

My name is Katyeny Manuela da Silva, I am a PhD student in Pharmaceutical Sciences at the University of Antwerp, Belgium. My STSM project titled "Implementation of multidimensional analytical techniques to characterize oxidized lipids" was performed at Fedorova's laboratory (TU Dresden, Germany) from 25/04/2022 until 31/05/2022 (*Figure 1*). This STSM included in-depth training in the workflow for analyzing oxidized lipids in biological samples, including sample preparation, data acquisition, and analysis. Different activities were performed during these five weeks including an introduction to Orbitrap Exploris mass spectrometer (principles, hardware, and software), investigation of fragmentation patterns of oxidized fatty acids, participation as a tutor in the hands-on session (EpiLipidomics signature of cell fate: modified lipids in cell death programs) and session chair in the Lipid Metabolism Summer School organized by the host institution. The multidimensional data was acquired at the home institution with liquid chromatography-drift tube ion mobility-quadrupole time of flight mass spectrometry (LC-DTIM-QTOF(MS)) and analyzed at the host institution.

The constraints and advantages of using ion mobility as an additional separation dimension were discussed and more experiments were planned. In addition to the analytical skills obtained, the outcomes also included the presentation at conferences, new international collaborations, and a scientific article in preparation. The work titled "Investigating the potential of ion mobility to oxidized lipids using high resolution demultiplexing" was presented at the 18th Annual Conference of the Metabolomics Society (Valencia, Spain 13-19 June 2022) (*Figure 2*) and the work "Application of ion mobility: from oxylipins to complex oxidized lipids" as an oral presentation at the **3rd EpiLipidNET General Action Meeting** (Aveiro, Portugal, 21-23 September 2022). It was an excellent opportunity to learn from experts in the field!

Figure 1

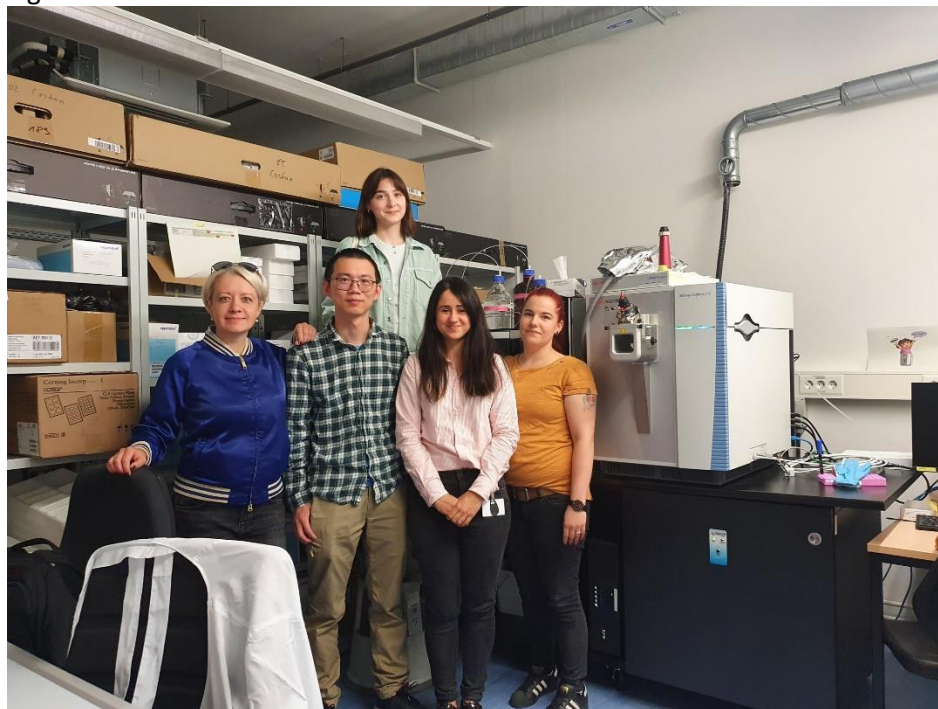


Figure 2

