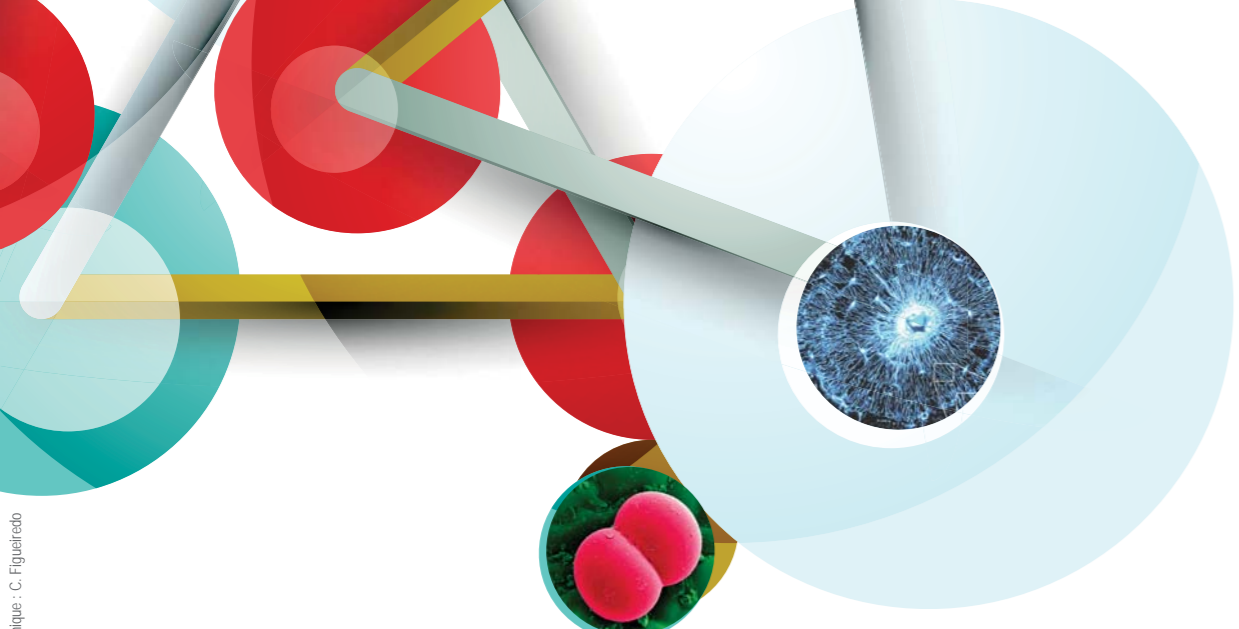


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Thematic Workshop

Biomimetic Nanoassemblies For Biophysical Studies and Biomedical Applications



December 12th

Phelma Minatec Room Z307

www.fondation-nanosciences.fr

Registration online is mandatory
since the number of seats is limited



Program

8.50 am-9.00 am : Welcome

9.00 am – 9.35 am.

Dr. Astrid WALRANT

Laboratoire des Biomolécules, CNRS and Univ Pierre et Marie Curie, Paris

Contribution of tryptophans in arginine-rich cell-penetrating peptides internalisation

9.35 am – 10.10 am

Dr. Cyril FAVARD

Centre d'Etudes d'agents pathogenes et biotechnologies pour la Sante
CNRS and Univ Montpellier 2, Montpellier.

Self-assembly of HIV-1 Gag protein on lipid membranes generates PIP2/Cholesterol nanoclusters

10.10 am – 10.45 am.

Prof. Agnes GIRARD-EGROT

Institut de Chimie et Biochimie Moléculaires et Supramoléculaire. CNRS and
Univ Lyon 1

Membrane biochips based of new tethered phospholipid bilayers

10.45 am – 11.15 am. : Coffee Break – Cafeteria- Phelma Minatec Hall

11.15 am – 11.50 am

Dr. Laurence SALOME

Institut of Pharmacology and Structural Biology, University Paul Sabatier,
Toulouse

High-throughput analysis of DNA conformational changes by tethered particle motion on single molecule arrays

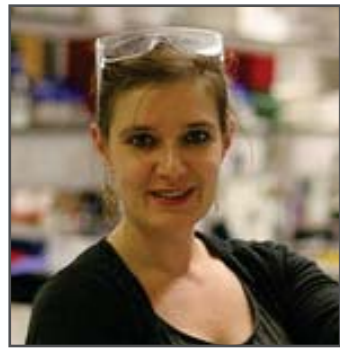
11.50 am – 12.25 pm

Prof. Dr Erik REIMHULT

Institute for Biologically inspired materials, Department of Nanobiotechnology
University of Natural Resources and Life Sciences, Vienna

Functional and magnetoresponsive core-shell nanoparticle assembly at oil and lipid interfaces

Speakers biographies



Dr. Astrid WALRANT

I did my PhD in Paris, at the Laboratoire des Biomolécules, Pierre et Marie Curie University, under the supervision of Isabel Alves and Sandrine Sagan, between 2008 and 2011. My PhD work focused on the analysis of peptide/membrane interactions in the context of cell penetrating peptides. For this work, I received the best thesis award from the Membrane Studies group (GEM)

of the French Biophysical Society in 2013. In 2012, I joined Jenny Gallop's group at the Gurdon Institute and Biochemistry Department, Cambridge University, as a postdoctoral research fellow. I worked on the regulation of actin polymerisation by lipid membranes using an in vitro reconstitution approach based on *Xenopus* egg extract. My work particularly focused on the regulatory role of certain phosphoinositides, membrane curvature and curvature inducing proteins. In 2014, I came back to Paris and joined the Laboratoire des Biomolécules, UPMC, as Maitre de Conférences (Assistant Professor) at the Chemistry department. My research focuses on the analysis of the mechanism of action of membrane active peptides (cell penetrating, antimicrobial, viral. . .) at the molecular level.

Prof. Agnes GIRARD-EGROT

Professor Agnès GIRARD-EGROT is the head of Membrane Biomimetic group at Institut de Chimie et Biochimie Moléculaires et Supramoléculaires (ICBMS - UMR 5246). She was trained as a biochemist, with a MS degree from the University of Nancy. During her PhD at the University of Lyon, she started studies on supramolecular assemblies and biomimetic membranes using Langmuir-Blodgett. She is presently Professor of Biochemistry at the same University and currently involved in the development of experimental models of biological membranes and the design of membrane biochips. The research of her group also includes the study of protein / lipid interactions with the understanding of structure / function relationships of biological membranes, and more generally, the study of interactions of biomolecules or lipid vectors with biomimetic membranes.



Dr. Cyril FAVARD

Cyril Favard is currently Co-Heading the team Membrane Domains and Viral Assembly at the Infectious Disease Research Institute of Montpellier (IRIM, CNRS). He was trained as a Molecular Biophysicist in UPMC Paris where he carried out his Ph.D. studies on the development of confocal microspectroimaging fluorimeter. After a short stay at Hitachi he was recruited as a research engineer at the IPMC in Sophia Antipolis. During the 10 last years, he was involved in different research projects devoted to the effect of electric fields on artificial and cell membranes at IPBS and later on simulation and determination of nanoscopic fluctuations in artificial membrane using fluorescence correlation spectroscopy at Fresnel Institute. He is now focusing his work on membrane lipid lateral reorganization induced by viral protein self-assembly.



Dr. Laurence SALOME

Laurence Salomé is a CNRS research director at the Institute of Pharmacology and Structural Biology (IPBS) in Toulouse where she leads the team Membrane and DNA dynamics. She has introduced the Single Particle Tracking technique in her group with a view to unravel the relationship between the organization and dynamics of membrane receptors (mainly G protein coupled receptors) and their signalling functions. In addition to original contributions to this field, and as a result of cross-fertilization between biologists and physicists collaborators, single molecule studies of mechanisms involving DNA were initiated. It ensued original technological developments which lead to significant progress in the knowledge of DNA physical properties and DNA biological processes and offer also potential industrial uses as biosensors.

Prof. Dr Erik REIMHULT

Prof. Erik Reimhult got his PhD in Physics and Engineering Physics in 2004 from Chalmers University of Technology. After stints as postdoctoral researcher in Singapore (A*STAR Institute of Materials Research and Engineering) and in Switzerland (ETH Zürich) he moved to Austria in 2010 to assume a full professorship in Nanobiotechnology at the University of Natural Resources and Life Sciences (BOKU), Vienna. In 2011 he became head of the Institute for Biologically inspired and was also head of the Department of Nanobiotechnology between 2011 and 2016. In 2013 Reimhult was awarded an ERC Consolidator Grant for research on nanoparticle-membrane interactions. He is elected member of the Austrian Academy of Sciences Young Academy. Prof. Reimhult's current research is focused on developing new approaches to synthesize and study the assembly of biomimetic nanoparticles, colloids, polymers and polymer interfaces, and he also has a large interest in the study of colloidal interactions of bacteria..

