

BTS Congress 2024
Written report for inclusion in BTS publications
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The 2024 Annual Congress of the British Toxicology Society provided an extraordinary platform for interaction with pioneers in the field of toxicology. The research presented was of exceptional quality and is poised to significantly impact health policy. I am grateful for the bursary that enabled me to attend the conference and share my research on the potential health effects of microplastic air pollution. At the symposium entitled "Risk Assessment in Practice: The Challenge of Difficult, Ubiquitous, and Untested Chemicals," I had the privilege of presenting my findings. It was an honor to receive the Oxford University Press Oral Communication Award at the event.

The theme highlighted throughout the conference was the need to upgrade and modernize models to enhance toxicology research platforms. It was interesting to explore the current potential and drawbacks of *in silico* testing at Symposium 1: "In Silico Paths to Chemical Safety Assessment." These models are increasingly striving to build confidence in mathematical modeling predictions, which depend heavily on the quality of data from human exposure studies, as well as the availability of sharable *in vitro* and *in vivo* datasets. This is a promising field for predicting adverse effects while limiting animal testing.

Two of the most inspiring talks were delivered by Emma Quartermain from UKHSA during the early-stage toxicologist short oral communications and by Prof. Anne Willis from the MRC Toxicology Unit at Symposium 8: "Preclinical Models and New Modalities." Both talks focused on preventative toxicology; improving preclinical testing and detecting potential toxicity mechanisms. Emma Quartermain and her colleagues are developing a mass spectrometry-based assay to assess and predict the metabolism of chemicals. Meanwhile, Prof. Anne Willis aims to detect potential frameshift errors that could potentially occur in mRNA therapies. The goal is reduced mRNA vaccine risks and required dosages. Preventative toxicology is an area close to my research interests, and it was very inspiring to hear from innovators in the field such as Emma and Anne who will be leaders in creating toxicology regulations.