

Summer Research at WU – León-Zayas

This summer we will be working on advancing the research of our most recently NSF funded work on PET Plastic degrading bacteria. By studying the metabolic capacity of microorganisms that degrade PET Plastic, we can better understand their mechanisms for degrading one of the largest sources of pollutants, single use plastics, with the ultimate goal of building upon that potential to generate a more efficient degradation process in order to eventually assist with the reduction of this manmade environmental pollutant. During the summer we will be particularly looking at the genes that are actively being used by the bacteria (RNAseq), so we can understand how these organisms are actively degrading the PET plastic. We will be learning how to use computational tools to answer biological questions by interrogating RNA sequences from the organisms. Previous knowledge on computational language is not required.

Students assignment:

Select two peer review primary literature article on plastic degradation by microorganism. **Write a one page summary for each article** and additionally answer the following questions:

- 1 – What was one of the most intriguing things that you learned from each article.
- 2 – What was the hardest concept to grasp in the articles and how did you go about teaching yourself that new challenging concept?
- 3 – If you were to follow up on the research that the authors shared in the articles, what questions would you be interested in answering? In other words – generate additional questions based on the research described in each paper that would build upon the research that was done. Provide your questions, an explanation of how these questions are related to the research you read, and theoretically, how would you go about answering those questions. (not looking for perfect methodology here, just a snap shot into your creative mind)