

The Stevenson Fund allowed me to work at Columbia University with Prof Tanya Zelevinsky for two months. I worked on two experiments; the first was laser slowing of barium hydride. This experiment is similar to the one I work on at Imperial College but this experiment has only recently been set-up. I was able to help out with this experiment and we made good progress. During my time we increased the scattering rate of the slowing transition and using spectroscopy we found one of the vibrational repump transitions. The second experiment uses photoassociation of ultracold atoms to create ultracold molecules, this technique is not used by the group at Imperial. Strontium atoms are trapped in an optical lattice and cooled to 1 microKelvin. Then by exciting some of the atoms with a laser molecules are formed. The aim of the project is to do very precise spectroscopy to map out the vibrational structure of the strontium-2 molecules. This will allow for tests of QED. I learnt a lot which will be crucial for the future of my own research project. As well as working in the lab I also researched atomic strontium transition frequencies for different isotopes in order to calculate the nuclear charge radius.

As a leading university Columbia had plenty to offer me outside of the lab. I attended a weekly symposium in the physics department where world leading researchers presented their work. I also went to events held by the women in physics group. I run the equivalent group at Imperial and picked up some good ideas for future events here. I gave talks presenting my work at Columbia and also at Harvard and Yale, where I got to visit their labs and learn more about the research they are doing. I also spent a day at the American Physical Society Editors office where I met journal editors and discussed their careers and the publication process.

Living in New York was amazing. There was so much to do. I went to museums, shows and galleries. I went to events in fashion week, the film festival and book launches. I attended the launch of the "Women, Peace and Security" program at Columbia, speakers included Gloria Steinem, Leymah Gbowee (Nobel Peace Laureate) and Chirlane McCray (first lady of New York). I went to a discussion with Janna Levin and Rai Weiss (Physics Nobel Laureate) about the LIGO discovery and another about democratising education using technology. I met some fantastic people and came back with many great memories. I would like to thank Dr Stevenson for making this experience possible, I would advise anyone interested to go for it!