

# GIOVANNI QUINONES-VALDEZ

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## EXPERIENCE

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- **Postdoctoral Fellow** | *Department of Integrative Biology & Physiology, UCLA* 01/2022 – Present  
I develop statistical and computational methods to study the function and regulation of RNA nucleotide variants and RNA processing utilizing multiple modalities of high-throughput sequencing data.
- **Collaboratory Fellow** | *Institute for Quantitative & Computational Biosciences, The Collaboratory, UCLA* 01/2022 – Present  
I provided computational research support to UCLA laboratories through consulting, training sessions, and hands-on bioinformatics workshops.
- **Part-time Scientific Consultant** | *Rattan Life Science* 08/2025 – 09/2025  
Delivered hands-on training to staff scientists in the processing and analysis of single-cell RNA-sequencing (scRNA-seq) data analysis using R and artificial intelligence approaches.
- **Undergraduate Research Assistant** | *Lewin Lab, University of Florida* 03/2014 – 05/2015  
Worked on antioxidant gene therapy approaches for retinal degeneration and contributed to two conference abstracts presented at ISCE and IOVS.

## EDUCATION

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- **University of California, Los Angeles** | Bioengineering | Ph.D. 12/2021
  - GPA: 3.745/4.0
  - Advisor: Dr. Xinshu (Grace) Xiao
  - Dissertation: "Function and Regulation of Nucleotide Variants in RNA"
- **University of Florida** | Biological Engineering | B.S. 05/2015
  - GPA: 3.84/4.0 (Honors Program, Summa Cum Laude)
  - Minor: Biomolecular Engineering

## PUBLICATIONS

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1. **Quinones-Valdez G**, Amoah K, Xiao X. *Long-read RNA-seq demarcates cis- and trans-directed alternative RNA splicing*. *Nature Communications*. <https://doi.org/10.1038/s41467-025-64605-6>. (2025)
2. Hervoso JL, Amoah K, Dodson J, Choudhury M, Bhattacharya A, **Quinones-Valdez G**, Pasaniuc B, Xiao X. *Splicing-specific transcriptome-wide association uncovers genetic mechanisms for schizophrenia*. *The American Journal of Human Genetics*. <https://doi.org/10.1016/j.ajhg.2024.06.001>. (2024)
3. Zheng R, Dunlap M, Lyu J, Gonzalez-Figueroa C, Bobkov G, Harvey SE, Chan TC, **Quinones-Valdez G**, Choudhury M, Vuong A, Flynn RA, Chang HY, Xiao X, Cheng C. *LINE-associated cryptic splicing induces dsRNA-mediated interferon response and tumor immunity*. *Molecular Cell*. <https://doi.org/10.1016/j.molcel.2024.05.004>. (2024)

4. Liu Z, **Quinones-Valdez G**, Fu T, Choudhury M, Reese F, Mortazavi A, Xiao X. *L-GIREMI uncovers RNA editing sites in long-read RNA-seq*. Genome Biology. <https://doi.org/10.1186/s13059-023-03012-w>. (2023)
5. **Quinones-Valdez G**, Fu T, Chan WT, Xiao X. *scAllele: a versatile tool for the detection and analysis of variants in scRNA-seq*. Science Advances. <https://doi.org/10.1126/sciadv.abn6398>. (2022)
6. Chan TC, Fu T, Bahn JH, Jun HI, Lee JH, **Quinones-Valdez G**, Cheng C, Xiao X. *RNA editing in cancer impacts mRNA abundance in immune response pathways*. Genome Biology. <https://doi.org/10.1186/s13059-020-02171-4>. (2020)
7. **ENCODE Consortium**. *Perspectives on ENCODE*. Nature. <https://doi.org/10.1038/s41586-020-2449-8>. (2020)
8. **ENCODE Consortium**. *ENCODE Phase III: Building an Encyclopedia of Regulatory Elements for Human and Mouse*. Nature. <https://doi.org/10.1038/s41586-020-2493-4>. (2020)
9. **Quinones-Valdez G**, Tran S., Jun HI, Bahn JH, Yang EW, Zhan L, Brummer A, Wei X, VanNostrand E, Pratt G, Yeo GW, Graveley BR, Xiao X. *Regulation of RNA editing by RNA Binding Proteins in Human Cells*. Communications Biology. <https://doi.org/10.1038/s42003-018-0271-8>. (2019)
10. Yang EW, Bahn JH, Hsiao YH, Tan BX, Sun Y, Fu T, Zhou B, Van Nostrand EL, Pratt, Freese P, Wei X, **Quinones-Valdez G**, Urban AE, Graveley BR, Burge CB, Yeo GW, Xiao X. *Allele-specific binding of RNA Binding Proteins Reveal Functional Genetic Variants in the RNA*. Nature Communications. <https://doi.org/10.1038/s41467-019-09292-w>. (2019)
11. Hsiao YH, Bahn JH, Yang Y, Lin X, Tran S, Yang EW, **Quinones-Valdez G**, Xiao X. *RNA editing in nascent RNA affects pre-mRNA splicing*. Genome Research. <https://doi.org/10.1101/gr.231209.117>. (2018)

## ARTICLES UNDER REVIEW

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1. Barney RM, **Quinones-Valdez G**, King AJ, Amoah K, Wang W, Xiao X. *Allele-specific alternative polyadenylation links noncoding genetic variation to Alzheimer's disease risk*. Genome Biology.
2. **Quinones-Valdez G**, Chang JW, Magaki SD, Vinters HV, Salamon N, Liao L, Wang AC, Fallah A, Owens GC. *Immune landscape of the affected brain in Rasmussen encephalitis*. Journal of Neuroinflammation.
3. Zheng R, **Quinones-Valdez G**, Xiao X, Cheng C. *CryEx.v2: An enhanced protocol for the quantitative detection and visualization of cryptic splicing using transcriptome data*. STAR Protocols
4. King AJ, Amoah K, Barney RM, **Quinones-Valdez G**, Xiao X. *Allele-specific splicing in the human brain reveals genetic variants linked to protein isoforms and Alzheimer's disease*. Genome Research.
5. Barney RM, **Quinones-Valdez G**, King AJ, Amoah K, Wang W, Xiao X. *Allele-specific alternative polyadenylation links noncoding genetic variation to Alzheimer's disease risk*. Genome Biology.
6. Vavilina A, Calvanese V, Gu Y, Ma F, **Quinones-Valdez G**, Perrod C, Colombo G, Fares I, Ko MW, Kaaja I, Julia, Aguade-Gorgorio J, Nadel B, Liebscher S, Wang Y, Goodridge H, Crooks GM, Pellegrini M, Xiao X, Schenke-Layland K, Mikkola HKA. *Developmentally regulated long and short isoforms of MLLT3 balance human hematopoietic stem cell fate decisions*. Cell Stem Cell.

## CONFERENCE ABSTRACTS

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1. Kaaja I, Wang Y, Kilpivaara O, Wartiovaara-Kautto U, **Quinones-Valdez G**, Gu Y, Turmon A, Ma F, Wang Y, Aguade-Gorgorio J, Ko MW, Grimbert S, Wang Y, Katainen L, Park S, Pellegrini M, Xiao X, Seet CS, Chang VY, Arboleda V, Backus K, Mikkola HKA. *Tracking the Stemness Mechanisms in Refractory Mecom Rearranged Acute Myeloid Leukemias at Single Cell Resolution*. European Hematology Association. 2025.

2. Biswal MR, Ildenfonso CJ, Rossmiller BP, Mao H, Li H, Zhu P, Tong Y. **Quinones-Valdez G**, Lewin AS. *Delaying Retinal Degeneration in a Mouse Model of Geographic Atrophy: An Antioxidant Gene Therapy Approach*. Investigative Ophthalmology and Visual Science. 2015.
3. Biswal MR, Ildenfonso CJ, Wang Z, Mao H, Li H, Zhu P, **Quinones-Valdez G**, Lewin AS. *Effectiveness of Antioxidant Gene Therapy in Delaying Retinal Degeneration*. Molecular Therapy. 2015.

## TEACHING AND MENTORING

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- **Instructor for the workshop “Unix Command Line”** 01/2026 – 04/2026  
Institute for Quantitative and Computational Biosciences, UCLA (Quarterly)
- **Instructor for the workshop “Single Cell RNA-Seq. Data Analysis with R”** 01/2022 – 03/2025  
Institute for Quantitative and Computational Biosciences, UCLA (Quarterly)
- **Instructor for the Bruins in Genomics (BIG) summer program** 07/2024  
Institute for Quantitative and Computational Biosciences, UCLA 07/2023  
07/2020
- **Guest lecturer for the course “Intro to High-Throughput Data Analysis”** 03/2024 – 06/2024  
Department of Biomathematics, UCLA 03/2023 – 06/2023
- **Assistant instructor for the course “Concepts in Molecular Biosciences”** 01/2024 – 03/2024  
Department of Molecular Biology, UCLA
- **Teaching Assistant for the course “Molecular Parasitology”** 09/2017 – 12/2017  
Department of Microbiology, Immunology, and Molecular Genetics, UCLA
- **Member of the Xiao Lab at UCLA** 01/2016 – Present
  - Mentored junior graduate and undergraduate students.
  - Interviewed and hired students to aid with computational analysis.
  - Lead a group of three undergraduate students to carry out a research project on allele-specific RNA processing dysregulation in Alzheimer's Disease.

## AWARDS

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- ASHG Trainee Research Excellence Award winner 11/2024
- QCBio Collaboratory Postdoctoral Fellowship 02/2022 – 03/2025
- Young Bolivian Abroad Award 12/2018
- UCLA Bioengineering Supplementary Fellowship 03/2017
- UCLA Bioengineering Research Fellowship 01/2016
- Davis Scholarship for Undergraduate Education 08/2011 – 05/2015

## RESEARCH TALKS

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- **Title: “Long-read RNA-seq demarcates cis- and trans-directed alternative RNA splicing”**
  - American Society of Human Genetics, *Featured Plenary Talk* 11/2024
  - UCLA Riboforum, *Selected Talk* 01/2024
  - American Society of Human Genetics, *Poster presentation* 11/2023
  - International Society for Computational Biology, *Selected Talk* 11/2023
  - UCLA QCBio Retreat, *Selected Talk* 09/2023
- **Title: “scAllele, a versatile tool for the detection and analysis of variants scRNA-seq”**
  - Open Box Science, *Invited Talk* 04/2023
  - Southern California Systems Biology Consortium, *Poster presentation* 04/2022
  - ENCODE Consortium Retreat, *Talk* 03/2022

- UCLA QCBIO Seminar, *Poster presentation* 10/2021
- **Title: “Regulation of RNA editing by RNA-binding proteins in human cells”**
- UCLA QCBIO Retreat, *Poster presentation* 09/2018
- ENCODE Consortium Retreat, *Poster presentation* 02/2018

## JOURNAL REVIEWER

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- Genome Biology 03/2026  
11/2025
- BMC Genomics 01/2026
- Genomics, Proteomics, and Bioinformatics 08/2024
- Communications Biology 03/2023

## COMMUNITY ENGAGEMENT AND SERVICE

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- **Diversity and Science Lectures (DASL)** 06/2024 – 08/2024  
Member of the DASL organization at UCLA that aims to promote diversity and inclusion through scientific seminars, social activities, and workshops.
- **Reviewer for the United World Colleges (UWC)** 10/2024  
Reviewed applications for the Bolivian UWC selection committee, contributing to the evaluation and selection of scholarship recipients. 10/2023  
10/2022
- **UCLA Latino Alumni Association** 10/2022 – 06/2023  
Guided undergraduate Latino students in strategizing their paths toward graduate school or securing employment opportunities.
- **Dashew Center for International Students and Scholars** 09/2016 – 06/2017  
Assisted incoming international students to help them adapt to the university and life in the United States
- **Engineering Graduate Student Association (eGSA)** 09/2015 – 12/2021
- **Health-Oriented Professional Engineering Students (HOPES)** 09/2014 – 05/2015
- **Society of Hispanic Professional Engineers (SHPE)** 09/2012 – 05/2015

## SKILLS

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- **Computational skills**
  - Analysis of Next Generation Sequencing (NGS) data, including bulk RNA-seq, single-cell RNA-Seq, and Third Generation Sequencing data (PacBio, Nanopore)
  - Software development using Python
  - Software packaging and distribution (PyPI, Apptainer, GitHub)
  - Machine Learning in Genomics using Scikit-Learn
  - Programming languages: proficient with Python, Bash, and R
  - Carried out projects on Google Cloud Platform (GCP)
  - Operating Systems: Linux/Unix/Ubuntu, Mac OS, Windows
- **Laboratory skills**
  - PCR
  - RNA and Protein expression analysis
  - Cell culture
  - Optical Coherent Tomography (OCT) and Electroretinogram (ER)

- **Languages**

- Native or bilingual language proficiency: Spanish and English.
- Limited working proficiency: French and Italian