

ANDRÉS ARREDONDO CRUZ

Bachelor's degree in Agrogenomic Sciences. Experience in molecular biology techniques, field collection, microbiology and plant physiology. Experience in bioinformatics analysis, statistical analysis and databases.



EDUCATION

06/2024
|
06/2019

Bachelor's Degree in Agrogenomic Sciences

ENES León, UNAM

📍 León, Guanajuato

- Thesis titled "Study of Specialized Metabolism in Metagenomes of Hydrocarbon-Contaminated Oceans", [UNAM Repository, 2024](#).
- Service and internship at the Interdisciplinary Research Laboratory [LII](#) under ISO 9001 2015 standard.
- Professional license [14665861](#).

RESEARCH EXPERIENCE

Present
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02/2025

Research Stay

Center for Genomic Sciences, UNAM

📍 Cuernavaca, Morelos

- Research on signaling metabolites of nitrogen-fixing bacteria in beans for bio-input prospecting.
- Search for metabolite-regulatory entity interactions in bacteria.

01/2025
|
01/2024

Professional Internship

[C3](#)

📍 Virtual

- App development for the [Museum of Mathematics](#) on statistical measures of biological diversity.
- Content reviewer for online platforms.

06/2024
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09/2023

Research Stay

Bioinformatics Laboratory Center for Mathematical Sciences UNAM

📍 Morelia, Michoacan

- Processing of environmental biological samples for the search of degradation genes and metabolite production.
- Tutoring students on bioinformatics tools and server usage.

05/2023
|
05/2022

Environmental Sample Analyst

BetterLab

📍 [Agrobioteg Innovation Park](#)

- Processing of raw data from environmental biological samples and implementation of software for metagenomic data.
- DNA extraction and PCR workshops

CONTACT

✉ aarredondo.csc@gmail.com

🌐 [Website](#)

🐙 [Github](#)

🌐 [linkedin](#)

📞 (+52) 4561140908

SKILLS

Experimental

Molecular Biology, Microbiology and Plant Physiology techniques under ISO 9001:2015 standard

Computational

Statistical analysis, Advanced programming in R and Python, Database management, Neural network training, Scripting

Proficiency: R, Python, Bash
Familiarity: Perl, css, HTML, SQL

Languages

English - B2 (TOEFL iBT 80 pts)
Spanish - Native

INTERESTS

Agriculture - Omics - Plant Sciences
Genome mining - Microbiome - R development - Functional regulation

05/2023
|
05/2023

Research Stay

Institute of Marine Sciences and Limnology

📍 CDMX, México

- Development of an R package for genome mining.



ARTICLES

01/2025

MIBiG 4.0: advancing biosynthetic gene cluster curation through global collaboration

Bioinformatics Laboratory CCM

📍 Morelia, Michoacán

- Curation of the MIBiG 4.0 natural products database. [Google scholar](#).



TALKS AND POSTERS

Current
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04/2025

Symposium: Molecular Study of Plant-Microorganism Interaction

Poster

📍 Cuernavaca, Morelos

- Identification of signaling metabolites in the symbiotic interaction between *Rhizobium phaseoli* and *Phaseolus vulgaris*

06/2023

Annual Bioconductor Conference

Poster

📍 Virtual

- MetaEvoMining: a tool for exploring new biosynthetic pathways applied to metagenomic data from a contaminated ocean.

2023

MetaEvoMining: a tool for the exploration of unknown enzymes in metagenomic data

Teaching assistant and invited speaker

📍 Virtual

- Intersemester Course "Metagenome Analysis" at ICMyl

11/2022

ISCB International Conference on Bioinformatics

Poster

📍 Queretaro, México

- "Study of Specialized Metabolism in Metagenomes of Hydrocarbon-Contaminated Oceans".



VOLUNTEERING

Present
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2024

Volunteer at ISCB Student Council. RSG Mexico

International Society for Computational Biology

📍 Virtual

- Planned monthly academic events (journal clubs), coordinated speakers, and handled communication.
- Networking Committee of the second symposium [SEH2-Bioinfo](#).
- Maintenance of the [RSG Mexico](#) website.



AWARDS

6/2024

First Place in Wikipedia Contest

ISMB-ISCB Montreal 2024

📍 Virtual

- For the creation of the article “Genome Mining”.

07/2023

CAMDA 2023 Hackathon

Poster

📍 Morelia, Michoacán

- Participated as a member of the winning team in the Antimicrobial Resistance Prediction and Forensics challenge at the [CAMDA-ISCB 2023](#).

11/2022

Second Place in Wikipedia Edit-a-thon

ISCB-LA SolBio BioNetMX 2022

📍 Queretaro, México

- For the article “Amplicon Sequence Variant”.



WORKSHOPS ATTENDED

8/2025

08/27/2025

Fundamentals of Deep Learning

IBT UNAM

📍 Cuernavaca, Morelos

- Fundamentals of deep learning, taught by NVIDIA Deep Learning Institute.

1/2025

01/20/2025

Workshop on Scientific Programming and Biological Data Analysis

Center for Mathematical Sciences

📍 Morelia, Michoacán

- Update workshop on Git, Illustrator, Python for data analysis.
- Lesson on web design HTML, css, javascript, node.js.

11/2022

Pangenomics Workshop

Center for Mathematical Sciences

📍 Morelia, Michoacán

9/2022

First Latin American Workshop on Genome Mining of Natural Products

CIMAT

📍 Guanajuato, México

6/2022

Advanced Metagenome Analysis “Creating Your Analysis Workflows with R/Bioconductor”

Community of Software Developers in Bioinformatics

📍 Virtual

10/2021

Metagenomics Workshop

Betterlab

📍 León, Guanajuato



WORKSHOPS TAUGHT

11/2024

“Navigation Commands and How to Access a Server”

Talk for RSG Mexico Bash course

📍 Virtual

- Course for beginners in the use of bash commands taught by the student council of ISCB Mexico region.

8/2024

Second Latin American Workshop on Genome Mining of Natural Products

[CIMAT](#)

📍 Guanajuato, México

- Lesson reviewer and teaching assistant.

08/2024

“Introduction to genome mining”

Bioinformatics Laboratory CCM

📍 [The Carpentries](#)

- Writing of the chapter for the lesson “Genome Mining in Prokaryotes”.
- Lesson review and maintenance.

08/2023

“R Package Documentation with roxygen2”

Workshop

📍 [CDSB 2023](#)

- Workshop on “Creating R/Bioconductor Packages for Single-Cell Transcriptomic Analysis”.
- Development of chapter 13 of the workshop book.

01/2023

“Programming Languages: bash, R and Python”

Department of Continuing Education General Coordination of Graduate Studies UNAM

📍 Virtual

- Intersemester course “Introduction to Bioinformatics”.
- Teaching assistant and invited speaker.

11/1/2022

“Clustering Protein Sequences”

Bioinformatics Laboratory CCM

📍 [The Carpentries](#)

- Writing of the chapter for The Carpentries lesson “Pangenome Analysis in Prokaryotes”.

Made with the R package [pagedown](#).

The source code is available at
[aarredondoc/CV](#)
and is powered by [nstrayer/cv](#).

Last updated on 2025-12-07.