

Biomembrane Days 2014

September 1 to 3, Harnack Haus Berlin

Monday, September 1

Chair for morning session: **Dorothea Brüggemann**

9:00 – 9:05 Welcome

9:05 – 9:35 **Philippe Bastiaens:** *“The interdependence of membrane dynamics and signal processing”*

9:35 – 10:05 **Claudia Steinem:** *“About adhesion forces and adhesion energy: How ezrin connects the plasma membrane with the cytoskeleton”*

10:05 – 10:25 **Alf Honigmann:** *“A lipid bound actin meshwork organizes liquid phase separation in model membranes”*

-- COFFEE BREAK --

10:55 – 11:25 **Gerhard Schütz:** *“How forces improve T cell antigen recognition”*

11:25 – 11:55 **Michael Gradzielski:** *“Phospholipid vesicles interacting with silica nanoparticles – decoration and internalization”*

11:55 – 12:15 **Amelie Koch:** *“Interactions of nanoparticles with polymeric membranes”*

-- LUNCH --

Chair for afternoon session: **Oded Farago**

14:00 – 14:30 **Daniel Fletcher:** *“Physical mechanisms of protein segregation at membrane interfaces”*

14:30 – 15:00 **Kheya Sengupta:** *“Interpreting T-cell adhesion in light of model membrane studies”*

15:00 – 15:20 **Eugene Petrov:** *“Diffusion and conformational dynamics of DNA macromolecules and fd virus particles on lipid membranes”*

-- COFFEE BREAK --

15:50 – 16:20 **Joachim Spatz:** *“Reconstruction of adhesion and migration associated proteins in lipid membrane based giant vesicles”*

16:20 – 16:50 **Olle Edholm:** *“Simulations of gel-phase membranes”*

16:50 – 17:10 **Wim Pomp:** *“GUV based mimicry of dendritic spine morphology permits to test hypotheses on LTP and learning”*

-- DINNER --

18:00 **Poster Session**

Tuesday, September 2

Chair for morning session: **Annemiek van Spriel**

9:00 – 9:30 **Dennis Discher:** *“Physical facets of phagocytosis of self”*

9:30 – 10:00 **Christian Eggeling:** *“Plasma membrane bioactivity and molecular mobility – insights from STED microscopy”*

10:00 – 10:20 **Christoph Metzner:** *“Investigating the plasticity of the viral envelope composition”*

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10:50 – 11:20 **Jay Groves:** *“Signal transduction reactions on membrane surfaces: the roles of space, time, and force”*

11:20 – 11:50 **Wolfgang Binder:** *“Raft-like lipid/polymer membranes”*

11:50 – 12:10 **Jelger Risselada:** *“Theoretical insights into the mechanisms of biological membrane fusion”*

-- LUNCH --

Chair for afternoon session: **Geert van den Bogaart**

14:00 – 14:30 **Akihiro Kusumi:** *“Unit raft mechanism for signal transduction revealed by single-molecule tracking”*

14:30 – 15:00 **Nils Gauthier:** *“The central role of membrane tension to orchestrate cellular functions”*

15:00 – 15:20 **Kirsten Bacia:** *“Reconstitution of COPII membrane carrier formation using low mechanical perturbation”*

-- COFFEE BREAK --

15:50 – 16:20 **Lukas Tamm:** *“HIV gp41-mediated membrane fusion at Lo/Ld membrane interfaces”*

16:20 – 16:50 **Pierre Sens:** *“Modelling the interplay between biochemical maturation, spatial heterogeneities and transport in cellular membranes”*

16:50 – 17:10 **Jaime Agudo-Canalejo:** *“Engulfment patterns of nanoparticles at membranes”*

17:10 – 17:30 **Benjamin Neuman:** *“The improbably diverse membrane-bending toolkit of +RNA viruses”*

18:00 **Conference Dinner**

20:00 **Discussion Round**

Wednesday, September 3

Chair for morning session: **Daniel Wüstner**

9:00 – 9:30 **Deborah Leckband:** *“Quantifying protein binding at membrane interfaces: effects of confinement and inside out signaling”*

9:30 – 10:00 **Mark Stevens:** *“The role of different lipid tails in membrane fusion”*

10:00 – 10:20 **Eva Sevcsik:** *“Determination of the reach of a GPI-anchored protein: is there a space for membrane rafts?”*

-- COFFEE BREAK --

10:50 – 11:20 **Samir Mitragotri:** *“Morphology-induced effects in nanoparticle-cell interactions”*

11:20 – 11:40 **Bartosz Rozycki:** *“Spontaneous curvature of bilayer membranes from asymmetric lipid and adsorbate densities”*

11:40 – 12:00 **Giacomo Fiorin:** *“Simulation studies of co-aggregation in the mechanism of vesicle fusion and the assembly of human skin”*

-- LUNCH --

Chair for afternoon session: **John Lowengrub**

13:30 – 14:00 **Volkmar Heinrich:** *“The biophysical behavior of the membrane of immune cells during one-on-one encounters with microbes”*

14:00 – 14:30 **Mounir Tarek:** *“Membrane electroporation and its applications”*

14:30 – 14:50 **Yonggang Liu:** *“Spontaneous curvature of membranes exposed to asymmetric polymer solutions”*

14:50 – 15:00 Closing remarks