

EDUCATION

- 2013-2017 **Ph.D. Biomedicine and Biotechnology.** University of Valencia, Valencia, Spain.
- 2012-2013 **M. Sc., Molecular Approaches in Health Sciences.** School of Medicine and Dentistry.
University of Valencia, Valencia, Spain.
- 2006-2011 **B.Sc., Biological Sciences.** School of Biological Sciences. University of Valencia, Valencia, Spain.

RESEARCH AND PROFESSIONAL EXPERIENCE

- 2022-Present Assistant Professor at UTHealth Houston.
Epidemiology, Human Genetics and Environmental Sciences Department (School of Public Health).
 - Investigating human rare diseases and building CRISPR-based technologies to fight vector-borne diseases
- 2017-2022 **Postdoctoral Scientist at University of California San Diego (UCSD).**
Principal Investigator, Dr. Valentino Gantz
Biological Sciences Department. UCSD, San Diego, US
 - Developing CRISPR gene-drive technologies to combat vector-borne diseases
- 2013-2017 **Ph.D. student in Biomedicine and Biotechnology.**
Principal Investigator, Dr. Maximo Ibo Galindo Orozco
Developmental Biology and Neuromuscular Disease Models Department. Principe Felipe Research Center, Valencia, Spain.
 - Working with animal models (*Drosophila* and cell culture) to study rare neurodegenerative diseases affecting mitochondrial biology.
- 2016 **Visiting graduate student.**
Principal Investigator, Prof. Axel Methner
Focus Program Translational Neuroscience. Johannes Gutenberg University Mainz, Mainz, Germany.
 - Working with mammalian neuronal cell culture and demonstrated the link between neurodegeneration and insulin signaling in Charcot-Marie-Tooth disease.

- 2012-2013 **Master's student**
Principal Investigator, Dr. Maximo Ibo Galindo Orozco
Developmental Cell Biology Unit. Biomedicine Institute of Valencia (Higher Council for Scientific Research), Valencia, Spain.
- Presented my master thesis entitled "Validation of the Drosophila gene CG4623 with GDAP1 and its role in mitochondrial dynamics as the cause of Charcot-Marie-Tooth disease.

HONORS AND GRANTS

- 2024-2029 "Advancing CRISPR-Based Genome Editing Strategies for managing *Aedes aegypti* mosquito populations" (1R01AI187493-01)
- 2022-2025 University of Texas Rising Star award
- 2020-2021 UCSD Global Health Institute grant.
- Develop CRISPR tools in *Culex* mosquitoes to fight West Nile virus disease.
- 2019 National Institute of General Medical Sciences (NIGMS) grant to attend a Scientific Writing course at Cold Spring Harbor Laboratories (New York).
- 2017 Cum laude for the Ph.D. thesis dissertation.
- 2016 Travelling Fellowship granted by "*The Company of Biologists*" to visit Prof. Axel Methner at the Neurological Department at University of Mainz (Germany).
- 2014 Young Scientist Meeting Travel Grant for The 7th IECB Young Scientist Symposium.
- 2013 VIII scientific "City of Valencia" award for the Master Dissertation.

ORAL COMMUNICATIONS AT CONFERENCES & SEMINARS (since Assistant Professor)

- 2024 **Lopez del Amo V**, Sanz Juste S, Okamoto ME, Xuechun Feng.
"Next-generation CRISPR gene-drive systems using Cas12a nuclease".
International Biodiversity Enhancement And Control Of Non-native Species. New Orleans, USA
- 2024 Invited speaker University of North Texas – Biology Department Seminar series
- 2023 Invited speaker Universidade Federal do Rio de Janeiro – Graduate CRISPR courses series
- 2022 Invited speaker MD Anderson – Department of Genetics research exchange hybrid series.
- 2022 Invited speaker UT Brown Foundation Institute of Molecular Medicine seminar series.

ASSOCIATIONS

2019-Present Member of the Association of Responsible Research and Innovation in Genome Editing

PUBLICATION LIST

Michael Clark, Christina Nguyen, Hung Nguyen, Aidan Tay, Samuel J Beach, Maciej Maselko, **Ĺpez Del Amo V**. “Expanding the CRISPR base editing toolbox in *Drosophila melanogaster*”. *Communications Biology* 2024 Sep 12;7(1):1126. doi: 10.1038/s42003-024-06848-5.

Travis C Collier , Yoosook Lee, Derrick K Mathias, **Ĺpez Del Amo V**. “CRISPR-Cas9 and Cas12a target site richness reflects genomic diversity in natural populations of *Anopheles gambiae* and *Aedes aegypti* mosquitoes”. *BMC Genomics* 2024 Jul 17;25(1):700. doi: 10.1186/s12864-024-10597-4.

Sanz Juste S, Okamoto ME, Xuechun Feng*, **Lopez del Amo V***. “Next-generation CRISPR gene-drive systems using Cas12a nuclease”. *Nature Communications*. 2023 Oct 12;14(1):6388. doi: 10.1038/s41467-023-42183-9. *Corresponding authors

Sitara Roy, Sara Sanz Juste, Marketta Sneider, Ankush Auradkar, Carissa Klanseck, Zhiqian Li, Alison Henrique Ferreira, **Ĺpez del Amo V**, Ethan Bier, Annabel guichard. “Cas9/Nickase-induced allelic conversion by homologous chromosome-templated repair in *Drosophila* somatic cells”. *Science Advances*, 2022 July 1, 8:eabo0721

Ĺpez del Amo V*, Sara Sanz Juste, Valentino Gantz*. “A nickase Cas9 gene-drive system promotes super-Mendelian inheritance in *Drosophila*”

Cell Reports , 2022 May 24;39:110843nhttps://doi.org/10.1016/j.celrep.2022.110843

* Corresponding author

Alena Bishop, **Lopez del Amo V**, Okamoto E, Zsolt Bodai, Alexis Komor, Valentino Gantz. “Double-tap gene drive uses iterative genome targeting to help overcome resistance alleles”.

Nature Communications. 2022 May 9; 13:2595. https://doi.org/10.1038/s41467-022-29868-3

Xuechun Feng, **Ĺpez del Amo V**, Enzo Mameli, Megan Lee, Alena L. Bishop, Norbert Perrimon, Valentino M. Gantz. “Optimized CRISPR tools and site-directed transgenesis in *Culex quinquefasciatus* mosquitoes for gene drive development”.

Nature Commununications. 2021 May 20;12(1):2960. doi:10.1038/s41467-021-23239-0

Andrea Tapia-González, Martina Palomino-Schätzlein, Marta Roca, Agustín Lahoz, Antonio Pineda-Lucena, **Ĺpez del Amo V***, Máximo Ibo Galindo*. “Mild muscle mitochondrial fusion distress extends *Drosophila* lifespan through an early and systemic metabolome reorganization”

Int. J. Mol. Sci., 2021, 22, 12133. doi: 10.3390/ijms222212133

*Corresponding author

Ĺpez del Amo V, Brittany S. Leger, Kurt J. Cox, Shubhroz Gill, Alena L. Bishop, Garrett D. Scanlon, James A. Walker, Valentino M. Gantz, Amit Choudhary.

“Small-molecule control of super-Mendelian inheritance in gene drives”.

Cell Reports, 2020 Jun 30;31(13):107841. doi: 10.1016/j.celrep.2020.107841.

Wolf C*, **Ĺpez Del Amo V***, Arndt S, Bueno D, Tenzer S, Hanschmann EM, Berndt C, Methner A.

“Redox Modifications of Proteins of the Mitochondrial Fusion and Fission Machinery”.

Cells (Review), 2020 Mar 27;9(4). pii: E815. doi: 10.3390/cells9040815. ***Equal contribution**

Ĺpez Del Amo V, Bishop AL, Sánchez C HM, Bennett JB, Feng X, Marshall JM, Bier E, Gantz VM.

“A transcomplementing gene drive provides a flexible platform for laboratory investigation and potential field deployment”.

Nature Communications, 2020 Jan 17;11(1):352. doi: 10.1038/s41467-019-13977-7.

Calpena E, **Ĺpez del Amo V**, Chakraborty M, Llamusí B, Artero R, Espinós C, Galindo Orozco MI.

“The Drosophila junctophilin gene is functionally equivalent to its four mammalian counterparts and is a modifier of a Huntingtin poly-Q expansion and the Notch pathway”.

Disease Models and Mechanisms, 2018 Jan 17;11(1). pii: dmm029082. doi: 10.1242/dmm.029082.

Ĺpez del Amo V, Palomino-Schätzlein M, Seco-Cervera M, García-Giménez JL, Pallardó F, Pineda Lucena A, Galindo Orozco MI. *“A Drosophila model of GDAP1 function links mitochondrial dynamics to insulin signaling in Charcot-Marie-Tooth neuropathy”.*

Biochim Biophys Acta (BBA)- Molecular Basis of Disease. 2017 Mar;1863(3):801-809. doi: 10.1016/j.bbadis.2017.01.003

Ĺpez del Amo V, Seco-Cervera M, García Giménez JL, Withworth AJ, Pallardó F, Galindo MI.

“Mitochondrial defects and neuromuscular degeneration caused by altered expression of Drosophila Gdap1: implications for the Charcot-Marie-Tooth neuropathy”.

Human Molecular Genetics. 2015 Jan 1;24(1):21-36. doi: 10.1093/hmg/ddu41

PATENTS LIST

The PI recently filled 3 different patents describing new tools with potential commercialization for vector control. More details can be found in [Google Patents](#) with the accession numbers provided below:

1. “*Method and composition for temperature controllable insect suppression or modification*”
(WO2023064084A1)
2. “*Methods for delaying CRISPR action and improve gene drive effectiveness*”
(WO2023060058A1)
3. “*Nickase gene drive system and method of use thereof*”
(WO2023064706A1)