Dr. José Manuel Villalobos Escobedo

Researcher at the Integrative Biology Unit
National System of Researchers Level I

Contact:

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Professional experience:

- Researcher – Institute for Obesity Research, Tecnológico de Monterrey, México (2024 – to date)
- Postdoctoral Scientist – University of California, Berkeley, USA (2020-2024)
- Visiting Professor - Unidad de Genómica Avanzada-Cinvestav campus Irapuato, Mexico (2019 - 2020)
- Postdoctoral Fellow - Unidad de Genómica Avanzada-Cinvestav campus Irapuato, Mexico (2019)

Degrees:

- PhD in Plant Biotechnology - Advanced Genomics Unit-Cinvestav (2019)
- Master's Degree in Plant Biotechnology - Advanced Genomics Unit-Cinvestav (2014)
- Biochemical Engineering - Technological Institute of Tuxtla Gutierrez (2011)

Research areas:

- Study of molecular mechanisms in bacterial-fungal interaction.
- Synthetic biology in filamentous fungi.
- Functional genomics in cultures of Mexican origin.
- Study of the human microbiome and its association with obesity.

Selected publications:

1. Maini Rekdal, V., Villalobos-Escobedo, J. M., Rodriguez-Valeron, N., Olaizola Garcia, M., Prado Vásquez, D., Rosales, A., & Keasling, J. D. (2024). Neurospora intermedia from a traditional fermented food enables waste-to-food conversion. Nature Microbiology, 1-18.
2. Pola-Sánchez, E., Hernández-Martínez, K. M., Pérez-Estrada, R., Sélem-Mójica, N., Simpson, J., Abraham-Juárez, M. J., & Villalobos-Escobedo, J. M. (2024). RNA-Seq Data Analysis: A Practical Guide for Model and Non-Model Organisms. Current Protocols, 4(5), e1054. *Corresponding author.
3. Enriquez-Felix, E. E., Pérez-Salazar, C., Rico-Ruiz, J. G., Calheiros de Carvalho, A., Cruz-Morales, P., Villalobos-Escobedo, J. M., & Herrera-Estrella, A. (2024). Argonaute and Dicer are essential for communication between Trichoderma atroviride and fungal hosts during mycoparasitism. Microbiology Spectrum, 12(4), e03165-23. *Co-corresponding author.
4. Villalobos-Escobedo, J. M., Mercado-Esquivias, M. B., Adams, C., Kauffman, W. B., Malmstrom, R. R., Deutschbauer, A. M., & Glass, N. L. (2023). Genome-wide fitness profiling reveals molecular mechanisms that bacteria use to interact with Trichoderma atroviride exometabolites. PLoS Genetics, 19(8), e1010909. *Co-corresponding author.

Awards and Recognitions:

- SNI1 National Researcher in Mexico (2025 – 2030)

Current projects:

- Isolation, genomic sequencing and metabolomic characterization of filamentous fungi of Mexican origin.
- Whole genome sequencing of Agave and papaya.
- Functional annotation of genes through a non-targeted metagenesis approach in the complete genome of Trichoderma atroviride.
- Construction of a predictive model of metabolic diseases from patient metagenomic data.