

I am incredibly thankful to the British Society for Proteome Research for providing me with a travel grant to attend the American Society for Mass Spectrometry (ASMS) Annual Conference 2024 in Anaheim, California. This was an amazing opportunity to present my PhD work, meet scientists from a huge variety of disciplines and take in the breadth of research ongoing in mass spectrometry.

The highlight of the conference for me was the inaugural Chemoproteomics oral session and workshop, showcasing the invaluable insights that chemoproteomic approaches can provide in deciphering drug mechanisms-of-action and aiding the development of future therapies. The oral session saw fantastic talks from Nicola Berner on applying dose-resolved proteomics to understand cellular drug phenotypes, Kevin Dong and Nikolas Burton on new methodologies to profile cysteine-targeting compounds proteome-wide and Lindsay Pino on applying subcellular fractionation to identify druggable transcription factors. The workshop also saw some great flash talks and an insightful panel discussion on the future of chemoproteomics.

Although there are too many to include, the conference showcased wider developments across a range of other topics. The Data-Independent Acquisition and Multiplexing session saw great talks from Christopher Below (Biognosys) presenting developments in various 'diagonal'-PASEF methods and William Fondrie (Talus Bio) showing a mathematical approach to deconvolute pooled peptides for multiplexed compound screening. Continuing the swift advances of single-cell proteomics in recent years, the Single Cell Omics session saw great talks from Nikolai Slavov, demonstrating the insights gleaned from protein co-variation across single cells (and even single nuclei) and Claudia Ctorteka showing the benefits of optimised and automated sample preparation in single-cell and spatial proteomics.

It was a great experience to present my PhD work as a poster, allowing me to engage in detailed discussions, receive constructive feedback, and explore new perspectives. Industry-sponsored sessions and hospitality suites provided a glimpse into the latest commercial innovations in mass spectrometry, including the unveiling of new instruments and technologies, such as the Thermo Scientific Stellar and Bruker Ultra 2.

Overall, the ASMS Annual Conference was an enriching experience (and a conference on a scale I'd not imagined before). The opportunity to connect with the mass spectrometry community on such a large scale has been invaluable and I'd like to once again thank the British Society for Proteome Research for supporting my attendance.