

Fall 2015 NASA Internship, and the Space Radiation Health Project

This fall, I was fortunate enough to have been able to participate in an internship at NASA's Lyndon B. Johnson Space Center. I was placed into the Human Health & Performance Directorate, where I was specifically tasked to work with Dr. Zarana Patel, researching the impacts of cosmic level radiation on human cells. Using different laboratory techniques, we were able to examine the cells to see if any damage had been done due to radiation exposure, and if so, how much damage was done.

Cell culture samples were exposed at different doses, and fixed at different time points so that we could accumulate a large pool of quantifiable data. After examining quantifiable results relative to the impacts of space radiation on the human body at the cellular and chromosomal level, researchers can defer to different areas of the space program that have to do with astronaut safety, and research and development (extravehicular mobility unit construction, vehicle design and construction, etc.).

This experience has been very eye-opening, and I was able to learn quite a bit. I learned some new laboratory techniques, and I did my best to try and learn new ways to balance such a hectic work and school schedule. I also learned some very intimate thing about working at NASA; I learned that far more people want to watch you succeed, rather than watch you fail, and I also learned that this is a place that is alive with innovators and explorers – people who have a sole purpose of exploring space for the betterment of humanity, and not for any other reason. It's truly inspiring.

All of these experiences during my internship have impacted me in a really profound way, so much that my educational and career goals are completely different than when I started. I started out as a biotechnology major, and I discovered recently toward the end of the internship, that I don't want to work in a lab, nor was I as enthralled by biological life sciences as I believed myself to be. Taking that all into consideration, I've actually changed my major to mechanical engineering. I discovered that I enjoy building things, and I enjoy learning about materials and interactions between different things. And I quickly became obsessed with rocket and aerospace engineering, so I've decided that after a mechanical engineering degree, I will be pursuing an advanced degree in aerospace engineering. One final way that I was effected by this internship, is that I discovered that I don't want to have a career at NASA. I love this agency with all of my heart, but I refuse to allow my innovation to be bound by a scientifically illiterate congress. As such, I have decided to pursue commercial aerospace companies, such as Space, XCOR, Masten Space Systems, Orbital ATK, and many, many, more. Maybe one day I'll end up back here. I believe in what this agency is doing with my whole heart, and it's unfortunate to see them curtailed in some capacities as a result of budgetary constraints, brought on by people who don't fully understand the effort behind putting people in to space.

All in all, this experience has been the best experience of my life – literally a childhood dream came true during this experience – and I cannot adequately explain how grateful I am to have been here for the past sixteen weeks.