Rhianna Clemons' NASA Final Report

Executive Summary

This report serves to share my objectives, accomplishments, highlights, and recommendations from my experiences as a Henry Clay Intern in the Office of Chief Scientist during the summer of 2021. The objectives of my internship ranged from the development of a NASA white paper defining sustainability in terms of Space Directive-1 to improving and developing my professional skills. I was able to complete all my intended objectives and, in some areas, even exceeded my expectations. While working in the lunar sustainability group, I spearheaded the space food systems, environmental protection, and heritage site preservation sections of the white paper. The most important highlight of my internship was the ability to be a part of the Henry Clay program and completing this internship. While I have no regrets regarding what I did during the internship I do have three recommendations for future interns to ensure they complete the internship to the best of their abilities.

Internship Objectives

My role during my Henry Clay internship was to assist the Office of Chief Scientist Lunar Sustainability group in developing a NASA white paper to define sustainability in terms of Space Directive-1. This role created most of my internship objectives given by Dr. James Green. The first objective was to develop my sections regarding space food systems, lunar environmental protection, and preservation of lunar heritage sites on the NASA white paper. My next objective was to work with the Office of Chief Scientists to set up organizational strategic direction, goals, priorities, and processes for the organization for the upcoming year and a corresponding action plan. My third objective was to start developing collaborations for the Office of Chief Scientist to educate and promote Artemis, as well as other key NASA priorities. Through this objective, I worked to spearhead activities for the Chief Scientists with NASA organizations, other governmental agencies, and professional organizations.

My objectives for this internship were to develop several of my professional and scientific skills and network. The first set of skills I wished to further develop were my public speaking and communication skills. This includes general communication, but also communication of scientific information to an audience and conversion of government documents to plain language. The next skill set I worked on was increasing my knowledge base. I was unsure of what I was going to develop, but some areas that I have increased my knowledge about are policy, governmental documents, and NASA projects. My next objective was to increase my network and my networking ability.

Accomplishments

My first accomplishment was serving as an agency scientific expert, overseeing research on sustainability for the Office of Chief Scientist. I completed this by providing authoritative and comprehensive advice and assistance, soliciting input from NASA Centers and program and project offices to ensure scientific integrity, inclusiveness, and transparency in developing my sections of the NASA white paper to define sustainability in terms of Space Directive-1. This accomplishment was also completed through the Office of Chief Scientist lunar sustainability groups hosting series of meetings and workshops with the scientific community to support the development of sound scientific definition through an inclusive, peer-review process. My next

accomplishment was successfully working with the Office of Chief Scientist to set the organizational strategic direction, goals, priorities, and processes for the organization for the upcoming year and corresponding action plan. I accomplished this objective through the previously mentioned accomplishment, but also monitoring the progress of approved tasks and evaluating scientific readiness of real-time issues that could negatively affect scientific outcomes for NASA missions and the agency portfolio. The final way I was successful in accomplishing this objective was to inform the leadership of potential opportunities and solutions to potential obstacles. I accomplished my final objective through accomplishing the other objectives as well as scheduling lecturers such as expert scientific speakers on Moon and Mars analogs, to discuss aspects of conditions affecting sustainability and life in extreme environments. Also, by developing collaborations for the Office of Chief Scientist to educate and promote Artemis and other key NASA priorities.

As for my objectives for this internship, I have made several accomplishments. The first is the improvement and development of my professional and scientific skills. I improved my public speaking and communication skills through daily meetings, inviting individuals to speak, and my mentor pushing me to communicate with scientists rather than her doing it for me. I now feel I am more confident in hosting meetings, emailing high-level individuals, and communicating in general. My next accomplishment was increasing my knowledge base. Throughout my internship, I have gained knowledge that I did not expect by watching lectures, attending meetings, reading publications, etc. My favorite lecture I attend was Dr. Jim Green's lecture on Climate Change. As an environmental science major, I had never heard the information he gave and now plan on sharing it with the entire department. My final accomplishment was to increase my network and networking ability. This was done through my mentor and the Office of Chief Scientist introducing me to individuals. Also, through hosting the lectures for all the interns and the lunar sustainability group.

Highlights of the Internship

The biggest highlight of my internship was just being a part of this amazing program. I applied to NASA as a shot in the dark thinking there was absolutely no way I would get an internship. This is a once-in-a-lifetime experience that has begun to shape my future. I now feel confident about my abilities and that I can get into graduate school. It was an honor to meet all the wonderful people in the Office of Chief Scientist. The next highlight of my internship was meeting and networking with amazing and inspiring people. The connections I have created with individuals during my internship could not have been at a more critical time. These connections are assisting with my graduate school applications, creating connections with graduate professors, and assisting with grant applications. Dr. Neysa Call, Dr. Catherine Walker, and Dr. Kathie Olsen are the main individuals working to assist with my applications. I am the first in my family to attend graduate school and have felt alone and confused with the process of navigating applications and grants. These individuals have aided in easing my confusion and nervousness. I now feel that I will not only get into graduate schools but get into the graduate schools of my dreams.

Recommendation for Future Interns

My main recommendation for future Henry Clay interns is to never be afraid to ask. If a meeting or event seems interesting, ask if you can attend or watch the recording. The worst thing that will happen is that they will say no. Advocating for yourself whether it is to ask to attend events or

make your name known will always have good outcomes. If they do say no, then they may find an event you can attend or something you can read. An example from my internship was telling my mentor, Dr. Tara Ruttley, that I was extremely interested in sustainability and climate change. She then emailed several people that I was interested in these subjects, and I started to get invites to meetings and conferences, papers to read, recording to watch, etc.

My next recommendation is not to be nervous about meeting individuals from the Office of Chief Scientist. Everyone that works in this office is extremely welcoming and nice. I have never had a bad experience with anyone. While it is nerve-wracking to meet NASA Chief Scientist, Dr. James Green is one of the most inspiring and kind people I have ever met. They never make you feel as though you are less than them. I felt as though I was treated exactly like a new employee rather than an intern.

My final recommendation is to take advantage of being a NASA intern. As I have been told several times, the NASA email address has power and uses it to make connections. Throughout my internship, I could make connections previously not possible. I now have incredible scientists, such as Dr. Kathie Olsen and Dr. Neysa Call, aiding in my graduate school and grant applications. Also, make connections with the other interns in the office. We had five including the other Henry Clay intern and me, and we met every other week just to discuss our goals and get to know each other.

Images during Internship