

## International Workshop on Membrane Biophysics

# “Membranes in Health and Disease”

organized by the “Membranes, Cells, Networks” section of the DGfB (German Biophysical Society) by Thomas Gutschmann and Andreas Kerth

<b>Monday, March 12, 2012</b>		
	Registration / Rooms	
11:30 – 12:30	Lunch	
13:00	Introduction	
13:10 – 13:50	<b>Peter Pohl (JKU Linz, Austria)</b> Water transport by cation cotransporters	I-1
13:50 – 14:15	<b>Jürgen Kolb (INP Greifswald, Germany)</b> Dielectric Characteristics of Mammalian Cells During and After Exposure to Nanosecond Pulsed Electric Fields	O-1
14:15 – 14:40	<b>Patrick Seelheim (WWU Münster, Germany)</b> Substrate Translocation and Stimulated ATP-Hydrolysis of Human ABC-Transporter hMRP3 Show Positive Cooperativity	O-2
14:40 – 15:05	<b>Annette Meister (HALOmeme Halle, Germany)</b> Mechanism of membrane curvature generation and fission by the Sar1/COPII protein complex	O-3
15:05 – 15:30	Coffee Break / Posters	
15:30 – 15:55	<b>Sebastian Giehring (Nanospot Münster, Germany)</b> A novel system for single transporter analysis	O-4
15:55 – 16:20	<b>Max Koistinen (FZ Borstel, Germany)</b> Asymmetric Vesicles made of LPS and Phospholipids as a Model for the Outer Membrane of Gram Negative Bacteria	O-5
16:20 – 16:45	<b>(Atomic Force, Germany)</b> Tba	O-6
16:45 – 17:10	<b>Johannes Kindt (Bruker Nano Mannheim, Germany)</b> Time Resolved AFM Imaging of Membrane Dynamics, on a Model System (Bacteriorhodopsin), and on Live Bacteria	O-7
17:30 – 18:30	Dinner	
	PLENARY EVENING TALK	
18:40 – 19:20	<b>Thomas Heimburg (University of Copenhagen, Denmark)</b> The nerve pulse as an electromechanical soliton	I-2
19:30 –	Open end discussion session with beer and wine at the posters Discussions of topics of the day	

<b>Tuesday, March 13, 2012</b>		
7:30 – 8:30	Breakfast	
8:30 – 9:10	<b>Matthias F. Schneider (Boston University, USA)</b> Einstein at the Interface: From State to Function and the Integration of Physics and Biochemistry	I-3
9:10 – 9:35	<b>Poul Martin Bendix (University of Copenhagen, Denmark)</b> Simultaneous optical manipulation, tracking and confocal imaging of lipid vesicles	O-8
9:35 – 10:00	<b>Richard Börner (Universität Lübeck, Germany)</b> Giant unilamellar vesicle (GUV) as model system in advanced 3d orientation determination	O-9
10:00 – 10:25	<b>Beate Brüning (Helmholtz-Zentrum Berlin, Germany)</b> Influence of charge density on bilayer bending rigidity in lipid vesicles: a combined dynamic light scattering and neutron spin-echo study	O-10
10:25 – 11:00	Coffee Break / Posters	
11:00 – 11:40	<b>Rikard Blunck (University of Montreal, Canada)</b> Fluorescence spectroscopy of proteins in planar lipid bilayer	I-4
11:40 – 12:05	<b>André Beerlink (DESY Hamburg, Germany)</b> Structural investigation of reconstituted lipid membranes at the high resolution beamline P08 at PETRA III	O-11
12:05 – 12:30	<b>Maria Hörnke (MPI-KG Potsdam)</b> Amyloid Formation at Hydrophobic-Hydrophilic Interfaces: Various Factors for beta-Sheet Formation	O-12
12:30 – 13:30	Lunch	
13:30 – 16:00	Posters / Discussion / Hiking	
16:00 – 16:40	<b>Mathias Lösche (Carnegie Mellon University, Pittsburgh, USA)</b> Membranes in Cell Signaling: How the PTEN Tumor Suppressor Finds its Substrate	I-5
16:40 – 17:05	<b>Philipp E. Schneggenburger (MIT Cambridge, USA)</b> N-linked protein glycosylation: Pathway functionality and substrate 'processivity' in the lipid Nanodisc model system	O-13
17:05 – 17:30	<b>Andra Schromm (Research Center Borstel, Germany)</b> The macrophage response to bacterial membrane components: lipid recognition and mechanisms of immune regulation	O-14
17:30 – 17:50	Short Oral Poster Presentations (Sound Bites)	
18:00 – 18:50	Dinner	
	PLENARY EVENING TALK	
19:00 – 19:40	<b>Yechiel Shai (Weizmann Institute of Science, Rehovot, Israel)</b> How does HIV fuse with cells and interact with the T-cell receptor to shut down the immune response?	I-6
19:50 –	Open end discussion session with beer and wine at the posters Discussions of topics of the day	

<b>Wednesday, March 14, 2012</b>		
7:30 – 8:30	Breakfast	
8:30 – 9:10	<b>Eefjan Breukink (Utrecht University, The Netherlands)</b> The mode of action of targeted pore-forming peptide (I)antibiotics	I-7
9:10 – 9:35	<b>Sandra Theison (TU Kaiserslautern, Germany)</b> Towards the mechanism of the antibiotic Daptomycin: an EPR and EM approach	O-15
9:35 – 10:00	<b>Wolfgang Hanke (University of Hohenheim, Germany)</b> Multiple pharmacological activity of crotamie, a small peptide from <i>crotalus durissus terifficus</i> venom	O-16
10:00 – 10:25	<b>Sebastian Finger (MLU Halle, Germany)</b> Influence of lipid composition on membrane interactions with cyclic antimicrobial peptides	O-17
10:25 – 10:55	Coffee Break / Posters	
10:55 – 11:20	<b>Malte Hammer (INP Greifswald, Germany)</b> Liquid Mediated Effects on Cells, Bacteria, and Model Membranes by Plasma-born Reactive Species	O-18
11:20 – 12:00	<b>Peter J. Walde (ETH Zurich, Switzerland)</b> Bilayered vesicles: beyond their use as membrane mimics and drug delivery systems	I-8
12:00 – 12:10	Conclusion Session – Closing	
12:30 – 13:30	Lunch and Departure	