

## NZFGW Travel Awards: N. Amy Yewdall

Certain proteins can self-assemble to form 3D structures with nano-scale dimensions. One such protein, called peroxiredoxin (Prx), is an important cellular antioxidant that can switch between dimers, rings and stacked rings. These varying structures are not only hypothesized to reflect the distinctive roles of Prx inside our cells, but also make them useful building blocks for nanotechnological applications beyond their biological function. My PhD research involves visualising the different structures of Prx and, after this trip, also investigating how they are formed.

For two months at the University of Oxford, I was able to explore the dynamic association of Prx proteins using the precision instruments and expertise available in the laboratory of Professor Dame Carol Robinson. There I used native mass spectrometry instruments, currently unavailable in New Zealand, to probe how Prxs self-assemble, and this is expected to result in a couple of papers. My time at Oxford was invaluable not only for its important results, but also for forging new connections within the overseas scientific community.

Whilst in Europe, I also had the privilege of attending a Gordon Research Seminar and Conference on Bio-inspired Materials in Switzerland. Tucked away within the small alpine village of Les Diablerets, the conference venue itself was awe-inspiring with crisp snow-capped mountains next to forested hills, waterfalls and wild flowers: a perfect setting for fostering networking in a relaxed environment with some high-calibre international scientists. The speakers were encouraged to disseminate new unpublished results, so a sense of silent thrill permeated the audience with each new slide presented. The research topics covered were at the interface of biology, chemistry and materials science. I presented a poster on my research, gaining valuable advice for future work. It was a truly fantastic opportunity to attend this conference with attendees working on research that aligned so closely with my own PhD themes.

So thank you very much for your generous financial support, without which this amazing trip would have not been possible!



Radcliffe Camera in Oxford



Glacier 3000 above Les Diablerets



Waterfalls and wild flowers