

# CURRICULUM VITAE



*Dichiarazione sostitutiva di certificazione e dichiarazione sostitutiva dell'atto di notorietà ai sensi del D.P.R. 445/28.12.2000*  
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La sottoscritta Gina Elena Giacomazzo

consapevole delle responsabilità penali cui può andare incontro, in caso di dichiarazioni mendaci, ai sensi e per gli effetti di cui all'art. 76 del D.P.R. 445/2000 e consapevole che, ai sensi dell'art. 13, del Regolamento UE 2016/679 (GDPR), la presente dichiarazione sarà pubblicata sul sito web dell'amministrazione in apposita sezione di Amministrazione Trasparente, sotto la propria responsabilità

**dichiara**  
**ai sensi degli artt. 46 e 47 del DPR 445/2000**

## PERSONAL INFORMATION

Name  
E-mail  
Citizenship  
Date and place of birth

Gina Elena Giacomazzo

Number of papers published in international peer-reviewed journals: 17  
H-index: 7  
Sum of times cited: 138  
Patent: 1  
Researcher Identifier: **ORCID:** 0000-0001-5308-404X  
**Scopus:** 57211269724  
**Web of Science:** KJM-8179-2024

## WORK EXPERIENCE AND TRAINING

Feb 2024 – to date

**Research Fellowship** at the Department of Chemistry "Ugo Schiff", University of Florence.  
**Supervisor:** Prof. Luigi Messori  
**Research activity:** Design and synthesis of metal complexes as potential antibacterial agents.

Feb 2023 – Jan 2024

**Research Fellowship** at the Department of Chemistry "Ugo Schiff", University of Florence.  
**Supervisor:** Prof. Paola Turano  
**Project Title:** Supporto all'ampliamento dell'assegnazione degli spettri di plasma di pazienti COVID  
**Research activity:** Design and synthesis of gadolinium(III) and europium(II) complexes as Paramagnetic Relaxation Enhancements (PRE) agents for use in metabolomic studies via NMR spectra.

Nov 2019 - Jan 2023

**PhD in Chemical Sciences at the University of Florence**  
**Supervisor:** Prof. Claudia Giorgi  
**Research activity:** The research activity concerned the design and study of ruthenium(II) polypyridyl complexes (RPCs) as light-responsive photosensitizers for Photodynamic Therapy

(PDT) and Photoactivated Chemotherapy (PACT). On June 19<sup>th</sup>, 2023, I completed my PhD program defending the thesis titled: *Ruthenium(II) polypyridyl complexes: versatile tools in the design of light-responsive therapeutic agents*

**International Experience** at the Department of Chemistry of the University of Burgos, Spain.

**Supervisor:** Prof. Tomás Torroba Perez

Jan-Feb 2022

**Internship Title:** Synthesis of organic dyes to develop novel metal complexes for biomedical and technological application.

**Research activity:** Synthesis of fluorescent perylene dyes via Suzuki-Miyaura cross-coupling reactions for the design of novel polypyridyl ligands for the preparation of promising light-responsive ruthenium(II) complexes.

**Research Fellowship**, INSTM - Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali, carried out at the Department of Chemistry "Ugo Schiff" of the University of Florence

**Supervisor:** Prof. Barbara Richichi

Feb-Jul 2019

**Project Title:** GlycoG-LAB 4.0: Nanoadditivo multiproprietà ad attività UV assorbente e preservante

**Research activity:** The research activity concerned the development of green and solvent-free methods for the industrial scale-up of protocols for the production of biopolymeric materials based on silver nanoparticles and nanocrystalline cellulose with antimicrobial properties.

**Curricular internship** of the Master's thesis in Chemical Sciences at the Department of Chemistry "Ugo Schiff" of the University of Florence

**Supervisor:** Prof. Barbara Richichi

Mar-Dec 2018

**Research activity:** Research has focused on optimising the synthesis of modular fluorescent probes, characterising them and investigating their potential use as biomolecule labelling dyes.

## DIDACTIC SUPPORT ACTIVITIES

**a.a. [2023-24]:** Didactic support for *General and Inorganic Chemistry* Laurea in Design Tessile e Moda

**a.a [2021-22 and 2022-23]:** Didactic support for *General and Inorganic Chemistry Laboratory* course, held by Prof. Claudia Giorgi, degree in Chemistry, University of Florence. (20 hours)

**a.a. [2017-18]:** Didactic support activity for students of bachelor's degree in Geology at the University of Florence.

## EDUCATION

Dec 14<sup>th</sup>, 2018

**Master's degree in Chemical Science (LM-54)**, grade 110/110 cum laude, University of Florence.

**Thesis's title:** Synthesis of modular fluorescent probes for the labelling of carbohydrate-containing biomolecules. **Supervisor:** Prof. Barbara Richichi

Jun 16<sup>th</sup>, 2016

**Bachelor's Degree in Chemistry (L-27)**, grade 103/110, University of Florence.

**Thesis's title:** Peptides from *Spirulina platensis* enzymatic digestion. **Supervisor:** Prof. Anna Maria Papini

## PATENT

1. International Publication Number: **WO 2024/105603 A1** Publication date: 23 May 2024  
Inventors: Conti L., Giacomazzo G. E., Giorgi C., Valtancoli B., Diddi A., Casula L., Murgia S., Schlich M., Sinico C., *A ruthenium(II) polypyridyl complex as a photo-sensitiser in photodynamic therapy, and procedure for making said ruthenium (II) polypyridyl complex*. Università degli Studi di Firenze and Università degli Studi di Cagliari

## PUBLICATIONS

1. Luca Casula, Gina Elena Giacomazzo, Luca Conti, Marco Fornasier, Benedetto Manca, Michele Schlich, Chiara Sinico, Timo Rheinberger, Frederik R Wurm, Claudia Giorgi, Sergio Murgia; Polyphosphoester-stabilized cubosomes encapsulating a Ru(II)

- complex for the photodynamic treatment of lung adenocarcinoma; *J. Colloid Interface Sci.*, **2024**, 670, 234-245 [DOI: 10.1016/j.jcis.2024.05.088](https://doi.org/10.1016/j.jcis.2024.05.088) Impact Factor: 9.9
- Gina Elena Giacomazzo, Luca Conti, Daniele Paderni, Patrick Severin Sfragano, Lorenzo Quadrini, Eleonora Macedi, Camilla Andreini, Chiara Donati, Caterina Bernacchioni, Gloria Mulas, Barbara Valtancoli, Ilaria Palchetti, Luca Giorgi, Vieri Fusi, Francesca Cencetti, Claudia Giorgi; Ruthenium(II) polypyridyl complexes with benzoxazole derivatives and non-innocent ligands as effective antioxidants in human neuroblasts; *Chem.-A Eur. J.*, **2024**, e202400834 [DOI: 10.1002/chem.202400834](https://doi.org/10.1002/chem.202400834) Impact Factor: 4.3
  - Gina Elena Giacomazzo, Sandra Doria, Andrea Revilla-Cuesta, Nicola De Monte, Marco Pagliai, Giangaetano Pietrapierzia, Barbara Valtancoli, Tomàs Torroba, Luca Conti, Mariangela Di Donato, Claudia Giorgi; Photosensitizers based on bichromophoric dyads combining Ru(II)-polypyridyl complexes and dissymmetric perylene monoimide derivatives: the nontrivial role of ligand substitution; *Inorg. Chem.*, **2024**, 63, 14, 6248-6259 [DOI: 10.1021/acs.inorgchem.3c04569](https://doi.org/10.1021/acs.inorgchem.3c04569) Impact Factor: 4.6
  - Daniele Paderni, Eleonora Macedi, Gina Elena Giacomazzo, Mauro Formica, Luca Giorgi, Barbara Valtancoli, Patrizia Rossi, Paola Paoli, Luca Conti, Vieri Fusi, Claudia Giorgi; A new biphenol-dipicolylamine based ligand and its dinuclear Zn<sup>2+</sup> complex as fluorescent sensors for ibuprofen and ketoprofen in aqueous solution; *Dalton Trans.*, **2024**, 53, 9495-9509 [DOI: 10.1039/d4dt00935e](https://doi.org/10.1039/d4dt00935e) Impact Factor: 4.0
  - Martina Lippi, Paola Paoli, Luca Conti, Gina Elena Giacomazzo, Eleonora Macedi, Jacopo Ceccarelli, Juliana Morais Missina, Camilla Fagorzi, Patrizia Rossi; Ibuprofen: A multi-purpose active pharmaceutical ingredient as versatile ligand for zinc(II) and Copper(II). Solid state and solution studies; *Inorganica Chim. Acta*, **2024**, 566, 122034 [DOI: 10.1016/j.ica.2024.122034](https://doi.org/10.1016/j.ica.2024.122034) Impact Factor: 2.8
  - Gina Elena Giacomazzo, Michele Schlich, Luca Casula, Luciano Galantini, Alessandra Del Giudice, Giangaetano Pietrapierzia, Chiara Sinico, Francesca Cencetti, Sara Pecchioli, Barbara Valtancoli, Luca Conti, Sergio Murgia, Claudia Giorgi; Ruthenium(II) polypyridyl complexes with  $\pi$ -expansive ligands: synthesis and cubosome encapsulation for photodynamic therapy of non-melanoma skin cancer; *Inorg. Chem. Front.*, **2023**, 10, 3025-3036 [DOI: 10.1039/d2qi02678c](https://doi.org/10.1039/d2qi02678c) Impact Factor: 7.0
  - Gina Elena Giacomazzo, Luca Conti, Camilla Fagorzi, Marco Pagliai, Claudia Andreini, Annalisa Guerri, Brunella Perito, Alessio Mengoni, Barbara Valtancoli, Claudia Giorgi; Ruthenium(II) Polypyridyl Complexes and Metronidazole Derivatives: a Powerful Combination in the Design of Photoresponsive Antibacterial Agents Effective under Hypoxic Conditions; *Inorg. Chem.* **2023**, 62, 20, 7716-7727. [DOI: 10.1021/acs.inorgchem.3c00214](https://doi.org/10.1021/acs.inorgchem.3c00214) Impact Factor: 4.6
  - Gina Elena Giacomazzo, Daniele Paderni, Luca Giorgi, Mauro Formica, Lorenzo Mari, Riccardo Montis, Luca Conti, Eleonora Macedi, Barbara Valtancoli, Claudia Giorgi, Vieri Fusi; A new family of Macrocyclic polyamino biphenolic ligands: acid-base study, Zn(II) coordination and glyphosate/AMPA binding; *Molecules* **2023**, 28(5), 2031 [DOI: 10.3390/molecules28052031](https://doi.org/10.3390/molecules28052031) Impact Factor: 4.6
  - Margherita Verrucchi, Gina Elena Giacomazzo, Patrick Severin Sfragano, Serena Laschi, Luca Conti, Marco Pagliai, Cristina Gellini, Marilena Ricci, Enrico Ravera, Barbara Valtancoli, Claudia Giorgi, Ilaria Palchetti; Characterization of a Ruthenium(II) Complex in Singlet Oxygen-Mediated Photoelectrochemical Sensing; *Langmuir* **2023**, 39, 1, 679-689 [DOI: 10.1021/acs.langmuir.2c03042](https://doi.org/10.1021/acs.langmuir.2c03042) Impact Factor: 3.9
  - Luca Conti, Gina Elena Giacomazzo, Barbara Valtancoli, Mauro Perfetti, Alberto Privitera, Claudia Giorgi, Patrick Severin Sfragano, Ilaria Palchetti, Sara Pecchioli, Paola Bruni, Francesca Cencetti; Highly charged Ru(II) polypyridyl complexes as photosensitizer agents in photodynamic therapy of epithelial ovarian cancer cells; *Int. J. Mol. Sci.*, **2022**, 23(21), 13302 [DOI: 10.3390/ijms232113302](https://doi.org/10.3390/ijms232113302) Impact Factor: 5.6
  - Luca Conti, Silvia Ciambellotti, Gina Elena Giacomazzo, Veronica Ghini, Lucrezia Casottini, Elisa Puliti, Mirko Severi, Emiliano Fratini, Francesca Cencetti, Paola Bruni, Barbara Valtancoli, Claudia Giorgi, Paola Turano; Ferritin nanocomposites for selective delivery of photosensitizing ruthenium-polypyridyl compounds to cancer cell; *Inorg. Chem. Front.*, **2022**, 9, 1070-1081 [DOI: 10.1039/D1QI01268A](https://doi.org/10.1039/D1QI01268A) Impact Factor: 7.0
  - Giacomo Reina, Amalia Ruiz, Barbara Richichi, Giacomo Biagiotti, Gina Elena Giacomazzo, Lucas Jacquemin, Yuta Nishina, Cécilia Ménard-Moyon, Wafa T Al-Jamal, Alberto Bianco; Design of a graphene oxide-BODIPY conjugate for glutathione depletion and photodynamic therapy; *2D Mater.*, **2022**, 9, 015038 [DOI: 10.1088/2053-1583/ac4572](https://doi.org/10.1088/2053-1583/ac4572) Impact Factor: 5.5
  - Gina Elena Giacomazzo, Luca Conti, Annalisa Guerri, Marco Pagliai, Camilla Fagorzi, Patrick Severin Sfragano, Ilaria Palchetti, Giangaetano Pietrapierzia, Alessio Mengoni, Barbara Valtancoli, Claudia Giorgi; Nitroimidazole-Based Ruthenium(II) Complexes: Playing with Structural Parameters to Design Photostable and Light-Responsive Antibacterial Agents; *Inorg. Chem.*, **2021**, 61, 18, 6689-6694 [DOI: 10.1021/acs.inorgchem.1c03032](https://doi.org/10.1021/acs.inorgchem.1c03032) Impact Factor: 4.6
  - Luca Conti, Alessio Mengoni, Gina Elena Giacomazzo, Lorenzo Mari, Mauro Perfetti, Camilla Fagorzi, Lorenzo Sorace, Barbara Valtancoli, Claudia Giorgi; Exploring the potential of highly charged Ru(II)- and heteronuclear Ru(II)/Cu(II)-polypyridyl complexes as antimicrobial agents; *J. Inorg. Biochem.*, **2021**, 220, 111467 [DOI: 10.1016/j.jinorgbio.2021.111467](https://doi.org/10.1016/j.jinorgbio.2021.111467) Impact Factor: 3.9

- Luca Conti, Liviana Mummolo, Giammarco Maria Romano, Claudia Giorgi, Gina Elena Giacomazzo, Luca Prodi, Andrea Bencini; Exploring the Ability of Luminescent Metal Assemblies to Bind and Sense Anionic or Ionizable Analytes A Ru(phen)<sub>2</sub>bipy-Based Dizinc Complex for Bisphenol A (BPA) Recognition; *Molecules*, **2021**, 26(3), 527. DOI: [10.3390/molecules26030527](https://doi.org/10.3390/molecules26030527) Impact Factor: **4.6**
- Patrizia Andreatti, Lorenza Tamberi, Elisamaria Tasca, Gina Elena Giacomazzo, Marta Martinez, Mirko Severi, Marco Marradi, Stefano Cicchi, Sergio Moya, Giacomo Biagiotti, Barbara Richichi; The B & B approach: Ball-milling conjugation of dextran with phenylboronic acid (PBA)-functionalized BODIPY; *Beilstein J. Org. Chem.* **2020**, 16, 2272–2281 DOI: [10.3762/bjoc.16.188](https://doi.org/10.3762/bjoc.16.188) Impact Factor: **2.7**
- Gina Elena Giacomazzo, Pasquale Palladino, Cristina Gellini, Gianluca Salerno, Veronica Baldoneschi, Alessandro Feis, Simona Scarano, Maria Minunni, Barbara Richichi; A straightforward synthesis of phenyl boronic acid (PBA) containing BODIPY dyes: new functional and modular fluorescent tools for the tethering of the glycan domain of antibodies; *RSC Adv.*, **2019**, 9, 30773-30777, DOI: [10.1039/c9ra07608e](https://doi.org/10.1039/c9ra07608e) Impact Factor: **3.9**

## CONFERENCES

- XXVIII Congresso Nazionale della Società Chimica Italiana (SCI2024)**, Milan August 26th-30th, 2024  
Oral Communication: *Light-Activated Therapeutics: Designing Photoresponsive Bioactive Compounds with Ruthenium(II) Polypyridyl Complexes*, Giacomazzo G. E., Conti L., Ceccherini V., Valtancoli B., Giorgi C.
- ISMEC2024 International Symposium on Metal Complexes** Nice June 9<sup>th</sup>-13<sup>th</sup>, 2024  
Poster Communication: *Harnessing Ruthenium(II) Polypyridyl Complexes and Light to design advanced photoresponsive bioactive molecules*, Giacomazzo G. E., Conti L., Ceccherini V., Valtancoli B., Giorgi C.
- XLIX Congresso Nazionale di Chimica Inorganica** Perugia September 12<sup>th</sup>-15<sup>th</sup> 2023  
Poster Communication: *Nitroimidazole-based ruthenium(II) polypyridyl complexes: turn on the light for fighting anaerobic bacteria diseases*, Giacomazzo G.E., Conti L., Fagorzi C., Pagliai M., Andreini C., Guerri A., Valtancoli B., Mengoni A., Giorgi C.
- ISMEC2023 International Symposium on Metal Complexes** Urbino June 11<sup>th</sup>-14<sup>th</sup>, 2023  
Oral Communication: [OC20] *Ruthenium(II) polypyridyl complexes as versatile tools in the design of photoresponsive therapeutic agents*, Giacomazzo G.E., Conti L., Schlich M., Casula L., Fagorzi C., Mengoni A., Murgia S., Sinico C., Valtancoli B., Giorgi C.
- 44<sup>th</sup> International Conference on Coordination Chemistry\_ICCC2022\_** Rimini August 28<sup>th</sup>-Sept 2<sup>nd</sup>, 2022  
Poster Communication: [P039] *Inhibition of Ca<sup>2+</sup>-ATPase transport activity mediated by a photoactivable ruthenium (II) polypyridyl complex*, Giacomazzo G. E., Diddi A., Conti L., Palchetti I., Cencetti F., Valtancoli B., Tadini-Buoninsegni F., Giorgi C.
- XV Italian Conference on Supramolecular Chemistry\_Supramol2022\_** Salerno June 28<sup>th</sup>-Jul 1<sup>st</sup>, 2022  
Poster Communication: [P16] *Ruthenium(II)-containing nanocarriers as effective photosensitizers in antitumoral photodynamic therapy*, Giacomazzo G. E., Conti L., Casula L., Schlich M., Ciambellotti S., Cencetti F., Valtancoli B., Turano P., Murgia S., Giorgi C.
- Merck Young Chemists' Symposium XX - 2021**, Rimini Nov 22nd-24th, 2021  
Oral Communication: [OR06] *Ruthenium (II) polypyridyl complexes as promising light-responsive antimicrobial agents* Giacomazzo G. E., Conti L., Mengoni A., Fagorzi C., Severin Sfragano P., Valtancoli B., Giorgi C.
- 1st Women in Supramolecular Chemistry (WISC) workshop\_** Cagliari 06-08/09/2021  
Flash poster communication: [B22] *Nitroimidazole-based ruthenium(II) complexes: playing with structural parameters to design photostable and light-responsive antibacterial agents*, Giacomazzo G. E., Conti L., Guerri A., Paglia M., Fagorzi C., Severin Sfragano P., Palchetti I., Pietraperzia G., Mengoni A., Valtancoli B., Giorgi C.
- XXVII Congresso Nazionale della Società Chimica Italiana (SCI2021)**, September 14<sup>th</sup>-23<sup>th</sup>, 2021  
Poster communication [PO037] *-INO New molecular systems for the monitoring of environmental pollutants*, Giacomazzo G. E., Conti L., Giorgi C., Paglia M., Giorgi L., Fusi V., Formica M., Mancini L., Valtancoli B.

## OTHER ACTIVITIES AND CERTIFICATES

- Professional qualification as Chemist** (Abilitazione all'esercizio della professione di Chimico, Esame di stato sostenuto presso l'Università degli Studi di Firenze nella seconda sessione relativa all'anno 2019)
- Reviewing activities:** Since 2022 I began my reviewing activity for *J. Inorg. Biochem.*
- Training courses on prevention and protection for general, chemical, biological, and physical risks and equipment. Certificates issued in March 2023.

## TECHNICAL AND PERSONAL SKILLS

**Languages:** Italian mother tongue, English (level B2).

**Technical competences:** Mastery in organic and metal-based supramolecular frameworks synthesis. Confident in the use and interpretation of the main commonly used characterization methods: NMR spectroscopy, HPLC/GC, MS-spectrometry, UV-Vis and Fluorescence spectroscopy.

**Informatic competences:** Confident in using the main IT systems. Microsoft Office (advanced); Software for data analysis (eg. Origin Lab) (advanced).

**Scientific communication:** Experience developed over the years of academic research work (2018-2023) in the drafting of texts in Italian and English of scientific articles, patents, experimental protocols, and research project proposals.

**Organizational and Management skills:** Excellent organizational and collaborative skills in laboratory management have been acquired over the last six years of research activities.

**Personal skills:** Propensity for learning and continuous updating. Enterprising spirit and strong propensity for achieving common objectives in teamwork.

## GRANT AND AWARDS

Stock exchange winner for participation at:

1. XV Italian Conference on Supramolecular Chemistry (Supramol2022) with a poster communication, assigned by the organizing committee of the XV Italian Conference on Supramolecular Chemistry.
2. XXVII Congresso Nazionale della Società Chimica Italiana (SCI2021) with a poster communication, assigned by Direttivo della Divisione di Chimica Inorganica.
3. 1st Women in Supramolecular Chemistry (WISC2021) workshop with a poster communication assigned by the organizing Committee of the 1st Women Supramolecular Chemistry workshop.

**May 2019:** Degree award within the Project "Orientation in the progression of career"

Firenze, 15/10/2024

**Firma autografa sostituita a mezzo stampa, ai sensi dell'art. 3, comma 2, del D.Lgs.n. 39/1993.  
L'originale della presente dichiarazione è conservato presso il Dipartimento di Chimica "Ugo Schiff".**