

GSCN Travel Award Report

Inhaled particles and international particle toxicology conference - British Occupational Hygiene Society (BOHS)

Ursula Fiorela Navarro Abarca, Medizinische Hochschule Hannover (MHH)

I participated at the Inhaled Particles and International Particle Toxicology conference and gave an oral presentation of part of my PhD project titled "Integrative transcriptomics to map carbon-based nanomaterials-induced toxicity pathways in human lung organoids in Glasgow, UK, from the 11th of May to the 14th of May 2026. The conference grouped more than 150 scientists from over 64 countries to discuss the ongoing efforts on the study airborne particles effect on human health.

Talks ranged from the identification of particles in environmental matrices, methodologies used for nanoparticles exposure studies and the regulatory aspects of environmental toxicology. Particularly astonishing were the discussions related to regulatory toxicology and the bridge that science can fill to be policy relevant. I could find out how current standards proposed by the WHO are not met in many European cities. This is concerning because we comment on how safe air quality is but in reality, our standards might not be protecting us leaving us to think that we are safe.

I could realize how the current field of toxicology is relies mainly on 2D in vitro models, with some 3D coculture models as well. Whereas, advanced 3d organoid models such as lung organoids were only produced by few labs, including ours. This is very interesting because on the field of medicine, organoids are currently more used and the same I couldn't see in this conference. I couldn't stop by wondering what is the perception of scientists to go beyond 2D models and I found that while there is a big interest in more complex models, the majority is focusing on questions that can already be answered by working with those. In addition to that, in terms of practicability and technological feasibility, those models represent advantages for high thruput screening and cost savings.

Particularly notable was Anda Gliga's presentation on welding's particles -induced macrophage responses, which showed similar inflammatory patterns to what we observe in our organoid transcriptomics data. The convergence between in vivo mouse studies and our human organoid results strengthens confidence in organoids as predictive models for nanomaterial toxicity.

I couldn't have been more thrilled to receive the runner-up Best Oral Presentation Award from the British Occupational Hygiene Society (BOHS) at what was my first PhD conference presentation. This recognition was particularly meaningful because it validated not just my scientific work, but also my ability to communicate complex bioinformatics concepts to a toxicology audience. The positive feedback from established researchers in the field gave me confidence that my computational approach brings real value to particle toxicology research.

Overall, I am deeply grateful to the GSCN for the financial support that made this experience possible. The conference provided exactly what I hoped for - scientific validation of my work, valuable networking opportunities, and a clear sense of where my research fits in the broader landscape of particle toxicology. The combination of presenting my work, receiving recognition, and engaging with the international research community has been incredibly motivating for my PhD and my future career in computational biology and predictive toxicology.

Sincerely,
Ursula Navarro