Leidy J. García Maza

Contact Information

Email: garcia.maza@ufrgs.br | **Phone:** + 55 51991915022 | **Website:** LeidyGarciaM.github.io

Graduated in Chemistry from the Universidad del Atlántico, Barranquilla, Colombia. Currently, a master's student in the Post-Graduation Program in Pharmaceutical Sciences of the Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brasil. Acting in the exploration of bioactive compounds for drug discovery, with a strong focus on tackling antimicrobial-resistant infections, including biofilm-associated challenges. Participation in interdisciplinary research groups in the areas of Organic Chemistry, Analytical Chemistry and Applied Microbiology. In addition, hands-on experience with advanced analytical techniques: spectroscopic (NMR one- and two-dimensional, MS, FTIR, UV-Vis); chromatographic (HPLC-UV, TLC); electrochemical (CV) and, data integration-visualization: R (statistical analysis and data visualization); Python (Scipy, Pandas, Matplotlib).

Education

Master's in Pharmaceutical Sciences (Expected 2026**)**, Universidade Federal do Rio Grande do Sul (UFRGS), Brazil.

Thesis: Scoping the unexplored marine bioactive compounds: Restinga-ecosystem bacterial and fungal metabolites as potential antibiofilm agents.
Advisor: Alexandre José Macedo, PhD.

Bachelor 's Degree in Chemistry (Winter 2022**)**, Universidad del Atlántico, Barranquilla, Colombia.

Thesis: imino Diels-Alder reaction in the construction of several tetrahydroquinoline derivatives. Study of their properties as regulatory agents of Quorum sensing in *Pseudomonas aeruginosa*.
Advisor: Carlos Meléndez Gómez, PhD.

Professional experience

HPLC Chemist Analyst (Summer 2023**),** *Supramolecular Chemistry Research Group, Universidad del Atlántico, Colombia.*

- *Developed HPLC-UV analytical methodologies for quality control of active ingredients in medicinal products within the Atlántico Department, Colombia.*

  Advisor: Victoria Arana & Andrea Ramos.

Academic Tutor (Spring 2023**),** *Educational Progress Route, Department of Atlántico, Colombia.*

- *Strengthened fundamental biology skills for upper secondary school students.*
- *Collaborated with Psycho-Pedagogical Matrices to deliver targeted educational programs.*

  Company: Psycho-Pedagogical Matrices.

Research Intern (2021 - 2022**),** *Organic and Biomedical Chemistry Research Group, Universidad del Atlántico, Colombia.*

- *Conducted organic synthesis employing conventional methodologies and established synthetic techniques.*
- *Separated and purified compounds using chromatographic techniques (thin-layer chromatography and column chromatography).*
- *Interpreted UV-Vis, IR, and NMR spectra (1H, 13C, DEPT 135, COSY, HMBC, HSQC, NOESY) and performed Mass Spectrometry (MS) analysis.*

  Advisor: Carlos Meléndez Gómez.

Research Experience, Publications, and Projects

Peer-Reviewed Publications

- **García, L.**; Salgado, A.; Kouznetsov, V. V; Meléndez, C.M., ***Pyrrolo[2,1-a]isoquinoline scaffolds for developing anti-cancer agents***., *RSC Adv*, **2024**, 14, 1710–1728. DOI: 10.1039/D3RA07047F.

- **García Maza, L.J.**; Orosco Flórez, D.F.; Salgado, A.R.M.; Rosales, W.; Mendoza-Torres, E.; Meléndez, C.M., ***A mild***

catalyzed imino Diels-Alder reaction for the synthesis of N-(2-(o-tolyl)-1,2,3,4-tetrahydroquinoline-4-yl)formamide derivatives as regulators of Quorum Sensing in Pseudomonas aeruginosa., *Results Chem.*, **2023**, 6, 101210. DOI: 10.1016/j.rechem.2023.101210.

Conference Abstracts

- **García Maza, L.J.**; Orosco Flórez, D.F.; Salgado, A.R.M.; Rosales, W.; Mendoza-Torres, E.; Meléndez, C.M., ***A mild catalyzed imino Diels-Alder reaction. Synthesis of N-(2-(o-tolyl)-1,2,3,4-tetrahydroquinoline-4-yl)formamide derivatives as antimicrobial agents***., *Expanded abstract published in the 35th Latin-American Chemistry Congress and 61st Brazilian Chemistry Congress, Rio de Janeiro, Brazil, 2022. Available at: https://www.abq.org.br/cbq/2022/trabalhos/11/253-583.html.*

Honors and Awards

- ***CAPES Scholarship, Brazil (****2024-2026****)****. Fully funded postgraduate scholarship awarded for academic excellence and potential in research.*

Skills

Laboratory Techniques

- ***Microbiology Assays:*** *Bioactive compound testing, bacterial growth studies, and biofilm formation analysis.*
- ***Organic Synthesis:*** *Design and execution of synthetic routes, including compound identification using spectroscopic techniques.*
- ***Chromatographic Techniques:*** *HPLC, TLC, and column chromatography.*
- ***Spectroscopic and Spectrometric Analysis:*** *UV-Vis, IR, NMR (1H, 13C, DEPT 135, COSY, HMBC, HSQC, NOESY), and Mass Spectrometry (MS).*

Computational Skills

- ***Programming and Data Analysis:*** *R, Python.*
- ***Scientific Software:*** *ChemDraw, SPSS, GraphPad Prism, MATLAB.*
- ***Data Management and Visualization:*** *Microsoft Excel.*

Professional Credentials

- ***Professional Chemist License***
  Issued by Professional Council of Chemistry Colombia (CPQCOL, by its acronym in Spanish).
  License Number: PQ-09181.

Courses and certifications

- **Applications of Recombinant DNA Technology: from Cancer to Fashion**
  Escola Superior Instituto Butantan - São Paulo, Brazil | Assistant
  05/2025 | Duration: 10 hours | Online

- **Uncomplicating the Biostatistics in SPSS: Fundamentals and Practical Applications for Postgraduates**
  XVI Postgraduate Program Meeting in Pharmaceutical Sciences - Federal University of Rio Grande do Sul | Assistant
  11/2024 | Duration: 04 hours | Onsite: ICBS-UFRGS, Porto Alegre, Brazil.

- **Theoretical and Practical Course: Basic Aspects of Research with Laboratory Animals**
  Centre for Reproduction and Experimentation of Laboratory Animals - Federal University of Rio Grande do Sul
  06/2024 | Duration: 34 hours | Onsite: Campus do vale-UFRGS, Porto Alegre, Brazil.

- **Advanced Course on High-Performance Liquid Chromatography (HPLC)**
  Pharmaceutical Services & Consulting - México | Assistant
  09/2023 | Duration: 16 hours | Final Score: 100/100 | Online

- **Bioinformatics Techniques for the Study of Proteins. Applications in Biomedical Research, Development, and Diagnostics**
  Global Disease Research Colombia | Assistant
  08/2022 | Duration: 48 hours | Online

Conferences and Talks

Event: 35th Latin-American Chemistry Congress and 61st Brazilian Chemistry Congress;
Type of participation: *Poster Presentation;*
Title: *A mild catalyzed Imino-Diels Alder reaction. Synthesis of N-(2-(o-tolyl)-1,2,3,4-tetrahydroquinoline-4-il)formamide derivatives as antimicrobial agents;*
Place: *RIO DE JANEIRO, BRAZIL - Windsor Florida Convention Center;*
Date: *14/11/2022 – 18/11/2022.*

Event: *Caribe Microbial Meeting;*
Type of participation: *Poster* Presentation;
Title: *Effect of a series of N-(2-(o-tolyl)-1,2,3,4-tetrahydroquinoline-4-il)formamide derivatives on bacterial growth and biofilm formation in Pseudomonas aeruginosa;*
Place: *VALLEDUPAR, COLOMBIA - Universidad Popular del Cesar;*
Date: *28/10/2022.*

Languages

- **Portuguese (**Brazil**):** Read: **C1** | Speak: **B2** | Write: **B1** | Listen: **C1**
- **English:** Read: **C1** | Speak: **B2** | Write: **C1** | Listen: **B2**
- **Spanish:** Native Speaker