Alejandro Gil-Gómez

Ph.D. Candidate in Ecology and Evolution

75 Rocky Point Yaphank Rd #128
Rocky Point, NY. 11778
631-542-3500
alejandro.gilgomez@stonybrook.edu
https://github.com/Alexggo

SUMMARY

Ph.D. Candidate with diverse interests in evolutionary biology and bioinformatics

Advanced computational skills (R, bash scripting, python, AWS, HPCC, git)

Skilled in phylogenetics and differential expression analysis

Experience in creating scientific presentations

EDUCATION AND RESEARCH EXPERIENCE

Stony Brook University, Stony Brook, NY. - *Doctoral Program, Ecology and Evolution*

August 2018 - Present

- **Advanced to candidacy: 2021**
- **Evolution of antibiotics and their targets: phylogenetics, rates, interactions, and natural history.**
  - **Phylogenetic reconciliation of antibiotic biosynthetic genes**
  - **Target evolution in response to natural antibiotics.**
  - **Evolution of biological networks using drug interactions.**
- *Graduate Research Assistant, Collier, and Rest labs*

June 2021 - June 2022

- Sample preparation for Proteomics in LC-MS/MS
- Differential Expression Analysis of Proteomics Data

Study Abroad, Stony Brook University

- **Department of Ecology and Evolution, Stony Brook, NY** - *Undergraduate and Graduate Research Assistant at Rest Lab*

January 2016 - August 2018

- Developed an Opentron-OT2 robotic pipetting protocol for microplates in python.
- Developed lab experiments for colorimetric assays and flow cytometry to determine cell viability

Universidad Autónoma de Madrid, Madrid, Spain. - *BSc Biology*

September-2013 - May-2016

- *Undergraduate Research Assistant*

August 2016 - May 2018

- Quantification and analysis of yield and height of quinoa cultivars in Teruel, Spain.
- Quantification and analysis of quinoa seeds using ImageJ to assess phenotypic plasticity.

- Data analysis using R and SPSS.

Fundacion Lair, Madrid, Spain - *Undergraduate Research Internship*

May 2015 - August 2015

- Quantification and analysis of Flow Cytometry samples for diagnosing patients with Chronic Lymphocytic Leukemia, using immunofluorescent markers.
- Sorting chronic lymphocytic T8 cells from the blood of hospital patients and murine models using FACS.

PUBLICATIONS

- Gil-Gomez, A. and Rest, J. Wiring between close nodes in biological networks evolves more quickly than between distant nodes. (manuscript)
- Gil-Gomez, A., Karthikaichamy, A., Matus, D., Adikes, R., Rest, J., Collier, J. Proteomics of the zoospore to vegetative cell transition in Aurantiochytrium limacinum reveals putative constituents of the bothrosome and ectoplasmic network. (manuscript)
- Reguera, M., Conesa, C. M., Gil-Gómez, A., Haros, C. M., Pérez-Casas, M. Á., Briones-Labarca, V. & Mujica, Á. (2018). The impact of different agroecological conditions on the nutritional composition of quinoa seeds. PeerJ, 6, e4442.

POSTERS AND PRESENTATIONS

- Gil-Gomez, A., Davalos, L. and Rest, J. Beyond Resistance: Tracing the Ancient Threads of Antibiotic Evolution and Their Impact on Microbial Genomes. TAGC24 Metting, National Harbor, 2024.
- Gil-Gomez, A. and Rest, J. Evolution of Biological Networks: Factors affecting Network Rewiring Rates. Journal of Molecular Evolution Advances Meeting, Washington DC, 2023.
- Gil-Gomez, A. and Rest, J. Evolution of Biological Networks: Factors affecting Network Rewiring Rates. Evolution, Cleveland, OH, 2022
- Gil-Gomez, A., and Rest, J. Genetic variation in drug-drug interactions in Saccharomyces cerevisiae. Ureca, Stony Brook, 2017.

AWARDS

- Genetics Society of America. TACG24 Registration Award, 2024
- Stony Brook Ecology and Evolution Department, Slobodkin Award ($1000), 2023
- Graduate Student Organization ($300), 2022
- Society for the Study of Evolution ($500), 2022
- Stony Brook Ecology and Evolution Department, Slobodkin Award ($800), 2021
- Stony Brook Ecology and Evolution Department, George Williams Award ($900), 2019
- Ecology and Evolution Recruitment Fellowship, 2018
- International Exchange Agreement UAM-SBU, 2016-2017

TEACHING EXPERIENCE

Instructor of Record, Stony Brook University, Stony Brook, NY.

- Bioinformatics – Fall 2023

Graduate Teaching Assistant, Stony Brook University, Stony Brook, NY

- Bioinformatics – Fall 2018, 2019, 2020, 2022
- Ecological Genetics– Summer 2020, Spring 2023, 2024
- Evolution – Summer 2020
- Fundamentals of Biology: Organisms to Ecosystems, Spring 2020
- Molecular Diversity Lab – Spring 2019

ACTIVITIES

- Student Mentor, Ecology and Evolution Ph.D. Program, 2021-2023
- E&E Representative for Darwin Day, Student Outreach on Evolution, 2020, 2023
- Student Mentor, European Night of Researchers, 2018
- Student Representative, Biology UAM, 2017

OTHER RELEVANT SKILLS AND TRAINING

Safety certifications

- EHS – Lab Safety Supervisor, 2019
- EHS – Lab Safety Formaldehyde, 2017
- EHS – Lab Safety Biological Hazards, 2017
- EHS – Lab Safety Chemical Hazards, 2017

Language Certifications (CEFR)

- Spanish, Native Language
- English C1, TOEFL 2017
- German B2, Escuela Oficial de Idiomas

Other Skills

- Public speaking, scientific writing, lab management.