Adam Keen
SICB Annual meeting, USA

I am a PhD student at the University of Manchester, in the faculty of life science, studying cardiac physiology with analytical biochemistry.

Thanks to the travel grant from the Society of Biology I was able to visit Texas, USA, in January 2014. There were two reasons for my visit; the first was to attend the Society of Integrative and Comparative Biology (SICB) annual meeting, held in Austin, TX, and present my PhD work to date. The second was to travel to the University of North Texas (UNT) in Denton, TX, where I undertook a collaborative study into the cardiac function of freshwater turtles (*Trachmys scripta*) under the supervision of Dr Dane Crossley II.

My research so far has focused on the cardiac function of rainbow trout (*Onchorhynchus mykiss*). Being cold blooded animals, that inhabit temperate regions, rainbow trout experience huge seasonal temperature fluctuations, which directly affect their physiology. These temperature changes cause a large stress on the heart, which has to undergo remodelling processes to maintain optimal function. During this cardiac remodeling there are characteristic changes in size, form and function of the rainbow trout heart, as it has to cope with the altered blood flow demand of the fish's activity. The freshwater turtle experiences a similar seasonal temperature change. However, their behaviour is different; they hibernate during the winter months and so are 'cold dormant'. Therefore, looking at these two species provides insight into two distinct cardiac remodeling strategies in response to temperature. It has so far proved difficult to get turtles in Manchester to work with. Luckily, however, there is a plentiful supply in the USA, so I jumped at the chance to visit Dr Crossley's lab and complete the experiments under his guidance whilst learning some new specialist skills and techniques from him.

My work at UNT looked at heart function *in vivo*, in a terminally anaesthetized turtle, and then also at cardiac compliance of an isolated whole heart preparation. By using these techniques I hoped to find the differences between flow and pressure in the warm and cold acclimated hearts at rest and in response to a volume load. I also hoped to find the difference in the stretch capabilities of the heart. Furthermore, I was able to collect and prepare tissue samples for a number of further studies to be carried out back in Manchester. I found the tutoring of Dr Crossley incredibly valuable and I believe that the experience has matured my scientific capabilities and outlooks. Equally, having the opportunity to learn technically challenging skills and techniques from an expert in the field is one that I cherished.

Finally, of course no trip to Texas would be complete without going to a basketball game, sitting on the grassy knoll, a trip to hooters, visiting a gun shop, eating a 30oz steak, watching the Superbowl and having the best BBQ money can buy! There were long, hard and challenging days in the lab, but also lots of fun and plenty of bourbon to go around!

I feel incredibly privileged to have had such an amazing trip, both for its educational value and cultural experiences. As a result I feel inspired to make the most of my PhD and hope to continue and progress in my scientific career.