

Marlynn Cadena

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EXPERIENCE

Socorro ISD (Americas High School)/El Paso Community College

July 2020 – March 2022

Instructor

El Paso, TX

- Partnered with Socorro ISD and El Paso CC, to provide Dual Credit courses for 138 high school students.
- Demonstrated a 100% end-of-year pass rate on standardized exams by instructing self-developed curricula, in accordance with collegiate standards, for the following courses: General Biology I, General Biology- Laboratory I, General Biology II and General Biology- Laboratory II.

The University of Texas at El Paso

January 2019 – December 2019

Research Assistant/Teaching Assistant

El Paso, TX

- Pioneered previously largely unresearched polymicrobial biofilm interactions under Dr. Luis Martinez' laboratory, using Next Generation Sequencing, Polymerase Chain Reaction (PCR), Microbial Isolation, Microscopy, DNA Extraction and Purification.
- Assisted in providing undergraduate students with comprehensive instruction in the following courses: Medical Parasitology, Prokaryotic Molecular Genetics and Medical Mycology.

EDUCATION

University of Texas at El Paso 3.51/4.0 GPA

May 2018

BS, Microbiology

El Paso, TX

- Participated in the Research Initiative for Scientific Enhancement (RISE) and Maximizing Access to Research Careers (MARC), programs that aim to improve access of marginalized populations into laboratory settings.
- Participated in a course instructed at The National Institutes of Health called BioTech 02: Recombinant DNA Methodology and developed molecular biology techniques such as DNA Extraction, Gel Electrophoresis and PCR.
- Undergraduate Research: Conducted research investigating antibiotic resistant organisms in the Rio Grande and antibacterial properties of organic plant extracts against antibiotic resistant microbes under the mentorship of Dr. Delfina Dominguez and Dr. Rachid Skouta. In addition, published research investigating the antibiotic resistance genes found in Nebraskan soil samples under the mentorship of Dr. Lisa Durso.

University of Texas at El Paso 3.98/4.0 GPA

December 2020

MS, Biological Sciences

El Paso, TX

- Graduate Research: Conducted research characterizing of the interkingdom interaction with *Cryptococcus neoformans* in pigeon excreta using Next Generation Sequencing.

Hackbright Academy

July 2022

Software Engineering Fellowship

- Full stack software engineering fellowship

RELEVANT PROJECTS

Rooting for You

- Rooting for You is a garden planning web application that allows users to create a profile with password encryption using Argon2. The implementation of Flask allows users to submit an HTML form with their plant selections and view in-depth gardening tips for each plant. Plant information was fetched from the Harvest Helper API used to seed an SQLAlchemy database. Additionally, USDA Plant Hardiness Zone API was used in

conjunction with backend crud functions, providing users with Plant Hardiness Zone, and last frost date range according to their location. Lastly, the SQL plant database was populated with a list of optimal companion plants. Rooting for You allows gardeners access to important gardening information in one organized location.

TECHNOLOGIES & SKILLS

- **Languages:** Python, SQL, HTML, CSS, JavaScript
- **Technologies and Libraries:** Linux/UNIX, Object Recognition, Git, GitHub, Flask, Node.js, SQLAlchemy

PUBLICATIONS

- Cadena, M., Durso, L., Miller, D. N., Waldrip, H. M., Castleberry, B. L., Drijber, R. A., Wortmann, C. (28, June 2018). Tetracycline and Sulfonamide Antibiotic Resistance Genes in Soils from Nebraska Organic Farming Operations. *Frontiers in Microbiology*. <https://doi.org/10.3389/fmicb.2018.01283>
- Manuscript in progress: Characterization of the interkingdom interaction with *Cryptococcus neoformans* in pigeon excreta