

## Work Experiences

- Mar 2023 – Current      **Postdoctoral Research Senior** (Department of Pharmaceutical Sciences, **University of Perugia** **Project: Development of innovative synthetic methodologies for the preparation of chemical probes for their application in the chemical-pharmaceutical and diagnostic fields**)
- Mar 2022 – Dec 2022      **Postdoctoral Research Fellowship** (Department of Pharmaceutical Sciences, **University of Perugia** in collaboration with **Chiesi Farmaceutici S. p. A.**) **Project: “Development and application of flow chemistry for the preparation of new chemical entities”.**
- Oct 2020 - Jan 2021      **Winner of the call for applications for conducting tutoring activities.** Pharmaceutical Analytical Chemistry II. Degree in Chemistry and Pharmaceutical Technologies. Prof. **Emidio Camaioni** (University of Perugia). 60 h.
- June 2015 - Sept 2015      Professional internship (600 hours). Pharmacy Ricci, Cortona, Arezzo, Italy.
- Dec 2015 - Feb 2016      Professional internship (300 hours). Pharmacy Boncompagni, Terontola, Arezzo, Italy.

## Education

- Jun 2022      **Philosophiae Doctor in Analytical Chemistry**  
Doctoral School of Chemistry 34° cycle at Alma Mater Studiorum, University of Bologna, Italy. Project: **“Development of Thermochemiluminescence-based Sensitive Probes: Synthesis, Optimization, and Characterization of C2- and C7-Substituted Acridine-containing 1,2-Dioxetanes.”** Supervisors: Prof. **Mara Mirasoli** (University of Bologna) and Prof. **Antimo Gioiello** (University of Perugia).
- Nov 2018 – Jan 2022      **PhD student in Analytical Chemistry.**  
Doctoral School of Chemistry 34° cycle at Alma Mater Studiorum, University of Bologna, Italy. Project: **“Development of Thermochemiluminescence-based Sensitive Probes: Synthesis, Optimization, and Characterization of C2- and C7-Substituted Acridine-containing 1,2-Dioxetanes.”** Supervisors: Prof. **Mara Mirasoli** (University of Bologna) and Prof. **Antimo Gioiello** (University of Perugia).
- Aug 2021 – Oct 2021      **Erasmus Traineeship** at the Center for Integrated Technology and Organic Synthesis (CiTOS), University of Liege, **Belgium**. Main research areas: **Alkene photocatalytic oxidations in continuous flow reactors: synthesis of 1,2-dioxetanes.** Supervisor: Prof. **Jean-Christophe Monbaliu**.
- Apr 2021 – May 2021      **GOS (Gruppo Operativo di Supporto) volunteer for the synthesis of guanidinium thiocyanate used for the detection of Covid-19.** Department of Pharmaceutical Sciences, University of Perugia, Italy.
- Dec 2018      **Qualification to exercise the profession of pharmacist.** Department

of Pharmaceutical Sciences, University of Perugia, Italy.

- Jan 2018-June 2018 **Erasmus Traineeship** at the Goethe University of Frankfurt, Institute of Pharmaceutical Chemistry, **Germany**.  
Main research areas: **Medicinal chemistry optimization and organic synthesis of a nuclear receptor modulator derivatives and in vitro characterization**. Supervisor: **Prof. Daniel Merk**.
- Oct 2017 Master's degree in chemistry and Pharmaceutical Technologies (Department of Pharmaceutical Sciences, University of Perugia, Italy) with full marks 110/110 *summa cum laude*, defending the experimental dissertation by title "**Identification of a Novel Class of Ligands for the PXR Receptor: Flow Synthesis and Preliminary Biological Activity of Tetracyclic Tetrahydroquinolines**". Supervisor: **Prof. Antimo Gioiello**.
- June 2016-Oct 2017 Training in Synthetic Chemistry at the research group of **Prof. Antimo Gioiello** (Department of Pharmaceutical Sciences, University of Perugia, Italy). Main research areas: **Batch and continuous flow synthesis multistep of modified biliar acids and heterocycles compounds**.
- June 2011 **Scientific High Secondary School Diploma** (Scientific High School "Giovanni da Castiglione", P.N.I. address, Castiglione Fiorentino, Arezzo, Italy).

## Teaching

- Oct 2022 - Current **Teaching support activity** for the course entitled "**Extraction and synthetic preparation of drugs**". Degree in Chemistry and Pharmaceutical Technologies (Department of Pharmaceutical Sciences, University of Perugia, Italy). Prof. **Antimo Gioiello**.
- Apr 2022 - Current **Teaching assistant** in the course "**Extraction and synthetic preparation of drugs**". Degree in Chemistry and Pharmaceutical Technologies (Department of Pharmaceutical Sciences, University of Perugia, Italy). Prof. **Antimo Gioiello**.

## Personal Skills and Competences

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|-------------------|---|
| Mother tongue     | Italian   |
| Foreign languages | Good knowledge of scientific <b>English</b> (written and spoken, B2 level), basic knowledge of <b>German</b> and <b>French</b> (A1 level)   |
| Technical skills  | Synthesis, purification, and characterization of steroidal and heterocyclic biologically active compounds under batch and continuous flow chemistry. Automated purification systems. Analysis of organic compounds using NMR, HPLC, GC-MS, FT-IR, UV-Vis, melting point instrument. |
| IT skills         | Good competence with Microsoft Office programs (Word, Power Point, Excell), IOS, and Browsers (Internet Explorer, Google Chrome, Mozilla, Firefox, Safari). Good competences of scientific software use: SciFinder, ChemOffice, ACDLab, Mestrenova.                                 |

## Scientific Publications

Ianni, F., Cerra, B., **Moroni, G.**, Varfaj, I., Di Michele, A., Gioiello, A., Carotti, A., Sardella, R. Combining molecular modeling approaches to establish the chromatographic enantiomer elution order in the absence of pure enantiomeric standards: a study case with two tetracyclic quinolines. *Sep. Sci. Plus*, **2022**. DOI: [10.1002/sscp.202200073](https://doi.org/10.1002/sscp.202200073).

Gioiello, A., **Moroni, G.**, Cerra, B. Flow and microreactor technology in medicinal chemistry. Chapter: integrated systems for continuous synthesis and biological screenings. (Alza, E., Mannhold, R., Buschmann, H., Holenz, J. Eds.), Wiley-VCH, Verlag GmbH, **2022**. DOI: [10.1002/9783527824595.ch5](https://doi.org/10.1002/9783527824595.ch5).

**Moroni, G.**, Calabria, D., Quintavalla, A., Lombardo, M., Mirasoli, M., Roda, A., Gioiello, A. Thermochemiluminescence-based sensitive probes: synthesis and photophysical characterization of acridine-containing 1,2-dioxetanes focusing on fluorophore push-pull effects. *ChemPhotoChem*, **2021**, *5*, 1-11. DOI:[10.1002/cptc.202100152](https://doi.org/10.1002/cptc.202100152).

Roda, A., Greco, P., Simoni, P., Marassi, V., **Moroni, G.**, Gioiello, A., Roda, B. Compact miniaturized bioluminescence sensor based on continuous air-segmented flow for real-time monitoring: application to bile salt hydrolase (BSH) activity and ATP detection in biological fluids. *Chemosensors*, **2021**, *9* (6), 122. DOI:[10.3390/chemosensors9060122](https://doi.org/10.3390/chemosensors9060122).

Ronchetti, R., **Moroni, G.**, Carotti, A., Gioiello, A., Camaioni, E. Recent advances in urea- and thiourea-containing compounds: focus on innovative approaches in medicinal chemistry and organic synthesis. *RSC Med. Chem.* **2021**, *12* (7), 1046-1064. DOI:[10.1039/D1MD00058F](https://doi.org/10.1039/D1MD00058F).

Cerra, B., Carotti, A., Passeri, D., Sardella, R., **Moroni, G.**, Di Michele, A., Macchiarulo, A., Pellicciari, R., Gioiello, A. Exploiting chemical toolboxes for the expedited generation of tetracyclic quinolines as a novel class of PXR agonists. *ACS Med. Chem. Lett.* **2019**, *10* (4), 677-681. DOI:[10.1021/acsmchemlett.8b00459](https://doi.org/10.1021/acsmchemlett.8b00459).

## **Poster and Oral Communications**

Bombonato, E., Ripani, L., Marcaccio, M., **Moroni, G.**, Gioiello, A., Guariento, S., Ronchi, P. Electrochemical investigation of Minisci reaction. 22nd European Symposium on Organic Chemistry (ESOC 2023), Ghent, Belgium, 9-13/07/23.

**Moroni, G.**, Silva-Brenes, D. V., Monbaliu, J. -C. M., Gioiello, A. Photochemical preparation of 1,2-dioxetanes by continuous flow technology: reaction parameters screening and optimization. XXXIX Interregional Meeting of the Italian Chemical Society (Section: Toscana, Umbria, Marche, and Abruzzo). Francavilla al Mare, Italy. 22-23/06/23.

**Moroni, G.**, Cingolani, M., Mariani, C., Genovese, D., Roda, A., Prodi, L., Gioiello, A. Synthesis and photophysical characterization of a novel class of *N*-substituted acridine-containing 1,2-dioxetanes as sensitive thermochemiluminescent probes. XXXVIII Interregional Meeting of the Italian Chemical Society (Section: Toscana, Umbria, Marche, and Abruzzo), Perugia, Italy. 1-2/09/22.

Varfaj, I., Ianni, F., Cerra, B., **Moroni, G.**, Di Michele, A., Gioiello, A., Carotti, A., Sardella R. Determination of the absolute enantiomeric configuration of two tetracyclic quinolines through combined molecular modeling approaches. XXXVIII Interregional Meeting of the Italian Chemical Society (Section: Toscana, Umbria, Marche, and Abruzzo). Perugia, Italy. 1-2/09/22.

Bombonato, E., Ripani, L., **Moroni, G.**, Guariento, S., Ronchi, P., Gioiello, A., Marcaccio, M. Electrochemical investigation of Minisci reaction. Days of the Italian Electrochemistry (GEI 2022), Orvieto, Italy. 11-15/09/22.

**Moroni, G.**, Cingolani, M., Mariani, C., Genovese, D., Roda, A., Prodi, L., Gioiello, A. Synthesis and photophysical characterization of a novel class of *N*-substituted acridine-containing 1,2-dioxetanes as sensitive thermochemiluminescent probes in distinct environments. 21st International symposium on bioluminescence and chemiluminescence & XIX international symposium on luminescence

spectrometry 2022 (21st ISBC & XIX ISLS), Gijon, Spain. 31/05/22-03/06/22.

**Moroni, G.**, Calabria, D., Mirasoli, M., Roda, A., Gioiello, A. Electron push-pull effects on fluorophores for thermochemiluminescent applications: synthesis and photochemical properties of acridine-containing 1,2-dioxetanes. 2021 online symposium on bioluminescence, chemiluminescence and luminescence spectrometry (XIX ISLS & 21st ISBC). 24/06/21.

Conti, I., Calabria, D., Roda, A., **Moroni, G.**, Gioiello, A., Garavelli, M. The fate of excited state of TCL acridine-based 1,2-dioxetane derivatives: singlet or triplet? A theoretical approach to evaluate the effect of substituents on their luminescence properties. 2021 online symposium on bioluminescence, chemiluminescence and luminescence spectrometry (XIX ISLS & 21st ISBC). 24/06/21.

Marassi, V., Roda, A., Greco, P., Simoni, P., **Moroni, G.**, Gioiello, A., Roda, B. Compact miniaturized bioluminescence sensor based on continuous air-segmented flow for real-time monitoring: application to bile salt hydrolase (BSH) activity and ATP detection in biological fluids. 2021 online symposium on bioluminescence, chemiluminescence and luminescence spectrometry (XIX ISLS & 21st ISBC). 24/06/21.

**Moroni, G.**, Guardigli, M., Calabria, D., Mirasoli, M., Roda, A., Gioiello, A. Design, synthesis, and characterization of thermochemiluminescent acridine-containing 1,2-dioxetanes as ultrasensitive labels for bioanalysis. 1<sup>st</sup> virtual symposium for young organic chemists (SCI-ViSYOChem 2020). 3-6/11/20.

### **Prizes**

**Best poster award** (1<sup>st</sup> classified) 1<sup>st</sup> virtual symposium for young organic chemists (SCI-ViSYOChem 2020). 3-6/11/20.