International Symposium on Cryo-EM – past and future challenges

Celebrating the Nobel Prize in Chemistry 2017

December 9, 2017, Stockholm University

Visualizing the structures of biological molecular machines is an absolute requirement in order to understand their mechanism. Cryo-EM is a key method for this visualization, and due to the recent technical developments it can provide refined atomic structures even for structure-based drug design. The symposium coincides with the Nobel Prize that has been awarded for the development of the cryo-EM and will present the methodological progress as well as the applications to central biological questions. It brings together world-leading experts, Swedish researchers, and industrial scientists to discuss ideas for further advancement in this exciting and rapidly evolving field.

The symposium is free of charge but requires registration via symposium website: http://www.mmk.su.se/cryo-em-symsposium. All researchers are welcome to take active part and contribute with posters.

Symposium venue: G-Salen, Arrhenius Laboratory, Svante Arrhenius väg 16, 106 91 Stockholm

Deadline for registration: November 20, 2017

The Nobel Lectures given by this year's Nobel Laureates in Physics and Chemistry will be held 9.00-14.00, December 8, Aula Magna, Stockholm University, which are open to public.

The Nobel Prize Award Ceremony will be held on December 10.

09.00 – 09.10	Welcome and introduction – Sven Hovmöller, Stockholm University
09.10 – 09.45	Nigel Unwin, MRC Laboratory of Molecular Biology, UK ***The structural basis of fast synaptic transmission explored by cryo-EM***
09.45 – 10.20	Marin van Heel, Leiden University and LNNano, Campinas Brazil ***Roots of the Resolution Revolution***
10.20 – 10.40	Shintaro Aibara, SciLifeLab/Stockholm University, Sweden ***From pharmaceutical compounds to ribosomes***
10.40 – 11:00	***Coffee break***
11.00 – 11.35	Chris Russo, MRC Laboratory of Molecular Biology, UK ***Determining and avoiding some of the physical limits in electron cryomicroscopy***
11.35 – 12.10	Christian Spahn, Charité-Universitätsmedizin, Germany ***The ribosome - a paradigm for a macromolecular machine***
12.10 – 12.30	Bjorn Forsberg, SciLifeLab/Stockholm University, Sweden ***Current and future processing paradigms in cryo-EM***
12.30 – 14.00	***Lunch and poster session, Arrhenius Laboratory***
14.00 – 14.35	Yoshinori Fujiyoshi, Nagoya University, Japan ***Structure-Guided Drug Development by CryoEM***
14.35 – 15.10	Peijun Zhang, University of Oxford and eBIC, Diamond Light Source, UK ***Structural Basis of HIV Capsid Assembly, Maturation and Host Cell Interactions***
15:10 – 15:30	Janna Bigalke, AstraZeneca Pharmaceuticals, Möndal, Sweden ***The secret to cell regeneration: structural basis for RET activation by Neurturin***
15.30 – 15.50	***Coffee break***
15:50 – 16:15	Hongwei Wang, Tsinghua University, China ***New opportunities that the phase plate brings to Cryo-EM***
16:15 – 16:40	Dan Shi, Howard Hughes Medical Institute, USA ***MicroED – a new application of electron crystallography in structural biology***
16:40 – 17:00	Hongyi Xu, Stockholm University, Sweden ***Electron crystallography for studying protein structures***
17.00– 17:15	***Concluding remarks***

Stockholm University SciLifeLab KTH VETENSKAP OCH KONST

Organisers:
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