ASMS Exposomics Interest Group

Workshop Report 2023

This year's workshop was a great success with over 60 scientists from diverse fields attending. The workshop was organized by the co-chairs Dr. Benedikt Warth from University of Vienna and Dr Ruth Marfil-Vega from Shimadzu and the past chair Dr. Silvia Balbo from the University of Minnesota. The workshop focused on the challenges of doing exposome research and prompted a discussion on the needs for this merging field to move forward and thrive. The workshop started with Dr. Warth giving a 5-minute introduction to highlighting the state of the art and some of the national and international funding initiatives currently ongoing or on the horizon. He was then followed by a presentation by three speakers who were given 5 minutes to introduce their work and their view on this field of research. Dr. Pablo Gago-Ferrero from the Institute of Environmental Assessment and Water Research in Barcelona, Spain gave an overview of his research looking at the effects of the exposome on the brain and covered some of the challenges faced during sample collections and standardization of sample procurement and processing. Dr. Alexander Makarov from Thermo, highlighted some of the new developments from the instrumentation perspective, tailored to increase sensitivity and versatility of the analysis using high-resolution mass spectrometry. Finally, Dr. Yunjia Lai from Columbia University gave a presentation on the analysis of samples from a prospective study focusing on exploring dietary and lifestyle factors on cancer. The speakers talked for 5-10 minutes each using a pre-made PowerPoint slide template provided by the organizers. The focus of their presentations was to highlight methodologies for studying the exposome, challenges encountered, limitations of the analytical/data analysis capabilities, and finally future aspirations for the field.

Afterward, the speakers sat at a table in front of the audience and answered questions from the workshop attendees. The Q&A session prompted a lively and interesting group discussion facilitated by the co-chairs for the remaining ~50 minutes. The topics were directed by the audience's interest and the discussion was rich and constructive and likely could have continued past the allotted time. Many scientists were very interested in the speaker's takes on the future of exposomics, funding opportunities, and ways to improve annotation, statistical workflows, and reporting of results in robust and reproducible ways.

Next year, under the guidance of new chairs Dr. Ruth Marfil-Vega and Dr. Pablo Gago-Ferrero and supported by past chair Dr. Benedikt Warth, we hope to bring in once again, leaders in the field to talk about recent breakthroughs and some of the efforts made in benchmarking and harmonizing workflows.