My plan to earn a Bachelor of Science in Astrophysics took me to the University of New Mexico, where I graduated Summa Cum Laude in May 2019. I started laying the foundation of my research goals when, as a freshman, I began a four year research relationship with Dr. Rouzbeh Allahverdi, Professor of Physics. Our focus was on early universe cosmology. My junior and senior years, I worked with Physics Professor Dr. Sally Seidel on silicon particle detectors as part of UNM's CERN ATLAS group. The summer before my senior year, I earned an internship at CERN, Geneva, Switzerland, where I worked on experiments in gravitational physics using antimatter. Attending UNM offered me exceptional opportunities at the Air Force Research Laboratory (AFRL). Beginning my sophomore year, I worked on optically pumped laser systems, as part of laser defense. My senior year, I was a research assistant working on adaptive optics at the Starfire Optical Range. In order to participate in some of these AFRL projects I was given a security clearance, which I still hold. Throughout my undergraduate years, as I participated in these varied projects, I refined my focus to include the most exotic realms of the Universe, such as negative energy density fields (including wormholes and anti-gravity fields), core collapse supernova, black holes, gravitational waves, and high energy plasma environments; and, faster than light propulsion, warpdrives, fusion propulsion concepts, and fusion energy concepts, as well as other advanced propulsion concepts including antimatter drives and production techniques. Currently, I am attending the Air Force Institute of Technology (AFIT), working toward my Master of Science in Applied Physics. I have focused my research on Plasma Physics and Fusion Physics, which will culminate in my Master's Thesis, *A New Class of Heavy Ion Plasma Drivers for Plasma Jet Driven Magnetoinertial Fusion*.

As a PhD student, I will focus on breakthrough propulsion physics and breakthrough energy physics by studying the exotic realms of high energy physics and astrophysics. This research will require a wide range of knowledge from many fields of physics, therefore I have been working to get as much experience in as many fields of physics as possible, both as an undergraduate and a graduate student.

By alleviating the financial burden of education, this DoD fellowship permits me to concentrate fully on my research. As a professional scientist it is imperative that I am able to travel and collaborate with my colleagues and this award would allow me the ability to do so. My short-term goal of earning a PhD in Theoretical Physics and my long-term goal of researching high energy physics would be made possible. My years of experience working with the USAF has allowed me to work side by side with dedicated military and civilian scientists and I look forward to continuing my association through this fellowship.