RE: Report on Project for which funds were awarded from the Hugh Last & General Funds Committee

Dear Society Committee,

At the beginning of the fall I spent five weeks at the Ancient DNA Centre at McMaster University, Canada. The goal of my trip was to learn methods for detecting ancient parasite DNA from sediment samples from Roman period sites. This research was generously funded by a Hugh Last & General Funds Award. As intestinal parasites infecting Roman populations have never been studied using molecular methods the goal of this project was to detect ancient DNA from parasites in archaeological sediment from Roman period sites. The funding from the Society allowed me to travel to Canada to undertake this research with Dr. Hendrik Poinar who specializes in ancient pathogen DNA. We designed RNA baits to preferentially capture DNA from intestinal parasites in samples that I had already studied by microscopy and were known to contain eggs from intestinal parasites that would have infected people living in the Roman empire.

During the six weeks that I spent at the McMaster Ancient DNA Centre I was able to extract DNA from 24 samples, enrich them for parasite DNA, and prepare them for high-throughput sequencing. The sequence data from the project will be returned the next few weeks when we will be able to see what parasitic organisms we may have detected with the optimized methods that we designed specifically for this project. We are very hopeful that this project will provide some of the first molecular evidence for parasites infecting people living in the Roman empire and that it will lead to a number of journal articles. This DNA evidence can greatly increase the knowledge we have about parasites in the Roman period, allowing us to detect additional species and better understand how Roman parasites were different from their modern counterparts.

This was one of the most rewarding research experiences throughout my PhD. I was able to design a project, which was an extension of my PhD research, and carry it out being involved in every step. It was extremely valuable for me to be able to travel to the Ancient DNA Centre to be trained and undertake the work myself rather than just sending samples to the lab.
for someone else to process. I gained a lot of new skills in detection and characterization of ancient pathogens that I hope to be able to incorporate into my research moving forward.

Once again, thank you so much for the funding that allowed me to undertake this project.

Sincerely,

Marissa Ledger