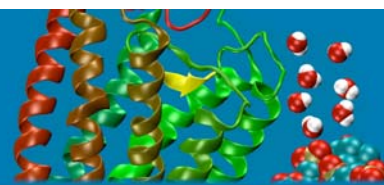




Structural Biology of Membrane Proteins



Structural Biology of Membrane Proteins (SBMPs)

Marie Curie Integrated Training Network

ITQB-UNL, Lisbon, Portugal

June, 4th-6th, 2009

Thursday, June 4th

ITQB auditorium (departure from Hotel Solar Palmeiras at 13:00)

14:00-14:30 **Welcome address:**

ITQB-UNL: Dr Margarida ARCHER, “Membrane Protein Crystallography”
group leader

CNRS-IPBS: Prof. Alain MILON, “NMR and interactions membrane-proteins”
group leader

Chair: Margarida Archer

14:30-15:05 **AFM: A Nanotool in Membrane Biology** – Daniel Müller, University of
Technology, Germany

15:05-15:20 **Characterization of molecular interactions to switch the functional State
of G protein coupled receptors (GPCRs)** – Shiho Kawamura, University of
Technology, Germany

15:20-15:35 **Mechanical characterization of a bacterial cyclic nucleotide modulated
potassium channel** – Patrick Bosshart, University of Technology, Germany

15:35-15:50 **Characterizing how ligands modulate the functional state of the human
beta2 G-protein coupled receptor** – Michael Zocher, University of Basel,
Switzerland

15:50-16:05 **Structural and functional characterization of AQP6 and V2R** – André
Krueger, University of Basel, Switzerland

16:05-16:40 **The M4-lipid sensor model of nAChR-lipid interactions** – John Baenziger,
University of Ottawa, Canada

16:40-17:10 *Coffee break*

Chair: Daniel Mueller

17:10-17:45 **Investigations of the γ -secretase structure and the stability areas of
rhodopsin** – Slawomir Filipek, International Institute of Molecular and Cell
Biology, Poland

17:45-18:20 **pH-Dependent Transmembrane Peptide Insertion: Mechanism and Uses**
– Donald Engelman, University of Yale, USA

18:20-18:55 **Developing the applications of amphipols to membrane protein studies.
An update** – Jean-Luc Popot, Institute of Physical Chemical Biology, France

- 18:55-19:10 **E. coli-phage T5 recognition: Structural study of the FhuA-pb5 complex**
– Ali Flayan, Institute of Physical Chemical Biology, France
- 20:30 *Dinner in Lisbon*

Friday, June 5th

ITQB auditorium (departure from Hotel Solar Palmeiras at 8:00)

Chair: Eva Pebay-Peyroula

- 8:30-9:05 **The membrane-embedded sensory rhodopsin/transducer system: Complex formation and light activation as seen by solid-state NMR spectroscopy** – Marc Baldus, University of Utrecht, Netherlands
- 9:05-9:20 **Solid-state NMR studies of the 3-O-deacylase PagL from *Pseudomonas aeruginosa* in lipid bilayers** – Marie Renault, University of Utrecht, Netherlands
- 9:20-9:35 **Structural and functional characterization of 5-HT3 receptor** – Menno Tol, Ecole Polytechnique Fédérale de Lausanne, Switzerland
- 9:35-10:10 **Expression strategies for the production of high quality G-protein coupled receptors and other integral membrane proteins in an individualized cell-free system** – Friederike Junge, J.W. Goethe-University, Germany
- 10:10-10:45 **Wheat germ cell-free translation system: the preparative and analytical tool** – Vladimir Shirokov, Institute of Protein Research, Russia
- 10:45-11:30 *Coffee break and bilateral discussions*

Chair: Marc Baldus

- 11:30-12:05 **Fast biosynthesis of GFP molecules – a single molecule fluorescence pre-study of the folding of proteins into membranes** – Alexander Katranidis, Forschungszentrum Jülich, Germany
- 12:05-12:40 **Fragment Based Drug Discovery on Membrane Proteins** – Gregg Siegal, ZoBio, Netherlands
- 12:40-12:55 **Application of Target Immobilized NMR Screening to membrane proteins** – Dan Chen, ZoBio, Netherlands
- 13:00-14:00 *Lunch at ITQB*

Chair: Frank Bernhard

- 14:00-14:35 **Title to be announced** – Hartmut Oschkinat, Forschungsverbund Berlin e.V., Germany
- 14:35-14:50 **Dynamic Nuclear Polarization and Solid State NMR: applications to membrane proteins** – Trent Franks, Forschungsverbund Berlin e.V., Germany
- 14:50-15:25 **Fast biosynthesis of GFP molecules – a single molecule fluorescence pre-study of the folding of proteins into membranes** – Alexander Katranidis, Forschungszentrum Jülich, Germany
- 15:25-16:00 **Membrane dynamics by solid state NMR: sterols – peptides** – Alain Milon, Institute of Pharmacology and Structural Biology, France
- 16:00-16:15 **Solution state NMR structure determination of PorA, the major porin of**

Corynebacterium glutamicum – Parthasarathi Rath, Institute of Pharmacology and Structural Biology, France

16:15-16:45 *Coffee break and bilateral discussions*

Chair: Alain Milon

16:45-17:15 **Round table** – network collaborations, practical courses, visiting scientists

17:15-17:50 **The X-ray structure of the membrane-bound cytochrome c quinol dehydrogenase NrfH in complex with cytochrome c nitrite reductase NrfA** – Margarida Archer, University of Lisbon, Portugal

17:50-18:05 **Heterologous overexpression and functional characterization of membrane proteins from *Archaea*** – Miguel Pessanha, ITQB-UNL, Portugal

18:05-18:20 **Sugar transporters in lactic acid bacteria** – Przemyslaw Nogly, University of Lisbon, Portugal

18:20-18:35 **Developing the overproduction of functional HIV co-receptors** – Lina Siauciunaite, Institute of Structural Biology, Grenoble, France

20:30 *Dinner in Lisbon*

Saturday, June 6th

ITQB auditorium (departure from Hotel Solar Palmeiras at 9:15)

Chair: Slawomir Filipek

9:30-9:40 **Structure – dynamics - function of OmpA protein from *klebsiella pneumoniae*: a joint ssNMR – AFM – EM – SMFS approach** – Jordan Jordanov, Institute of Pharmacology and Structural Biology, France **Bilateral discussions**

9:40-9:55 **Structure-function of mitochondrial carriers: crystal structures combined to *in situ* studies** – Vera S. Moiseeva, Institute of Structural Biology, Grenoble, France

9:55-10:10 **Development of new approaches to membrane protein crystallization: *In meso crystallization*** – Alina A. Remeeva, Institute of Structural Biology, Grenoble, France

10:30-11:30 **Parallel sessions:**

SBMPs network internal affairs: Scientific Council and Management Committee meeting.

SBMPs fellows meeting: exchange of ideas, propositions to the network, election of a delegate to the MC meeting

11:30-12:00 **Discussion between the Scientific Council, the Management Committee and SBMPs fellows.**

12:00-12:30 **General conclusions**

12:30-14:00 *Lunch on the campus*

14:00 *Departure for Lisbon: visit of Lisbon*

Free dinner in Lisbon - Return to the hotel