

Cristina M. Alcaraz, M.Sc.
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EDUCATION

Microbial Ecology – P.h.D. (c) September 2019 to present
University of Vienna, Austria

Biology – M.Sc. May 2019
California State University Northridge

Certifications

- Human Participants Protection Education for Research Teams (2017) – National Institutes of Health
- C3B3 Biotechnology Certificate – Wake Tech BioNetwork (ForsythTech) (2016)
- Skills Certificate in Biotechnology/Biomanufacturing – Los Angeles Valley College (2016)

RESEARCH & SCHOLARSHIP

Research Scientist 2019 to present

Host-microbe interactions in Marine Lucinid Clams., P.I. Dr. Jillian Petersen, Centre for Microbiology and Environmental Systems Science, University of Vienna, Austria.

Jillian.petersen@univie.ac.at An Exploration into the ancient and intimate relationship between sulfur-oxidizing symbionts and their animal host. From proteins to nutrient exchange, this research utilizes immunohistochemistry techniques and stable isotope applications to unravel the molecular mechanisms driving prokaryotic – eukaryotic associations in marine environments.

Research Assistant 2015 to 2017

Antibiotic resistance in ancient microbial communities in permafrost., P.I. Dr. Rachel Mackelprang, Biology Department, CSUN, Northridge, CA (Summer 2017 to present) Rachel.mackelprang@csun.edu
This research investigates antibiotic resistance as a survival strategy for microbial communities persisting in ancient permafrost soils. A functional metagenomic approach is employed to uncover novel antibiotic resistance genes and to elucidate the evolution of antibiotic resistance genes through a chronosequence of time.

Characterization of the microbiome of three varieties of tree fruit., P.I. Dr. Kerry Cooper., Biology Department, CSUN, Northridge, CA (Spring 2017 to Summer 2017) kcooper@email.arizona.edu
The overall objective of this research is to discover bacteria ubiquitous to three varieties of tree fruit that also share a common biochemical sensitivity with some known food borne pathogens. In this light, the development of an “in-field” kill/control step may be used to validate the eradication of known illness causing pathogens. This project integrates both lab and “at-harvest” research, using 16S ribosomal RNA gene amplification for preparation of next-generation sequencing libraries to characterize bacteria taxa.

Investigation into the effects of Chia Seed oil (Salvia hispanica) on IL-1 α levels in Murine Macrophage cells., P.I. Professor Byrd-Williams., Biology Department, LAVC, Valley Village, CA

byrdwipb@lavc.edu

An investigation into the relationship between the production of cytokine IL-1 α and chia seed oil levels. This research considers the anti-inflammatory aspects of chia seed oil and the possible increase in cytokine levels in Murine Macrophage cells.

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Professional Conference Presentations

C. Alcaraz, & Mackelprang, R. Henry B. Gonzalez Convention Center, (2018, October). Functional metagenomics for the investigation of ancient antibiotic resistance in permafrost. Poster presented at the annual meeting of the National Diversity in STEM Conference, San Antonio, TX.

C. Alcaraz, & Mackelprang, R. UCLA Lake Arrowhead Conference Center, (2018, September). Functional metagenomics for the investigation of ancient antibiotic resistance in permafrost. Poster presented at the bi-annual meeting of the Lake Arrowhead Metagenomic Conference, Lake Arrowhead, CA.

C. Alcaraz, & Mackelprang, R. Congress Center Leipzig, (2018, August). Functional metagenomics for the investigation of ancient antibiotic resistance in permafrost. Poster presented at the annual meeting of the International Society for Microbial Ecology, Leipzig, Germany.

C. Alcaraz, & Mackelprang, R. College, California State University Northridge, (2018, April). Functional metagenomics for the investigation of ancient antibiotic resistance in permafrost. Poster presented at the annual meeting of the California State University Northridge Symposium, Northridge, CA.

AWARDS

Build PODER NIH Grant (2015 to 2016) – \$8,600 – CSUN

MBRS RISE NIH Grant (2017) – Research stipend \$20,280 and budget \$1,200 – CSUN

Sally Casanova Scholarship (2018) – \$3,000 – CSUN

Graduate Equity Scholarship (multiple semesters) – \$4,000 – CSUN

Singh Travel Scholarship (multiple semesters) – \$1,000 – CSUN Zymo

Sponsorship (2018) – \$1,200 – Zymo Research Co.

ASU travel award (2018) – \$600 – CSUN

Graduate Studies Office travel award (2018) – \$400 CSUN

SACNAS travel award (2018) – \$1,200 SACNAS

TEACHING EXPERIENCE

Graduate Teaching Assistant (Spring 2017)

Biology Department, CSUN, Northridge, CA

BIOL315: Microbiology Laboratory

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ACTIVITIES

Courses

Microbial Diversity – Marine Biological Laboratory, Woods Hole, MA 2019

Metabolic Pathway Analysis – NTNU, Trondheim, Norway 2019

Proteomics in System Biology – University of Vienna, AT 2021

Professional

International Society for Microbial Ecology (ISME)

American Society for Microbiology (ASM)

Society for Advancement of Chicanos and Native Americans in Science (SACNAS)

University

Microbiology Student Association – President 2017

SACNAS student chapter – 2018

Women in Stem (WiSE) – 2018

Bee Campus USA – Student Committee member 2018