

467th Wilhelm and Else Heraeus Seminar
BIOPHYSICS OF MEMBRANE TRANSFORMATIONS

26 - 30 October 2010, Physikzentrum Bad Honnef

Workshop program

October 26, Tuesday	
17:00 – 21:00	Arrival, registration
18:30 - ...	Dinner / snacks
October 27, Wednesday	
8:30 – 8:45	Welcome words
	Session: Phase transitions and membrane domains Discussion leader: Siewert Marrink
8:45 – 9:45	(keynote) Reinhard Lipowsky , Multi-Scale Reorganization of Bio-Membranes
9:45 – 10:30	Sarah Keller , Dynamic Domains in Lipid Membranes near a Miscibility Critical Point
10:30 – 11:00	Coffee break, poster viewing
11:00 – 11:20	Jinglei Hu , Morphologies of vesicles with multiple lipid domains
11:20 – 11:40	Tetsuya Yamamoto , Stabilization of domains in saturated/hybrid/cholesterol membranes by chain ordering
11:40 – 12:00	Masayuki Imai , Shape Deformations of Multi-Component Vesicle
12:00 – 12:20	Fabrice Thalmann , A thermodynamic approach to phase coexistence in ternary phospholipid-cholesterol mixtures
12:30 – 14:15	Lunch
14:15 – 15:00	Kerstin Wagner , The effect of Sphingomyelinase D from Ixosceles spider on sphingomyelin containing membranes
15:00 – 15:45	Tobias Baumgart , Sorting of lipids and proteins by membrane curvature
15:45 – 16:15	Coffee break, poster viewing
16:15 – 17:00	Shigeyuki Komura , Are lipid domains above or below T_c ?
17:00 – 17:20	Yonggang Liu , Lipid sorting in membrane tubes inside vesicles enclosing two aqueous phases
17:20 – 17:40	Catherine Quilliet , Deflated gel phase vesicles exhibit specific shapes
17:40 – 18:30	Flash poster session
19:00	Welcome dinner
October 28, Thursday	
	Session: Bilayers, substrates and membrane adhesion Discussion leader: Anna-Suncana Smith
8:45 – 9:45	(keynote) Rudolph Merkel , Adhesion of Biomembranes Mediated by Specific Bonds
9:45 – 10:30	Motomu Tanaka , Influence of Oligo- and Polysaccharides on Structures and Mechanics of Membranes
10:30 – 11:00	Coffee break, poster viewing
11:00 – 12:30	Round Table Discussion Moderator: Pierre Nassoy
12:30 – 14:15	Lunch
14:15 – 15:00	Thomas Weigl , Binding cooperativity and domain formation of membrane adhesion receptors
15:00 – 15:45	Thierry Livache , Coupling chemistry and optics for non-adherent cell recognition
15:45 – 16:05	Susanne Fenz , The diffusion of CXCR4 in the cell membrane controls chemotaxis
16:05 – 16:35	Coffee break, poster viewing
16:35 – 16:55	Keya Sengupta , Dynamics of bio-membrane adhesion
16:55 – 17:15	Georg Pabst , Effect of Domain Formation on the Membrane Activity of Enzymes in the Context of Apoptosis
17:15 – 17:35	Damien Baigl , Control of 2D and 3D phospholipid assemblies: multilayer patterning, microfluidics, and photostimulation
17:35 – 17:55	Suzanne Barber , Insertion of cyclodextrins on phospholipid membranes by cholesterol anchors
17:55 – 18:15	Stéphane Arbault , Electrochemical Study of the Dynamics of Single Exocytotic Events: Influence of Membrane Composition
19:00	Dinner
	Poster viewing

October 29, Friday	
	Session: Processes in biological membranes Discussion leader: Carlos Marques
8:45 – 9:45	(keynote) Petra Schwille , The power of in vitro systems in characterizing protein-lipid interactions
9:45 – 10:30	Siewert Marrink , Simulation Studies of Peptide Induced Membrane Poration and Fusion
10:30 – 11:00	Coffee break, poster viewing
11:00 – 11:45	Patricia Bassereau , Sensing curvature and curving membrane: in vitro studies of dynamin and amphiphysin
11:45 – 12:05	Yulia Smirnova , Solvent-exposed tails as pre-stalk transition states for membrane fusion at low hydration
12:05 – 12:25	Halim Kusumaatmaja , Wetting on Membranes
12:30 – 14:15	Lunch
	Session: Membranes in electric fields Discussion leader: Rumiana Dimova
14:15 – 15:15	(keynote) Thomas Vernier , Nanoscale Structure of Lipid Bilayers in Nanosecond Electric Fields
15:15 – 16:00	Karin Riske , Giant vesicles in electric fields
16:00 – 16:30	Coffee break, poster viewing
16:30 – 16:55	Petia Vlahovska , Deformation and stability of lipid membranes in electric fields
16:55 – 17:15	Margarita Staykova , Membrane flow in giant vesicles induced by alternating electric fields
17:15 – 17:35	Justin Teissie , Large unilamellar lipid vesicles electrofusion with cells
17:35 – 17:55	David Lacoste , Effective zero-thickness model for a membrane driven by a normal electric field
17:55 – 18:15	Thomas Portet , Measuring the membrane edge tension and stability via electroporation: effect of bilayer composition
19:00	Dinner
	Poster viewing
October 30, Saturday	
8:30 – 8:45	Poster award
	Session: Vesicle rheology Discussion leader: Annie Viallat
8:45 – 9:45	(keynote) Gerhard Gompper , Vesicles and Cells in Microchannel Flows
9:45 – 10:05	Manuk Abkarian , Rapid elastic ejection of malaria parasites from erythrocytes
10:05 – 10:25	Victoria Vitkova , Vesicle and Red Blood Cell Dynamics and Blood Rheology
10:30 – 10:50	Coffee break
10:50 – 11:35	Pierre Nassoy , Mechanics of light-sensitive polymer vesicles
11:35 – 11:55	Andre Schroder , GUVs under oscillatory shear
11:55 – 12:40	Thomas Heimburg , The strange transitions of charged lipid membranes
12:40 – 14:30	Lunch
	Departure