The 15th International Conference on "Na,K-ATPase and Related Transport ATPases"

Convention hall "Ohmi" at Lake Biwa Otsu Prince Hotel,
4-7-7, Nionohama, Otsu City, Shiga, 520-8520 Japan

SUNDAY, September 24

13:00 - 17:00 ***Meeting registration***

*Hotel Check-in begins at 14:00

17:30 - 17:40 ***Greeting from organizers***

Hiroshi Suzuki, Haruo Ogawa, Chikashi Toyoshima

17:40 - 18:00 ***Opening remarks***

Giuseppe Inesi California Pacific Medical Center

#01

18:00 - 19:00 ***Special Lecture***

Toshio Ando Kanazawa University

Nano-visualization of protein molecules in action by high-speed AFM ***#02***

19:00 - 21:30 ***Mixer***

MONDAY, September 25

07:00 - 08:30 ***Breakfast***

Oral session 1: **08:30 - 12:00**

Na,K-ATPase and H,K-ATPase 1 (structure-function relationship)

Chair: Flemming Cornelius

08:30 - 08:40 **Flemming Cornelius** Aarhus Univ.

Introductory remarks

08:40 - 09:10 **Bente Vilsen** Aarhus Univ.

New aspects of sodium and potassium binding of Na,K-ATPase ***#05***

09:10 - 09:40 **Ronald Clarke** Univ. of Sydney

Role of Electrostatic Stabilization in the Mechanism and Regulation of Na^+,K^+- and H^+,K^+-ATPases ***#06***

09:40 - 10:10 **Haruo Ogawa** Univ. of Tokyo

X-ray Crystallographic Study of Na,K-ATPase in Complex with Cardiotonic Steroids ***#07***

10:10 - 10:30 ***Coffee break***

10:30 - 11:00 **Kazuhiro Abe** Nagoya Univ.

Structural and functional analysis of gastric H^+,K^+-ATPase ***#08***

11:00 - 11:20 **Mads S. Toustrup-Jensen** Aarhus Univ.

Structural Elements Important for Oligomycin Inhibition of the Na^+,K^+-ATPase ***Poster #101***

11:20 - 11:40 **Pablo Artigas** Texas Tech Univ

Effect of two asparagine-lysine substitutions found in the Na/K pump isoform unregulated in hyper salinity-adapted brine shrimp ***Poster #102***

11:40 - 12:00 **Joshua R. Berlin** Rutgers Univ.

Free energy calculations suggest a mechanism for Na^+/K^+-ATPase ion selectivity ***Poster #103***

12:30 - 17:50 ***Excursion / Poster viewing***

18:15 - 18:45 ***Poster 1 min flash talk 1 (104-118)***

18:45 - 20:00 ***Dinner***

20:00 - 21:00 ***Keynote Lecture***

Paul Nissen Aarhus Univ.

Structure and mechanism of P-type ATPases ***#03***

21:00 - 22:30 ***Poster session 1 (odd number)***

TUESDAY, September 26

07:00 - 08:30 ***Breakfast***

Oral session 2: **08:30 - 10:30**
Ca-ATPase and other P2-ATPases

Chair: Giuseppe Inesi

08:30 - 08:40 **Giuseppe Inesi** California Pacific Medical Center
Introductory remarks

08:40 - 09:10 **Hiroshi Suzuki** Asahikawa Medical Univ.
Structure/function of Ca-ATPase revealed by mutations, kinetics, and structural analyses of reaction intermediates ***#09***

09:10 - 09:40 **Rajini Rao** Johns Hopkins Univ.
Tumor Suppressor Role of SPCA2 in Breast Cancer ***#10***

09:40 - 10:10 **David D. Thomas** Univ. of Minnesota
Therapeutic Discovery Based on SERCA Structural Dynamics ***#11***

10:10 - 10:30 **Jialin Chen** KU Leuven
Regulation of the secretory pathway Ca^{2+} ATPase SPCA1a and SPCA2 by Ca^{2+} and Orai1 ***Poster #150***

10:30 - 10:50 ***Coffee break***

10:50 - 12:10 ***Poster 1 min flash talk 2 (121-149, 151-159, 163, 167-172)***

12:30 - 17:50 ***Excursion / Poster viewing***

18:15 - 18:45 ***Poster 1 min flash talk 3 (175-188, 189-191, 192-196)***

18:45 - 20:00 ***Dinner***

20:00 - 21:00 ***Keynote Lecture***

Chikashi Toyoshima Univ. of Tokyo
Crystal structure analysis of Ca^{2+}- and Na^{+},K^{+}-ATPases ***#04***

21:00 - 22:30 ***Poster session 2 (even number)***

WEDNESDAY, September 27

07:00 - 08:30 ***Breakfast***

Oral session 3: **08:30 - 12:10**
P4-ATPase (Flippase) - structure, function, cell biology and disease

Chair: Todd R. Graham

08:30 - 08:40 **Todd R. Graham** Vanderbilt Univ.
Introductory remarks

08:40 - 09:10 **Todd R. Graham** Vanderbilt Univ.
Novel substrates and Transport Mechanisms for P4-ATPases ***#12***

09:10 - 09:40 **Hye-won Shin** Kyoto Univ.
Specific substrates for P4-ATPases and their regulation in mammalian cells ***#13***

09:40 - 10:10 **Guillaume Lenoir** CEA / CNRS
Regulation of a yeast P4-ATPase by its terminal extensions ***#14***

10:10 - 10:30 ***Coffee break***

10:30 - 11:00 **Katsumori Segawa** Osaka Univ.
Function and regulation of plasma membrane phospholipid flippases ***#15***

11:00 - 11:30 **Jens Peter Andersen** Aarhus Univ.
On the track of the lipid transport pathway of the phospholipid flippase ATP8A2 ***#16***

11:30 - 11:50 **Yuji Hara** Kyoto Univ.
The role of phospholipid flippase in myotube formation ***Poster #165***

11:50 - 12:10 **Tomoki Naito** Kyoto Univ.
Identification of mammalian glucosylceramide flippase and its transport mechanism ***Poster #166***

12:30 - 17:30 ***Excursion / Poster viewing***

17:45 - 18:45 ***Poster session 3 (odd number)***

18:45 - 20:00 ***Dinner***

Oral session 4: **20:00 - 21:40**
Molecular simulations – towards quantitative understanding

Chair: Yuji Sugita

20:00 - 20:10 **Yuji Sugita** RIKEN
Introductory remarks

20:10 - 20:40 **Yuji Sugita** RIKEN
Molecular Dynamics Simulations of Conformational Changes in SR Ca-ATPase ***#17***

20:40 - 21:10 **Himanshu Khandelia** Univ. of Southern Denmark
Proton Movement in the Na, K and H, K ATPase ***#18***

21:10 - 21:40 **Benoît Roux** Univ. of Chicago
Molecular Dynamics Studies of P-type ATPase Ion Pumps ***#19***

21:40 - 22:30 ***Poster session 4 (even number)***

THURSDAY, September 28

07:00 - 08:30 ***Breakfast***

Oral session 5: **08:30 - 12:00**
Na,K-ATPase and H,K-ATPase 2 (physiology and diseases)

Chair: Kathleen Sweadner

08:30 - 08:40 **Kathleen Sweadner** Massachusetts General Hospital
Introductory remarks

08:40 - 09:10 **Anita Aperia** Karolinska Institute
Neuronal Na,K-ATPase in Health and Disease ***#20***

09:10 - 09:40 **Minako Hoshi** Kyoto Univ.
Na, K-ATPase α3 and Alzheimer's Disease ***#21***

09:40 - 10:10 **Kiyoshi Kawakami** Jichi Medical Univ.
Atp1a2-deficient mice as a model of familial hemiplegic migraine ***#22***

10:10 - 10:30 ***Coffee break***

10:30 - 11:00 **Helge H. Rasmussen** Univ. of Sydney

Na-K pump stimulation and FXYD3 suppression as treatment objectives in heart failure and cancer ***#23***

11:00 - 11:30 **Zijian Xie**
(Represented by Sandrine Pierre) Marshall Univ.

Na/K-ATPase-mediated Signal Transduction in Animal Physiology and Disease Progression ***#24***

11:30 - 12:00 **Steven J. D. Karlish** Weizmann Institute of Science

Specific interactions of Na,K-ATPase with lipids – physiological rationale and role in diseases ***#25***

12:30 - 17:30 ***Excursion / Poster viewing***

17:45 - 18:30 ***Poster session 5 (even number)***

18:30 - 19:45 ***Dinner***

Oral session 5: **19:45 - 20:25**
Na,K-ATPase and H,K-ATPase 2 (physiology and diseases)

Chair: Kathleen Sweadner

19:45 - 20:05 **Gustavo Blanco** Univ. of Kansas

Relative contribution of Na,K-ATPase α4 and Na,K-ATPase α1 isoforms to sperm motility ***Poster #119***

20:05 - 20:25 **Evgeny Akkuratov** Royal Institute of Technology

Translational study on disease associated with mutation in ATP1A3 gene ***Poster #120***

Oral session 6: **20:30 - 22:00**
Emerging technologies

Chair: Takayuki Nishizaka

20:30 - 20:40 **Takayuki Nishizaka** Gakushuin Univ.

Introductory remarks

20:40 - 21:10 **Takayuki Nishizaka** Gakushuin Univ.

Application of single-molecule techniques to supramolecular machinery in bacteria and archaea ***#26***

21:10 - 21:40 **Rikiya Watanabe** Univ. of Tokyo

Artificial cell-membrane microsystems for highly sensitive analysis of membrane proteins ***#27***

21:40 - 22:00 **Milena Laban** Aarhus Univ.

Towards a structure of the yeast lipid flippase, Drs2p/Cdc50p, using cryo-electron microscopy ***Poster #164***

22:00 - 22:30 ***Poster session 6 (odd number)***

FRIDAY, September 29

07:00 - 08:30 ***Breakfast***

Oral session 7: **08:30 - 12:10**
Other P-type ATPases including P1, P5-ATPases

Chair: Jack Kaplan

08:30 - 08:40 **Jack Kaplan** Univ. of Illinois at Chicago

Introductory remarks

08:40 - 09:10 **Svetlana Lutsenko** Johns Hopkins Univ.

ATP7A and ATP7B have distinct function in the cellular copper homeostasis ***#28***

09:10 - 09:40 **Jose M. Argüello** Worcester Polytechnic Institute

Expanding the repertoire of P1B-ATPases: Mycobacteria Fe^{2+} ATPases ***#29***

09:40 - 10:10 **Michael Palmgren** Univ. of Copenhagen

Evolution and role of zinc pumps in eukaryotes: Protein activation as the result of inhibition of inhibition ***#30***

10:10 - 10:30 ***Coffee break***

10:30 - 11:00 **David L. Stokes** New York Univ.

Structure and Mechanism of the KdpFABC pump from E. coli ***#31***

11:00 - 11:30 **Peter Vangheluwe** KU Leuven

Novel P-type ATPases as gatekeepers of neuronal health ***#32***

11:30 - 11:50 **Christina Grønberg** Univ. of Copenhagen

Ion-binding to purified and functional human copper transporting P-type ATPase ATP7B ***Poster #173***

11:50 - 12:10 **J. Preben Morth** Univ. of Oslo

Functional characterization of the first primary active magnesium transporter ***Poster #174***

12:10 - 13:00 ***Lunch***

Oral session 8: **13:00 - 15:10**
Pump regulators

Chair: Howard S. Young

13:00 - 13:10 **Howard S. Young** Univ. of Alberta

Introductory remarks

13:10 - 13:40 **Howard S. Young** Univ. of Alberta

Conformational memory in phospholamban regulation of the sarcoplasmic reticulum calcium pump SERCA ***#33***

13:40 - 14:10 **Seth L. Robia** Loyola Univ. Chicago

Structure, Affinity, and Stoichiometry of Micropeptide Regulatory Complexes ***#34***

14:10 - 14:30 **L. Michel Espinoza-Fonseca** Univ. of Minnesota

Structural mechanism for SERCA uncoupling by sarcolipin through the lens of the computational microscope ***Poster #160***

14:30 - 14:50 **Alexander V. Chibalin** Karolinska Institute

The role of FXYD1 protein in energy metabolism ***Poster #161***

14:50 - 15:10 **Chia-chi Liu** Univ. of Sydney

Silencing FXYD3 Protein in Human Pancreatic Cancer Cells Enhances Cytotoxic Effect of Doxorubicin ***Poster #162***

Group photo **: 15:10 - 15:30**

Closing session **: 15:30 - 16:20**

15:30 - 15:50 ***Summary & perspective lecture***

Jack Kaplan Univ. of Illinois at Chicago

15:50 - 16:10 ***Award presentation ceremony***

16:10 - 16:20 **Closing remarks**

18:00 - 21:00 ***Biwa lake banquet***

SATURDAY, September 30

07:00 - 08:30 ***Breakfast***

- 11:00 ***Departure***

**Rooms must be empty by 11:00*