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Keystone Symposium on Small Regulatory RNAs (D7), Daejeon Convention Centre, Daejeon, South Korea (14 -18 April 2019)

I successfully applied for a Travel Grant to allow me to attend the Keystone Symposium Small Regulatory RNA meeting in Daejeon this April. The Keystone Symposia on Molecular and Cellular Biology is a non-profit American organisation with almost 50 years of experience providing conferences, which are among the most prestigious conferences in biology. At this meeting, world-leading experts on short non-coding RNAs met to discuss recent developments and cutting-edge methods in the field. Although I have attended numerous national conferences on cancer research, this was my first international conference and my first on RNA biology.

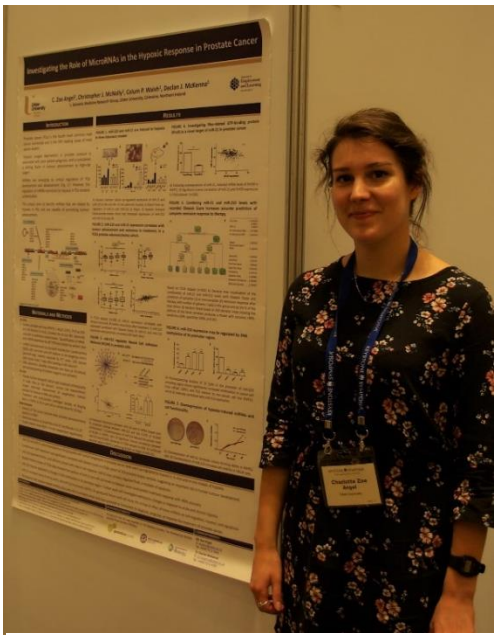
Exploring Daejon, South Korea

The sessions at the conference mainly focused on microRNAs (miRNAs), piwi-interacting RNAs (piRNAs), and insights from CRISPR. My PhD has investigated the role of miRNAs during the hypoxic response in prostate cancer and it was tremendously interesting for me to learn more about the mechanisms of regulatory RNA-induced gene silencing. For example, numerous groups had used point mutations in non-coding RNA sequences, or in the enzymes that bind to them, in order to understand exactly how the RNAs are recognised by the appropriate protein complex and how they then identify their target sequences to mediate translational repression. There were talks from several “superstars” of small RNA research, including David P. Bartel, Victor Ambros, Phillip A. Sharp, V. Narry Kim, and many researchers from the most famous institutes in the world (such as Harvard, Memorial Sloan Kettering Cancer Centre, University of Texas MD Anderson Cancer Centre, and MIT). It was fascinating to hear about the types of techniques that they have used – such as single molecule fluorescence, bioinformatics, and CRISPR – to explore key questions in non-coding RNA research. I also enjoyed hearing about how small RNA-based therapies are emerging in pharmaceutical research laboratories. For instance, there was an exciting talk from Karyn Schmidt from Alnylam Pharmaceuticals, whose team are designing new systems to deliver small RNAs into human tissues as a treatment for diseases.

It was brilliant being able to attend so many talks that were directly relevant to my own research and improved my understanding of the field, but also to have the chance to learn about other areas. I particularly enjoyed hearing about the insights from plants, *C. elegans*, the Asiatic honey bee, and *Drosophila*, as these are models that I rarely read about. For example, Seung Cho Lee from Cold Spring Harbour Laboratory presented some novel transposon-derived transcripts that have an essential regulatory role in Arabidopsis, which reminded me that we are only now appreciating the function of non-coding DNA that we originally considered “junk”. Another highlight was a talk from Claudia Lang from Plant and Food Research in New Zealand, whose research has demonstrated that humans can absorb

miRNAs from food, and that fruit and vegetables may be a key source of beneficial miRNAs. All the more reason to get your 5 a day!

Overall, the scientific content was excellent and I gained a clearer understanding of where my research fits into the wider field of small RNA research. I learned more about the mechanisms of RNA interference and biogenesis, some exciting new methods, and I have come back to my own work feeling more motivated, with ideas for extra experiments, and ideas to discuss in my PhD thesis which I intend to submit in September. It was also very helpful for me to discuss my research with other scientists too - I sincerely appreciated the interest that other delegates took in my poster, and I had some interesting discussions over both my poster and others.



Presenting my research poster to delegates at the conference

Furthermore, I thoroughly enjoyed the social aspect of the conference. Keystone are known for taking great care of their delegates and this meeting did not disappoint. Daejeon Convention Centre were fantastic hosts and the food was generous and delicious. The organisers had arranged sessions in which early career scientists could meet some of the speakers in small groups, who were very open and passionate about their work and answered our questions about the academic career, juggling work and family, how to get a postdoc, and more. There was another Q&A session with editors of the journals Nature (Angela K. Eggleston) and Science (Steve Mao), during which we discussed what makes an impactful piece of research and heard about the interesting world of science publishing. There were also some great opportunities to socialise with the other delegates, including a trip to a local pottery village. On our last night, there was a formal dinner with entertainment; a traditional Korean musical group regaled us with one band member playing the gayageum (a large traditional string instrument). During the social hours, I met many interesting people, and I especially enjoyed meeting people from Asia, North America, Europe and Australia, who I would never have met at a local conference.

Generous and delicious food!

Therefore, attending this conference was immensely beneficial to my career, and furthermore I had a fantastic time visiting beautiful South Korea. I would like to thank sincerely the RSB for giving me this opportunity.