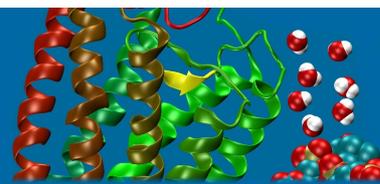


# Structural Biology *of* Membrane Proteins



**E-bulletin of Marie-Curie Integrated Training Network - SBMPs**

October 2010

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**Conferences and workshops related to membrane proteins  
in 2010:**

**Multiscale modeling of lipid bilayers under equilibrium  
and non-equilibrium conditions**

**October 27 - 29, 2010**

**CECAM-HQ-EPFL, Lausanne, Switzerland**

<http://www.cecaml.org/workshop-437.html>



## **Description:**

The plasma membrane enveloping mammalian cells is a two-dimensional fluid bilayer consisting primarily of thousands of different types of lipids and proteins. Far from being featureless, it is now well-established that the membrane is “patchy” with spatially organized regions of structure and function, both in terms of lipids and proteins. The spatially-extended nature of the membrane “patchiness” together with dynamic membrane processes, due to both thermodynamic fluctuations and non-equilibrium cellular events (such as endo- and exocytosis), provide challenges for theorists and computational scientists alike to develop and simulate quantitative models that seamlessly “funnel” information via coarse-graining from the molecular length and time scales up to the mesoscale.

Computational multiscale techniques have made rapid improvements in the past few years, but no recent workshop has explored the implications of these

developments specifically for the field of membrane biophysics, where the full spectrum of physical scale-challenges meets one of the most active research fronts in current cellular biology. To foster progress in this highly cross-disciplinary field, we will bring together physicists, chemists, materials scientists, experimental molecular and cellular biologists, and mathematicians with the common goal of developing new theoretical and computational strategies for studying structural and dynamical phenomena in multicomponent membranes (both lipid and polymer-based) that span large length and time scales, as well as non-equilibrium cellular processes (such as endo- and exocytosis and active lipid transport to and from the membrane) and the interplay of membrane proteins and their environment.

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**The 3<sup>rd</sup> Annual NIH Roadmap Meeting on  
Membrane Protein Technologies**  
**November 17<sup>th</sup> and 18<sup>th</sup>, 2010**  
**Nov 12 - 14, 2010 / La Jolla, CA, USA**  
<http://jcimpt.scripps.edu/rmi2010/>



**Description:**

The Scripps Research Institute (TSRI) is hosting the 3rd Annual NIH Roadmap Initiative meeting focused on membrane protein technologies. The past 2 meetings have been very successful, with an open exchange and sharing of data, technologies and ideas focused on how to improve all aspects of membrane protein structural biology from cloning/expression to structure determination.

In the spirit of high risk experiments, we will be trying to combine additional IT technologies into the meeting to help create a highly dynamic and interactive setting. As a reminder, the goal of this meeting series is for a very open and shared environment where unpublished and creative technology ideas should be communicated by all attending participants.

Speakers: John Hunt (Columbia University), Robert Stroud (University of California), Brian Kobilka, (Stanford University), Gunnar von Heijne (Stockholm University) and others.

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## **Molecular Perspectives on Protein-Protein Interactions**

**November 14 - 19, 2010**

**Hotel Eden Roc, Sant Feliu de Guixols, Spain**

<http://www.esf.org/conferences/10325>



### **Description:**

The conference aims to gather scientists from molecular cell biology, biochemistry, structural biology, biophysics and bioinformatics to explore the immensely important field of protein-protein interactions. The particular focus of the conference will be on molecular aspects of protein-protein interactions. Topics will include theory & computation, thermodynamics & kinetics, intrinsically unstructured protein complexes, PPI in disease & drug development, protein interaction networks, signaling complexes, membrane protein complexes, emerging & single molecule techniques, evolution & design as well as large multi-protein complexes. Fundamental and applied problems in these fields will be discussed from an interdisciplinary perspective.

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The information about new **conferences, courses** and **workshops** related to membrane proteins as well as some important news related to **SBMPs** (including meetings, publications etc.) please send to **Slawomir Filipek** ([sfilipek@iimcb.gov.pl](mailto:sfilipek@iimcb.gov.pl)).

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