

Joshua W.P. Bateman, Swansea University (supported by UK Health Security Agency)

Inhaled Particles and NanOEH Conference 2023, Manchester, United Kingdom, 15th-18th May 2023

On the 15th of May 2023 I boarded a 4.5 hour train from Swansea to Manchester Piccadilly to attend the joint Inhaled Particles and NanOEH Conference taking place in Hilton Manchester Deansgate Hotel. I am undertaking my PhD at Swansea University supported by the UK Health Security Agency where I am examining the effects of various air pollutants on human health. As I started my PhD in April 2020, I have not had as much opportunity as I would have liked to travel to discuss my work with experts in the field. Although I was excited about the opportunity, I was also nervous as I knew on day 3 (of 4) of the conference I would be giving a talk. Thankfully, the conference was well attended by my lab colleagues who were able to keep my spirits high on the long train journey.

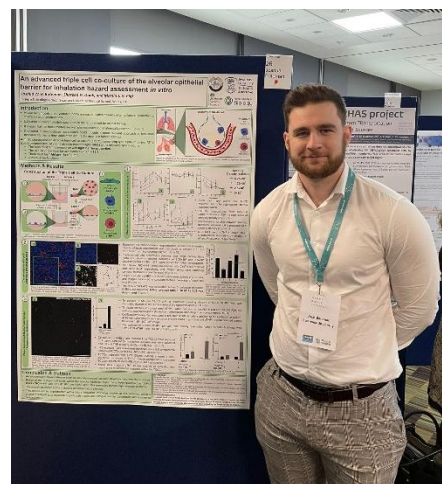


Me and my lab colleagues in Cloud 23 at the drink reception. This gave a great opportunity to network in an informal setting.

The next day, I was excited for conference day 2, I attended many talks and keynote presentations on the risks of micro/nanoplastic exposure and alternative methods of toxicity testing. I especially enjoyed this day as there were 3 members of our lab that presented their work – it was great to see presentations from senior members of the lab as I was able to observe how they communicated with the audience and learn some effective tips to advise my talk the following day.

On day 2 I also presented my poster which discussed the creation and characterisation of a *in vitro* model that accurately resembles the epithelial barrier of the alveolar region of the lungs. This included the 3 major cell types of the alveolar epithelium (type 1 pneumocytes, type 2 pneumocytes and alveolar macrophages), cultured at anatomically relevant ratios. Given the relevance of the model I presented, I received a lot of interest from conference delegates, including many at the top of the field. I thought the discussions I had were insightful and interesting and I really learnt a lot to advise my future direction of research. Day 2 ended

This was my first-time visiting Manchester, and upon arrival at the Hilton Hotel I was amazed at the size of the building – we don't have many skyscrapers in Wales, so I thought attending a conference in one was really cool. In fact, after an afternoon of interesting talks on *in vivo* nanotoxicology, conference delegates were invited to a drink reception at 'Cloud 23', on the 23rd floor of the Hilton Hotel. The views from up there were amazing, they even had a glass floor that looked down to road level that you could walk over if you were brave enough.



Presenting my poster on an advanced *in vitro* alveolar barrier model.

with the conference dinner, which was enjoyable, however I made sure I had an early night after a long day and knowing that tomorrow I would be giving my talk.

My talk was in the second session of day 3, which meant I found it more difficult to concentrate on the talks in the first session due to nerves, however I found that when I got up on the stage these nerves seemed to subside, and I felt like I talked confidently and calmly. I presented work that I have been undertaking to examine the effects of particulate matter and nitrogen dioxide air pollution and the effects on human health. Previous research has difficulty disentangling the effect of either pollutant individually due to the fact that both pollutants are often released from the same source. I think that my talk went down well with the audience, and I was able to form some interesting discussion in the questions post-presentation and in the following networking times.



Presenting a talk on mechanistic toxicology underpinning health effects of particulate matter and nitrogen dioxide inhalation exposure.



It was an honour to be presented with best PhD poster by Tash Heydon, Director of The Colt Foundation.

Following my presentation I felt much more at ease, the evening was then spent getting food with my lab colleagues as it was one of their birthdays. The atmosphere in Manchester was great as Manchester City Football team had just beaten Real Madrid 4-0 to make it to the Champions League final. We all had a good night but made sure we got plenty of rest for the final conference day and a long trip back to Swansea.

On the final day I attended talks on air pollution before the conference was drawn to a close. I felt honoured to find out that I had won the prize for the best PhD poster! I really did not expect this as I had time to look at the other posters that were displaying such interesting work. Regardless, I feel immensely proud.

The conference has reaffirmed my passion for the area of inhalation toxicology and has really motivated me to continue what I am doing. I have been instilled with new ideas and directions that I believe will drive my research to the next level. I am so grateful for the Royal Society of Biology for selecting me to receive an Early Career MRSB Travel Grant and want to express my gratitude for supporting me to attend this conference.