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Inserm Workshop 267

Protéines membranaires en systèmes reconstitués : des dernières avancées de la recherche fondamentale aux applications thérapeutiques
Membrane proteins in reconstituted systems: from the latest advances in fundamental research to therapeutic applications

30 mars-1er avril 2022 ◘ March 30-April 1st 2022 ◘ Bordeaux, France

Mercredi 30 mars 2022 ◘ Wednesday March, 30 2022

15:30 - 16:00	**Reception of participants**
16:00 - 16:15	Welcome and presentation by the organizers
SESSION I	**Methodological developments for the heterologous expression of proteins**
16:15 - 17:00	Structure and function of G protein-coupled receptors. **Chris Tate (MRC, Cambridge, United Kingdom)**
17:00 - 17:30	**Coffee break**
17:30 - 18:00	Tuning bacterial strains for the heterologous expression of membrane proteins. **Bruno Miroux (IBPC, Paris, France)**
18:00 - 18:30	Methods of heterologous expression of membrane proteins for purification and study in reconstituted systems. **Isabelle Mus-Veteau (IPMC, Sophia Antipolis, Nice, France)**
18:30 - 19:00	Novel engineering strategies and structural and mechanistic insights into GPCRs. **Andreas Plückthun (ETH Zurich, Switzerland)**
19:00 - 19:30	General questions from the audience about the techniques
19:30	**Dinner**

Jeudi 31 mars 2022 ◘ Thursday March, 31 2022

06:30 - 08:30	**Breakfast**
SESSION II	**Membrane mimicking systems**
08:30 - 09:15	What kind of beach buoy to manipulate membrane proteins in vitro? An overview of what is available. **Cécile Breyton (IBS, Grenoble, France)**
09:15 - 09:45	CyclAPols: a novel generation of amphipols combining solubilizing and stabilizing properties required for membrane protein studies. **Manuela Zoonens (IBPC, Paris, France)**
09:45 - 10:15	**Coffee break**
10:15 - 10:45	Discovery of Novel Therapeutics against GPCRs, Ion Channels & Transporters using the SaliproTM Technology. **Pilar Lloris-Garcera (Salipro Biotech, Stockholm, Sweden)**

10:45 - 11:15	Detergent-free membrane protein purification using SMA polymer. **Alice Rothnie (Aston University, Birmingham, United Kingdom)**
11:15 - 11:45	Computational microscopy of membrane proteins with Martini 3 models. **Paulo Telles de Souza (IBCP, Lyon, France)**
11:45 - 12:00	General questions from the audience about the techniques
12:00 - 14:00	**Lunch**
SESSION III	**Membrane protein study and lipid Interplay**
14:00 - 14:30	Controlled lipidation enables crystallization of membrane transporters. **Cédric Govaerts (Université Libre de Bruxelles, Belgium)**
14:30 - 15:00	The role of the lipid environment in GPCR activity: *in vitro* and *in cellulo* approaches. **Isabel Alves (CBMN, Bordeaux, France)**
15:00 - 15:30	H/D exchange coupled to Mass Spectrometry: a multifaceted tool to study membrane proteins. **Chloé Martens (Université Libre de Bruxelles, Belgium)**
15:30 - 15:45	**Coffee Break**
15:45 - 16:15	Dynamic interplay between lipids and membrane proteins. **Laurent Catoire (IBPC, Paris, France)**
16:15 - 16:45	General questions from the audience about the techniques
16:45 - 18:00	**Poster session**
18:00 - 20:00	**Wine Museum**
20:00	**Dinner**

Vendredi 1er avril 2022 ◘ Friday April, 1st 2022

06:30 - 08:30	**Breakfast**
SESSION IV	**Membrane proteins in Pathology and other strategies**
08:30 - 09:15	Cellular Machineries in Quality Control and Immune Defense. **Robert Tampé (Goethe University, Frankfurt, Germany)**
09:15 - 09:45	From antibiotic sensitizers to true efflux pump inhibitors: a long road that must pass through reconstituted efflux pumps. **Jean-Michel Bolla (Faculté de Pharmacie, Marseille, France)**
09:45 - 10:15	**Coffee Break**
10:15 - 10:45	The ABC transporter MsbA adopts the wide inward-open conformation in living cells. **Markus Seeger (University of Zurich, Switzerland)**
10:45 - 11:15	Construct optimisation, membrane mimetics and data treatment: few things to optimise for cryoEM of membrane proteins. **Hugues Nury (IBS, Grenoble, France)**
11:15 - 11:45	NMDA receptors: allosteric machines in brain function and dysfunction. **Pierre Paoletti (IBENS, Paris, France)**
11:45 - 12:15	General question from the audience and conclusion
12:15 - 14:00	**Lunch**
14:00	**Departure**