

Erica Lizbeth Bacab

Biography

My parents immigrated from Mexico to the United States where they had my siblings and me. Despite having my oldest son at 18 I still graduated high school in 2010. After working in the customer service industry for many years I decided on going back to school to be a science teacher. As I approached completing my education classes along with some basic science classes I decided I wanted to focus mainly on science. During the summer of 2022, I applied for the IFLARE program at Nevada State College and was accepted. During my summer research program, I worked hard to learn the proper training to work in a BSL-2 lab where I researched the germination process of *Bacillus anthracis*, more commonly known as anthrax. I was able to present my research at a poster colloquium at Nevada State College, and an INBRE conference in Reno. I fell further in my interest in science, specifically microbiology and biochemistry. After my summer research program, the picture became more focused. I would like to go to graduate school for a genetics degree or a virology degree and be a researcher.

My research project for this year consists of two objectives, my first being to investigate quorum sensing in *Bacillus anthracis* or anthrax during its germination process. *B. anthracis* has 5 germination receptors, Ger-H, Ger-K, Ger-S, Ger-X, and Ger-L. Our lab has mutants with one specific receptor each along with a NULL which has no germination receptors, and a wild type which has them all. I hypothesize that the receptors use quorum sensing to activate germination. I will use the filtered supernatant of Ger-H on the other mutant receptors to investigate if it activates germination. My second objective is to manipulate the temperature and pH of the mutants during the germination process of *B. anthracis* and examine if the process changes. I am very excited to present my findings in poster form in the future.