

Schedule

January 22

9:00 – 9:10

Welcome address

Chancellor Michinari Hamaguchi

9:10 – 9:20

Opening remarks

Da-Neng Wang

Session 1 – Chair: Thomas Walz

9:20 – 9:55

Nigel Unwin (MRC Laboratory of Molecular Biology, Cambridge, U.K.)

Gating movement of the acetylcholine receptor caught by plunge-freezing

9:55 – 10:30

Werner Kühlbrandt (Max Planck Institute of Biophysics, Frankfurt, Germany)

Studying membrane protein structure and function by electron microscopy

– from small conformational changes to large assemblies *in situ*

10:30 – 11:05

Da-Neng Wang (New York University School of Medicine, New York, U.S.A.)

Structure of a bacterial homolog of INDY: A Na⁺-driven carboxylate transporter involved in fatty acid biosynthesis and calorie restriction

11:05 – 11:25 *Coffee break*

Session 2 – Chair: Nigel Unwin

11:25 – 12:00

Tomitake Tsukihara (University of Hyogo, Hyogo, Japan)

Structure, functions and structural organization of gap junction channels

12:00 – 12:35

Gunnar von Heijne (University of Stockholm, Stockholm, Sweden)

The forceful translocon

12:35 – 14:00 *Lunch and poster session*

Session 3 – Chair: Andreas Engel

14:00 – 14:35

Wayne Hendrickson (Columbia University, New York, U.S.A.)

Conformational equilibria in the allosteric control of Hsp70 molecular chaperones

14:35 – 15:10

Douglas Rees (California Institute of Technology, Pasadena, U.S.A.)

Structure and mechanism of bacterial mechanosensitive channels

15:10 – 15:45

Osamu Nureki (University of Tokyo, Tokyo, Japan)

Structural basis of light-gated cation channel, channelrhodopsin

15:45 – 16:15 *Coffee break and poster session*

Session 4 – Chair: Wayne Hendrickson

16:15 – 16:35

Kaoru Mitsuoka (Biomedical Information Research Center, Tokyo, Japan)

Projection structure of aquaporin-3 by electron crystallography

16:35 – 17:10

Thomas Walz (Harvard Medical School and Howard Hughes Medical Institute, Boston, U.S.A.)

Using 2D crystals of AQP0 to investigate lipid-protein interactions

17:10 – 17:45

Andreas Engel (Case Western Reserve University, Cleveland, U.S.A.)

The rhodopsin-transducin heteropentamer

17:45 – 19:00

Poster session

19:30 – *Dinner and social*

January 23

9:00 – 9:10

Speech

Yoshihide Esaki (Director, Bio-Industry Division, Ministry of Economy, Trade and Industry (METI))

Session 5 – Chair: Douglas Rees

9:10 – 9:45

Gebhard Schertler (Paul Scherrer Institute, Villigen, Switzerland)

Structures of G-protein coupled receptors with agonists and antagonists relevant to pharmacology and disease

9:45 – 10:20

Christopher Tate (MRC Laboratory of Molecular Biology, Cambridge, U.K.)

The structural basis for ligand efficacy in the β 1-adrenoceptor and adenosine A2A receptor

10:20 – 10:55

Brian Kobilka (Stanford University School of Medicine, Stanford, U.S.A.)

Structural insights into G protein coupled receptor activation

10:55 – 11:25 *Coffee break and poster session*

Session 6 – Chair: Brian Kobilka

11:25 – 12:00

Eric Gouaux (Oregon Health & Science University and Howard Hughes Medical Institute, Portland, U.S.A.)

Architecture and mechanism at chemical synapses

12:00 – 12:35

Roderick MacKinnon (Rockefeller University and Howard Hughes Medical Institute, New York, U.S.A.)

The incredible diversity of K^+ channels

12:35 – 14:00 *Lunch and poster session*

Session 7 – Chair: Roderick MacKinnon

14:00 – 14:35

Mari Dezawa (Tohoku University, Tohoku, Japan)

Discovery of intrinsic pluripotent stem cells, Muse cells in human mesenchymal tissues; are they a major player of regenerative homeostasis in the body?

14:35 – 15:10

Wolfgang Baumeister (Max Planck Institute of Biochemistry, Martinsried, Germany)

The endeavour of doing structural biology *in situ*

15:10 – 15:45

Joachim Frank (Columbia University, New York, U.S.A.)

Structure of the Ribosome from *Trypanosoma brucei*

15:45 – 16:15 *Coffee break and poster session*

Session 8 – Chair: Gunnar von Heijne

16:15 – 16:50

Yifan Cheng (University of California, San Francisco, U.S.A.)

Using Fab to assist structure determination of integral membrane protein by single particle cryoEM

16:50 17:10

Atsuo Miyazawa (University of Hyogo, Hyogo, Japan)

Development and observation of a genetically encoded protein tag for electron microscopy

17:10 – 17:45

Wah Chiu (Baylor College of Medicine, Houston, U.S.A.)

Validating cryo-EM maps and models

17:45 – 19:30

Poster session

January 24

9:00 – 9:10

Speech

Hirokazu Morita (Director General, Biotechnology and Medical technology Department, New Energy and Industrial Technology Development Organization (NEDO))

Session 9 – Chair: Wolfgang Baumeister

9:10 – 9:45

Keiichi Namba (Osaka University, Osaka, Japan)

High-resolution high-throughput cryoEM helical image analysis of macromolecular assemblies

9:45 – 10:05

Masahide Kikkawa (University of Tokyo, Tokyo, Japan)

Structure of motors

10:05 – 10:35 *Coffee break and poster session*

Session 10 – Chair: Stephen Harrison

10:35 – 11:10

Kenneth Downing (Lawrence Berkeley National Laboratory, Berkeley, U.S.A.)

From tubulin to swimming cells: microtubule structures and interactions

11:10 – 11:45

Richard Henderson (MRC Laboratory of Molecular Biology, Cambridge, U.K.)

Electron cryomicroscopy from 2D crystals to single particles

11:45 – 13:35 *Lunch and poster session*

Session 11 – Chair: Richard Henderson

13:35 – 14:10

Stephen Harrison (Harvard Medical School and Howard Hughes Medical Institute, Boston, U.S.A.)

Viral membrane fusion

14:10 – 14:45

Hans Hebert (Karolinska Institute, Stockholm, Sweden)

Membrane associated biosynthesis of prostaglandin and leukotriene mediators of inflammation

14:45 – 15:15 *Coffee break and poster session*

Session 12 – Chair: Da-Neng Wang

15:15 – 15:50

Yoshinori Fujiyoshi (Nagoya University, Nagoya, Japan)

Key technology for structure-guided drug development

15:50 – 16:25

Ichio Shimada (University of Tokyo, Tokyo, Japan)

Functional equilibrium of membrane proteins by NMR

16:25 – 17:00

Haruki Nakamura (Osaka University, Osaka, Japan)

Drug development for a GPCR with *in-silico* screening

17:00 – 17:15

Closing remarks

Thomas Walz

17:15 – 17:25

Closing address

Vice-chancellor Yushu Matsushita

18:00 – *Farewell party*