

SCISOC SPOTLIGHT

BY THE CAMBRIDGE UNIVERSITY SCIENTIFIC SOCIETY

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RESEARCH FOCUS:

MOLECULAR BIOLOGY
AND PARASITOLOGY

I work on **African trypanosomes**, which are **single celled, eukaryotic parasites** that cause sleeping sickness in humans, and diseases of livestock known as animal African trypanosomiasis. The diseases caused by trypanosomes are **hard to treat, because the parasites are constantly switching out the proteins expressed on their surfaces**, making it difficult to design drugs to target them. However, some proteins are expressed consistently on the parasite cell surface, without extensive variation. I am studying one family on these invariant surface proteins, and **I'm hoping to discover their role in the parasite, whether they are essential for parasite survival, and whether they are found consistently across trypanosomes from different places.**

WHY RESEARCH?

Before my PhD, I did NatSci in Cambridge, and my favourite part of the degree was my third year research project (I worked on tobacco plants and their interactions with parasites and symbionts). I also did a summer project in the Biochemistry department, and I found it much calmer than term time work! So, I knew that I enjoyed being in the lab, and having the freedom to schedule my experiments and timetable. I was also very keen to work on a project that seemed worthwhile, where I could work on something that was interesting not just scientifically, but also because advancements in the field can lead to real life benefits for people.



"A PhD is a big commitment, so it's worth being sure that you can work with your supervisor (and that they have the same definition of "weekend" as you!)."

ONE PIECE OF ADVICE...

My advice would be to dive in and try to find out what a particular field is like. You can go to local conferences or find seminars on talks.cam (just email the organiser if it isn't clear whether undergrads are allowed), and although you might not understand everything, this can give you a really good idea what people are getting up to day-to-day. It's also a chance to meet academics who might be willing to host you for a summer project (or even a master's or PhD). The skills that are important in research are totally different to what you are examined on at undergrad, especially in the first and second years. It will matter much more that you are determined, organised and hard working than that you can memorise a lot of material! That being said, PhD funding is often conditional on getting a 2:1 in your finals. If you have your heart set on research, remember that there are lots of routes in, and don't be discouraged if you don't get a PhD offer straight away. You can do a research masters, or apply for research assistant jobs. If you can do a placement or short term job in a lab before you apply for a PhD there, you will also get the chance to find out whether you get on with your colleagues, supervisor, and the type of work.