

# Keystone Symposia: Molecular Basis for Biological Membrane Organization and Dynamics

January 10–15, 2010 • Snowbird Resort • Snowbird, Utah • USA

Scientific Organizers: Tom A. Rapoport and Sandra L. Schmid

## PROGRAM FACULTY & TALKS

**Bruno Antonny**, Institut de Pharmacologie Moleculaire et Cellulaire, France  
*Sensing Membrane Curvature during Vesicle Budding*

**Patricia Bassereau**, Institut Curie, France  
*Physical Aspects of Lipid Sorting*

**Roland Beckmann**, University of Munich, Germany  
*Lessons from EM Structures of Ribosome-Translocon Complexes*

**Deborah A. Brown**, Stony Brook University, USA  
*Generation of Membrane Domains*

**Jue Chen**, Purdue University, USA  
*Alternating Access of the Maltose Transporter*

**David G. Drubin**, University of California, Berkeley, USA  
*A Yeast Killer Toxin Screen Provides Insights into A/B Toxin Entry, Trafficking and Killing Mechanisms*

**Phyllis I. Hanson**, Washington University School of Medicine, USA  
*ESCRTs and Membrane Domains*

**Ramanujan S. Hegde**, NICHD, National Institutes of Health, USA  
*Mechanisms of Membrane Protein Insertion into the ER*

**Michael Kozlov**, Tel Aviv University, Israel  
*Theory of Membrane Shaping and Remodeling by Proteins*

**Akihiro Kusumi**, Kyoto University, Japan  
*Single-Molecule Tracking Approaches to Membrane Domains*

**Harvey T. McMahon**, MRC Laboratory of Molecular Biology, UK  
*Membrane Curvature in Endocytosis*

**Tobias Meyer**, Stanford University Medical Center, USA  
*ER Calcium Sensors and Ca Dynamics*

**Poul Nissen**, University of Aarhus, Denmark  
*Structure and Function of the P-ATPase Ion Pumps*

**Jodi Nunnari**, University of California, Davis, USA  
*Shaping Mitochondria*

**Yoshinori Ohsumi**, Tokyo Institute of Technology, Japan  
*Autophagosome Fusion*

**Robert G. Parton**, University of Queensland, Australia  
*New Insights into Caveola Formation and Function*

**William A. Prinz**, NIDDK, National Institutes of Health, USA  
*Cholesterol Transport between Organelles*

**Josep Rizo**, University of Texas Southwestern Medical Center, USA  
*Synaptic Vesicle Fusion*

**Randy W. Schekman**<sup>\*</sup>, University of California, Berkeley, USA  
*Mechanism of Transport Vesicle Budding and Cargo Sorting*

**Sandra L. Schmid**, The Scripps Research Institute, USA  
*Dynamic-Dependent Membrane Fusion*

**Thomas Schwartz**, MIT, USA  
*Talk Title to be Determined*

**Matthew Seaman**, University of Cambridge, UK  
*Retromer-Mediated Endosome-to-Golgi Retrieval*

**Kai Simons**, Max Planck Institute of Molecular Cell Biology and Genetics, Germany  
*Lipid Rafts and Membrane Domains*

**Stephen G. Sligar**, University of Illinois at Urbana-Champaign, USA  
*Self Assembled Nanometer Scale Lipid Bilayers (Nanodiscs) for Elucidating the Structure and Function of Membrane Proteins and Therapeutic Delivery*

**Gerrit Van Meer**, Utrecht University, Netherlands  
*Lipid Translocation across Cellular Membranes*

**Dennis R. Voelker**, National Jewish Medical and Research Center, USA  
*Non-Vesicular Lipid Transport*

**Gia Voeltz**, University of Colorado, Boulder, USA  
*Shaping the Tubular ER*

**Beverly Wendland**, Johns Hopkins University, USA  
*Endocytosis*

**William T. Wickner**, Dartmouth Medical School, USA  
*Mechanisms of Yeast Homotypic Vacuole Fusion*

**Joshua Zimmerberg**, National Institutes of Health, USA  
*Biophysics of Membrane Fission and Fusion*

<sup>\*</sup>Keynote speaker. Program subject to change. Current as of September 8, 2009



Cellular membrane biology is a major area of research. Membrane proteins function as receptors, ion channels or transporters, while the lipids provide not just a barrier between aqueous compartments, but also serve as signals. Lipids and proteins combine in as yet not fully understood ways to establish and maintain membrane organization and specific membrane domains. This meeting will address major questions in membrane biology that remain unanswered, including the structure of membrane proteins (we only know ~100 structures, but 25% of all proteins are membrane proteins!), the mechanisms driving membrane organization and curvature, mechanisms of organellar biogenesis and the transport between organelles, and how membranes undergo fusion and fission. In addition, the meeting will cover emerging techniques. A major goal of the meeting is to bring together cell biologists, biophysicists and theoretical biologists, who, in the past, had little interaction.

## PROGRAM PLENARY SESSIONS:

- Membrane Protein Structure
- Membrane Curvature in Vesicle Building
- Shaping Organelles
- Functional Organization of Membrane Domains I & II
- Lipid Transport and Organelle Transport
- Mechanisms Governing Membrane Fusion and Fission
- Membrane Dynamics in Endocytosis

## DEADLINES:

Abstract & Scholarship: September 16, 2009

Late-Breaking Abstract: October 13, 2009

Early Registration: November 10, 2009

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