

Report on Lipid Mass Spectrometry and Lipidomics Interest Group Workshop

65th ASMS conference, Indianapolis 2017

“Lipidomics data processing and analyses: Software tools”

Chairs:

A/Prof Todd Mitchell (University of Wollongong)

Mrs Eva Duchoslav (Sciex)

The original proposal for this workshop is stated below:

“One of the key issues in lipidomics experiments is the bottleneck created by the large amount of data generated. Growing awareness of this issue has seen many academics and MS vendors develop software dedicated to the processing and analysis of this data. With a rapidly growing choice of both commercial software and freeware it can be difficult deciding what software is best for your experiment. In this workshop a panel of advanced users and software developers will share their experience with a variety of lipid and lipidomics-compatible software platforms, focusing on capabilities, tips and tricks, and answer your questions on the where, when and how of lipid MS data processing tools.”

The workshop was held on Wednesday, June 7 and was attended by approximately 130 delegates.

This workshop was run as a question and answer session facilitated by a panel of experienced lipid software users. The panel consisted of:

- Prof Valdimir Shlaev (University of North Texas)
- A/Prof Timothy Garrett (University of Florida)
- Dr Sarah Hancock (University of NSW)
- Dr Tomas Cajka (University of California, Davis)
- Dr Kim Ekroos (Lipidomics Consulting)
- A/Prof Qibin Zhang (University of North Carolina at Greensboro)

Lively discussion took pace for the entire workshop and covered topics including the availability of various software packages and which instrumentation they could be used with, through to far more controversial topics such as the accuracy and quality of the data output from software packages and how to interpret it. Although many different approaches were discussed it was clear that there is currently no consensus on how lipidomics data should be analysed, processed and curated, and that this poses a significant challenge for the field to overcome.

Due to the enthusiastic discussion we had to close proceedings before all questions had been addressed. In particular, numerous questions submitted via the mobile app remained unaddressed. It was proposed by the chairs that once the interactive section of the interest group website is up and running that the discussions should continue. We plan to list some of the remaining questions from the app to initiate them.