

YERALDI LOERA

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EDUCATION

- MSc, Biology**, California State Polytechnic University, Pomona, CA **Anticipated Spring 2019**
Advisor: Dr. Andrea Bonisoli-Alquati
Master's Thesis: "The effects of ionizing radiation on mutation rates: A Meta-Analysis and Application"
- BSc, Biological Science**, Occidental College, Los Angeles, CA **2016**
Advisors: Dr. Gary Martin, Dr. John McCormack
Senior Thesis: "Tetrodotoxin resistance in garter snakes"

RESEARCH INTEREST

Interested in understanding the effects of contaminants on the physiological and genetic health of exposed organisms.

PUBLICATIONS

- Martin, G. G., Bailey, A. K., Cohen, S., **Loera, Y.**, Crooke, A. M., Stamnes S., & Rose, K. (2018). Morphology and function of the skin epithelium covering the giant keyhole limpet *Megathura crenulata*. *Invertebrate Biology*, 137(2), 151-170.
- Loera, Y. & Bonisoli-Alquati, A. (2019). The effects of ionizing radiation on mutation rate: a meta-analysis.(in preparation)
- Loera, Y. & Bonisoli-Alquati, A. (2019). Mutation rates of barn swallows (*Hirundo rustica*) from Fukushima.(in preparation)

RESEARCH EXPERIENCE

- Graduate Research Student, Biological Sciences Department** **Spring 2017-Current**
Ecotoxicology laboratory of Dr. Andrea Bonisoli-Alquati, California State Polytechnic University, Pomona, CA
Master's Thesis Project: "The effects of ionizing radiation on mutation rates: A meta-analysis and Application"
Objective: Study the literature on the responses to ionizing radiation and use the most effective Measure mutation rate detection on irradiated parent and offspring pairs of barn swallows (*Hirundo rustica*) from Fukushima, Japan to understand the effects of ionizing radiation.
- Visiting Researcher, Environmental Toxicology Department** **Summer 2018**
Ecotoxicology laboratory of Dr. Daniel Schlenk, University of California, Riverside
Summer Research Project: "Transcriptomic analysis of oil exposed Mahi-mahi (*Coryphaena hippurus*)"
Objective: Sequence the RNA from mucus of oil exposed fish to understand the genetic effects of contamination.
- Undergraduate Research Student, Biological Sciences Department** **January 2013-December 2016**
Zoology laboratory of Dr. Gary Martin, Occidental College, Los Angeles, CA
Undergraduate Research Projects: "Histology and ultrastructure of the Giant Keyhole Limpet (*Megathura Crenulata*) circulatory system", "Does chitin line open circulatory systems of Crustaceans and mollusks?", "Microbiome of the shrimp digestive system"
Objective: Understand crustacean and molluscan circulatory systems and microbial communities.
- Undergraduate Senior Thesis, Biological Sciences Department** **Spring 2016**
Moore Lab of Zoology, Dr. John McCormack, Biological Sciences, Occidental College, Los Angeles, CA
Undergraduate Comprehensive Project: "Tetrodotoxin resistance in Garter Snakes"
Objective: Research the evolution of Tetrodotoxin resistance in garter snakes

FIELD EXPERIENCE

- Asian Elephant Behavioral Analysis Intern, The Los Angeles Zoo Behavioral Department** **Summer 2014**
Behavioral research under Dr. Cathleen Cox, The Los Angeles Zoo and Botanical Gardens, Los Angeles, CA
Research Project: "Aberrant behavior of Asian Elephants (*Elephas maximus*) in captivity"
Objective: Lessen the effects of Asian Elephant anticipatory behaviors by altering feeding times and foraging activities.

Tropical Ecology and Animal Behavior Field Researcher, Occidental College Field Program **Summer 2014**

La Selva Biological Station, Puerto Viejo de Sarapiquí, Costa Rica

Research Project: "The effects of rainfall on leaf litter diversity"

Objective: Record the diversity and count of leaf litter organisms after rainfall through pitfall traps.

Pacuare Nature Reserve Turtle Conservation, Tortuguero, Costa Rica

Research Project: "Monitoring and safety measures for Giant Leatherback Sea Turtles (*Dermochelys coriacea*) during nesting"

Objective: Aid in Giant Leatherback Sea Turtle conservation by relocating nests in danger of sea flooding, and preventing the removal of eggs by poachers and jaguars.

Institute for Tropical Ecology and Conservation, Bocas del Toro, Panama

Research Project: "Territorial behaviors of Damselfish (*Abudefduf saxatilis*) in Panamanian coral reefs"

Objective: Observe territorial behaviors of Damselfish according to intruder size and species.

Genetic Neuroscience Intern, Neuroscience Department **Summer 2011 & 2013**

Genetic Neuroscience laboratory of Dr. Paul Salvaterra, Eugene and Ruth Roberts Summer Student Internship, City of Hope Cancer Research Center Department of Neuroscience, Duarte, CA

Research Project: "The addition of a hydrophilic Myc signal modifies A β 42 accumulation and neurotoxicity", "The accumulation of A β 42 in Alzheimer's-associated brain plaques"

Objective: Create a genetic construct in *Drosophila melanogaster* to decrease the accumulation of A β 42 in brain plaques. Follow the accumulation of A β 42 in Alzheimer's Disease-induced *Drosophila melanogaster*.

Student Researcher, Multicultural Student Institute **Summer 2012**

Multicultural Student Institute, Occidental College, Los Angeles, CA

Research Project: "Analyze the Latinx diaspora in Los Angeles through statistical techniques"

Objective: Collect data from nearby Los Angeles neighborhoods to understand their movement and origins.

AWARDS

Society for Environmental Toxicology And Chemistry Student Membership	2017, 2018
Graduate Student Semester Grant, Cal Poly Pomona Department of Biology	2017, 2018
Rachel Carson Environmental Science Scholarship, Cal Poly Pomona College of Science	2017
NIH-MBRS RISE Program and Scholarship, Cal Poly Pomona	2017
MENTORES/PPOHA Program and Scholarship, Cal Poly Pomona College of Science	2017
Research Travel Funds, Office of Undergraduate and Graduate Research, Cal Poly Pomona	2017
American Ornithological Society Student Membership	2016

PRESENTATIONS

Yeraldi Loera, Daniel Schlenk, Justin Greer, "Transcriptomic analysis of oil exposed Mahi-mahi". RISE 2018 Summer Research Symposium, Cal Poly Pomona, Pomona, CA, August 2017. Oral Presentation.

Yeraldi Loera, Andrea Bonisoli-Alquati, "The effect of ionizing radiation on mutation rates: a meta-analysis". RISE 2017 Summer Research Symposium, Cal Poly Pomona, Pomona, CA, August 2017. Oral Presentation.

Yeraldi Loera, Andrea Bonisoli-Alquati, "The effect of ionizing radiation on mutation rates: a meta-analysis of variation across studies". Society for Environmental Toxicology and Chemistry, Minneapolis, Minnesota, MN. November 15, 2017. Poster.

Yeraldi Loera, "Tetrodotoxin resistance in garter snakes". Biological Sciences Department Senior Thesis Symposium, Occidental College, Los Angeles, CA, May 2016. Oral Presentation.

WORK EXPERIENCE

Animal Shelter Clinic Intern, Veterinary Assistant, and Foster Care Aid January 2014-December 2016, 500+ hours
Pasadena Humane Society and SPCA, Pasadena, CA

Clinic Duties: Complete patient flow through: pre-, during, and post-operative care of animals.

Foster Duties: Immunization, socialization, and health exams of abandoned and semi-feral kittens for foster care.

COMMUNITY SERVICE AND OUTREACH

Population Genetics Club, Cal Poly Pomona- Founder (2018)

Pasadena Humane Society (2013-2017)

Academic Student Committee, Biology (2016)

Biology Club Community Service Chair (2013-2015)
Las Hermanas Aliadas Cofounder/ Vice President (2014)
Biology Academic Mastery Program (2012-2014)
Scientific Scholars Achievement Program- Biology (2012-2014), Mathematics (2012-2014), Chemistry (2012-2014)
Chemistry Academic Mastery Program- Chemistry (2012-2014)

SKILLS

Data Analysis:

Transcriptomic pipeline, Powerlab/Labchart software for physiological studies, ARCTOS database, R, SPSS, CLUSTER.

Laboratory:

RNA Sequencing, Electron microscopy (SEM/TEM), confocal microscopy, light microscopy, fluorescent microscopy, fluorescent histology, histological staining, dissections, paraffin/ paraformaldehyde/gluteraldehyde tissue fixation, Drosophila genetics/ culturing, genetic analysis, DNA transformation, chromatography, quantitative real time polymerase chain reaction (qPCR), Mass/IR/NMR spectroscopy analysis, cell culturing, gene cloning, protein expression.

Field Techniques:

Domestic and exotic animal handling, Small mammal box trapping, animal vaccination, animal fluid administration, phlebotomy aid, bird taxidermy, behavioral analysis, ethograms, otter trawls, and coastal fish biodiversity surveys.

LANGUAGES

English (native), Spanish (native).