

Guest lecture

Natural variation of lipidomes



22 May 2015

11.00 AM in meeting room [V11-604-1](#)

(Memphys/Celcom meeting room by the Atriumgården)

Associate professor Markus R. Wenk, PhD

Department of Biochemistry, Yong Loo Lin School of Medicine
and Department of Biological Sciences, National University of Singapore

Abstract: Once viewed simply as a reservoir for carbon storage, lipids are no longer cast as bystanders in the drama of biological systems. The emerging field of lipidomics is driven by technology, most notably mass spectrometry, but also by complementary approaches for the detection and characterization of lipids and their biosynthetic enzymes in living cells (Wenk 2010 *Cell* 143(6):888-95).

Our recent results show extensive diversity in circadian regulation of plasma lipids and evidence for different circadian metabolic phenotypes in humans (Chua et al 2013 *Proc Natl Acad Sci U.S.A.* 110(35):14468-73). I will also introduce a strategy for capture of phospho-monoester lipids. Using this enhanced workflow we identified novel forms of sphingosine-1-phosphates, in tissue from human, mouse and fruit fly, respectively.

Understanding better the fundamentals of natural variation in lipidomes as well as specific recognition of individual lipid species are the scientific aims of SLING, the Singapore Lipidomics Incubator (<http://lsi.nus.edu.sg/corp/research-programmes/sling/>). This centre is a global magnet for collaborating parties in lipidomics – from academia and industry – delivering new technologies and intellectual capital. SLING organizes the international Singapore Lipid Symposium (ISLS), a major symposium in lipidomic research in Asia Pacific (<http://www.lipidprofiles.com/index.php?id=82>) and ‘i c lipid’, an intensive immersion course in mass spectrometry based lipidomics (<http://www.lipidprofiles.com/index.php?id=139>).

Host: Professor Ole Nørregaard Jensen, Department of Biochemistry and Molecular Biology, SDU