

1st Singapore Lipid Symposium

February 17-19, 2006

Organizers:

Markus R Wenk (National University of Singapore)
Hongyuan (Robert) Yang (National University of Singapore)

Lipid research has gained from a number of recent achievements and developments. First, genetic and cell biological research has provided new insights into molecular mechanisms of lipid action. Second, it is becoming increasingly clear that deregulated lipid metabolism plays an important role in many human diseases, in addition to obvious presentations such as obesity and diabetes. Third, novel analytical approaches (in particular liquid chromatography and mass spectrometry) which allow analysis of lipids in complex mixtures and at a systems level scale are being developed at a very rapid pace.

The aim of this symposium is to spur this process by bringing together investigators with diverse backgrounds in lipid research. Cell biologist, biochemists, biophysicists will present their latest research advances in an open workshop-style forum.

Friday, February 17, 2006

Opening Address

- 8:00am Registration
- 8:45am Prof Shih Choon Fong, President - National University of Singapore

Lipid and membrane transport

Morning session - Chair: Masahiro Nishijima (National Institute of Infectious Diseases, Japan)

- 9:00am Howard Riezman (University of Geneva)
"Lipid environments and protein sorting upon ER exit"
- 9:40am Fred Maxfield (Weill Medical College, Cornell University)
"Intracellular transport of lipids and sterols"
- 10:20am *Break + Poster Setup*
- 10:50am Hongyuan (Robert) Yang (National University of Singapore)
"Intracellular sterol transport: oxysterol binding proteins and Niemann Pick C1"
- 11:30am Andrew Brown (University of New South Wales)
"Cellular cholesterol homeostasis meets Akt signaling"
- 12:10pm Dennis R. Voelker (National Jewish Medical and Research Center)
"Macromolecular assemblies of proteins and lipids regulate non-vesicular phosphatidylserine traffic in yeast"

12:50pm *Lunch + Poster Sessions*

Afternoon session - Chair: Hong Wanjin (Institute of Molecular and Cell Biology)

- 2:20pm Vivek Malhotra (University of California, San Diego)
"Diacylglycerol: its role in Golgi to cell surface transport"
- 3:00pm Vytas Bankaitis (University of North Carolina, Chapel Hill)
"The phosphatidylinositol transfer protein story as told by mammals"
- 3:40pm *Break + Poster Sessions*
- 4:10pm Pietro De Camilli (Yale University and Howard Hughes Medical Institute)
"Protein-lipid interactions in synaptic vesicle recycling at the neuronal synapse"
- 4:50pm Scott Emr (University of California, San Diego and HHMI)
"Phosphoinositide lipid signaling in the regulation of membrane trafficking and organelle identity"

Saturday, February 18, 2006

Biochemistry of lipids and lipidomics

Morning session - Chair: Davis Ng (Temasek Life Sciences Laboratory)

- 9:00am Guenther Daum (Graz University of Technology)
"Neutral lipid storage and mobilization in the yeast *Saccharomyces cerevisiae*"

- 9:40am Hee-Yong Kim (National Institutes of Health)
"Mass spectrometry in signaling research"
- 10:20am *Break + Poster Sessions*
- 10:50am Robert Murphy (University of Colorado at Denver)
"Leukotriene biosynthesis: participation of phospholipid molecular species and regulation by reacylation"
- 11:30am Markus Wenk (National University of Singapore)
"Lipidomics of mycobacteria during hypoxic dormancy"
- 12:10pm *Lunch + Poster Sessions*

Afternoon session - Chair: Markus Wenk (National University of Singapore)

- 1:40pm Ryo Taguchi (University of Tokyo)
"An analytical system for the identification, profiling and metabolic pathway of phospholipid molecular species"
- 2:20pm Ed Dennis (University of California, San Diego)
"The LIPIDMAPS Approach to Eicosanoid Lipidomics"
- 3:00pm *Break + Poster Sessions*
- 3:30pm Gerrit van Meer (Utrecht University)
"Fate and function of cellular sphingolipids"
- 4:10pm Peter Mayinger (Oregon Health & Science University)
"Cell growth-dependent control of phosphoinositide lipids at ER and Golgi"
- 4:50pm Matthew Grigg (Applied Biosystems)
"Lipid Profiler software for analysis of lipidomic data acquired with mass spectrometers"

Sunday, February 19, 2006

Lipids in health and disease

Chair: Hongyuan (Robert) Yang (National University of Singapore)

- 9:00am Dennis Vance (University of Alberta)
"Insights into phosphatidylcholine biosynthesis and function from gene targeting in mice"
- 9:40am Francisco Barrantes (Universidad Nacional del Sur, Bahía Blanca, Argentina)
"Influence of cholesterol and sphingolipids on nicotinic acetylcholine receptor: from molecule to cell"
- 10:20am Alirio Melendez (National University of Singapore)
"Sphingolipid signalling in the inflammatory response: validation of SK-1 as a target for drug discovery"
- 11:00am *Break + Poster Sessions*
- 11:30am Gennaro De Libero (University of Basel)
"Presentation of mycobacterial lipid antigens to T cells: promoting function of CD1e"
- 12:10pm Barry Halliwell (National University of Singapore)
"Lipid oxidation, good, bad or indifferent?"
- 12:50pm *Lunch + Poster Sessions*
- 2:20pm Jean Vance (University of Alberta)
"Cholesterol trafficking and homeostasis in the brain"
- 3:00pm Closing remarks - Markus Wenk & Hongyuan (Robert) Yang

Venue: **S16, Level 3, LT31, Faculty of Science, National University of Singapore**

For more details, please visit: <http://www.lipidprofiles.com/symposium>

