David Angeles-Albores

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Education

2013–2018 **Ph.D.**, Biochemistry and Molecular Biophysics,
California Institute of Technology
Defense Date: 18 September, 2018
Degree Awarded: 31 October, 2018

2009–2013 **B.A., *cum laude***, Biology
Cornell University

Appointments

11/2019 - **Computational Biologist II**, eGenesis
One of two founding members of the computational biology unit.
Introduced ATAC-seq, scRNA-seq and scATAC-seq to eGenesis.
Created an atlas of the pig kidney cortex
Used the above methods to generate a compendium of promoters that stably express genes ubiquitously or with high tissue-specificy at desired levels with low burstiness. *Patent pending*.

7/2020 - **Visiting Scholar**, Laboratory of Ilya Ruvinsky,
Northwestern University
I collaborate with the Ruvinsky lab on RNA-seq analysis of *C. elegans* biology.

01/2019–11/2019 **Postdoctoral Associate**, Laboratory of Eric J. Alm,
Massachusetts Institute of Technology
I performed research on microbiome analysis. I terminated my postdoctoral research prematurely as a result of a personal loss, unrelated to my work at MIT.

11/2018–01/2019 **Postdoctoral Fellow**, Labs of Paul W. Sternberg and Matt Thomson,
California Institute of Technology
I used this short period immediately following my Ph.D to finish some projects working with my Ph.D. advisor, Paul Sternberg, and a member of my committee, Matt Thomson, before moving on to my final postdoctoral position at MIT in January 2019. I studied algorithms for analysis of CRISPR screens in mammalian cells, using transcriptomes as phenotypes for genetic analysis.

Research Publications

† *denotes equal contributions.*

Journal Articles

1 Basta, D. W., **Angeles-Albores, D.**, Spero, M. A., Ciemniecki, J. A., & Newman, D. K. (2020). Heat-shock proteases promote survival of Pseudomonas aeruginosa during growth arrest.

Proceedings of the National Academy of Sciences of the United States of America. doi:10.1073/pnas.1912082117

2 Duncan, E. M., Nowotarski, S. H., Guerrero-Hernández, C., Ross, E. J., D'Orazio, J. A., Clubes de Ciencia México, W. f. D. B., … Alvarado, A. S. (2020). A new species of planarian flatworm from mexico: Girardia guanajuatiensis. *bioRxiv*. doi:10.1101/2020.07.01.183442. eprint: https://www.biorxiv.org/content/early/2020/07/02/2020.07.01.183442.full.pdf

3 **Angeles-Albores, D.**, & Sternberg, P. W. (2018). Using Transcriptomes as Mutant Phenotypes Reveals Functional Regions of a Mediator Subunit in *Caenorhabditis elegans*. *Genetics*, genetics.301133.2018. doi:10.1534/genetics.118.301133

4 †**Angeles-Albores, D.**, †Puckett Robinson, Williams, B. A., Wold, B. J., & Sternberg, P. W. (2018). Reconstructing a metazoan genetic pathway with transcriptome-wide epistasis measurements. *Proceedings of the National Academy of Sciences*, 201712387. doi:10.1073/pnas.1712387115

5 †**Angeles-Albores, D.**, †Leighton, D. H. W., Tsou, T., Khaw, T. H., Antoshechkin, I., & Sternberg, P. W. (2017). The *Caenorhabditis elegans* Female-Like State: Decoupling the Transcriptomic Effects of Aging and Sperm Status. *G3 (Bethesda, Md.) 7*(9), 2969–2977. doi:10.1534/g3.117.300080

6 **Angeles-Albores, D.**, N. Lee, R. Y., Chan, J., & Sternberg, P. W. (2016). Tissue enrichment analysis for *C. elegans* genomics. *BMC Bioinformatics*, *17*(1), 366. doi:10.1186/s12859-016-1229-9

7 Albores-Saavedra, J., Chable-Montero, F., **Angeles-Albores, D.**, Schwartz, A., Klimstra, D. S., & Henson, D. E. (2011). Early Gallbladder Carcinoma. *American Journal of Clinical Pathology*, *135*(4), 637–642. doi:10.1309/AJCPFRKCFEDLV03Y

8 Albores-Saavedra, J., Schwartz, A. M., Henson, D. E., Kostun, L., Hart, A., **Angeles-Albores, D.**, & Chablé-Montero, F. (2011). Cutaneous angiosarcoma. Analysis of 434 cases from the surveillance, epidemiology, and end results program, 1973-2007. *Annals of Diagnostic Pathology*, *15*(2), 93–97. doi:10.1016/j.anndiagpath.2010.07.012

μPublications

1 **Angeles-Albores, D.**, N. Lee, R. Y., Chan, J., & Sternberg, P. W. (2018). Two new functions in the WormBase Enrichment Suite. *microPublication Biology*. doi:10.17912/W25Q2N

Scientific Talks

2019 **Probabilistic Modeling in Genomics**
Genetics is an active learning algorithm for causal reconstruction of biological networks
Hanna H Gray Semifinalist Symposium
Phenotypes, epistasis, and probability theory
ASBMB Special Symposium: Evolution and Core Processes in Gene Expression
Transcriptomes as phenotypes

2018 **Bay Area Worm Meeting**
Allelic series analyses using transcriptomic phenotypes

2017 **21st *C. elegans* International Meeting**, WormBase: Tools, Content and Community Annotation, Workshop
Gene Set Analysis tool for Gene Ontology (GO), Phenotype, and Tissue Enrichment
Annual Departmental Retreat, California Institute of Technology
Genome-wide, unbiased experimental genetics

Scientific Talks (continued)

Biochemistry and Molecular Biophysics Seminar Series, California Institute of Technology
Transcriptomic Genetics: A new way to use RNA-sequencing data

Center for Environmental Microbial Interactions, California Institute of Technology
Genome-wide unbiased experimental genetics

2016 **Annual Biochemistry and Molecular Biophysics Program Retreat**, California Institute of Technology
Reconstruction of a genetic pathway using whole-organism expression profiles

Graduate Biology Seminar, California Institute of Technology
Transcriptome-wide epistasis in mRNA expression profiles

Awards

2020 eGenesis Leadership Award
2019 HHMI Hanna Gray Fellow Finalist
2015 Florence C. Rose and S. Meryl Rose Endowed Scholarship
2014 Amgen Graduate Student Fellowship
2012 EXROP Capstone Award
2011 EXROP HHMI Summer Fellowship

Scientific Courses

2015 **Embryology**, Marine Biological Laboratory at Woods Hole

Teaching and Mentoring Experience

Teaching

2017–2018 **Systems Genetics**, Teaching Assistant, *California Institute of Technology*
2016 **Introduction to Biology**, Teaching Assistant, *California Institute of Technology*
2015 **Order of Magnitude Biology**, Teaching Assistant, *California Institute of Technology*
2014 **Advanced Experimental Methods in Bioorganic Chemistry**, Teaching Assistant, *California Institute of Technology*

Mentoring

2016–2019 **Kyung Hoi Min**, Caltech undergraduate, experimental and computational student, *California Institute of Technology*
Summer 2018 **Vladimir Molchanov**, Saint Petersburg Bioinformatics Institute undergraduate, experimental student, *California Institute of Technology*
Summer 2015 **Tiffany Tsou**, UCSB undergraduate, experimental student, *California Institute of Technology*
2014–2015 **Isabelle Phinney**, Polytechnic School, computational student, *California Institute of Technology*

Outreach

2020 **Invited speaker**, *Clubeando en casa, el Podcast*, Clubes de Ciencia México
2017 **Speaker**, *What is Clubes de Ciencias Mexico?*, SACNAS
2016 **Co-instructor**, *De Planarias y Derivas*, Clubes de Ciencia México, Guanajuato
Co-instructor, *De Genes y Animales*, Clubes de Ciencia México, Ensenada
2015 **Student selection committee**, Clubes de Ciencia México
2014 **Guest instructor**, *Biología a través de los números*, Clubes de Ciencia México, Ensenada

Scientific Societies

2014–Present Genetics Society of America
2015–Present Society for Developmental Biology

References

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