F26.23 Investigating

Overview

In the Sonoran Desert, climate change threatens saguaro survival and regeneration through increased fire intensity and frequency and drought. To maintain this important keystone species on the landscape, intensive restoration may be necessary. We know saguaros are strongly associated with nurse plants, but we don't fully understand the mechanisms that most support saguaro establishment and survival. Are nurse plants only important for shade as has been previously described or do they also provide plants with belowground benefits such as access to soil resources like nutrients and water? Do belowground interactions help protect saguaros during heatwaves? In this project, the student will support greenhouse studies that will increase our knowledge of nurse plant-saguaro relationships. This understanding will improve saguaro planting and restoration approaches in the future.

What the student will DO and LEARN

The student will set up and maintain a greenhouse experiment, take plant and other related measurements, and harvest the plants. Students may process roots (clear and stain) and use microscopy to assess root colonization by beneficial fungi. Students will collect and analyze data. The student will learn important skills such as experimental design, greenhouse work, research note taking, data collection, data processing, and analysis. The student will also learn important skills regarding presenting to a live audience at UGRADS.

Additional benefits

Research experience for resume, future letter of recommendation if appropriate.

Additional qualifications

Student must be majoring in a related field to the research.

Time commitment

6 hrs/week for 30 weeks