

Rapport fra faglig reise.

Deltagelse på ICBL-48th International Conference on the Bioscience of Lipids 4.-8. September i Turku, Finland.

Jeg deltok på et faglig møte der en av studentene fra hovedprosjektet i vår og meg selv, presenterte poster med tittel: pH dependent drug interaction with glycerophospholipid monolayers studied by the Langmuir technique.

Arbeidet ble utført av en gruppe bioingeniør studenter som et hovedprosjekt for bioingeniørutdanningen. Resultatet av dette hovedprosjektet ble presentert som poster.

Postersesjonene vi deltok på var onsdag og torsdag kl. 12:40-14:50.

På postersesjonene var det mange som henvendte seg for å få resultatene forklart og diskutert disse. Det ble også diskutert hva som kunne være aktuelle problemstillinger for videre arbeid med dette systemet. Dette vil være viktig for neste års hovedprosjekt på bioingeniørutdanningen innen biologiske membraner, som vil mest sannsynlig omhandle domener i biologiske membraner.

I tillegg hadde jeg stort faglig utbytte av foredragene. Flere av foredragene omhandlet nye data på domenedannelse i biologiske membraner. Foredraget av Gøran Lindblom med tittel: What are the driving forces behind domain formation in lipid bilayers, ga en god introduksjon i problemstillingen.

mvh
Signe Steinkopf

Signe Steinkopf

Scientific program

Tuesday, September 4

16.00-18.00	Registration
18.00-18.30	Opening ceremony
18.30-19.30	van Deenen Lecture P1 Joachim Seelig – <i>Protein meets lipid - the role of lipids in protein folding</i>
19.30-21.30	Get together party Conference venue - Main building

Wednesday, September 5

09.00-12.40	MEMBRANE STRUCTURE AND FUNCTION 1A – LIPIDS AND LIPID DOMAINS <i>Chairs: Dennis Vance and Paavo Kinnunen</i>
09.00-09.40	P2 Jerry Feigenson – <i>Raft models without any rafts: Nonrandom mixing versus phase separation</i>
09.40-10.20	P3 John Silviu – <i>Artificial lipid-anchored proteins as tools to investigate the roles of lipid microdomains in membrane function</i>
10.20-11.00	Break and refreshments (Sponsor exhibition)
11.00-11.40	P4 Petra Schwille – <i>Single molecule methods to characterize membrane domains</i>
	Selected oral contributions
11.40-12.00	S1 Henry Boumann - <i>Biophysical properties of ladderane lipids derived from ananmax bacteria</i>
12.00-12.20	S2 Lin Chen - <i>X-ray diffraction and calorimetric study on the influence of sterols on the phase properties of phospholipids</i>
12.20-12.40	S3 Georg Pabst - <i>Entropy-driven softening of fluid lipid bilayers by alamethicin</i>

Thursday, September 6

12.40-14.50 Lunch & Poster viewing (Sponsor exhibition)

14.50-18.20 MEMBRANE STRUCTURE AND FUNCTION 1B -
LIPIDS AND LIPID DOMAINS

Chairs: Anna Seelig and Peter Matjus

14.50-15.00 Introduction of Per Ekvall and Göran Lindblom

15.00-15.40 Per Ekvall lecture: **P5 Göran Lindblom** - *What are the driving forces behind domain formation in lipid bilayers?*

15.40-16.20 **P6 Michael Edidin** - *Sea monsters and membrane domains*

16.20-17.00 Break and refreshments (Sponsor exhibition)

17.00-17.20 Selected oral contribution

S4 Elisa J Cabré - *Structural characterization of pulmonary surfactant protein SP-B in model membranes by fluorescence spectroscopy*

17.20-17.40 **S5 Rachel Kraut** - *A sphingolipid binding fluorescent probe traces specific membrane-microdomain-derived trafficking pathways in living cells*

17.40-18.00 **S6 Greger Orädd** - *Lipid order and lateral diffusion in binary and ternary systems of phosphatidylcholines, sphingomyelins and sterols studied by pfg-NMR*

18.00-18.20 **S7 Yoshio Hirabayashi** - *A new brain glycolipid, phosphatidylglucoside: structure, distribution and biological functions*

19.30-21.30 Reception by the City of Turku

Suomen Joutsen/Swan of Finland by the river Aura

09.00-12.20

MEMBRANE STRUCTURE AND FUNCTION 2 -
COMPUTATIONAL STUDIES
Chairs: Marja Hyvönen and Ilpo Vattulainen

09.00-09.40

P7 Peter Tieleman - *Molecular dynamics simulations of biological membranes*

09.40-10.20

P8 Helmut Grubmüller - *Molecular dynamics simulation of lipids and lipid-embedded proteins*

10.20-11.00

Break and refreshments (Sponsor exhibition)

11.00-11.20

Selected oral contribution
S8 Roland Falke - *Multiscale modeling of structure and phase behavior in supported and unsupported bilayers*

11.20-11.40

S9 Teemu Murtola - *Multiscale simulations of domain formation in single-component phospholipid bilayers*

11.40-12.00

S10 Samuli Ollila - *Differences between lateral pressure profiles of one-component and many-component lipid membranes*

12.00-12.20

S11 Timothy Sirk - *Modeling of biological membranes in the study of natural polyphenol compounds*

12.20-14.30

Lunch & Poster viewing (Sponsor exhibition)

14.30-18.30

MEMBRANE STRUCTURE AND FUNCTION 3 -
PROTEIN IN MEMBRANES
Chairs: William Dowhan and Peter Ott

14.30-15.10

P9 Gunnar von Heijne - *How proteins insert into the ER membrane*

15.10-15.50

P10 Ronald McElhane - *The Interactions of the antimicrobial peptide gramicidin S and rationally designed analogs thereof with lipid bilayer model and biological membranes*

15.50-16.30 Break and refreshments (Sponsor exhibition)

16.30-17.10 P11 Anthony Lee – Lipid-protein interactions in biological membranes

Selected oral contributions

17.10-17.30 S12 Konstantin Kuppe – Calciton induced lateral phase separation triggers phospholipase D activity

17.30-17.50 S13 Peter Bütikofer - A distinct pool of phosphatidylethanolamine provides the ethanolamine for GPI and EPG modification of proteins

17.50-18.10 S14 Wendy Jessup - Interactions between apolipoprotein A-I and plasma membrane lipid domains, leading to phospholipid and cholesterol export

18.10-18.30 S15 Olof Karlsson – Biosensor applications for biomembranes

Friday, September 7

09.00-13.20 INTRACELLULAR LIPID TRANSFER
Chairs: Wendy Jessup and Dennis Voelker

09.00-09.40 P12 Jean Vance – Lipid dynamics in neurons

09.40-10.20 P13 Laura Liscum – Cholesterol homeostasis in a Niemann-Pick C variant

10.20-11.00 Break and refreshments (Sponsor exhibition)

11.00-11.40 P14 Ytias Bankaitis - The wonderful world of phosphatidylinositol transfer proteins

11.40-12.20 P15 Kentaro Hanada – Regulation of CERT-mediated trafficking of ceramide

Selected oral contributions

12.20-12.40 S16 Johan Edqvist - Identification and functional analysis of plant glycosphingolipid transfer proteins

12.40-13.00 S17 Emyr Lloyd-Evans - Niemann-Pick type C1 - A primary sphingosine storage disease?

13.00-13.20 S18 Daniel Witter - Insights into Oxysterol Mediated Neuropathology in Niemann-Pick Type C Disease

13.20-15.00 Lunch & Poster viewing (Sponsor exhibition)

15.00-19.30 Social program and tour

19.30-23.30 Banquet Dinner in Naantali

Saturday, September 8

09.00-12.40 LIPID METABOLISM – SPHINGOLIPIDS
Chairs: Yasuyuki Igarashi and Gerrit Schmitz

09.00-09.40 P16 Konrad Sandhoff – Cellular sphingolipid metabolism and membrane digestion

09.40-10.20 P17 Joost Holthuis – Sphingomyelin synthases: double trouble in the family

10.20-11.00 Break and refreshments

11.00-11.40 P18 Alfred Merrill – Sphingolipid metabolism from an omics perspective

Selected oral contributions

11.40-12.00 S19 Erwan Beauchamp – Myristic acid increase dihydroceramide 4 α -desaturase activity: involvement of N-terminal myristoylation

12.00-12.20 S20 Thorsten Horremann - Serine Palmitoyltransferase - cloning and initial characterization of a new isoform

12.20-12.40	S21 Evelyn Orso - Identification of target genes linking cholesterol and glycosphingolipid homeostasis to the pathophysiology of Niemann-Pick type C disease	Scientific information
12.40-14.00	Lunch & Poster viewing	Awards The BBA Young Outstanding Young Person Award
14.00-18.20	LIPID METABOLISM – FATTY ACIDS <i>Chairs: Thomas Haines and Kalervo Hiltunen</i>	The Progress in Lipid Research Award
14.00-14.40	P19 Jens Knudsen – Differential function of acyl-CoA binding protein isoforms in <i>D. melanogaster</i> and yeast <i>S. cerevisiae</i>	Three poster prizes Criteria include originality, scientific results, and scientific presentation
14.40-15.20	P20 Charles Rock – Regulation and structure of type II fatty acid synthases	Only graduate students may present
15.20-15.50	Break and refreshments	Computers & Internet There will be a small auditorium for a free internet conference venue
15.50-16.30	P21 Stefan Alexson – Acyl-CoA thioesterases: new players in peroxisomal lipid metabolism	
	Selected oral contributions	Posters
16.30-16.50	S22 Suzanne Jackowski - Golgi-mediated secretion requires de novo phospholipid synthesis	Poster presentations: two separate sessions from Wednesday
16.50-17.10	S23 Alexander Kastaniotis - An ancient genetic link between mitochondrial fatty acid synthesis and RNA processing	The posters from the second session (September 7)
17.10-17.30	S24 Gerhard Kattner – The high polyunsaturation in phospholipids of marine zooplankton	the second session
17.30-17.50	Presentation of next ICBL	Poster boards: the posters have a height of 118 cm.
17.50-18.10	Award ceremony: BBA Young Speaker Award and Progress in Lipid Research Young Investigator Award	
18.10-18.20	Closing ceremony	