- Since 2021** **Scientific Research Technician** at Department of Industrial Chemistry “Toso Montanari”, University of Bologna
- 2021-2018** **Postdoctoral Researcher** at Department of Chemistry “G. Ciamician”, University of Bologna (Prof. A. Tolomelli & Prof. W. Cabri group) with a fellowship funded by the **Pharmaceutical Company Fresenius Kabi Ipsium**.
- 2018-2015** **PhD in Chemical Sciences** –XXXI cycle- at Department of Chemistry “Giacomo Ciamician”, University of Bologna (Prof. D. Giacomini group); official title achieved in April **2019** with a final dissertation entitled: “Synthesis and biological potential of new active β -lactam based compounds”.
- 2018** **PhD-exchange period** (3 months) at Department of Organic and Bioorganic Chemistry at Graz University (Prof. K. Faber group).
- 2015** **Research Fellow** (12 months) at Department of Chemistry “G. Ciamician”, University of Bologna (Prof. D. Giacomini group).
- 2014** **Thesis preparation with Exchange Programme LLP/Erasmus** (6 months) at Department of Chemistry – Faculty of Natural Sciences - Imperial College London (Prof. D. Craig group).
- 2014-2012** **M.Sc. in Chemistry** at Department of Chemistry “G. Ciamician”, University of Bologna (110/110). Final dissertation entitled: “Decarboxylative Claisen Rearrangement Reactions: Synthesis of the Pseudopterosin Aglycone” (supervisor Prof. D. Craig, co-supervisor Prof. A. Tolomelli).

2012-2009 **B.Sc. in Chemistry and Material Chemistry** at Department of Chemistry "G. Ciamician", University of Bologna (110/110 cum laude). Final dissertation entitled: "Development of Yonemitsu-type Reactions on alkylidenes promoted by microwave irradiation" (supervisor A. Tolomelli).

TECHNICAL COMPETENCES

- **Experienced in R&D and team coordination**
- **Personal and working skills:** Highly motivated self-starter with excellent management, organisational, cooperation and communication skills
- **Scientific writing of projects, review, patents and original papers**
- **Organic Synthesis and Pharmaceutical Chemistry:** multi-step synthesis, retrosynthetic analysis, reaction optimisation and scale-up, organo-, metallo- and bio-catalysis, API synthesis and purification, drug-design, drug-delivery, SPPS and LPPS, biomaterial functionalization
- **Molecular biology and biocatalysis:** enzyme engineering, site directed mutagenesis, PCR, primer design, heterologous expression in *E. Coli*, plasmid purification, preparation of biocatalysts from plasmids, standard biotrasformations and biocatalytic techniques
- **Analytical Methods and techniques:** HPLC-UV, HPLC-MS, preparative HPLC, chiral HPLC, GC, GC-MS, IR-ATR, UV-VIS spectrophotometer, spectrofluorometer, solid state NMR, ¹H NMR, ¹³C NMR, 2D NMR, VT NMR, TGA, DSC, SEM, electro spinning apparatus, automatic peptide synthesizer, AAS (atomic absorption spectroscopy), Dynamic Light Scattering (DLS), microwave plasma-atomic emission spectrometer (MP-AES)
- **Physical Chemistry:** Chemical kinetics, mechanisms, structural simulation
- **Lab Skills:** Laboratory safety practices and procedures, safe handling of hazardous chemicals, organic chemistry reaction setups, handling multiple tasks on projects, coordination and teamwork
- **Computer skills:** experienced in Windows operating systems, excellent knowledge of standard Microsoft Office software, medium knowledge of Fortran and Matlab programming languages, skilled in Chemdraw, MestreNova, Spinworks, Pymol softwares and Reaxys, Scifinder and similar scientific Databases
- **Languages:** Italian (mother tongue), English (excellent writing, speaking and understanding level), German (medium writing, speaking and understanding level)

INDUSTRIAL COLLABORATIONS

2018-2021 Collaboration with Fresenius Kabi iPSUM (Villadose-RO-Italy) as Postdoctoral Researcher at University of Bologna

GRANTS FOR NATIONAL RESEARCH PROJECTS

as PhD or PostDoctoral student

2017-2020 PRIN 2015 "Tumor-targeting peptidomimetics: synthesis and bio-medical applications"

2021-2020 Fondazione del Monte di Bologna e Ravenna Project "Anti-infective Biomaterials and new medical devices for rapid infection mapping and chronic wound healing treatment"

OTHER ACTIVITIES

- **Teaching tutor** as student Lab technician in the context of "Piano Ministeriale Lauree Scientifiche (PLS)" - Area Chimica dell'Università di Bologna (Academic Year 2021-22 and 2022-23)
- **Teaching tutor** (246 hours) as student Lab assistant (Laboratory of Organic Synthesis and Characterization, Biocatalysis)

- **Co-supervisor** of >30 graduation thesis of Bachelor and Master students (Organic and Pharmaceutical Chemistry, Green Chemistry, Biocatalysis)
- **Attendance** to >10 international **conferences** with presentation of posters and oral communications
- **Reviewer activity**: Referee for American Chemical Society (JOC), Molecules
- **Review editor** for Frontiers in Chemistry

TEACHING EXPERIENCES

Technical tutor as student Lab technician in the context of “Piano Ministeriale Lauree Scientifiche (PLS)” - Area Chimica dell’Università di Bologna (Academic Year 2022-23)

- Sub-project: Modulo 7 “Passaggi di colore - tinture naturali ed estrazione di coloranti da dolciumi” - Department of Industrial Chemistry “Toso Montanari”, University of Bologna

Technical tutor as student Lab technician in the context of “Piano Ministeriale Lauree Scientifiche (PLS)” - Area Chimica dell’Università di Bologna (Academic Year 2021-22)

- Sub-project: Modulo 7 “Passaggi di colore - tinture naturali ed estrazione di coloranti da dolciumi” - Department of Industrial Chemistry “Toso Montanari”, University of Bologna

Teaching tutor as Student lab assistant at Department of Chemistry “G. Ciamician”, University of Bologna

- Biocatalysis (15 hours) – Jan 2021
- Synthesis and Characterization Metodologies (16 hours) – Oct 2020
- Laboratory of Organic Chemistry II (32 hours) – Apr-May 2020
- Biocatalysis (15 hours) – Jan 2020
- Laboratory of Organic Synthesis (24 hours) – Dec 2019 – Jan 2020
- Laboratory of Organic Synthesis and Characterization (48 hours) – Oct-Nov 2018
- Laboratory of Organic Synthesis and Characterization (48 hours) – Oct-Nov 2017
- Laboratory of Organic Synthesis and Characterization (48 hours) – Oct-Nov 2016

MAIN RESEARCH INTERESTS

- Solid-state NMR
- Organocatalysis and organometallic chemistry
- Green Chemistry applied to cross-coupling reactions and Solid Phase Peptide Synthesis
- Development of analytic methods for analysis and characterization of organic and inorganic molecules (HPLC, NMR, AAS)
- Design and synthesis of pharmaceutically active compounds as antibacterial, antioxidant, anticancer, integrin ligands (β -lactam based derivatives, peptidomimetics, peptides)
- Biomaterials functionalization with small pharmaceutical active ligands
- API synthesis, characterization and purification
- Biocatalysis

PUBLICATION REPORT

Publications	Papers:	26
	Reviews/Perspectives:	3
	Published congress acts:	1
Patents:		3
H-index	12	
Citations	543	

Source: SCOPUS

RESEARCH PUBLICATIONS

- *Tetrahedron*, **2014**, 70, 38, 6781-6788; doi: [10.1016/j.tet.2014.07.062](https://doi.org/10.1016/j.tet.2014.07.062)
- *ChemistrySelect*, **2016**, 1, 12, 3232-3238; doi: [10.1002/slct.201600669](https://doi.org/10.1002/slct.201600669)
- *J. Med. Chem.*, **2016**, 59, 21, 9721–9742; doi: [10.1021/acs.jmedchem.6b00576](https://doi.org/10.1021/acs.jmedchem.6b00576)
- *Scientific reports*, **2017**, 7, 2712; doi: [10.1038/s41598-017-02943-2](https://doi.org/10.1038/s41598-017-02943-2)
- *ChemMedChem*, **2017**, 12, 1–10; doi: [10.1002/cmdc.201700307](https://doi.org/10.1002/cmdc.201700307)
- *Eur. J. Med. Chem.*, **2017**, 140, 604-614; doi: [10.1016/j.ejmech.2017.09.048](https://doi.org/10.1016/j.ejmech.2017.09.048)
- *RSC Advances*, **2018**, 8, 9723-9730; doi: [10.1039/C8RA01365A](https://doi.org/10.1039/C8RA01365A)
- *Eur. J. Med. Chem.*, **2018**, 158, 91-105; doi: [10.1016/j.ejmech.2018.09.009](https://doi.org/10.1016/j.ejmech.2018.09.009)
- *Bioorg. Chem.*, **2019**, 88, 102975; doi: [10.1016/j.bioorg.2019.102975](https://doi.org/10.1016/j.bioorg.2019.102975)
- *Eur. J. Pharm. Sci.*, **2019**, 136, 104957; doi: [10.1016/j.ejps.2019.104957](https://doi.org/10.1016/j.ejps.2019.104957)
- *ACS Sus. Chem. Eng.*, **2019**, 7, 15, 12867-12877; doi: [10.1021/acssuschemeng.9b01766](https://doi.org/10.1021/acssuschemeng.9b01766)
- *J. Med. Chem.*, **2019**, 62, 22, 10156–10166; doi: [10.1021/acs.jmedchem.9b01000](https://doi.org/10.1021/acs.jmedchem.9b01000)
- *Biomacromolecules*, **2020**, 21, 3, 1157-1170; doi: [10.1021/acs.biomac.9b01550](https://doi.org/10.1021/acs.biomac.9b01550)
- *Chemistry Today*, **2020**, Vol. 38(2)
- *Organic Letters*, **2020**, 22, 10, 3969-3973; doi: [10.1021/acs.orglett.0c01269](https://doi.org/10.1021/acs.orglett.0c01269)
- *J. Pharm. Biomed. Anal.*, **2020**, 191, 113584; doi: [10.1016/j.jpba.2020.113584](https://doi.org/10.1016/j.jpba.2020.113584)
- *Colloids and Surfaces B: Biointerfaces*, **2021**, 111580; doi: [10.1016/j.colsurfb.2021.111580](https://doi.org/10.1016/j.colsurfb.2021.111580)
- *Cell Chem. Biol.*, **2021**, 28 (9), 1321-1332; doi: [10.1016/j.chembiol.2021.03.008](https://doi.org/10.1016/j.chembiol.2021.03.008)
- *ChemSusChem* **2021**, 14 (12), 2591-2600; doi: [10.1002/cssc.202100623](https://doi.org/10.1002/cssc.202100623)
- *Green Chem.* **2021**, 23, 4095-4106; doi: [10.1039/D1GC00910A](https://doi.org/10.1039/D1GC00910A)
- *Front. Mol. Biosci.* **2021**, 8:697586; doi: [10.3389/fmolb.2021.697586](https://doi.org/10.3389/fmolb.2021.697586)
- *ACS Pharmacol. Transl. Sci.* **2021**, 4, 5, 1528–1542; doi: [10.1021/acspsci.1c00094](https://doi.org/10.1021/acspsci.1c00094)
- *Green Chem.*, **2021**, 23, 8096-8107; doi: [10.1039/D1GC02634H](https://doi.org/10.1039/D1GC02634H)
- *Green Chem.*, **2022**, 24, 975-1020; doi: [10.1039/D1GC04387K](https://doi.org/10.1039/D1GC04387K)
- *Bioorg. Chem.* **2022**, 120, 105580; doi: [10.1016/j.bioorg.2021.105580](https://doi.org/10.1016/j.bioorg.2021.105580)
- *ACS Omega* **2022**, 7, 30, 26919–26927; doi: [10.1021/acsomega.2c03477](https://doi.org/10.1021/acsomega.2c03477)
- *Green Chem.*, **2023**, 25(7), 2563–2571; doi: [10.1039/D3GC00431G](https://doi.org/10.1039/D3GC00431G)
- *ChemPlusChem*, **2023**, 88(9), e202300357; doi: [10.1002/cplu.202300357](https://doi.org/10.1002/cplu.202300357)
- *Molecules*, **2023**, 28(20), 7183; doi: [10.3390/molecules28207183](https://doi.org/10.3390/molecules28207183)

PATENTS

- 1) EP20161312 (2020)
- 2) EP20213533 (2020)

La sottoscritta è a conoscenza che, ai sensi dell'art. 26 della legge 15/68, nonché degli artt. 46 e 47 del D.P.R. 445/2000, le dichiarazioni mendaci, la falsità negli atti e l'uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali. Inoltre, la sottoscritta autorizza al trattamento dei dati personali, secondo quanto previsto dalla Legge 675/96 del 31 dicembre 1996.

Bologna, 13/12/2023

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