# Functional lipidomics in health and disease

Forskningsleder Christer Ejsing

## Gruppens kerneforskningsområder

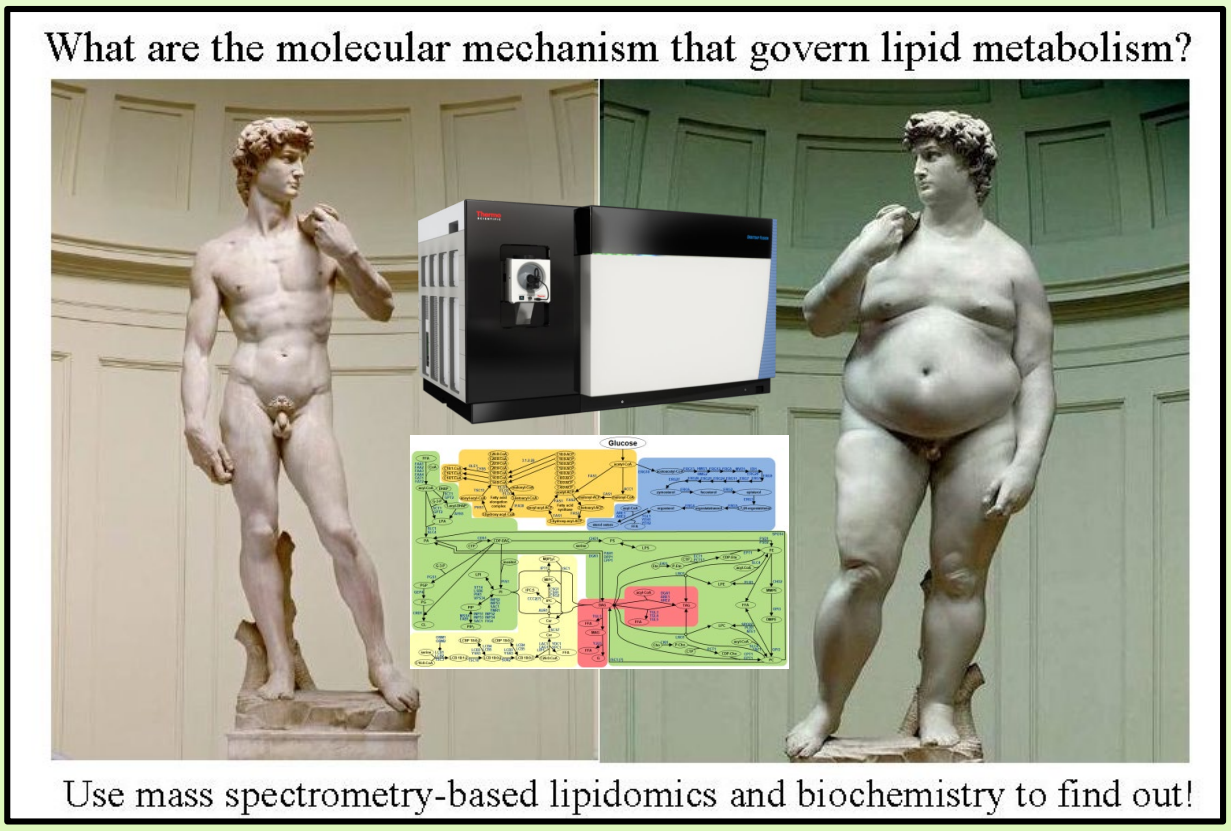
Our research focuses on both development of **mass spectrometric technology** and on functional studies of **how lipid metabolism is regulated in health and disease.**

In our laboratory you will able to **learn mass spectrometry** and utilize this powerful technology to study the **regulation of lipid metabolism** in cells and whole organisms. Our **projects are typically multidisciplinary** and anchored in lipid biochemistry, analytical chemistry and computational data analysis. As such, you will get an opportunity to use a lot of what you have learned in your basic studies.

Experience in mass spectrometry can be highly **beneficial for your future career**. Mass spectrometry technology is continuously evolving, and can provide richer information on dysregulated processes than genomics approaches are able to. Hence, expertise in mass spectrometry is therefore in **high demand in industry and academia**.

We have **numerous ongoing projects** and are continuously **looking for help** to carry out our ambitious research. Not all projects are listed below. **Come and talk to us** and to learn more about your possibilities.

Er du interesseret i at skrive projekt i gruppen, så kontakt : cse@bmb.sdu.dk




| Projekter | Beskrivelse |
|---|---|
| Regulation of membrane biogenesis | Yeast is a highly powerful model organism for studying cell biochemistry and physiology. With our lipidomics technology we can study the regulation of all lipid metabolic pathways at the same time. We are currently investigating how sphingolipid metabolism is regulated to produce new membrane for cell division. This is functionally linked to cancer development. |
| Circadian regulation of lipid metabolism | Human lipid metabolism is regulated on a daily basis to cope with alterations in food intake and physical activity. We use lipidomics technology to study how lipid metabolism is coordinated with circadian rhythm. Improved understanding of circadian regulation of lipid metabolism can provide better understanding and diagnostic markers of lipid metabolic health in humans. |
| Molecular characterization of the sperm lipidome | Poor semen quality has been linked to poor reproductive health. With your help we would like to establish a lipidomics platform that can be used as a diagnostic routine for measuring semen quality (collaboration with Fertilitetsklinikken@OUH). |