

# KEYSTONE SYMPOSIA on Molecular and Cellular Biology

## Hybrid Methods in Structural Biology (C2)

March 4-8, 2015 • Granlibakken Resort • Tahoe City, California, USA

Scientific Organizers: Jens Meiler, Patrick Cramer and Ron A. Milligan

*Supported by the Directors' Fund*

Abstract & Scholarship Deadline: November 6, 2014 / Abstract Deadline: December 9, 2014 / Discounted Registration Deadline: January 8, 2015

### WEDNESDAY, MARCH 4

#### Registration

### THURSDAY, MARCH 5

#### Keynote Address

Ad Bax, NIDDK, National Institutes of Health, USA  
*a-Synuclein, Lipids, and Parkinson's Disease*

#### New and Potentially Disruptive Technologies: X-Rays, Neutrons, Electrons

Richard Neutze, University of Gothenburg, Sweden  
*Serial Crystallography and Time-Resolved WAXS Studies of Membrane Proteins at an XFEL*

Christian Betzel, University of Hamburg, Germany  
*Latest Methods to Grow and Prepare Micro- and Nano-Crystals for Future Free-Electron-Lasers Offers New Opportunities in Structural Biology*

Stefan Raunser, Max Planck Institute of Molecular Physiology, Germany  
*A Syringe-Like Injection Mechanism in Photorhabdus luminescens Toxins*

Short Talk(s) Chosen from Abstracts

#### Membrane Proteins

Charles R. Sanders, Vanderbilt University School of Medicine, USA  
*The Amyloid Precursor Protein Has a Flexible Transmembrane Domain and Binds Cholesterol*

Karen G. Fleming, Johns Hopkins University, USA  
*Membrane Protein Stability*

Leo Sazanov, Medical Research Council, UK  
*Structure and Mechanism of the Respiratory Complex I*

Short Talk Chosen from Abstracts

#### Poster Session 1

### FRIDAY, MARCH 6

#### New and Potentially Disruptive Technologies: Spectroscopy and Spectrometry

Jens Meiler, Vanderbilt University, USA  
*Protein Structure Determination from Integrating Limited Experimental Data*

Mei Hong, Iowa State University, USA  
*Structure and Dynamics of Viral Membrane Peptides from Solid-State NMR*

Gunnar Jeschke, ETH Zürich, Switzerland  
*Membrane Proteins Structure and Dynamics from Limited Experimental Data*

Judy E. Kim, University of California San Diego, USA  
*Resonance Raman and FRET Studies of a beta-Barrel Membrane Protein*

Short Talk(s) Chosen from Abstracts

#### Protein Transporters

Speaker to be Announced

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Yifan Cheng, University of California, San Francisco, USA

*Single Particle Cryo EM for Membrane Protein Structure Determination Close to Atomic Detail*

Short Talk Chosen from Abstracts

#### Poster Session 2

### SATURDAY, MARCH 7

#### Supramolecular Assemblies

Patrick Cramer, University of Munich (LMU), Germany  
*Structural Biology of Gene Transcription*

Nenad Ban†, ETH Zürich, Switzerland  
*Hybrid Structural Biology of Assemblies for Protein and Fatty Acid Synthesis*

Juli Feigon, University of California, Los Angeles, USA  
*Architecture of Telomerase and Large RNA Assemblies*

Martin Beck, European Molecular Biology Laboratory, Germany  
*Structure of the Human Nuclear Pore Complex*

Short Talk(s) Chosen from Abstracts

#### New and Potentially Disruptive Technologies: Computation

Sarah Teichmann, EMBL-EBI, UK  
*Evolution and Assembly of Protein Complexes*

Nikolaos G. Sgourakis, NIDDK, National Institutes of Health, USA  
*A Hybrid Structural Approach to the Study of Viral Immune Interference Mechanisms*

Rudolf H. Aebersold, Institute of Molecular Systems Biology, ETH Zürich, Switzerland  
*Hybrid Structural Biology by Protein Crosslinking and Mass Spectrometry*

Short Talk Chosen from Abstracts

### SUNDAY, MARCH 8

#### Departure