

Luigui Gallardo-Becerra

Data Scientist and Bioinformatician

*Ph.D. candidate passionate about science and technology,
looking for new challenges to apply and expand my skills
in Data Science and Bioinformatics.*

About me

- As a graduate researcher, I participated in different projects using modern genomic technologies and Data Science applied to biological data to obtain novel information.
- Recently finished Google's "Data Analytics Professional Certificate", and Codecademy's "Data Scientist: Machine Learning Specialization".

Experience

2016-2022 **Ph.D. Researcher**, *Institute of Biotechnology, National Autonomous University of Mexico.*

I was part of different research projects. From the beginning, obtaining or creating the raw data, to the final report or publication. The tasks that I carried out includes the following:

- Manage research projects: creation of main and secondary objectives/research questions.
- Server management: installation of Linux operative system, installation of specific software, avoid server slowdowns, and built secure server environments.
- Creation of pipelines: using bash, python, Snakemake, and Rabix Composer, creating pipelines to avoid repetitive workflows and make reproducible analysis.
- Software development: using bash, python, Perl, and R, developing several software tools to solve achieve specific goals.
- Creation of plots: using R, Rstudio, Jupyter Notebooks, Excel, Graphpad, and Tableau.
- Maintenance of GitHub account: creation and maintenance of repositories on GitHub.
- Creation of reports/publication: using Markdown and Word, I delivered weekly and biannual reports to the members of the Laboratory. Also, I co-authored peer-reviewed publications that are highly cited in their respective areas.
- Presentations to the general public and academic events: participate in scientific dissemination, and specialized seminars and congress.

2014-2016 **Mathematics Teacher**, *Student Coaching, Guadalajara, Mexico.*

- Taught regularization classes to middle and high school students.
- Taught advanced classes to high school students for university entrance.

Education

- 2019-2022 **Ph.D.**, *Institute of Biotechnology, National Autonomous University of Mexico, Cuernavaca, Mexico.*
- 2016-2019 **Master of Science**, *Institute of Biotechnology, National Autonomous University of Mexico, Cuernavaca, Mexico.*
- 2012-2016 **Bachelor of Biology**, *University of Guadalajara, Guadalajara, Mexico.*

Skills

- I am a fast learner and could quickly adapt to new technologies.
- If I don't know something, I always search for a way to learn it.
- I possess excellent problem-solving capabilities.
- I can manage a significant workload or several projects from different areas without losing track of them.

Programing Languages:

- Python
- R
- SQL
- Bash
- Perl
- C++
- HTML & CSS

Bioinformatics skills:

- 16S rRNA profiling
- Genome/Transcriptome assembly and annotation
- Metagenomics
- Metatranscriptomics
- Viromics

Tools:

- Git
- Google Cloud
- AWS
- Linux
- Tableau
- Docker
- Snakemake
- Jupyter Notebooks
- Rstudio

Languages

- English – Full professional proficiency
- Spanish – Native

Publications

1. Palomino-Hermosillo, Y. A., Berumen-Varela, G., Ochoa-Jiménez, V. A., Balois-Morales, R., Jiménez-Zurita, J. O., Bautista-Rosales, P. U., Martínez-González, M. E., López-Guzmán, G. G., Cortés-Cruz, M. A., Guzmán, L. F., Cornejo-Granados, F., Gallardo-Becerra, L., Ochoa-Leyva, A., & Alia-Tejacal, I. (2022). Transcriptome Analysis of Sour-sop (*Annona muricata* L.) Fruit under Postharvest Storage Identifies Genes Families Involved in Ripening. *Plants*, 11(14), 1798. <https://doi.org/10.3390/plants11141798>
2. Ochoa-Romo, J. P., Cornejo-Granados, F., Lopez-Zavala, A. A., Viana, M. T., Sánchez, F., Gallardo-Becerra, L., Luque-Villegas, M., Valdez-López, Y., Sotelo-Mundo, R. R., Cota-Huizar, A., López-Munguia, A., & Ochoa-Leyva, A. (2022). Agavin induces beneficial microbes in the shrimp microbiota under farming conditions. *Scientific Reports*, 12(1, 1), 6392. <https://doi.org/10.1038/s41598-022-10442-2>
3. Gallardo-Becerra, L., Cornejo-Granados, F., García-López, R., Valdez-Lara, A., Bikel, S., Canizales-Quinteros, S., López-Contreras, B. E., Mendoza-Vargas, A., Nielsen, H., & Ochoa-Leyva, A. (2020). Metatranscriptomic analysis to define the Secrebiome, and 16S rRNA profiling of the gut microbiome in obesity and metabolic syndrome of Mexican children. *Microbial Cell Factories*, 19(1), 61. <https://doi.org/10.1186/s12934-020-01319-y>
4. Cornejo-Granados, F., Lopez-Zavala, A. A., Gallardo-Becerra, L., Mendoza-Vargas, A., Sánchez, F., Vichido, R., Briebe, L. G., Viana, M. T., Sotelo-Mundo, R. R., & Ochoa-Leyva, A. (2017). Microbiome of Pacific Whiteleg shrimp reveals differential bacterial community composition between Wild, Aquacultured and AHPND/EMS outbreak conditions. *Scientific Reports*, 7(1), 11783. <https://doi.org/10.1038/s41598-017-11805-w>
5. Cornejo-Granados, F., Gallardo-Becerra, L., Leonardo-Reza, M., Ochoa-Romo, J. P., & Ochoa-Leyva, A. (2018). A meta-analysis reveals the environmental and host factors shaping the structure and function of the shrimp microbiota. *PeerJ*, 6, e5382. <https://doi.org/10.7717/peerj.5382>
6. Bikel, S., López-Leal, G., Cornejo-Granados, F., Gallardo-Becerra, L., García-López, R., Sánchez, F., Equihua-Medina, E., Ochoa-Romo, J. P., López-Contreras, B. E., Canizales-Quinteros, S., Hernández-Reyna, A., Mendoza-Vargas, A., & Ochoa-Leyva, A. (2021). Gut dsDNA virome shows diversity and richness alterations associated with childhood obesity and metabolic syndrome. *iScience*, 24(8), 102900. <https://doi.org/10.1016/j.isci.2021.102900>
7. Bikel, S., Gallardo-Becerra, L., Cornejo-Granados, F., & Ochoa-Leyva, A. (2022). Protocol for the isolation, sequencing, and analysis of the gut phageome from human fecal samples. *STAR Protocols*, 3(1), 101170. <https://doi.org/10.1016/j.xpro.2022.101170>

Certifications and Awards

- Google Data Analytics Specialization - 2022
- Data Scientist: Machine Learning Specialization, Codecademy - 2021
- Honoric mention in Bachelor Degree - 2017

- First place in the XVI State Contest of Physics Apparatus and Experiments - 2011
- Honorable mention in ExpoCiencias Nacional, Tlaxcala 2010 with science dissemination project - 2010
- Second place in the State Competition of the XXIII Mexican Mathematics Olympiad - 2010
- Third place in the XIX University Olympiad of Mathematics - 2009
- Second place in the State Competition of the XXI University Olympiad of Mathematics - 2009