

# Anjum Kaur Gujral

*Curriculum vitae*

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## EDUCATION

*University of California, Davis* 2022 - present  
Ph.D. Student, Population Biology  
*Advisor:* Dr. Jennifer L. Funk

*San Francisco State University* 2020 - 2022  
M.Sc. Integrative Biology (GPA: 4.00)  
*Advisor:* Dr. Kevin A. Simonin  
*Thesis Committee:* Dr. Adam B. Roddy, Dr. Jason T. Cantley, Dr. Benjamin E. Carter

*San José State University* 2014 - 2019  
B.Sc. Biological Sciences: Ecology and Evolution (GPA: 3.79)  
Minor: Environmental Studies

## FUNDING

College of Biological Sciences: Jack Major Memorial Award 2023  
Northern California Botany Research Scholarship: \$1,000 2023  
UC Davis Botanical Society Grant: \$2,000 2023  
UC Davis Dean's Distinguished Graduate Fellowship, 2022  
College of Biological Sciences: \$27,000  
UC Davis Dean's Distinguished Graduate Fellowship, 2022  
College of Agricultural and Environmental Sciences: \$82,000 (declined)  
UC Berkeley Chancellor's Fellowship: \$34,000 (declined) 2022  
National Science Foundation – Graduate Research Fellowship: \$138,000 2021  
James Duncan BioLuminary Graduate Research Award: \$6,400 2021  
Robert William Maxwell Scholarship: \$4,000 2021  
Northern California Botany Research Scholarship: \$1,000 2021  
Achievement Rewards for College Scientists (ARCS) Scholarship: \$10,000 2020  
CSU Program for Education and Research in Biotechnology: \$1,500 2019

## PUBLICATIONS

**Gujral, A.**, Misiewicz, T., Hauser, C., Carter, B., 2021, "Natural History and Demography of the Imperiled Redwood Forest Specialist *Pedicularis dudleyi* (Dudley's Lousewort, Orobanchaceae)," *Madroño*.

Lambrecht, S., **Gujral, A.**, Renshaw, L., Rosengreen, L. 2019, "Evolutionary and plastic changes in a native annual plant after a historic drought," *Ecology and Evolution*. 10(11): 4570–4582.  
doi: 10.1002/ece3.6156

## RESEARCH EXPERIENCE

**Graduate Student Researcher, San Francisco State University** 2020- 2022  
Simonin Lab

*Project:* The Role of Climatic Water Balance in Explaining Coordination in Leaf Hydraulic Traits  
Determining the degree of coordination in leaf traits related to plant carbon and water-use strategies across global climatic gradients through greenhouse experimentation, plant physiological measurements, and ecological niche modeling.

**Field Biologist, Save the Redwoods League** 2019 – 2021

*Project:* Population Genetics, Ecology, and Reproductive Biology of a Rare Redwood Forest Specialist.

Collected pollination and dispersal observations, designed experiments to assess seedling recruitment, classified the vulnerability of life history stages, conducted a population census, and built the foundation for long-term demographic monitoring through space and time in one of two remaining populations.

*Primary investigator:* Dr. Benjamin Carter; *Co-investigator:* Dr. Tracy Misiewicz

**Research Affiliate, UC Berkeley** 2020

Dawson and Firestone Labs

*Project:* Assessing the Influence of Topography and Soil Water Potential on Mycorrhizae Colonization of Coast Live Oak.

Maintained a greenhouse study, extracted and quantified DNA from roots and rhizosphere of coast live oak growing along a moisture gradient, in order to determine mycorrhizal colonization.

*Postdoctoral Researcher:* Dr. Suzanne Pierre

**Undergraduate Researcher, San José State University** 2017- 2019

Lambrecht Lab

*Project:* Evolutionary and Plastic Changes in a Native Annual Plant After Historic Drought

Designed and executed a greenhouse study to test for evolution in physiological, morphological, and phenological traits in response to long-term drought in California.

Carter Lab

*Project:* Evolutionary Ecology of *Scleropodium* 2017 - 2018

Assisted in data collection for determining morphological differences in moss species, participated in a reciprocal transplant field experiment for aquatic and terrestrial species, developed and executed a dry down experiment to investigate responses to water stress.

**Volunteer Surveyor, Global Observation Research Initiative in Alpine Environments (GLORIA)** 2018 - Present

*Project:* Conducted downslope surveys on alpine plants to assess how alpine species distribution ranges are changing with climate change.

**Intern, San Bruno Mountain Watch** 2016

*Project:* Assisted in the process of restoring the native vegetative habitats of San Bruno Mountain by collecting seed, propagating individuals in a nursery, and replanting native species on the mountain. Maintained a catalog for native plant seed inventory.

### **PRESENTATIONS**

2021. *Poster presentation.* Ecological Society of America. Virtual conference

2021. *Poster presentation.* Botanical Society of America. Virtual conference

2021. *Lightning talk.* California Botanical Society. Virtual conference.

2020. *Poster presentation.* Northern California Botanists Symposium. Chico, CA.

2019. *Poster presentation*. Botanical Society of America Annual Conference. Tucson, AZ.  
2019. *Poster presentation*. SJSU College of Science Student Research Day. San José, CA.

### AWARDS & HONORS

Graduate Opportunities to Learn Data Science Certificate (in progress)	2020- 2022
National Science Foundation Graduate Research Fellowship Honorable Mention	2020
2 <sup>nd</sup> Place Poster Award at the Northern California Botanists Symposium	2020
Magna Cum Laude	2019
Phi Kappa Phi Honor Society	2018, 2019
Tri Beta Biological Honor Society	2019
Dean's Scholar, San José State University	2014-2019

### MENTORSHIP EXPERIENCE

**Invited speaker, ESA SEEDS Chapter SJSU** 2021  
Participated on a graduate student panel at the monthly chapter meeting to guide undergraduates through the process of applying to graduate school.

**Undergraduate Mentor, SACNAS Chapter SFSU** 2021 - 2022  
Mentored and supported students through the processes of developing their research interests, applying for scholarships and research opportunities.

### SCIENCE EDUCATION

**Research Associate, Critical Ecology Lab** 2020-Present  
*Project:* Liberation Ecology Field Course  
Developing a lasting curriculum for reframing science education to center the unique identities, experiences, and knowledge bases of BIPOC students in ecological field studies and subsequently, expand the breadth of ecological inquiry and the perspectives involved in the process of testing ecological hypotheses.

### CITIZEN SCIENCE

**Plant Collections Volunteer, California Academy of Sciences** 2020- Present  
Transcribed herbarium specimen labels from digital images made widely accessible to researchers across the globe.

**Citizen Science Volunteer, Notes From Nature** 2020- Present  
*Project:* Capturing California's Flowers  
Transcribed herbarium specimen labels from digital images in order to contribute to the investigation of phenological changes in California native plants.

**Citizen Science Volunteer, BioBlitz** 2017- Present  
Led groups of families local to San Jose through nature hikes and taught people how to document species observations on the iNaturalist data crowdsourcing platform.

**Student Volunteer, SJSU Community Garden** 2016 - 2018  
Worked with a group of undergraduate students on practicing sustainable gardening techniques to grow food for the student body.

### SKILLS

Plant identification, taxonomic keying, soil texture analysis, preparing and cataloging herbarium specimens, conducting vegetation surveys, performing DNA extractions, greenhouse experimentation, plant water potential measurements, plant anatomy measurements, backpacking, Mesquite, Geneious, PAUP, R, Maxent, phylogenetically independent contrasts, species distribution modeling, climate modeling, and ecological niche modeling