Examples of LU STEM students' Personal Statement

My name is Aijalon Underwood. I am currently a senior chemistry major at Langston University (LU), and plan to graduate December, 2022. My academic goal is to obtain my Bachelor's degree in chemistry, then pursue a PhD in Biomedical Research because I believe that it is a field that leaves a stamp on the world by making it a better place.

When I entered LU as a freshman, I was unsure of where my passion and life mission lay. I knew I was going to matriculate to, and complete, a Bachelors degree, but I did not have an adequate information framework to evaluate what field of study was a best fit for me. So, I tried a number of areas until I found an area that embraces all aspects of who I am - chemistry. Chemistry encourages my curiosity, challenges me, pushes me to work hard, and motivates me. It helped me realize that I want this as my life's work.

Ever since I was introduced to the Oklahoma Medical Research Foundation (OMRF), I have been following their amazing work. I am interested in seeing the results discovered on OMRF projects, specifically those that reveal new approaches to diseases, as they affect so many people. I want to be a participant in this process. I want to be part of the behind- the-scenes learning and discovery of so many possibilities. The mentorship provided by an affiliation with OMRF would be not only enlightening, but inspiring in that I could learn so much about not only about the science, but also science career possibilities and processes. It will help me envision my future self as a Biochemist, and help me realize and develop skills necessary to achieve my goal. It will also help me understand how I can broaden my outreach in my community so I can better serve as a source of help and inspiration to others. Imagine what could happen when I return to my community and share the wonder of being able to participate in scientific breakthroughs with the next generation of students. It will lessen the chance that they, too, will have to replicate the lengthy path that I took to get to a focus on science.

I firmly believe in helping others, including my peers. I have led and volunteered at events with my church, such as helping with clothing drives and at nursing homes. I participate in events such as LUs "High School Day" and focus on encouraging young minorities to pursue a career in science. I am also a math tutor, wherein I prepare tools to help my peers understand the material better, as well as encourage them to be their best in all that they do.

I am paying for education out of pocket, so I have to work to pay for my education. Unfortunately, the combination of changing my major and intense work schedule has had an impact on my GPA, which is a 3.2 in chemistry and 2.94 overall. However, now that I am focused on chemistry as my major, I am absolutely committed to doing whatever it takes to succeed academically and in a career in science.

Your OMRF program is an ideal next step for me. Not only is it a critical step in enabling me to achieve my dream; as importantly, it gets me a step closer to becoming an asset in helping address the need for highly trained science professionals in communities of color. I firmly believe that science professionals within the community who look like us will ignite interest in science and possibility-thinking among the next generation of college students.

From the time that I was a child, I have always asked the question, "Why?" Coming from a single parent home with a mother who did not have a college education led me to seek out books to find my answers. My mother had a huge collection of antiquated, but still quite informative, brown Britannica encyclopedias, and every time I would ask her a question, she would send me to the bookshelf of encyclopedias to find my answer. Having to search for my answers, instead of always being given a direct answer to my questions sparked a hunger for knowledge that I have yet to begin to satisfy.

Early Exposure to Science: The field of science has enraptured my natural curiosity; I now turn to the scientific journals to answer my questions, just as I had done as a child with my encyclopedias. I first became genuinely interested in science in high school. Mr. Anton Ahrens, my chemistry teacher, was the first person to seriously motivate me to pursue an education in science. His passion for chemistry and science in general motivated and captured me. He had the capability of captivating students with electrifying lectures and unforgettable demonstrations of the core concepts of chemistry. On the first day of class, Mr. Ahrens shocked us all by jumping on his desk to illustrate the unstable nature of electrons at a higher orbital. It was this sort of zeal that one scientist exuded that ensured me that I too, would one day become a scientist.

Research Opportunities: I became fascinated with research as a sophomore at Langston University, where I am pursuing a B.S. in Biology. After excelling in science and math courses as a freshman, I was recommended to enroll in a course, Biology Research Problems, where I worked closely with one of my professors doing research on the role of the Ankyrin 3 gene in Bipolar Disorder. I learned techniques in PCR, Electrophoresis, DNA isolation, and bioinformatics, but most importantly, I gained insight on the lack of knowledge concerning minorities in various areas of research. My professor was especially interested in the lack of representation of minorities in the clinical studies concerning Bipolar disorder. One important basis of our research was to compare African American samples to Caucasian samples to further understand the genetic anomalies between races and the roll race plays in disease.

I was able to use the techniques that I learned in my Biology Research Problems course to obtain an internship with the Johns Hopkins School of Medicine Summer Internship Program. I was extremely grateful for the opportunity to study Hepatic Immune Activation in the SIV/Macaque Model of HIV under Dr. Joseph L Mankowski in the Retrovirus Lab. During this research opportunity, I was able to learn techniques in immunohistochemistry while being exposed to working with animal models in research and practicing and expanding my skills in PCR. I was able to present my research at several scientific conferences including the Beta Kappa Chi Scientific Honor Society 2011 National Conference where I was awarded for my oral presentation.

Current Research Interests: I am fascinated with HIV research, especially regarding the area of viral reservoirs and latency. I follow the publications of several HIV researchers at Johns Hopkins; including Dr. Joseph Mankowski, Dr. Janice Clements, Dr. Christine Zink, and Dr. Robert Silicano. The multilateral approach that the researchers and graduate programs at Johns Hopkins exhibit, make the prospect of conducting research at this institution extremely appealing to me.

Broader Impacts: I have the drive, foundation, and potential to make an impact on scientific research, but more importantly I have the appreciation and compassion to inspire others, especially other under-represented demographics, to do the same. I have journeyed from a child thumbing through the pages of a Britannica Encyclopedia wondering "Why?" to a determined young lady and lifelong learner who is eager to continue her dive into research in order to answer some of these still unknown questions. The Johns

Hopkins School of Medicine can provide me with the resources necessary to obtain a solid foundation so that I can improve and diversify the field of science and academia.

I am currently a chemistry major at Langston University. My goal is to complete my undergraduate degree here at Langston, then attend graduate school at a University with an excellent program in Pharmaceutical Science.

I have been interested in math and science every since my high school days in Oakland, CA. I enjoyed these subjects because they caused me to work my mind on a level that differed from other classes. Chemistry was my favorite, because it allowed me to apply all of the information that I learned in both math and science classes.

My knowledge base has grown tremendously since I've been at Langston. Chemistry 1 and 2 classes provided a strong foundation, and prepared me for success in more challenging chemistry courses. Organic Chemistry has allowed me to gain a deeper understanding of how compounds in life and organic compounds in general react and function. These classes have helped me develop plans for my career in the future.

In addition to excelling in my courses, my next steps in preparation for success here at Langston and beyond to graduate school is to continue developing my research skills. My first introduction to any kind of research was at a National Science Foundation Bridge Program held at Langston during the summer prior to my enrollment at LU.

My most recent research project was a brief six month exposure in Langston's Biotechnogy Center…… I feel that an opportunity to participate in a summer research internship would allow me to develop the research skills needed to achieve my future goals. I am interested in doing research on any subject that deals with chemistry and/or math. This experience will give me the opportunity to apply what I've learned to a real world study or problem, and enhance my chances of pursuing a career as a pharmacist. It would also allow me to work with like-minded individuals, which is very important in my development of group research.

As a future research professional, I would greatly appreciate being selected for an internship this summer.

To some, it may appear as if my achievements have come easy. Sure, I have always challenged myself to learn and do more; I have always challenged myself to achieve balance in my endeavors while still pouring my entire self into them. I am ambitious, which people may grasp from an initial encounter, but furthermore, I am curious. Curiosity, similar to creativity, knows very little in regards to bounds or limits, and it can lead to prosperity especially when searching for solutions. In my opinion, prosperity is not limited to accolades; it also involves leaving the world a better place than I found it, and pursuing a PhD in Biomedical Research is surely an avenue to do so.

I look forward to pursuing a PhD in Biomedical Research at the University of Oklahoma Health and Science Center, particularly due to the Graduate Program in Biomedical Sciences

(GPiBS) curriculum. There are several aspects of biomedical sciences that improve the world tremendously. For example, after working as an intern for NASA, I recognize there are biomedical scientists who directly impact the performance of astronauts, who inherently receive all the credit. Biomedical sciences reveal many possibilities, and I am interested in putting in the behind-the-scenes research and in serving as a role model as we approach more medical breakthroughs.

I am currently in the process of obtaining my Bachelor of Science in Chemistry from Langston University. So far, I have been recognized as the Highest Ranking Chemistry Major for two consecutive years, and separately, I have led community service activities and volunteer work in nursing homes, community centers, and union missions. Additionally, I am an active member of the LU chemistry club where I periodically lead tutorial activities to encourage other students' participation. My interest in the field has been prevalent since high school, and I am honored to be in a position where I can share that interest with my peers. Within my professional experience, I have completed projects related to immunology, virology, observation of t-cells, etc. Due to my mentors' influence and guidance, my work has led me to the privilege of being recognized as a NASA Scholar, as an American Chemical Society Hach Scholar, and an Oral Presentation Winner at OK-LSAMP Research Symposium (2019). In addition to my coursework and awards, I have also expanded my interest by presenting during NASA Life Sciences Research Day for two consecutive years (2018 and 2019).

Throughout these experiences, I have not only furthered my research experience and secured an experimental background, but I have also honed my written and oral presentation skills. Aside from my technical skills, I would serve as an asset to the University of Oklahoma and the GPiBS program due to my ability to streamline processes, my analytic and detailed approach, my integrity, my resilience and my overall optimistic attitude about learning and about the future of biomedical research. While my knowledge within STEM is consistently growing, my adaptable yet detail-oriented nature makes me an incredible collaborator and leader. I plan to steer growth within this field and at this university with my findings and with my character. It brings me great pleasure to enter a field I am honestly not expected to excel in considering I am a Black woman. I have learned throughout my educational career that it is often our differentiating backgrounds that make our joint contributions so impeccable.

I look forward to working alongside other forward-thinking leaders in this field, and I would be honored to show other women interested in this field that it is possible to go far.