If the Edmon Low Library was a person, I would credit it with the most influence on getting me where I am today. I have spent countless hours at Edmon Low whether it be cramming in some late-night studies for an upcoming exam, taking practice exams for professional school, or trying to find inspiration for an upcoming research project or research paper. Edmon Low has never ceased to provide me with a more than adequate environment to study in. I enjoy being able to use the study rooms when I am in a group project trying to bounce ideas off one another. Recently I was in a group trying to research ways that Oklahoma State students could get more involved in the voting process. Edmon Low granted us with a plethora of materials starting with the study rooms that include an interactive smart board which comes in handy when practicing presentations, free Wi-Fi for students, and even lap tops, lap top chargers and IPhone chargers. All of these amenities provide me with ample tools and resources to be a successful college student.

As a succeeding undergraduate student studying the microbiome world, I became aware of the impact that these microorganisms can have on humans. I took a class called pathogenic microbiology where I fell in love with learning about the various pathogens and the different routes of infection and diseases these microorganisms can cause. I began to think of ways where I could make an impact as a college student to help prevent these infections from developing. The problems are clear and apparent in that many people get infections and illnesses by microbial pathogens on a daily basis. After talking about this with my advisor, I was advised to look into research, and I came across a microbiology laboratory that studies Chlamydia trachomatis which causes the infamous Chlamydia which is a very common sexually transmitted disease. I used Oklahoma State University’s free online databases to learn more about this pathogen, and found an article on PubMed (https://www.ncbi.nlm.nih.gov/pubmed) that said that
this bacterium has links to multiple variants of cancer. I have since been able to find more information about *C. trachomatis* that has helped shape my research plan. After accessing journal information on PubMed, I either download the papers directly in digital format as long as I am on campus, or I login through the library website at home. Some of the journals that I access digitally through the library are: Cell, Pathogens and Diseases, Nature, Science, Frontiers, PNAS and others. I can even access these databases while in the comfort of my own home by utilizing Oklahoma State’s online access by logging in with my credentials when I am not on Oklahoma State’s network. This is very helpful as I aspire to become a physician that specializes in either oncology or pathology, and conducting research on *C. trachomatis* will enhance my future for both.

I have found many helpful references and websites to guide my research, and anytime I had trouble finding any references, I went to the front desk of the library for help and given direction. I have come across a few journals that I was unable to access. This hiccup did not stop my quest to obtain this information, because after getting in contact with a librarian, I was informed about the Interlibrary Loan Request. This soon granted me access to journal articles that I previously was not able to access. My research led me to investigate changes in host cell signaling pathways that occur during *C. trachomatis* infection. Phosphorylation is one way that signaling is regulated inside the cell. Changes in protein phosphorylation can be monitored using kinase and kinase substrate specific antibodies in western blot analysis. These signaling pathways have many different proteins in them, and deciphering how they are being activated can take multiple rounds of western blot analysis and repeated sample collection. My research is focused on Protein Kinase A (PKA), which can play a significant role in the development of cancers. I have recently discovered that *C. trachomatis* induces PKA activation during infection.
These are new and exciting results which implicate PKA manipulation as one of the changes that occur during infection. I hypothesize that the *C. trachomatis* manipulation of PKA during infection may result in phosphorylation changes in specific PKA substrates that have previously been shown to be involved in cancer development. These next steps of the project will be to assess the changes of to the phosphorylation of specific PKA substrates: CREB and BAD by SDS-PAGE, western blot analysis during *C. trachomatis* infection as well as using immunofluorescent microscopy to determine if *C. trachomatis* is actively recruiting specific PKA substrates to the Chlamydial inclusion.

I am excited to share my research findings with others and will be presenting my research at multiple conferences. I will need to practice presenting my research and the Creative Studios is the perfect place where I can record myself and see areas where I can improve upon. Later on in the process, I will be using the citation support tools that Oklahoma State provides to aid me in developing bibliographies to go with my research. Endnote in particular will be very handy when I begin to write and formulate my honors thesis from all of my research data. Thus far, working on this project has shown me that research is not something that can be completed in a mere day. It is something that takes commitment and dedication. I find it exciting to realize that the implications to my research could lead to more understanding on how infection can lead to multiple forms of diseases ranging from pelvic inflammatory disease, tubal infertility and increased risks to different forms of cancer. I am dedicated and committed to making an impact in college that will influence my future field of study in pathology and oncology. With the Edmon Low Library helping me in my research I know this goal is attainable.