

During my undergraduate career, I want to increase my major grade point average. Moving forward I aspire to make the Dean's List every semester. Once I have attained a bachelor's degree in microbiology, I would like to attend graduate school and work toward a doctoral degree in microbiology or cell and molecular biology. My ideal career is to research cures and vaccines for diseases. My ultimate goal is to become a top researcher in my field, and potentially work for the Centers for Disease Control and Prevention, or a similar agency.

This year I will be expanding on a research project I started in the fall of 2020. The goal of my project is to determine when the gene for a protein, OprF, is turned on so it can be further characterized. OprF is integral to biofilm formation, which are communities of microbes that attach to surfaces, in *Pseudomonas aeruginosa*. Previously, I looked at the first hour of biofilm formation; this is considered the attachment stage. This step of my project proved that the gene is not turned on within the first hour of formation. The next step is to observe the 4-hour time point. If the gene does not appear to be on at this stage, then I will move on to 6- or 8-hours. Knowing when this gene is turned on will help improve efforts to weaken these biofilms.