**José Miguel Andrade López**

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**Research Interests**

**Evolutionary and Ecological Developmental Biology**

The molecular mechanisms responsible for creating novel developmental forms and functions, the practical evolutionary application of these traits to an organism’s ecological niche, and the potential application of these research questions to biomedical fields.

**Education**

**2008-present University of California, Berkeley**

 **Bachelors of Arts in Integrative Biology**, expected May 2013

 Emphasis in Ecology, Evolution & Organismal Biology

 **Chicano Studies Minor**

**Research and Laboratory Experiences**

**2012-present Supervised Independent Study**

 Nipam Patel Laboratory, University of California, Berkeley

 *“Germline Regeneration in the Crustacean Parhyale hawaiensis”*

* Investigating the cellular mechanisms involved in regenerating the germline nich to replace germline cells post-embryogenesis.

**2012 Summer Programs for Undergraduate Research (SPUR)**

David Jacobs Laboratory, University of California, Los Angeles

 *“Pax gene expression in the development of sensory systems in the* *moon jellyfish (Aurelia aurita)”*

* Wrote a thesis investigating the spatial and temporal expression of the *Pax* genes at different developmental stages and their role in larval "proto-sensory organs."

**2009-2012 Undergraduate Research Apprentice Program (URAP)**

 Craig Moritz Laboratory, University of California, Berkeley

2011-2012 *“Phenotypic Diversification of Bynoe’s Gecko in Response to* *Aridification in Central Australia”*

* An independent phylogenetic and morphological study looking at the effects of refugia during the Pleistocene on the diversification of Bynoe’s gecko, *Heteronotia binoei*.

2010-2011 *“Identification of Malaria Parasites in Australian Geckos”*

* Tested blood smear slides for potential *Plasmodium sp.* infections in Australian geckos through microscope vizualization.

2009-2010 *“Lampropholis sp. Project*”

* Phylogegraphy study of eleven Australian skinks, *Lampropholis sp.,* endemic to the Wet Tropics addressing the evolutionary relationships between inland and mainland lineages.

**2011 Summer Research Training Program (SRTP)**

 [Charles](http://id.medicine.ucsf.edu/about/facpages/chiu.html) Chiu Laboratory, University of California, San Francisco

 *“Optimizing a DNA Microarray for Faster Viral Identification”*

* Developed a quicker protocol of a portable viral microarray, using immobilized 3D gel probes with specific viral sequences, to detect viral signatures within a diagnostically relevant timeline.

**2008-2011 Museum of Vertebrate Zoology (MVZ)**

Berkeley, California

2010-2011 Advance Skinning Laboratory—Biology Scholars Program-MVZ Internship

* Prepared fluid specimens, study skeletons, study skins, and performed dissection and necropsy on specimens.

2009-2010 Skeleton Preparation Laboratory—Biology Scholars Program-MVZ Internship

* Prepared tissue samples and vertebrate skeletons of every major taxon for the Museum’s research collections.

2008-2009 Bone Numbering

* Maintain and archive the museum’s extensive bone collection by cataloging samples.

**Presentations**

2012-2013 *“Pax Gene Expression in the Development of Sensory Structures in the Moon Jellyfish (Aurelia aurita)”*

**SACNAS National Conference (poster)**, Seattle, Washington

 **Summer Programs for Undergraduate Research (poster)**, Los Angeles, California

 **UC LEADS Symposium (poster),** Santa Cruz, California

2012 “*Phenotypic Diversification of Bynoe’s Gecko in Response to* *Aridification in Central Australia”*

 **Evolution Ottawa, 1st Joint Congress on Evolutionary Biology (poster),** Ontario, Canada

 **Alumni Week (poster),** San Francisco, California

 **UC LEADS Symposium (poster),** San Diego, California

2011 “*Optimizing a DNA Microarray for Faster Viral Identification”*

 **Summer Research Training Program (oral and poster),** San Francisco, California

**Fellowships and Awards**

**2013 Rackham Merit Fellowship**

**2013 NIH Pre-Doctoral Fellowship** with the National Institute of Health BRIDGE Program at San Francisco State University, $18,000 per year (declined)

**2011-present UC Leadership Excellence Through Advanced Degrees (LEADS)** Scholars Program

**2008-present Dell Scholars Program-Michael & Susan Dell Foundation** ($20,000)

**2012 SACNAS National Conference Poster Presentation Award**

*“Pax Gene Expression in the Development of Sensory Structures in the Moon Jellyfish (Aurelia aurita)”*

**2012 SACNAS Travel & Loading Scholarship**

**Extracurricular Activities**

**2009-present CalDay at University of California, Berkeley**

* Discussed my research to hundreds of visitors, helped set-up displays, educated the public about the natural history of vertebrate and invertebrate species, and held a presentation designed to teach a group of 30 children the principles of DNA extraction through class lecturing and hands-on activities.

**2008-2010 Circle K International**

* Organized events and fundraisers for local communities.
* Worked in groups of 5-10 students to create and teach science projects to elementary students.

**Skills**

* Geneious (aligning, cleaning, and generating trees), Electrophoresis, PCR, DNA extraction and purification, Statistical Modeling (PCA), Immunohistochemistry, Fluorescent *in situ* hybridization, microinjections, organ dissections and animal biopsy (gonad extraction in *Parhyale sp.* to biopsy in every major taxon), and preparation of skeletal and skin specimens for museum preservations.
* Fluent in Spanish, Conversational in Brazilian Portuguese
* Proficiency with PC and Mac Office tools, and internet research skills (Google scholars, NCBI, PubMed)
* Experience training other undergraduates the laboratory protocols