

Francesco Taglieri

PhD Candidate in Organometallics and Catalysis



About Me

Dynamic and adaptable, with experience across diverse areas of chemistry. Skilled in independent work and team collaboration, with well built social and emotional intelligence.



Languages

- Italian: Native language
- English: Proficient
- Spanish: Conversational



Experience

PhD Candidate (2022–Defense in the next months)

University of L'Aquila (L'Aquila, Italy)

Supervisor: Prof. Andrea Di Giuseppe

Main topics covered include the synthesis and characterization of organometallic compounds, as well as homogeneous catalysis for diverse reactions of interest, such as oxidation, C-H and C-X functionalization, deuteration and photocatalysis.

Visiting PhD Candidate (Mar–Sept 2024)

Dompé Farmaceutici S.p.a. (L'Aquila, Italy)

Supervisor: Dr. Gianluca Bianchini

Contribution to projects on synthesizing pharmacologically active compounds, gaining experience in data analysis, synthetic pathway design, and bibliographic research to support synthesis development and data interpretation.

Visiting PhD Candidate (Jun–Dec 2023)

ISQCH-Universidad de Zaragoza. (Zaragoza, Spain)

Supervisor: Dr. Ricardo Castarlenas

Development of novel Rhodium pyridylidene-carbene complexes, utilizing expertise in organometallic chemistry. Investigations into their reactivity highlight potential applications in C-H activation, H/D exchange, and photochemistry.

Apprentice (Sept–Dec 2021)

ICO S.r.l. (Alanno (PE), Italy)

Supervisor: Ing. Dravis Di Domizio

Bibliographic research and data collection at the ICO Tissue plant to develop an R&D program for creating antimicrobial paper with intrinsic properties, offering hygiene solutions without external additives.

Software skills

- Office (Excel, Word, PowerPoint, ...)
- Molecules design: ChemDraw; ChemSketch
- Bibliographic research (Reaxys, Scifinder, Scopus, ...)
- Inventory: ChemInventory; DotMatics
- Data processing: MestReNova; TopSpin Origin; Mercury
- ForTRan

Laboratory skills

- Reaction set-ups: Schlenk techniques, Glove-box, photo-catalyzed, organo-catalyzed
- Synthesis and characterization of organic molecules, ligands and organo-metallic compounds
- Purification *via* flash chromatography, Isolera flash purification system and re-crystallization
- Analysis: NMR, HPLC, GC-FID, IR, UV-Vis, Mass Spectrometry, Fluorescence Spectrophotometry, Cyclic and Square Wave Voltammetry

Education

Master's Degree in Chemical Sciences (2018–2021)

University of L'Aquila. Score: 110/110 cum laude

Supervisors:

Prof. Armando Carlone, Dr. Andrea Baschieri

Sustainable methodologies for synthesizing biologically active organic molecules, focusing on photo-activated synergistic catalysis. During an internship at ISOF-CNR (Bologna) (Nov-Dec 2020), I synthesized and characterized Iridium(III)-based organometallic complexes used as photocatalysts.

Bachelor's Degree in Chemistry (2015–2018)

University of L'Aquila. Score: 110/110 cum laude

Supervisor: Prof. Antonio Arcadi

Synthesis of poly-substituted quinolines via Brønsted and Lewis acid catalysis, using cascade reactions with readily available starting materials. The work targeted heterocyclic compounds with potential pharmaceutical applications.

Scientific Publications

-  Vanadyl heterosubstituted 1,3- β -diketonate complexes: Synthesis, characterization and catalytic applications for the selective oxidation and detoxification of sulfur compounds, **Catalysis Today**, 2023.

DOI: <https://doi.org/10.1016/j.cattod.2023.01.012>

-  Multisite Amino-Allylidene Ligands from Thermal CO Elimination in Diiron Complexes and Catalytic Activity in Hydroboration Reactions, **ChemCatChem**, 2024.

DOI: <https://doi.org/10.1002/cctc.202400811>