

Tom Handley
Malaria research, Gambia

As a 3rd Year Medical Science student at Oxford University, we are required to do a research project as part of our undergraduate degree. I have a long held interest in Infectious Disease and thought that this might be an excellent opportunity for me to experience research in the area first hand. The Society of Biology Travel Grant supported me in following my passion by helping to fund my stay in a country where I would be able to experience the research in person. I applied to work in The Gambia in West Africa to work with the Medical Research Council (MRC) on the Malaria Program Grant.



The Malaria Program Grant had a variety of aims and studied a large cohort over 3 years. The main focus of the study covered various aspects of malaria transmission, which I experienced in the field aspect of my work – collecting samples and data from the cohort of participants during visits to the study villages. This enabled me to develop skills in understanding the design of field research and the effort that is required to construct clear and effective data collection tools, such as the carefully phrased questions in case report forms.

This field work also helped me to understand some of the challenges of involved in conducting large scale studies in developing countries, such as the task of obtaining informed consent for participants who are not necessarily able to understand the form due to low rates of literacy in rural settings. The study may also be carried out in a language they might not understand, thus stressing the importance of working with local health workers to successfully explain the study and vital information they would need in order to give informed consent. This enabled us to cross several language barriers even within the same country (often different villages would belong to different tribes and only speak their own regional/cultural dialect).

However in my limited time there I not only had the opportunity to focus on field research, but also to develop laboratory skills working with the samples collected from the study. I developed a PCR based technique to replicate a highly polymorphic region of the plasmodium genome. The products from these regions will then be sequenced over the next few months and the data collected will help me to categorise the strains, and potentially derive some preliminary conclusions about the ability of each strain to induce a clinical infection.

The time I spent at the MRC was one of the most enriching and fulfilling experiences I have had as a student, and it helped me to further develop my love for microbiology and medicine. This research project allowed me to apply the skills that I have learnt in classes and lecture theatres, towards practical research. Working in the laboratories afforded me bench skills in molecular diagnostics, which have varied translational applications in most infectious disease research settings.



The Society of Biology Travel Grant provided me with the chance to take an opportunity that I would have been unable to without their help. It has helped build the foundations of my passion for studying Infectious Disease and Global Health, something that I hope will continue for the rest of my life.