

Marianne de Bedout Mora

Raleigh, North Carolina ▪ mbededo@ncsu.edu ▪ (646) 745 7243

PROFILE

Highly enthusiastic Biotechnology and Biomanufacturing Graduate Student interested in harnessing the power of microbes to develop innovative and valuable products that benefit humans and the environment. Experienced in Good Laboratory and Manufacturing Practices, with excellent communication and interpersonal skills, and a high sense of responsibility.

EDUCATION

North Carolina State University **2022 – 2024**
Master of Microbial Biotechnology GPA: 4.00
Upstream Biomanufacturing Graduate Certificate

University of Costa Rica **2018 – 2021**
Bachelor of Science in Biology, Genetics and Biotechnology Concentration GPA: 3.71
2021 Highest GPA for Biology Majors, UCR

WORK EXPERIENCE

North Carolina State University, Raleigh, North Carolina **Aug 2022 – Present**
Graduate Teaching Assistant

- Deliver high-quality education to 60+ General Microbiology and Environmental Science students, covering various topics related to bacterial diversity, metabolism, ecology, and aseptic techniques.
- Inculcate reflective and scientific thinking through the creation of an engaging learning atmosphere.

Innatrix Inc., Durham, North Carolina **May – Aug 2023**
Research and Development Intern

- Enhanced recombinant peptide production 4-fold in *E. coli* by modifying gene constructs and co-expressing target peptides with a variety of fusion proteins and fusion tags.
- Monitored cultures and authored SOPs on fermenter operations and purification methods.

Institute of Evolutionary Ecology and Conservation Genomics, Ulm, Germany **Mar – Aug 2022**
Research Intern

- Conducted ecological fieldwork and laboratory analyses (genetics, pathogen, and parasite screening) to elucidate the effect of anthropogenic activities on wildlife health and emerging zoonotic diseases.
- Evaluated and introduced 2bRAD-M sequencing to produce accurate species-level microbial taxonomic profiles from otherwise hard-to-sequence samples.

Solución Urbana, San Jose, Costa Rica **Jan 2020 – Feb 2022**
Real Estate Sales Representative and Administrative Assistant

- Devised comprehensive market reports and maintained up-to-date knowledge of rival products.
- Boosted sales by 14% by leveraging market knowledge and successful promotional strategies.

University of Costa Rica, San Jose, Costa Rica **Jan 2019 – Dec 2021**
Undergraduate Research Assistant

- Performed bacterial isolation and 16S sequencing of plant samples to characterize nitrogen-fixing bacterial communities in nodules, and their potential for conservation and bio-fertilizer development.
- Studied nodulation capacity in legume forest species according to their phylogeny and morphology.
- Executed comet assays in Creole corn varieties to analyze genomic DNA damage and protein factors involved in its repair, with possible applicability in the face of climate change.

SKILLS

- Regulatory affairs
- Project management
- Technical writing
- Technology transfer
- Business development
- cGMP fermentation
- Cell line development
- Protein purification
- Microbiome sequencing

Languages: Fluent in Spanish and English, Intermediate in French (B1), Beginner in German (A2)

Programs: Microsoft Office, R, Python, QGIS, NCBI/BLAST, ImageJ

PUBLICATIONS

de Bedout-Mora, M., Solis-Ramos, L., Valverde-Barrantes, O., & Rojas-Jiménez, K. (2022). Nodulation capacity in legume forest species (Fabaceae) according to their phylogeny and morphological characteristics. *Revista Forestal Mesoamericana Kurú*, 19(45). <https://doi.org/10.18845/rfmk.v19i45.6315>

STUDENT CONSULTING PROJECTS

FUJIFILM Diosynth Biotechnologies

Aug – Dec 2023

- Constructed an integrated database encompassing the diverse portfolio of projects the CDMO has undertaken at its different manufacturing sites, tracking down their journey through clinical trials.
- Analyzed the project repository to generate metrics for sales and marketing endeavors.

Altis Biosystems

Jan – May 2023

- Investigated the market opportunity for human-derived mucus by identifying markets of interest, compiling a competitor analysis, and obtaining insight from prospective customers.
- Provided SBIR phase II grant-writing support by developing a production and marketing plan.

W.L. Gore & Associates

Aug – Dec 2022

- Performed an in-depth analysis of the algae remediation and reutilization market and explored the applicability and viability of ePTFE as an algae harvesting material.
- Conducted outreach campaigns culminating in a final market report and recommendations.

TRAININGS AND CERTIFICATIONS

Laboratory Biological Safety Training

Aug 2022

Imparted by: North Carolina State University

II Workshop on Laboratory Animal Science

Jul 2018

Imparted by: Biological Testing Laboratory (LEBi), University of Costa Rica

INVOLVEMENT

Member, International Society for Pharmaceutical Engineering (ISPE)

Present

Member, Master of Microbial Biotechnology Alumni Network (MMBAN)

Present

Volunteer, Organic Urban Agriculture Project at Liberty Park, Costa Rica

Jul 2019 – Jul 2020

Science Communicator Author, Laboratorio de Transformación

Jan 2019 – Jan 2020

Costa Rican Representative, International Mathematical Olympiad (IMO)

Jul 2015