

# Biomembrane Days 2014

September 1 to 3, Harnack Haus Berlin

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## Poster list

- 1. *Lab on a biomembrane.***  
Alar Ainla, Irep Gözen, Bodil Hakonen, Aldo Jesorka
- 2. *Numerical simulation of endocytosis.***  
Sebastian Aland, Jun Allard, John Lowengrub
- 3. *Effect of sphingomyelin and GM1 clusters on diffusion of membrane bound beta-amyloid peptides.***  
Mariana Amaro, Radek Sachl, Jana Humpolickova, Gokcan Aydogan, Martin Hof
- 4. *Wrapping of nanoparticles by lipid-bilayer membranes.***  
S. Dasgupta, T. Auth, G. Gompper
- 5. *Rigidity of charged fluid membranes - a coarse grained molecular simulations study.***  
Yotam Y. Avital, Niels Grønbech-Jensen, Oded Farago
- 6. *Size and stiffness measurements of membrane nanotubes coated with membrane shaping BAR domain proteins.***  
Younes F. Baroji, S. Semsey, Lene B. Oddershede, S. Nader, S. Reihani, Poul M. Bendix
- 7. *Lck cluster dynamics in live cells.***  
Florian Baumgart, Andreas Arnold, Gerhard Schütz
- 8. *Reconstitution and characterization of Na/K-ATPase in free-standing and planar membranes.***  
Tripta Bhatia, Jonathan Brewer, Flemming Cornelius, Luis Bagatolli, Adam C. Simonsen, John H. Ipsen, Ole G. Mouritsen
- 9. *E-cadherin junction formation involves an active nucleation process.***  
Kabir H. Biswas, Kevin L. Hartman, Cheng-Han Yu, Oliver J. Harrison, Hang Song, Adam W. Smith, William Y. C. Huang, Wan-Chen Lin, Zhenhuan Guo, Anup Padmanabhan, Sergey M. Troyanovsky, Michael L. Dustin, Lawrence Shapiro, Barry Honig, Ronen Zaidel-Bar, Jay T. Groves
- 10. *Structural model of Bax at the membrane.***  
Stephanie Bleicken, Ana J. García-Sáez, Enrica Bordignon
- 11. *Elastic interactions between transmembrane proteins with hydrophobic mismatch.***  
Florent Bories, Anne-Florence Bitbol, Doru Constantin, Paolo Galatola, Jean-Baptiste Fournier

12. ***Lipid vesicle response induced by the pore-forming agent nystatin.***  
Bojan Božič, Luka Kristanc, Gregor Gomišček
13. ***Synthetic adhesion of proteoliposomes on ECM protein surfaces.***  
D. Brüggemann, J. Frohnmayer, E. Sharifikolouei, C. Mollenhauer, J. P. Spatz
14. ***Perfluorooctanoic acid rigidifies a model lipid membrane.***  
B. Brüning, B. Farago
15. ***Free energies of vesicle fusion from umbrella sampling molecular dynamics.***  
Gregory Bubnis, H. Jelger Risselada, Helmut Grubmüller
16. ***Selective action potential collision in giant axons.***  
Rima Budvytyte, Alfredo Gonzalez-Perez, Thomas Heimburg
17. ***Cortical microtubules shape GPCR spatiotemporal membrane organization and signaling.***  
S. de Keijzer, M.B.M. Meddens, S. Schwartz, P. Bosch, J.S. Kanger, V. Subramaniam, D.S. Lidke, A. Cambi
18. ***Effective rescaled diffusion of proteins in a crowded membrane with traps.***  
M. Cvitkovic, A.-S. Smith
19. ***Inward and outward lipid membrane tubes pulled from giant vesicles with optical tweezers.***  
Raktim Dasgupta, Rumiana Dimova
20. ***Calculating the free energy of phase separation.***  
Djurre H. de Jong, Andreas Heuer
21. ***Coarse grained molecular simulations of membrane adhesion domains.***  
Nadiv Dharan, Oded Farago
22. ***Scanning through membranes: RICS and FCS on monolayer and bilayer systems.***  
Jan Ebenhan, Jan Auerswald, Annette Meister, Sebastian Daum, Kirsten Bacia
23. ***Thermal undulations of biomimetic bilayer membranes in electric fields.***  
Nico Fricke, Petia M. Vlahovska
24. ***Simulation of membrane proteins using multi-scale models.***  
Samuel Genheden, Anthony G. Lee, Jonathan W. Essex
25. ***Light-induced transformations in membranes.***  
Vasil Georgiev, Stephan Hecht, David Bleger, Rumiana Dimova
26. ***Thermal migration of molecular lipid films.***  
Irep Gozen, Mehrnaz Shaali, Alar Ainla, Bahanur Ortmann, Inga Poldsalu, Kiryl Kustanovich, Gavin D. M. Jeffries, Zoran Konkoli
27. ***Interaction of Annexin A2 with bilayer membrane. Simulation study.***  
Davit Hakobyan, Andreas Heuer

28. ***Charge-induced phase separation in lipid membranes.***  
Hiroki Himeno, Naofumi Shimokawa, Shigeyuki Komura, David Andelman, Tsutomu Hamada, Masahiro Takagi
29. ***Phosphatidylinositol 4,5-bisphosphate clusters act as molecular beacons for vesicle recruitment.***  
A. Honigmann, G. van den Bogaart, E. Iraheta, H. J. Risselada, D. Milovanovic, S. W. Hell, R. Jahn
30. ***Architecture and receptor activity of GM1 containing membranes viewed by advanced fluorescence techniques.***  
Radek Sachl, Mariana Amaro, Alena Koukalova, Gokcan Aydogan, Jana Humpolickova, Martin Hof
31. ***Amyloids of alpha synuclein affect the structure and dynamics of supported lipid bilayers.***  
Aditya Iyer, Nils O. Petersen, Mireille M.A.E Claessens, Vinod Subramaniam
32. ***Simulations of magnetically-induced deformations of magnetic crystals enclosed in a biomembrane.***  
Petr Jandacka
33. ***Long-term stability of gel domains in two component lipid bilayers.***  
Jonas Camillus Jeppesen, Adam Cohen Simonsen, Jonathan R. Brewer, Per Lyngs Hansen
34. ***Peridynamic modelling of ruptures in lipid membranes.***  
Michael Taylor, Irep Gözen, Samir Patel, Aldo Jesorka, Katia Bertoldi
35. ***Water-mediated forces at hydrophilic and hydrophobic surfaces.***  
Matej Kanduc, Emanuel Schneck, Roland R. Netz
36. ***Balance conditions for the molecular motor pair network.***  
Corina Keller, Reinhard Lipowsky
37. ***Wrinkling dynamics of multicomponent vesicles in fluids: The interplay between deterministic and stochastic forces.***  
John Lowengrub, Kai Liu, Shuwang Li
38. ***Anomalous transport and weak ergodicity breaking in receptor motion on living cell membranes.***  
Carlo Manzo, Juan A. Torreno-Pina, Pietro Massignan, Gerald J. Lapeyre Jr, Maciej Lewenstein, Maria F. Garcia Parajo
39. ***Membranary biocompatibility potential: Irinotecan-functionalized mesoporous silica materials.***  
Luminita Miclea, Laura Bajenaru, Daniela Berger, Silviu Nastase, Cristian Matei, Tudor Savopol, Mihaela G. Moisescu
40. ***Length matters: hydrophobic mismatch sorts SNARE proteins into distinct membrane domains.***  
Dragomir Milovanovic, Geert van den Bogaart, Alf Honigmann, Christian Eggeling, Stefan W. Hell, Reinhard Jahn

41. ***GUV based mimicry of dendritic spine morphology permits to test hypotheses on LTP and learning.***  
Wim Pomp, Thomas Schmidt
42. ***Axonal transport of Neurexin vesicles by teams of molecular motors.***  
Ulises Rey, Reinhard Lipowsky, Stephan Sigrist
43. ***Model membrane order properties under microwave fields.***  
T. Savopol, M. M. Iordache, M. G. Moisescu, P. Leveque
44. ***Hydration and electrostatic interactions of polar surfaces.***  
Alexander Schlaich, Matej Kanduč, Emanuel Schneck, Roland R. Netz
45. ***Reconstituting the immunological ring-like domain in adhesive cell-mimetic liposomes.***  
D. Schmidt, T. Bihl, S. F. Fenz, R. Merkel, K. Sengupta, U. Seifert, A.-S. Smith
46. ***Binding of amphiphilic and triphillic block copolymers to lipid model membranes: The role of perfluorinated moities.***  
Christian Schwieger, Anja Achilles, Sven Scholz, Jan Rüger, Kirsten Bacia, Kay Saalwaechter, Jörg Kressler, Alfred Blume
47. ***Determination of the reach of a GPI-anchored protein: is there a space for membrane rafts?***  
E. Sevcsik, M. Brameshuber, M. Fölser, J. Weghuber, A. Honigmann, G. J. Schütz
48. ***Nanopatterning of mobile lipid monolayers on electron beam-sculpted teflon AF surfaces.***  
Mehrnaz Shaali, Samuel Lara Avila, Paul Dommersnes, Sergey Kubatkin, Aldo Jesorka
49. ***Phase separation in lipid membranes containing hybrid lipid POPC.***  
Naofumi Shimokawa, Mariko Nagata, Masahiro Takagi
50. ***Free-energy calculation methods for collective phenomena in membranes.***  
Yuliya Smirnova, Marcus Mueller
51. ***Shiga toxin induces membrane reorganization and formation of long range order in lipid bilayers.***  
Vita Solovyeva, Ludger Johannes, Adam Cohen Simonsen
52. ***Cell rigidity and shape override CD47's 'self' signaling in phagocytosis by hyperactivating myosin-II.***  
Nisha G. Sosale, Tahereh Rouhiparkouhi, Rumiana Dimova, Reinhard Lipowsky, Dennis E. Discher
53. ***The membrane stretcher.***  
Margarita Staykova
54. ***The effect of the membrane skeleton on the detachment of red blood cell adhered to a surface.***  
Tjasa Svelc Kebe, Sasa Svetina
55. ***Linking actin cortex to the membranes using septins as crosslinkers.***  
Agata Szuba, Feng Tsai-Ching Tsai, Manos Mavroukis, Aurélie Bertin, Gijsje Koenderink

56. ***Study of DRP1-induced membrane remodeling.***  
B. Ugarte-Uribe, H. M. Müller, C. Prévost, P. Bassereau, W. Nickel, A. J. García-Sáez
57. ***Self-organization of Syntaxin-1a at the presynaptic active zone.***  
Alexander Ullrich, Mathias Böhme, Johannes Schöneberg, Stephan Sigrist, Frank Noe
58. ***Antigen release from endosomes is caused by lipid peroxidation.***  
Ilse Dingjan, Danielle Verboogen, Linda Visser, Martin ter Beest, Geert van den Bogaart
59. ***Plasma membrane compartmentalization by the tetraspanin network.***  
Malou Zuidschewoude, Geert van den Bogaart, Fabian Göttfert, Vera Marie E. Dunlock, Lotte de Winde, Alie van der Schaaf, Jenny van Oostrum, Stefan W. Hell, Joachim Goedhart, Günter J. Hämmerling, Carl G. Figdor, Mark D. Wright, Merel J.W. Adjobo-Hermans, Annemiek B. van Spriel
60. ***Diffuse interface models of locally inextensible biomembranes in a viscous fluid.***  
S. Aland, S. Egerer, J. Lowengrub, A. Voigt
61. ***Cell membrane - artificial surfaces interaction.***  
M. V. Voinova, R. Grzhibovskis, E. Krämer, R. Kalsson
62. ***Coarse grained simulation of phase transitions in lipid membranes.***  
Sophia Wheeler, Jonathan Essex
63. ***A pde approach to particles in bilipid membranes.***  
Charles M. Elliott, Ralf Kornhuber, Carsten Gräser, Graham Hobbs, Maren-Wanda Wolf
64. ***Fluorescence studies of cholesterol organization in the plasma membrane.***  
Daniel Wüstner, Lukasz Solanko, Henrik Midtiby, Jonathan Brewer, Alf Honigmann, Christian Eggeling, Anant Menon
65. ***Direct observation of liposome bursting induced by acetonitrile.***  
Kazunari Yoshida, Keitaro Horii, Yasuhiro Fujii, Izumi Nishio
66. ***Adsorption and viscoelastic property of polyethylene glycol solution on the supported lipid bilayer.***  
Ziliang Zhao, Xiangling Ji, Rumiana Dimova, Reinhard Lipowsky, Yonggang Liu