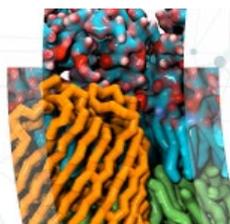


Structural and functional asymmetry of plasma membranes

23-25 April 2025 | London, UK



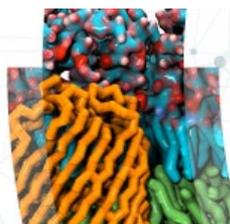
Faraday Discussions

Wednesday 23 April 2025

11:30	Registration with lunch served from 11:45
12:45	Welcome and introductions <i>Chair of Scientific Committee</i>
12:55	Outline of Discussion format <i>Royal Society of Chemistry Publishing Editors</i>
13:00	Introductory Lecture – Spiers Memorial Lecture (Session chair: Georg Pabst) Gerald W. Feigenson <i>Cornell University, USA</i>
	Session 1: Plasma membrane asymmetry and lipid homeostasis (Session chair: Georg Pabst)
14:00	Manipulation and analysis of plasma membrane lipids and lipid asymmetry to define ordered domain (raft) formation and function in cells Erwin London <i>Stony Brook University, USA</i>
14:05	TBC Kandice Levental <i>Virginia University, USA</i>
14:10	Nonequilibrium asymmetry in the living cell membrane Madan Rao <i>National Centre for Biological Sciences, India</i>
14:15	Discussion
15:30	Refreshments
	Session 2: Engineering plasma membrane mimics (Session chair: Karin Riske)
16:00	TBC Heiko Heerklotz <i>University of Freiburg, Germany</i>
16:05	TBC Neha Kamat <i>Northwestern University, USA</i>
16:10	Fabrication and characterization of asymmetric giant unilamellar vesicles with anionic lipids Arne Gericke <i>Worcester Polytechnic Institute, USA</i>
16:15	Engineering of asymmetric glycoliposomes Francisco Barrera <i>University of Tennessee, USA</i>
16:20	Discussion
18:00	Lightning presentations – (by invitation of the Scientific Committee)
18:15	Poster session and drinks reception
19:45	Close

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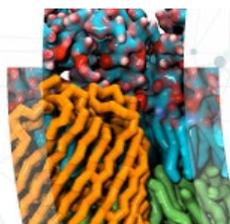
Thursday 24 April 2025

	Session 3: Structure and dynamics of asymmetric membranes (Session chair: Syma Khalid)
09:00	TBC Markus Deserno <i>Carnegie Mellon University, USA</i>
09:05	The many faces of membrane tension for biomembranes with transbilayer asymmetry Reinhard Lipowsky <i>Max Planck Institute of Colloids and Interfaces, Germany</i>
09:10	Effects of differential intra-membrane wetting on membrane conformation and lateral organization Michael Kozlov <i>Tel Aviv University, Israel</i>
09:15	Discussion
10:30	Refreshments
	Session 3 continued: Structure and dynamics of asymmetric membranes (Session chair: Rumiana Dimova)
11:00	NMR order parameters and dynamics in asymmetric membranes Daniel Huster <i>University of Leipzig, Germany</i>
11:05	Sensitivities of experimental techniques to various types of membrane asymmetry Milka Doktorova <i>University of Virginia School of Medicine, USA</i>
11:10	Measuring the mechanical properties of asymmetric lipid membranes in ultra-coarse-grained simulations – new methods and insights Oded Farago <i>Ben Gurion University, Israel</i>
11:15	Discussion
12:30	Lunch
	Session 3 continued: Structure and dynamics of asymmetric membranes (Session chair: Syma Khalid)
13:45	TBC Sylvie Roke <i>EPFL, Switzerland</i>
13:50	Using phase-resolved vibrational sum-frequency imaging to probe the impact of head-group functionality on the hierarchical domain structure in lipid membranes Alexander Fellows <i>Fritz Haber Institut, Germany</i>
13:55	The endogenous role of calcium ions in creating and maintaining phosphatidylserine lipid asymmetry John Conboy <i>University of Utah, USA</i>
14:00	Discussion
15:15	Refreshments
	Session 3 continued: (Session chair: Rumiana Dimova)

15:45	Fusion of asymmetric membranes – the emergence of a preferred direction Gonen Golani <i>Haifa University, Israel</i>
15:50	Elucidating the bending dynamics of asymmetric membranes by direct derivation of their energy landscape Giacomo Fiorin <i>National Institutes of Health, USA</i>
15:55	The influence of higher order geometric terms on the asymmetry and dynamics of membranes Axel Voigt <i>TU Dresden, Germany</i>
16:00	Discussion
17:15	Close of session
18:45	Pre dinner drinks
19:15	Conference dinner – Library, Burlington House

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Friday 25 April 2025

	Session 4: Proteins in asymmetric membranes (Session chair: Raya Sorkin)
09:00	TBC Armagan Kocer <i>University of Twente, Netherlands</i>
09:05	Membrane protein function and loss of asymmetry Edward Lyman <i>University of Delaware, USA</i>
09:10	The transbilayer asymmetry of PI(4,5)P2 enables fast kinetics of the Fibroblast Growth Factor 2 membrane translocation Manpreet Kaur <i>Heidelberg University, Germany</i>
09:15	Discussion
10:30	Refreshments
	Session 4 continued: Proteins in asymmetric membranes (Session chair: John Seddon)
11:00	Protein induced membrane asymmetries modulate OMP folding rates Sheena E. Radford <i>University of Leeds, UK</i>
11:05	Asymmetric properties of transmembrane proteomes Joseph Lorent <i>UCLouvain, Belgium</i>
11:10	Simulating membrane proteins in asymmetric membranes Luca Monticelli <i>INSERM/CNRS, France</i>
11:15	Discussion
12:30	Concluding remarks lecture (Session chair: John Seddon) Felix Goni <i>University of Basque Countries, Spain</i>
13:00	Acknowledgements and presentation of poster prizes
13:15	Close of meeting and lunch

All timings are in BST

Please note that this is a draft programme and timings may change.