

# Leidy J. García Maza

## Contact Information

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Master's student in Pharmaceutical Sciences at the Federal University of Rio Grande do Sul (UFRGS), and member of the Biofilms and Microbial Diversity research group (LaBDiM). Graduated in Chemistry from the Universidad del Atlántico in Barranquilla, Colombia. Hands-on experience in interdisciplinary research groups in the areas of Organic Chemistry, Analytical Chemistry, and Applied Microbiology. Also trained in advanced analytical techniques, including spectroscopic (one- and two-dimensional NMR, MS, FTIR, UV-Vis), chromatographic (HPLC-UV, CCD), and electrochemical (VC) methods, as well as data integration and visualization using R and Python.

## Education

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**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 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

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**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. [Certificate](#)

**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. [Certificate](#)

**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 ( $^1\text{H}$ ,  $^{13}\text{C}$ , DEPT 135, COSY, HMBC, HSQC, NOESY) and performed Mass Spectrometry (MS) analysis.

**Advisor:** Carlos Meléndez Gómez. [Certificate](#)

## Research Experience, Publications, and Projects

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### 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](https://doi.org/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](https://doi.org/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>.
- Orosco Flórez, D.F.; **García Maza, L.J.**; Salgado, A.R.M.; Rosales, W.; Mendoza-Torres, E.; Meléndez, C.M., **Effect of a series of o-tolyl (1,2,3,4-tetrahydroquinolin-4-yl)formamide derivatives on bacterial growth and biofilm formation in Pseudomonas aeruginosa.**, Abstract published in the Caribbean Microbial Meeting - Memories 2022, Valledupar, Colombia, 2022. Available at: [Memoria Caribe Microbial Meeting 2022.pdf](#)

## 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 | [Certificate](#)
- **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 | [Certificate](#)
- **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 | [Certificate](#)
- **Advanced Course on High-Performance Liquid Chromatography (HPLC)**  
Pharmaceutical Services & Consulting - México | Certified trainee

- **Bioinformatics Techniques for the Study of Proteins. Applications in Biomedical Research, Development, and Diagnostics**

Global Disease Research Colombia | Hands-on participant

08/2022 | Duration: 48 hours | Online | [Certificate](#)

## Conferences and Talks

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**Event:** [Gaúcho Bioinformatics School](#);

**Type of participation:** Participant;

**Place:** PORTO ALEGRE, BRAZIL - Brain Institute of Rio Grande do Sul;

**Date:** 21/07/2025 – 25/07/2025.

Certificate in process

**Event:** [Sustainable Drug Discovery \(S-DISCO\) Days](#);

**Type of participation:** Participant;

**Place:** GDANSK, POLAND - Online;

**Date:** 19/05/2025 – 20/05/2025.

[Certificate](#)

**Event:** [16th Meeting of the Graduate Program in Pharmaceutical Sciences](#);

**Type of participation:** Graphical Abstract Presentation;

**Title:** Scoping the unexplored marine bioactive compounds: Restinga-ecosystem bacterial and fungal metabolites as potential antibiofilm agents;

**Place:** PORTO ALEGRE, BRAZIL - Universidade Federal do Rio Grande do Sul - Cultural Center;

**Date:** 07/11/2024 - 09/11/2024.

**Event:** [Cannabis Prospects](#);

**Type of participation:** Organizer;

**Place:** BARRANQUILLA, COLOMBIA - Universidad del Atlántico - Cultural Center;

**Date:** 16/11/2023.

**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-yl)formamide derivatives as antimicrobial agents;

**Place:** RIO DE JANEIRO, BRAZIL - Windsor Florida Convention Center;

**Date:** 14/11/2022 – 18/11/2022.

[Certificate](#)

**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-yl)formamide derivatives on bacterial growth and biofilm formation in *Pseudomonas aeruginosa*;

**Place:** VALLEDUPAR, COLOMBIA - Universidad Popular del Cesar;

**Date:** 28/10/2022.

[Certificate](#)

**Event:** [2nd Caribbean Chemistry Congress](#);

**Type of participation:** Participant;

**Place:** BARRANQUILLA, COLOMBIA - Universidad del Atlántico;

**Date:** 27/02/2019 - 01/03/2019.

[Certificate](#)

## Languages

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- **Portuguese (Brazil):** Read: **C1** | Speak: **B2** | Write: **A1** | Listen: **C1**
- **English:** Read: **C1** | Speak: **C1** | Write: **C1** | Listen: **C1**
- **Spanish:** Native Speaker