

FEBS 2019 Advanced Lecture Course

Biological Surfaces and Interfaces: The Mechanistic View.

June 30 – July 5, 2019
Hotel Eden Roc
Sant Feliu de Guixols, Spain

Program

Organizers:

Chair
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Umeå University
Sweden

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University of Washington – Seattle
WA, USA

Vice-Chair
Delphine Gourdon
University of Ottawa
ON, Canada

Vice-Chair
Chris Lorenz
King's College
London, UK

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BBA Biomembranes



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Sunday, June 30th, 2019

17 : 00 -	Registration
19 : 00	Welcome mixer
20 : 00	Dinner

Monday, July 1st, 2019

07 : 30 – 08 : 30	Breakfast
08 : 45 – 09 : 00	M.B./I.R., Welcome and announcements
Session I: Materials in biological milieu	
09 : 00 – 09 : 45	Andrea Salis <i>Department of Chemical & Geological Sciences, University of Cagliari, Italy</i> Specific effects of electrolytes at biointerfaces
09 : 45 – 10 : 30	Tobias Weidner <i>Department of Chemistry, Aarhus University, Denmark</i> How proteins nucleate materials – a molecular view at the interface
10 : 30 – 11 : 00	Coffee break & poster set-up
11 : 00 – 11:45	Francesca Baldelli Bombelli <i>Department of Chemistry, Politecnico di Milano, Italy</i> Nanoparticle-protein conjugates: design, characterization, and biointeractions
11 : 45 – 12 : 05	David Cheung <i>National University of Ireland Galway, Ireland</i> Effect of surface structure and chemistry on protein adsorption
12 : 15 –	Lunch and free time
15 : 30 – 16 : 00	Coffee & meet the speakers of session I
16 : 00 – 16 : 45	Wilbur A. Lam <i>Department of Biomedical Engineering, Georgia Institute of Technology & Emory University School of Medicine, Atlanta, GA, USA</i> Development and Clinical Translation of Engineered Microsystems for Hematologic Diseases
16 : 45 – 17:05	Birgit Fendl <i>Danube University Krems, Austria</i> Association of CRP With Extracellular Vesicles
Session II: Lipid Interfaces	
17:05 – 17 : 50	Tommy Nylander <i>Department of Physical Chemistry and NanoLund, Lund University, Lund, Sweden</i> Biomolecular interactions at the lipid aqueous interface of non-lamellar liquid crystalline phases.
17 : 50 – 18 : 20	Coffee break
18 : 20 – 19 : 05	Peter Tieleman <i>Department of Biological Sciences, University of Calgary, AB, Canada</i> Increasing complexity and realism in computer simulations of biological membranes
19 : 05 – 19:25	Sarah Waldie <i>Institute Laue-Langevin, Grenoble, France.</i> Cholesterol Deuteration and Exploitation for the Study of HDL/LDL Exchange Phenomena in Atherosclerosis
19 : 30 –	Dinner
20 : 30 –	Poster Session I

Tuesday, July 2nd, 2019

07 : 30 – 08 : 30	Breakfast
Session II: Lipid Interfaces, cont'd.	
09 : 00 – 9 : 45	Maikel C. Rheinstädter <i>Department of Physics and Astronomy, McMaster University, Hamilton, ON, Canada</i> <i>Neutrons and X-Rays for Health and Disease</i>
9 : 45 – 10 : 05	Saara Lautala <i>University of Helsinki, Finland</i> A potent partial agonist of PKC orients in membranes like the biological activator diacylglycerol
10 : 05 – 10 : 20	Carmen Pettersson <i>JPK BioAFM, Bruker Nano Surfaces, Berlin, Germany</i> Investigating Dynamic Biological Processes with High-Speed, High-Resolution Correlative AFM-Light Microscopy
10 : 20 – 10 : 30	Sponsor Pitch talks: Insplorion, Microvacuum
10 : 30 – 11 : 00	Coffee Break & poster viewing
11 : 00 – 11 : 20	Kaori Sugihara <i>University of Geneva, Switzerland</i> The mechanism of antimicrobial peptide synergy
11 : 20 – 11 : 40	Dayane Alvares <i>National University of Cordoba, Argentina, and São Paulo State University - UNESP-IBILCE, Brazil</i> Impact of an antimicrobial peptide on the membrane fluidity of host membranes: Influence of cholesterol and a hopanoid
11 : 40 – 11 : 55	FEBS Presentation by Claudio Soares , Universidade Nova de Lisboa, Portugal
12 : 00 –	Lunch and free time

Tuesday, July 2nd, 2019

15 : 30 – 16 : 00 Coffee & meet the speakers of session II and III

Session III: Biological Membranes

16 : 00 – 16 : 45 Patricia Bassereau
Institut Curie, Paris, France
Linkers at the interface plasma membrane-cortical actin: only linkers?

16 : 45 – 17 : 30 Natalie Elia
Department of Life Sciences, Ben Gurion University of the Negev, Beer Sheva, Israel
Cytokinetic membrane abscission mediated by the ESCRT complex

17 : 30 – 18 : 00 Coffee break

18 : 00 – 18 : 45 Susan Daniel
School of Chemical and Biomolecular Engineering, Cornell University, Ithaca, NY, USA
Biologically complex supported cell membranes and their applications in host-pathogen interactions

18 : 45 – 19 : 05 Hudson Pace
Umeå University, Sweden
Next-Generation Model Membrane Architectures for Investigating Host-Pathogen Interactions

19 : 05 – 19 : 25 Natalia Baranova
Institute of Science and Technology (IST) – Vienna, Austria
In vitro reconstitution of bacterial cell division

19 : 30 – Dinner

20 : 30 – Poster Session II

Wednesday, July 3rd, 2019

07 : 30 – 08 : 30	Breakfast
Session IV: Cells and Tissue Interfaces	
09 : 00 – 9 : 45	Manuel Salmeron-Sanchez <i>Centre for the Cellular Microenvironment, School of Engineering, University of Glasgow, UK</i> Engineered 3D environments to control stem cell differentiation
9 : 45 – 10 : 30	Viktoria Weber <i>Department of Biomedical Research and Christian Doppler Laboratory for Innovative Therapy Approaches in Sepsis, Danube University Krems, Krems, Austria</i> The blood-biomaterial interface
10 : 30 – 11 : 00	Coffee break & poster viewing
11 : 00 – 11 : 45	Thomas Crouzier <i>Division of Glycoscience, Royal Institute of Technology (KTH), Stockholm, Sweden</i> Evading the foreign body reaction with immune-modulating mucin hydrogels
11 : 45 – 12 : 05	Rami Mhanna <i>American University of Beirut, Lebanon</i> The sulfation of biomimetic glycosaminoglycans controls growth factor binding and subsequent cell proliferation and differentiation
12 : 05 – 12 : 25	Ralf Richter <i>University of Leeds, UK</i> Multivalent Recognition at Fluid Surfaces: The Interplay of Receptor Clustering and Superselectivity
12 : 25 – 12 : 45	Delphine Gourdon <i>Biomedical Engineering Department, Cornell University, Ithaca, NY, USA and the Department of Physics, University of Ottawa, ON, Canada</i> Boundary mode lubrication of articular cartilage with a biomimetic diblock copolymer.
12 : 45 –	Lunch and excursion/free time
19 : 30 –	Dinner
20 : 30 –	Poster Session III

Thursday, July 4th, 2019

07 : 30 – 08 : 30

Breakfast

Session IV: Cells and Tissue Interfaces: cont'd.

09 : 00 – 09 : 45

Joachim Rädler
*Faculty of Physics and Centre for Nanosciences, Ludwig Maximilians Universität
München, Germany*
Structured interfaces for the study of cell migration phenotypes

Session III: Biological Membranes: cont'd.

09 : 45 – 10 : 30

Petra Schwille
Max Plank Institute of Biochemistry, Martinsried, Germany
How membranes catalyze protein self-organization

10 : 30 – 11 : 00

Coffee and poster viewing

11 : 00 – 11 : 20

Chris Lorenz
King's College London, UK
The effect of oxidised cholesterol on model red blood cell membranes

11 : 20 – 11 : 40

Adree Khondker
McMaster University, Hamilton, ON, Canada
A Molecular Mechanism for Polymyxin-induced Membrane Damage that predicts
Bacterial Resistance

11 : 40 – 12 : 00

Jorge Royes Mir
ENS Chimie, Paris, France
Teaching nanomaterials to bacteria: bioproduction of chemically modifiable
proteoliposomes.

12 : 00 – 12 : 20

Ferra Pinnock
Cornell University, Ithaca, NY, USA
On-chip synthesis of Ganglioside GM1 for the Treatment of Huntington's Disease

12 : 30 –

Lunch and free time

15 : 30 – 16 : 00

Coffee & meet the speakers of sessions IV and V

Session V: Organs on a chip

16 : 00 – 16 : 45

Milica Radisic
Institute of Biomaterials & Biomedical Engineering, University of Toronto, ON, Canada
Advances in organ-on-a-chip engineering

16 : 45 – 17 : 30

Robert Passier
Applied Stem Cell Technologies, University of Twente, Enschede, the Netherlands
Human heart-on-chip models for modelling cardiovascular disease

17 : 30 – 18 : 45

Forward Look round-table session

19 : 30

Conference Dinner

Friday, July 5th, 2019

8 : 00

Breakfast

9 : 00

Departure

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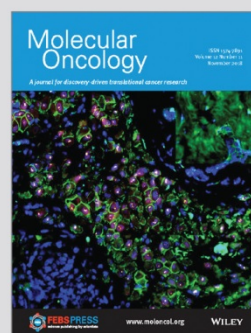
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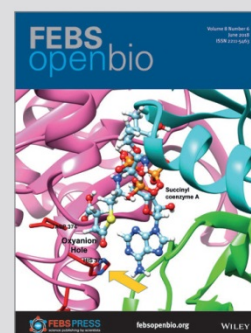
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