Interview Assessment #3

Name: Dr. Thomas Barclay

Profession: Research Scientist and Deputy Director of the TESS Science Support Center

Location: NASA Goddard Space Center--- Greenbelt, Maryland

Date: October 5, 2017--- 4:00 PM

Dr. Thomas Barclay is currently a research scientist at the NASA Goddard Space Center in Greenbelt, MD. Dr.Barclay's work primarily revolves around analysing data from both space and ground work. Much of his research was done from the Kepler Space Telescope's data. Dr. Barclay uses Kepler's observations to find exoplanets that may be suitable for life. His team's work has led to the discovery of multiple potential habitable exoplanets.

Dr. Barclay began by talking about how he overcame his obstacles. He told me that during his academic life, he was never at the top of his class. Unlike others, he didn't exactly breeze through school. Instead, he made several mistakes but learned how to get back up. He talked about how it wasn't easy but his constant effort and endurance got him to where he is right now. I found this really interesting about him. Most people assume that all scientists were valedictorians, got perfect or close to perfect SAT/ACT scores, and went to the most elite schools in the world. While this may be somewhat true, not all successful scientists have had this type of experience. Dr. Barclay told me that it doesn't matter if you go to small liberal arts school or an IV

league school, as long as you put your best effort, you will be successful. I felt like I related to Dr. Barclay's experience. To be honest, I am not the smartest person in my class. I do struggle sometimes but Dr. Barclay's words have inspired me to keep going. Afterall, a number is not what makes a scientist great, it is the drive to learn and explore.

After this discussion, Dr. Barclay told me about the best parts of his job. He mentioned how amazing it is to work in a team because he is surrounded by the best people in the whole world and also the fact that NASA trusts everyone to do their job. At NASA, there is no such thing as micromanagement. He also advised me to start applying for internships because it could lead to so many wonderful opportunities.

Once he told me about his job, Dr. Barclay discussed what his research entails. He provided me with the Kepler Mission's parameters. In order to find an exoplanet like Earth, one must measure the transit. This will tell you how much how much light is blocked. Dr. Barclay's team also measures the orbital period and temperature. All of these information provides them with clues to how much energy the planet receives and also how big the planet is. Because his team is dealing with a sample that is billions of miles of away, they have to rely on coding to communicate with Kepler. I also asked if he worked with the Spitzer Space Telescope. Dr. Barclay told me how he has used the Spitzer data because it offers infrared imaging and tells how dense planets are.

Dr. Thomas Barclay gave me one last advice and that was to learn how to code. He told me to specifically learn Python because it is fairly easy to learn and the most

used language. I took his word and started to learn how to code Python. It is a lot more fun than I thought. Talking to Dr. Thomas Barclay was such a great honor and I have no doubt that his research will provide breakthroughs in astrobiology.