

ASMS Lipidomics Interest Group Workshop

Chairs: John Bowden and Eva Duchoslav

Workshop title: Lipidomics: Current Trends in Data Collection

The workshop took place on Tuesday, June 5, 2018, and was attended by approximately 150 people.

The agenda was divided into 3 parts. The first part was led by Prof. Michal Holcapek and focused on advances in lipid separations, covering HILIC (in LC), HILIC (in SFC), NP and RP methods, including tips on use of internal standards, method validation and quality control monitoring. The questions related to details on oxylipin analysis.

The second part of the discussion was led by Dr. Gerhard Liebisch and covered routine high throughput lipid analytical methods in support of translational research. Dr. Liebisch shared the information about the lipid panels analyzed by the flow injection in his lab, that that is complemented by LC methods for lipid classes that need the orthogonal separation, such as PG and BMP. The quality of the results is being constantly monitored through QC samples and the use of internal standards. The questions were about method validation, determination of LOQ for lipid analogues and the strategy regarding internal standard selection.

In the last session, Prof. Gavin Reid, highlighted recent advances involving new activation and fragmentation methods. These new techniques reveal the structures of dysregulated lipid species, such as location of chain double bond, chain branching and attachment of chains to the lipid backbone. Currently, these capabilities are just in hands of a limited number of researchers; instrument control needs to be enabled by the instrument manufacturers to allow for a wider adoption.

The workshop was concluded by a short communication by Dr. Kim Ekroos on the Lipidomics Standard Initiative (<https://lipidomics-standards-initiative.org>).