

Dr Anwen Bullen

Association for Research in Otolaryngology Midwinter Meeting February 2014

I was awarded the Society of Biology Travel Grant to attend the 37th Annual Midwinter Meeting of the Association for Research in Otolaryngology (ARO), held in San Diego from 22nd - 26th February 2014. I am a post-doctoral research associate working at the UCL Ear Institute on structural characterisation of the inner ear and I gave an oral presentation of my work on the characterisation of auditory hair cells structures using three-dimensional electron microscopy (3D-EM).

Inner hair cells (IHCs) are the primary receptor cells of the mammalian cochlea, responsible for the encoding of complex incoming sound stimulation into controlled neurotransmitter release. Little is known about the ultrastructural organisation of the cell that supports this function. My work has used several 3D-EM techniques to reveal the subcellular organisation of IHCs, demonstrating that cells contain an organised network of membranes and mitochondria structurally related to the synaptic machinery, and structural linkages between organelles and cellular constituents. These have not been previously observed in hair cells. This work is important in understanding the functioning of IHCs and may help to understand how pathologies such as ageing and exposure to noise affect hearing.



Transmission Electron Micrograph of a mouse inner hair cell.

At ARO, I was able to discuss my work with some of the top researchers in my field. This gave me valuable feedback, and insights into how my work may fit into the wider context of current knowledge. Despite my presentation being the last in the conference, and therefore my spending most of the week in a state of moderate to high nervous tension, I also had the opportunity to attend a large number of presentations and posters and to discuss my findings and potential collaborations with scientists. The ARO conference is one of the largest and well attended in our discipline, attendance allowed me to interact with research groups from all over the world.



The view from the Conference venue. Because science has to have some perks.

My presentation was well received, and considering it was scheduled as the last presentation of the conference and on the morning after the 'Hair Ball' conference dance party, surprisingly well attended. The talk inspired a several questions, and I received excellent feedback that will be extremely useful in preparing the paper arising from this work. The presentation gave me a chance to hone my presentation skills on a larger stage and taught me valuable lessons in what to do when your presentation slot is suddenly moved up by fifteen minutes, you seem to have developed an uncontrollable cough and your laser pointer has mysteriously stopped working (the answers are, respectively, don't panic, deep breaths, and beg one from the previous speaker!).

I am very grateful to the Society of Biology for the Travel Grant award, which allowed me to attend ARO. Attendance at large and prestigious conferences such as this one is vitally important for young researchers, and without grant schemes like the Society of Biology's, it would be very difficult to find funding for such trips. Conferences allow us to build up networks, become immersed in the latest research in our respective fields, and gain vital skills in presentation of our own work.