

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## Cryo-EM for Health Science (E2)

May 12-16, 2020 • Clarion Hotel Sign • Stockholm, Sweden

Scientific Organizers: Hongwei Wang, Nieng Yan, Claudio Ciferri and Erik Lindahl

Organized in collaboration with Science for Life Laboratory

Sponsored by Thermo Fisher Scientific Inc.

Discounted Abstract & Scholarship Deadline: January 14, 2020 / Abstract Deadline: February 12, 2020 / Discounted Registration Deadline: March 12, 2020

### TUESDAY, MAY 12

#### Arrival and Registration

### WEDNESDAY, MAY 13

#### Welcome and Keynote Address

**Brian K. Kobilka**, Stanford University School of Medicine, USA  
*Structural Insights into G Protein Coupled Receptor Activation: the Impact of Cryo-EM*

#### CryoEM of Membrane Proteins

**Nieng Yan**, Princeton University, USA  
*CryoEM of Sodium Channels*

**Yifan Cheng**, University of California, San Francisco, USA  
*CryoEM of Membrane Proteins in Nanodisc*

**Christine Ziegler**, University of Regensburg, Germany  
*CryoEM of PKD2*

**Alexey Amunts**, Stockholm University, Sweden  
*Structure of a Mitochondrial ATP Synthase*

#### CryoEM for Drug Discovery

**Patrick M. Sexton**, Monash University, Australia  
*CryoEM of GPCR-Receptor Complexes*

**Claudio Ciferri**, Genentech, Inc., USA  
*Enabling Research and Drug Discovery at Genentech through Cryo-EM*

**Giovanna Scapin**, Merck Research Laboratories, USA  
*Cryo-EM in Drug Discovery: Possibilities and Limitations*

#### Short Talks Chosen from Abstracts

#### Poster Session 1

### THURSDAY, MAY 14

#### CryoEM of Pathogens

**Ariane Briegel**, Institute of Biology Leiden University, Netherlands  
*Structural Host-Pathogen Interactions*

**Z. Hong Zhou**, University of California, Los Angeles, USA  
*Atomic Structures of Human Herpesviruses*

**Peijun Zhang**, University of Oxford, UK  
*CryoEM of HIV Infection*

**Sjors Scheres**, MRC Laboratory of Molecular Biology, UK  
*CryoEM of Prion-Like Amyloid Fibers*

#### Short Talks Chosen from Abstracts

#### Workshop 1

#### Short Talks Chosen from Abstracts

#### CryoEM of Gene Regulation Machineries I

**Reinhard Lührmann**, Max Planck Institute for Biophysical Chemistry, Germany  
*CryoEM of Spliceosomes*

**Max Wilkinson**, MRC Laboratory of Molecular Biology, UK  
*A Movie of Splicing from CryoEM Snapshots of the Spliceosome*

**Yigong Shi**, Tsinghua University School of Medicine, China  
*Mechanism of pre-mRNA Splicing by the Spliceosome*

#### Short Talks Chosen from Abstracts

#### Poster Session 2

### FRIDAY, MAY 15

#### CryoEM of Gene Regulation Machineries II

**Seychelle M. Vos**, Massachusetts Institute of Technology, USA  
*Transcriptional Machineries by Cryo-EM*

**Kelly Nguyen**, University of California, Berkeley, USA  
*Replenishing the Ends: Structural Studies of Human Telomerase and its Regulation*

**Yanli Wang**, Chinese Academy of Sciences, China  
*RNA-Guided RNA/DNA Cleavage by CRISPR-Cas Systems*

#### Short Talks Chosen from Abstracts

#### Workshop 2

#### Short Talks Chosen from Abstracts

#### Cutting Edge of Cryo-Electron Tomography

**John Briggs**, MRC Laboratory of Molecular Biology, UK  
*Structure Determination by Cryo-ET*

**Daniela Nicastro**, University of Texas Southwestern Medical Center, USA  
*Cryo-ET Opens a Window into Ciliopathies*

**Sharon Grayer Wolf**, Weizmann Institute of Science, Israel  
*3D Imaging of Vitrified Cells Using cryoSTEM Tomography*

#### Short Talks Chosen from Abstracts

#### Poster Session 3

### SATURDAY, MAY 16

#### New Methods in CryoEM

**Bridget Carragher**, New York Structural Biology Center, USA  
*Automated CryoEM: Better, Faster, Cheaper*

**Hongwei Wang**, Tsinghua University, China  
*New Optics for CryoEM*

**Erik Lindahl**, Stockholm University, Sweden  
*Virtual Drug Screening of CryoEM Structure*

**Andrej Sali**, University of California, San Francisco, USA  
*Combinational Approaches in Structural Determination*

#### Short Talks Chosen from Abstracts

#### Correlative Microscopy

**Masahide Kikkawa**, University of Tokyo, Japan  
*Combination of Cryo-EM and Genetics to Study Eukaryotic Cilia*

**Karen M. Davies**, Lawrence Berkeley National Laboratory, USA  
*Correlative Microscopy*

#### Short Talk Chosen from Abstracts

#### Closing Keynote Address

**Wolfgang P. Baumeister**, Max Planck Institute of Biochemistry, Germany  
*Structural Biology in situ: The Promise and Challenges of Cryo-Electron Tomography*

#### Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

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**SUNDAY, MAY 17**

**Departure**