

# Jared Croyle

Berkeley, CA | (909) 362-3732 | jaredcroyle.bio@gmail.com | jaredcroyle.com

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## Education

B.S. in Molecular Environmental Biology - Data Science Minor, May 2025

University of California, Berkeley

Relevant Coursework:

- General Genetics: Comprehensive study of gene regulation, manipulation, and genetic variation.
  - Practical Genomics: Hands-on training in computational biology and bioinformatics techniques.
  - Concepts in Computing with Data: Applied statistics using R and SQL for data analysis.
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## Research Experience

UC Berkeley Department of Environmental Science, Policy, & Management, February 2024 - Present

EvoLab - Research Apprentice | Supervised by Dr. Rosemary Gillespie

Research project: *Adaptive Radiation of Hawaiian Tetragnatha Spiders*

- Described morphological characteristics and performed DNA extractions.
- Prepared whole genome sequencing libraries.
- Analyzed sequence data and constructed phylogenetic trees using MEGA11 and BEAST2.
- Applied demographic modeling with dadi to infer speciation modes and estimate divergence among *Tetragnatha* populations.

Essig Museum of Entomology, UC Berkeley, September 2024 - Present

Research Apprentice | Mentored by Dr. Menglin Wang

Research project: *California Insect Barcode Initiative (CIBI)*

- Cataloged Californian insect specimens for genetic and genomic analysis.
- Prepared specimens and conducted DNA extractions for whole genome sequencing.

UC Riverside Department of Microbiology and Plant Pathology, June 2023 - August 2023

Stajich Lab - NSF-REU Participant | Supervised by Dr. Jason Stajich

Research project: *Putatively Novel Coniochaeta, Filobasidium, Naganishia, and Curvibasidium Species Isolated from Moss Biocrusts*

- Cultured media and isolated novel fungal species.
  - Performed DNA extractions and conducted Sanger sequencing.
  - Constructed phylogenetic trees using MAAFT and SnapGene.
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## Honors and Awards:

- **Nona Award** – Most impactful open-source potential, 2024 NonaWorks Hackathon, 2024.
  - **Innovation Award** – Most innovative solution, 2024 NonaWorks Hackathon, 2024.
  - **Communication Award** – Best presentation, 2024 NonaWorks Hackathon, 2024.
  - **IWBDA Scholarship** – Synthetic Biology Conference and Hackathon, Boston University and Asimov, Boston, MA, 2024.
  - **NSF-REU Research Fellowship** – Center for Plant Cell Biology, University of California, Riverside, CA, 2023.
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## Publications:

### Peer Reviewed Publications

1. **Croyle**, J., Kelly, K., Liu, X., and Stajich, J. E. 2024. Draft genome sequence of endophytic fungus *Coniochaeta* sp. isolated from the Mojave Desert. **(In Preparation)**
  2. Kelly, K., Liu, X., **Croyle**, J., and Stajich, J.E. 2024. Culture dependent and independent survey reveals a strong influence of climate on the biocrust mycobiome. **(In Preparation)**
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### Presentations and Conferences:

1. 2024, November. International Workshop on Bio-Design Automation (IWBDA), Boston, MA. Participated in IWBDA and NonaWorks 2024 Hackathon. Boston University and Asimov.
  2. 2023, August. Taxonomically Distinct *Coniochaeta*, *Filobasidium*, *Naganishia*, and *Curvibasidium* Species Isolated from Moss Biocrusts. Poster presentation. University of California, Riverside - CEPCEB.
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### Technical Skills:

Programming Languages: Python, R, SQL

Scripting Languages: BASH

Data Visualization: Matplotlib, Pandas

Web Development: HTML5, CSS3

Operating Systems: MacOS, Linux (Ubuntu)

Microsoft Office (Word, Powerpoint, Excel)

### Molecular Biology Skills:

NGS (Next-Generation Sequencing) Library Preparation

PCR (Polymerase Chain Reaction)

DNA Extractions

DNA Amplification and Purification

Microbial Culturing

### Bioinformatics Skills:

Demographic Modeling

Comparative Genomics

Phylogenomics

Metagenomics

Metabarcoding Analysis

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### Employment History

West Riverside Veterinary Hospital, Riverside, CA, June 2021 - May 2023

#### Veterinary Assistant

- Assisted veterinarian during immunologic, medical, surgical and diagnostic procedures.
- Took scans and x-rays of animals using proper restraint and methods.
- Administered anesthetics and managed emergencies related to disease, seizures, and conflict.

The Living Desert Zoo and Gardens, Palm Desert, CA, September 2016 - March 2020

#### Zookeeper's Assistant Volunteer

- Gained experience in animal husbandry, rehabilitation and breeding.

The Aquarium of the Pacific, Long Beach, CA, May 2018 - August 2019

#### Student Eco-Ambassador Volunteer

- Assisted with field research abroad involving water quality and wildlife surveys.