José I. Rojas Echenique

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University of Toronto
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Education

2019 PhD in Organismic and Evolutionary Biology, Harvard University.

2010 BA in Biology with a specialization in Ecology and Evolution, University of Chicago.

Research

2019—now Boone and Andrews labs, University of Toronto. Characterizing patterns of epistasis in wild budding yeast populations.

2013—2018 Desai lab, Harvard University. Characterizing patterns of epistasis in experimental budding yeast populations.

2011—2013 Marx lab, Harvard University. Predicting epistasis with mathematical models of bacterial metabolism.

2009—2010 Allesina lab, University of Chicago. Modeling the dynamics of intransitive competitive relationships.

Publications

2019 Ba, Alex N Nguyen*, Cvijović, Ivana*, **Rojas Echenique, José I***, Lawrence, K. R., Rego-Costa, A., Liu, X., Levy, S. F., and Desai, M. M. (2019). High-resolution lineage tracking reveals travelling wave of adaptation in laboratory yeast. *Nature*, 575(7783):494–499

2019 **Rojas Echenique, José I.**, Kryazhimskiy, S., Nguyen Ba, A. N., and Desai, M. M. (2019). Modular epistasis and the compensatory evolution of gene deletion mutants. *PLOS Genetics*, 15(2):e1007958

2013 Delaney, Nigel F*, **Rojas Echenique, José I***, and Marx, C. J. (2013). Clarity: an open-source manager for laboratory automation. *Journal of laboratory automation*, 18(2):171–177

2011 **Rojas-Echenique, José** and Allesina, S. (2011). Interaction rules affect species coexistence in intransitive networks. *Ecology*, 92(5):1174–1180

Conference presentations

Talks

2016 **Rojas Echenique, José I**, Nguyen Ba, A. N., Kryazhimskiy, S., and Desai, M. M. (2016). High-throughput measurements of the evolutionary consequences of epistasis. Presented at the Allied Genetics Conference

2014 **Rojas Echenique, José I** and Marx, C. J. (2014). Modeling methanol catabolism in *Methylobacterium extorquens*. Invited speaker at the Molecular Basis of Microbial One-Carbon Metabolism Gordon Research Seminar

Posters

2017 **Rojas Echenique, José I**, Nguyen Ba, A. N., and Desai, M. M. (2017). Dynamics of second order lineage competition revealed by recursive lineage tracking. Presented at the Molecular Mechanisms in Evolution Gordon Research Conference and Seminar

2015 **Rojas Echenique, José I** and Marx, C. J. (2015). Epistasis in a bacterial metabolic network. Presented at the Microbial Population Biology Gordon Research Conference and Seminar

2012 **Rojas Echenique, José I**, Chubiz, L., and Marx, C. J. (2012). Epistasis in the context of redundant pathways for formaldehyde oxidation. Presented at the Molecular Basis of Microbial One-Carbon Metabolism Gordon Research Seminar

Peer review

- Oikos

- PLOS Computational Biology

Teaching

University of Toronto

2019 **MMG1001: Genomics** Designed weekly computational genomics labs.

Harvard University

2016—2018 **SPU22: The Unity of Science** Taught weekly lecture review sessions and designed labs.

2017 **OEB10: Foundations of Biological Diversity** Led weekly labs.

2015 **SLS12: Understanding Darwinism** Led weekly lecture review sessions.

2014 **FS24p: Getting to Know Charles Darwin** Co-led discussion based seminar and labs.

2012 **OEB100: Evolution in Action** Co-designed this lab intensive class.

Awards

- Simons award from the Harvard Center for Biological Imaging
- Smith Family Graduate Science and Engineering Fellowship (Full tuition, stipend, and an additional $5,000 research award)