

Membrane Protein Structures 2015 Meeting Agenda

Friday April 10, 2015

7:30 AM Registration, Coffee and Breakfast Rolls in the APS Atrium and Gallery

8:00 AM Opening – Robert Fischetti GM/CA Manager & XSD Assoc. Division Director

8:05 AM Welcome – Stephen Streiffer Assoc. Lab Director for Photon Sciences

Transporters and Channels – Bob Fischetti and Bob Stroud, session chairs

8:10 AM Bob Stroud, UCSF, *Wiggle wiggle not a trickle: transporters in action*

8:40 AM Liang Feng, Stanford, *Structures of bacterial homologues of SWEET transporters in two distinct conformations*

9:10 AM Ming Zhou, Baylor, *Mechanisms of substrate translocation and phosphorylation in an EII_C saccharide transporter*

9:40 AM Ron Kaback, UCLA, *It Takes Two to Tango--Structure/Function Studies Yield a Mechanism for Symport by LacY*

10:10 AM Coffee Break in the Atrium and Gallery

Lipid Protein Interactions – Jean Chin, session chair

10:30 AM Steve Sligar, UIUC, *Nanodisc Platform for Determining the Structure and Function of Membrane Proteins*

11:00 AM Ann Kenworthy, Vanderbilt, *Targeting proteins to lipid rafts: mechanisms and consequences*

11:30 AM Lukas Tamm, UVA, *Structure and Function of Prokaryotic Outer Membrane Proteins: From Nanopores to Antibiotic Resistance*

12:00 PM Daniel Rosenbaum, UTHSC Dallas, *Structural biology of disease-related membrane signaling proteins*

12:30 PM Lunch at the Guest House

Expression/Purification – Ian Hunt, session chair

2:00 PM Liz Carpenter, SGC, *The SGC pipeline for production of human membrane proteins for structural biology*

2:30 PM James Love, AECOM, *Production of human membrane proteins in mammalian cells*

3:00 PM John Burg, Garcia Lab, Stanford School of Medicine, *Structural basis for chemokine recognition and activation of a viral G protein-coupled receptor*

3:30 PM Coffee Break in the Atrium and Gallery

NMR – Ann McDermott, session chair

4:00 PM Chad Rienstra, UIUC, *Phospholipid and sterol interactions by solid-state NMR: Roles in blood clotting and antifungal drug mechanisms*

4:30 PM Francesca Marassi, Sanford Burnham MRI, *Influence of the Membrane Environment on Protein Structure and Function*

5:00 PM Mei Hong, Massachusetts Institute of Technology, *Solid-State NMR Investigations of Membrane-Curvature Induction by Viral Proteins*

5:30 PM Gerhard Wagner, Harvard, *Design and application of new nanodiscs for membrane protein structure and function*

6:00 PM Poster session, reception in the Gallery

7:00 PM Dinner in the Guest House Restaurant

8:30 PM “Lightening Talks” and open discussion in the Guest House Restaurant (Cash bar)

Membrane Protein Structures 2015 Meeting Agenda

Saturday April 11, 2015

7:30 AM Registration, Coffee and Breakfast Rolls in the APS Atrium and Gallery

Receptors – Ray Stevens, session chair

8:00 AM Tracy Handel, UCSD, *Structure and implications of the metastasis promoting/HIV entry receptor, CXCR4, in complex with a chemokine*

8:30 AM Beili Wu, SIMM, *Structural studies of purinergic receptors P2Y12R and P2Y1R*

9:00 AM Gyorgy Snell, Takeda Pharmaceutical, *High-resolution structure of the human GPR40 receptor bound to allosteric agonist TAK-875*

9:30 AM Krys Palczewski, Case Western Reserve U. *Interfacial catalysis: chemistry of vision*

10:00 AM Coffee Break in the APS Atrium and Gallery

Complexes, Enzymes, Pumps – Bob Stroud, session chair

10:30 AM Poul Nissen, DANDRITE, *Structure and mechanism of sodium dependent transporters*

11:00 AM Jue Chen, Rockefeller Univ., *Crystal structure of a polypeptide processing and secretion transporter*

11:30 AM Thomas Tomasiak, UCSF, *Cryo microscopy and structures of ABC transporters*

12:00 PM Eduardo Perozo, UoC, *Mechanisms and regulation of channels*

12:30 PM Lunch at the Guest House

Crystallization – James Love, session chair

2:00 PM Nick Noinaj, Purdue Univ., *The role of BamA in the biogenesis of β -barrel outer membrane proteins*

2:30 PM Samuel Gellman, Univ. Wisconsin, *Development of new detergents for membrane protein manipulation and crystallization*

3:00 PM Vadim Cherezov, USC, *GPCR crystallography at XFELs*

3:30 PM Coffee Break in the APS Atrium and Gallery

EM/Hybrid Methods – Jean Chin and Bob Fischetti, session chairs

4:00 PM Bridget Carragher, NYSBC, *EM as a Tool for Understanding the Structure of Membrane Proteins*

4:30 PM Yifan Cheng, UCSF, *Structures of TRP Channel by Single Particle CryoEM*

5:00 PM Adam Frost, UCSF, *Structure of the Mitochondrial Outer Membrane Fission Machinery*

5:30 PM Ann McDermott, Columbia, *Functional Studies of an Ion channel by NMR in native membranes: Transmembrane Allostery as a Basis for Inactivation*

6:00 PM Poster session, reception in the APS Gallery

7:00 PM Dinner in the Guest House Restaurant

8:30 PM “Lightning Talks” and open discussion in the Guest House Restaurant (Cash bar)

Membrane Protein Structures 2015 Meeting Agenda

Sunday April 12, 2015

7:30 AM Registration, Coffee and Breakfast Rolls in the APS Atrium and Gallery

Innovative Methods – Ward Smith and Jean Chin, session chairs

8:00 AM Wayne Hendrickson, Columbia U., *SAD Phasing Analysis of Native Membrane Protein Structures*

8:30 AM Tamir Gonen, HHMI, *MicroED – Three Dimensional Electron Crystallography*

9:00 AM Stefan Vogt, APS, Argonne, *Opportunities with Diffraction Limited Storage Rings*

9:30 AM Petra Fromme, ASU, *Serial Femtosecond Crystallography: Dawn of a new Era in Structural Biology of Membrane Proteins*

10:00 AM Coffee Break in the APS Atrium and Gallery

10:30 AM Bob Fischetti, GM/CA and APS, *Innovative approaches to x-ray microcrystallography (DLSR)*

11:00 AM Senyon Choe, SALK, *High-speed NMR structure determination of human membrane proteins: In silico drug search*

11:30 AM Ray Stevens USC, *Integrative Methods to Understanding Human GPCR Signaling*

12:00 PM CLOSING