Curriculum vitae
Miguel Ángel González Arias

PERSONAL INFORMATION

Place and date of birth: Mexico city, Mexico. April 08, 1996 (28 years old)
Mail: gamamiguelangel@gmail.com
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Socials: X (Twitter), @miangoar; GitHub, @miangoar; Personal website, miangoaren.github.io

EDUCATION

Master degree in Biochemical Sciences (graduated with honors)   Cuernavaca, Morelos
Institute of Biotechnology, National Autonomous University of Mexico (UNAM)   *Aug. 2020 – Mar. 2024*
- Thesis: Comparative evaluation of protein language models for betalactamase classification and prediction of their catalytic activity
- Advisors: Alejandro Angel Garciarrubio Granados and Lorenzo Patrick Segovia Forcella
- Second advisors: José Arcadio Farías Rico and Francisco Xavier Soberón Mainero

Bachelors degree in Biology   Coyoacan, Mexico city
Faculty of Sciences, UNAM   *Aug. 2015 – Jan 2021*
- Thesis: Genome reconstruction from metagenomes of the Gulf of Mexico
- Advisor: Lorenzo P. Segovia Forcella

Certified proficiency in English (equivalent to B2)   Coyoacan, Mexico city
National School of Languages, Linguistics and Translation, UNAM   *Nov. 2019*

SKILLS AND EXPERIENCE

Biology: molecular biology, biochemistry, protein evolution, protein structure and function, phylogenomics, microbial ecology, metagenomics, next generation sequencing, comparative genomics, systems biology.

Informatics: python, R (basics), bash (Linux-GNU), computer hardware, data warling, data visualization, machine learning, deep learning, high performance computing (Oracle Grid Engine), cloud computing (Microsoft Azure and Google Colab), office suite tools, ChatGPT.

Languages: Spanish (native), English (B2).

Soft skills: organization, self-taught, story telling, curiosity, adaptability, friendly.

TEACHING EXPERIENCE

- **(Bachelor's thesis advising) Díaz López, Emiliano (2024). Evaluation of virtual phlogenomic methodologies for the identification and classification of Archaea**
  Gustavo A. Madero, Mexico city, National School of Biological Sciences (IPN), May. 2024

- **(Lecture) Introduction to microbial genomics and taxogenomics**
  Coyoacan, Mexico city, Institute of Marine Sciences and Limnology, UNAM, Sep. 2023

- **(Lecture) Introduction to protein science with machine learning**
  Cuernavaca, Morelos, Center for Genomic Sciences, UNAM, Feb. 2023

- **(Lecture) Introduction to microbial ecology and metagenomics**
  Coyoacan, Mexico city, Faculty of Sciences, UNAM, Jun. 2021

- **(Lecture) Genome reconstruction from metagenomes**
  International, Virtual event in colaboration with WinterGenomics, Jun. 2020

SCIENCE COMMUNICATION EXPERIENCE

Genome workshop   Cuernavaca, Morelos
American Educational Center   Nov. 2019

Festival of sciences and humanities   Coyoacan, Mexico city
UNAM science Museum (Universum)   Oct. 2019

Resource: [Personal blogpost on protein science and other topics](#)
Social media

Resource: [Annual biology student tips series](#)
Social media

COURSES AND SCHOLARSHIPS

Awarded scholarship: 1st Latin american workshop on genome mining   Guanajuato, Mexico
Mathematics Research Center   2022

Awarded scholarship: Representation Learning in Biology ISMB/ECCB 2021   International
Virtual event   2021

Awarded scholarship: Introduction to cloud computing with Microsoft Azure (AZ-900)   Mexico
Virtual event   2021

Awarded scholarship: Scholarship for master's studies by the UNAM   Cuernavaca, Morelos
Institute of Biotechnology, UNAM   2021

Course: Tools for the analysis of metagenomic data   Cuernavaca, Morelos
Institute of Biotechnology, UNAM   2020

Awarded scholarship: 4th International Symposium on Bioinformatics   Cuernavaca, Morelos
National Institute of Public Health   2019

Course: Whole metagenome shotgun analysis and comparative genomics   Cuernavaca, Morelos
Gulf of Mexico Research Consortium   2018

CODE EXAMPLES

- [Phylogenetic analysis and ancestral sequence reconstruction](#)

- [Protein structure analysis of predicted models from ESMAtlas](#)

- [Batched protein structure prediction with ESMFold and Google drive](#)

- [Download thousands of predicted structures from the AlphaFold Database](#)

- [Amino acid conservation parsing into PDB files](#)

- [Make ChimeraX visualization of the "protein folding" process by ESMFold](#)

ACADEMIC REFERENCES

- **Lorenzo Patrick Segovia Forcella**
  Institute of Biotechnology, UNAM
  Contact: lorenzo.segovia@ibt.unam.mx

- **Alejandro Angel Garciarrubio Granados**
  Institute of Biotechnology, UNAM
  Contact: alejandro.garciarrubio@ibt.unam.mx

- **José Arcadio Farías Rico**
  Center for Genomic Sciences, UNAM
  Contact: jafarias@ccg.unam.mx

- **José Luis Puente García**
  Institute of Biotechnology, UNAM
  Contact: jose.puente@ibt.unam.mx

- **Claudia Martínez Anaya**
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- **Luis David Alcaraz Peraza**
  Faculty of Sciences, UNAM
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