

第2日目12月2日(木)

2AS-01 Room 01 (Pacifco Yokohama Conference Center, 1F, Main Hall) 9:00-11:15 [E]

Frontiers in Sleep and Hibernation Research

Organizer : Masashi Yanagisawa (University of Tsukuba)

2AS-01-Introduction [9:00]

Masashi Yanagisawa (University of Tsukuba)

2AS-01-1 [9:02]

Analyses of the mechanism and function of REM sleep

Yu Hayashi^{1,2}(¹Grad. Sch. of Med., Kyoto Univ., ²WPI-IHIS, Univ. of Tsukuba)

2AS-01-2 [9:28]

Toward the molecular basis for "sleepiness."

Masashi Yanagisawa (WPI-IHIS, Univ. of Tsukuba)

2AS-01-3 [9:54]

Systems Biology of Mammalian Sleep/Wake Cycles: Phosphorylation Hypothesis of Sleep

Hiroki R. Ueda^{1,2}(¹Systems Pharmacology, Graduate School of Medicine, ²Laboratory for Synthetic Biology, Center for Biosystems Dynamics Research)

2AS-01-4 [10:20]

A mammalian hibernator Syrian hamster exhibits hepatic cold resistance with the aid of superior ability in retaining vitamin E

Yoshifumi Yamaguchi (HIB., Insti. Low. Temp. Sci., Hokkaido Univ.)

2AS-01-5 [10:46]

Hypothalamic neuronal system that induces regulated hypometabolic state

Takeshi Sakurai (University of Tsukuba)

2AS-01-Conclusion [11:12]

Masashi Yanagisawa (University of Tsukuba)

2AS-02 Room 02 (Pacifco Yokohama Conference Center, 3F, 301) 9:00-11:15 [E]

Co-hosted by: Grant-in-Aid for Scientific Research on Innovative Areas "New frontier for ubiquitin biology driven by chemo-technologies"

Breakthroughs in the ubiquitin research accelerated by chemo-technologies

Organizers : Yasushi Saeki (Tokyo Metropolitan Institute of Medical Science)

Mikihiko Naito (The University of Tokyo)

2AS-02-Introduction [9:00]

Yasushi Saeki (Tokyo Metropolitan Institute of Medical Science)

2AS-02-1 [9:02]

Understanding the ubiquitin-proteasome system by advanced proteomics

Yasushi Saeki, Hikaru Tsuchiya, Takuya Tomita, Akinori Endo (Prot. Metab. Project, TMiMS)

2AS-02-2 [9:18]

Molecular mechanism and physiological function of Quality Control to recognize and eliminate aberrant translation

Toshifumi Inada (Institute of Medical Science, The University of Tokyo)

2AS-02-3 [9:34]

Regulation of inflammation and ubiquitin esterification by the RBR ubiquitin ligase HOIL-1L

Carlos Gomez Diaz², Alan Rodriguez Carvajal², Mayu Seida¹, Akiko Okumura¹, Fumiyo Ikeda^{1,2}(¹Medical Institute of Bioregulation, Kyushu University, ²IMBA)

2AS-02-4 [9:50]

Ubiquitin-chemotechnology powered by organic chemistry and molecular evolution

Gosuke Hayashi (Dept. of Biomol. Eng., Grad. Sch. of Eng., Nagoya Univ.)

2AS-02-5 [10:06]

A targeted protein knockdown by using the power of plants

Masato Kanemaki^{1,2}(¹Nat. Ins. Genet., ²Dep. Genet., SOKENDAI)

2AS-02-6 [10:22]

Branched ubiquitin chains promote chemically-induced targeted protein degradation

Fumiaki Ohtake^{1,2}, Ai Kaiho-Soma¹, Yoshino Akizuki² (¹Institute for Advanced Life Sciences, Hoshi University, ²School of Pharmacy and Pharmaceutical Sciences, Hoshi University)

2AS-02-7 [10:38]

Molecular mechanisms of cereblon-based drugs

Takumi Ito, Tomoko Asatsuma-Okumura, Hiroshi Handa (Dept. of Chem. Biol., Tokyo Med. Univ.)

2AS-02-8 [10:54]

Development of Highly Selective Anti-Cancer Drugs by Targeted Protein Degradation.

Mikihiko Naito (Dept. of TPD., Grad. Sch. of Pharm. Sci., Univ. of Tokyo)

2AS-02-Discussion [11:10]

2AS-03 Room 03 (Pacifco Yokohama Conference Center, 3F, 302) 9:00-11:15 [E]

Epigenetic botanical garden-towards next stage

Organizers : Yuichiro Watanabe (The University of Tokyo)

Reina Komiya (Okinawa Institute of Science and Technology Graduate University)

2AS-03-Introduction [9:00]

Yuichiro Watanabe (The University of Tokyo)

2AS-03-1 [9:03]

Investigating the molecular basis of spontaneous epiallele formation in plants

Robert Schmitz (University of Georgia)

2AS-03-2 [9:38]

Epigenetic regulation of intragenic transposons and gene transcription in plant genomes

Hidetoshi Saze (Plant Epigenetics Unit, OIST)

2AS-03-3 [9:53]

Plastic plant sex, orchestrated by epigenetic fluctuation

Takashi Akagi (Okayama University)

2AS-03-4 [10:08]

Pervasive non-coding transcription by Pol V suggesting a genome surveillance mechanism

Masayuki Tsuzuki^{1,2} (¹Grad. Sch. of Arts Sci., Univ. of Tokyo, ²MCDB, Univ. of Michigan)

2AS-03-5 [10:23]

RNA silencing in male organ development

Reina Komiya^{1,2}, Hinako Tamotsu¹, Koji Koizumi³, Saori Araki¹ (¹OIST., STG, ²PRESTO., JST, ³OIST., SIS)

2AS-03-6 [10:38]

Landscape of Transcription Termination in Arabidopsis Revealed by Single-molecule Nascent RNA Sequencing

Jixian Zhai (School of Life Sciences, Southern University of Science and Technology, Shenzhen, China)

2AS-03-Conclusion [11:13]

Reina Komiya (Okinawa Institute of Science and Technology Graduate University)

2AS-04 Room 04 (Pacifco Yokohama Conference Center, 3F, 303) 9:00-11:15 [E]

Supported by: Grant-in-Aid for Transformative Research Areas (B) Parametric Translation

Parametric Biology Based on Translation Rate Control

Organizers : Masao Doi (Kyoto University)

Yoshie Harada (Osaka University)

2AS-04-Introduction [9:00]

Masao Doi (Kyoto University)

2AS-04-1 [9:03]

Gravity activates mitochondrial translation through cell adhesion-FAK axis

Shintaro Iwasaki^{1,2} (¹RIKEN Cluster for Pioneering Research, ²Department of Computational Biology and Medical Sciences, Graduate School of Frontier Sciences, The University of Tokyo)

2AS-04-2 [9:21]

Dissecting gene regulatory networks with CiBER-Seq

Ryan Muller, Zuriyah A Meacham, Lucas Ferguson, **Nicholas Ingolia** (Dept of Molecular and Cell Biology, Univ of California, Berkeley)

2AS-04-3 [9:51]

Ribosome dynamics captured by deep sequencing and deep learning

Liana Lareau (Univ of California, Berkeley)

2AS-04-4 [10:21]

Parametric entrainment of the circadian clock via altering translational velocity

Takahito Miyake, Yuichi Inoue, Masao Doi (Dept. of Syst. Biol., Grad. Sch. of Pharm. Sci., Kyoto Univ.)

2AS-04-5 [10:39]

Intracellular thermal signaling regulates translation

Beini Shi¹, Naoko Kamiya¹, Takashi Funatsu¹, **Kohki Okabe**^{1,2} (¹Grad. Sch. of Pharm. Sci., Univ. of Tokyo, ²PRESTO, JST)

2AS-04-6 [10:57]

Organoids-on-a-chip models for understanding neuronal circuits and underlying protein synthesis regulations

Yoshiho Ikeuchi^{1,2} (¹IIS, Univ. Tokyo, ²Inst. AI and Beyond, Univ. Tokyo)

2AS-05 Room 05 (Pacifco Yokohama Conference Center, 3F, 304) 9:00-11:15 [E]

Co-hosted by: Japanese Vascular Biology and Medicine Organization

Vascular Network System as a Frontline in Biological Defense

Organizers : Tetsuro Watabe (Tokyo Medical and Dental University)
Masayuki Yoshida (Tokyo Medical and Dental University)

2AS-05-Introduction [9:00]

Masayuki Yoshida (Tokyo Medical and Dental University)

2AS-05-1 [9:03]

The Down syndrome-related gene sets regulate vascular inflammation via a cytokine storm

Takashi Minami (Div. of Mol.Vasc.Biol. IRDA, Kumamoto Univ.)

2AS-05-2 [9:25]

Development of novel therapeutic strategies for intractable vascular diseases via regulation of inflammatory signaling

Yoshikazu Nakaoka (Nat. Cereb. and Cardiovasc Ctr. RI. Dept. of Vasc. Physiol.)

2AS-05-3 [9:47]

Vaccine development from infectious diseases to common diseases

Hironori Nakagami (Grad.Sch. of Med, Osaka Univ.)

2AS-05-4 [10:09]

Disruption of Endothelial TGF- β /BMP signal balance impairs vascular Homeostasis

Fumiko Itoh (Tokyo Univ. Pharm. Life Sci.)

2AS-05-5 [10:31]

Roles of signaling and transcriptional networks during maintenance of vascular systems

Tetsuro Watabe (Dept. Biochem., Grad. Sch. Med. Dent., Tokyo Med. & Dent. Univ.)

2AS-05-6 [10:53]

Vascular integrity by resident endothelial stem cell population

Nobuyuki Takakura (Dept. of Signal Transduction, RIMD, Osaka Univ.)

2AS-16 Room 16 (Pacifco Yokohama Conference Center, 5F, 502) 9:00-11:15 [E]

Fetomaternal interactions in development

Organizers : Toshihiko Fujimori (National Institute for Basic Biology)
Guojun Sheng (Kumamoto University)

2AS-16-Introduction [9:00]

Guojun Sheng (Kumamoto University)

2AS-16-1 [9:05]

Cooperative interaction between two retrovirus-derived genes, Peg10 and Peg11/Rtl1, in the feto-maternal interface of placenta

Fumitoshi Ishino¹, Hirotsuke Shiura², Takashi Kohda², Tomoko Kaneko-Ishino³ (¹Res. Inst., Tokyo Med. Dent. Univ. (TMDU), ²Fac. of Life Environ. Sci., Yamanashi Univ., ³Sch. of Med., Tokai Univ.)

2AS-16-2	[9:30]
Epithelial-Mesenchymal Transition mediates mesothelial fusion during chorioallantoic membrane formation	
Hiroki Nagai, Guojun Sheng (IRCMS, Kumamoto University)	
2AS-16-3	[9:55]
Intrauterine pressures cushioned by Reichert's membrane are crucial for early mouse morphogenesis	
Isao Matsuo, Chiharu Kimura-Yoshida, Yoko Ueda (Reserch Inst., Osaka W & C Hospital)	
2AS-16-4	[10:20]
Morphological changes of the uterine luminal epithelium during mouse implantation	
Toshihiko Fujimori (Div. of Embryology, NIBB)	
2AS-16-5	[10:45]
Deciphering the mechanisms of how primates are formed	
Hongmei Wang ^{1,2,3,4} (State Key Laboratory of Stem Cell and Reproductive Biology, Institute of Zoology, Chinese Academy of Sciences, ² University of Chinese Academy of Sciences, ³ Institute for Stem Cell and Regeneration, Chinese Academy of Sciences, ⁴ Beijing Institute for Stem Cell and Regenerative Medicine)	
2AS-16-Conclusion	[11:10]
Toshihiko Fujimori (National Institute for Basic Biology)	
2AS-17 Room 17 (Pacifco Yokohama Conference Center, 5F, 503)	9:00-11:15 [E]
Phagocytic Transdifferentiation: A Novel Insight into Evolution and Cell Diversity	
Organizers : Sho Morioka (Gifu University) Kumiko Tsukui (National Institute of Infectious Diseases)	
2AS-17-Introduction	[9:00]
Sho Morioka (Gifu University)	
2AS-17-1	[9:03]
Chimeric efferocytosis receptor promotes efferocytosis and alleviates inflammatory disorders	
Yusuke Yamaoka ^{1,2} , Shinji Tanaka ¹ , Brady Barron ³ , Mark D. Okusa ¹ , Kodi S. Ravichandran ³ , Sho Morioka ^{1,4} (¹ Dept. of Med., Sch. of Med., Univ. of Virginia, ² Dept. of PID., Grad. Sch of Med., Gifu University, ³ Dept. of MIC., Sch. of Med., Univ. of Virginia, ⁴ Domain of Integrated Life Systems, Center for Highly Advanced Integration of Nano and Life Sciences (G-CHAIN), Gifu University)	
2AS-17-2	[9:23]
Specialized pro-resolving mediators in atherosclerosis and efferocytosis	
Gabrielle Fredman (Dept of Mol. and Cell Phy, Albany Medical College)	
2AS-17-3	[9:43]
Molecular mechanisms of trogocytosis in unicellular eukaryotes	
Kumiko Nakada-Tsukui ¹ , Kumiko Shibata ^{1,2} , Natsuki Watanabe ² , Satoki Itsuji ² , Yuka Uesugi ² , Misato Shimoyama ² , Tomoyoshi Nozaki ² (¹ Dept. of Parasitol., Natl. Inst. Infect. Dis., ² Dept. of Biomed. Chem., Grad. Sch. of Med., Univ. of Tokyo)	
2AS-17-4	[9:53]
Diversity and evolution of the phagocytosing eubacterium <i>Candidatus Uab amorphum</i>	
Takashi Shiratori (University of Tsukuba)	
2AS-17-5	[10:13]
The role of erythrophagocytosis by microglia in brain development	
Ryuta Koyama (Lab. Chem. Pharmacol., Grad. Sch. Pharmaceut. Sci., Univ. of Tokyo)	
2AS-17-6	[10:33]
Basophils gain the capacity of antigen presentation via trogocytosis-mediated transfer of peptide-MHC class II complexes from DCs	
Kensuke Miyake, Hajime Karasuyama (Advanced Research Institute, Tokyo Med. Dent. Univ.)	
2AS-17-7	[10:53]
PD-L1/L2 protein levels rapidly increase on monocytes via trogocytosis from tumor cells in classical Hodgkin lymphoma	
Ai Kotani ¹ , Masaharu Kawashima ² (¹ Adv. Med. Sci. Tokai Univ, Sch. of Med., ² Dept. Oncol and Hematol. Jikei Med. Univ.)	
2AS-17-Conclusion	[11:13]
Sho Morioka (Gifu University)	

2PS-16 Room 16 (Pacifico Yokohama Conference Center, 5F, 502)

15:45-18:00 [E]

Molecular bases of membrane remodeling and organizationOrganizers : Shiro Suetsugu (Nara Institute of Science and Technology)
Tetsuya Takeda (Okayama University)

2PS-16-1

[15:45]

Extracellular vesicles by filopodia, Filopodium-Derived Vesicles, by the I-BAR domain proteins

Shiro Suetsugu, Takuya Oyama, Hooi Ting Hu, Toshifumi Fujioka, Tamako Nishimura (Div. Biol. Sci., Grad. Sch. of Sci. Tech., Nara Inst. Sci. Tech. (NAIST))

2PS-16-2

[16:02]

Theoretical model of cell spreading and migration dynamics driven by curved nucleators of actinNir Gov¹, Samo Penic², Ales Iglc², Rajkumar Sadhu¹, Yoav Ravid¹ (¹Department of Chemical and Biological Physics, Weizmann Institute, Rehovot, Israel, ²Laboratory of Physics, Faculty of Electrical Engineering, University of Ljubljana)

2PS-16-3

[16:25]

Mechanisms underlying the oncogenic signal-mediated exosome upregulationChitose Oneyama^{1,2,3} (¹Div. of Can. Cell Reg., Aichi Can. Ctr., ²Dep. of Targ. and Drug Disc., Grad. Sch. of Med., Nagoya Univ., ³Dep. of Oncol., Grad. Sch. of Pharm. Sci., Nagoya City Univ.)

2PS-16-4

[16:43]

Mechanisms for biogenesis and release of apical and basolateral exosomes from epithelial cells

Mitsunori Fukuda (Lab. of Membr. Trafficking Mech., Grad. Sch. of Life Sci., Tohoku Univ.)

2PS-16-5

[17:01]

Intracellular membrane remodeling in Flavivirus infected cells

Eiji Morita (Dept. of Biochem. & Mol. Biol., Agri & Life Sci., Hirosaki Univ.)

2PS-16-6

[17:19]

Reconstitution approaches to elucidate pathogenesis of congenital myopathy caused by defective membrane remodeling

Tetsuya Takeda (Grad. Sch. of Med. Dent. Pharma. Sci., Okayama Univ.)

2PS-16-7

[17:37]

Aggregation-Dependent Endocytosis

Harvey McMahon (MRC-LMB)

2PS-17 Room 17 (Pacifico Yokohama Conference Center, 5F, 503)

15:45-18:00 [E]

Technology, genomics, computational biology approach towards ncRNA functions

Organizer : Piero Carninci (RIKEN)

2PS-17-Introduction

[15:45]

Piero Carninci (RIKEN)

2PS-17-1

[15:50]

Structural and chemical modification requirements for SINEUP, antisense RNA that enhance translationNaoko Toki¹, Harshita Sharma¹, Matthew Valentine¹, Stefano Gustincich², Hazuki Takahashi¹, Piero Carninci¹ (¹RIKEN Center for Integrative Medical Sciences, ²Istituto Italiano di Tecnologia)

2PS-17-2

[16:15]

Biological dynamics mediated by RNA modification and epitranscriptomics

Tutomu Suzuki (Dept. of Chem. & Biotech., Grad. Sch. of Eng., Univ. of Tokyo)

2PS-17-3

[16:40]

Nanopore direct RNA Sequencing as a new paradigm for studying RNA modifications

Tommaso Leonardi (Italian Institute of Technology)

2PS-17-4

[17:05]

RNA circles with minimized immunogenicity as potent PKR inhibitorsChu-Xiao Liu¹, Si-Kun Guo¹, Fang Nan², Yi-Feng Xu¹, Li Yang^{2,3}, Ling-Ling Chen^{1,3,4} (¹State Key Laboratory of Molecular Biology, Shanghai Key Laboratory of Molecular Andrology, CAS Center for Excellence in Molecular Cell Science, Shanghai Institute of Biochemistry and Cell Biology, University of Chinese Academy of Sciences, Chinese Academy of Sciences, ²CAS Key Laboratory of Computational Biology, Shanghai Institute of Nutrition and Health, Shanghai Institutes for Biological Sciences, University of Chinese Academy of Sciences, Chinese Academy of Sciences, ³School of Life Science and Technology, ShanghaiTech University, ⁴School of Life Science, Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences)

2PS-17-5**[17:30]****SINEUPs: a new functional class of natural and synthetic antisense, long non-coding RNAs that activate translation.**

Stefano Gustincich¹, Stefano Espinoza¹, Carlotta Bon¹, Paola Valentini¹, Sabrina D'Agostino¹, Bianca Pierattini^{1,2}, Abraham Matey², Massimiliano Volpe¹, Gloria Ros³, Francesca Persichetti³, Hazuki Takahashi^{4,5}, Diego Cotella³, Remo Sanges², Piero Carninci^{4,5}, Claudio Santoro³ (¹Istituto Italiano di Tecnologia, ²Area of Neuroscience, SISSA, ³Dipartimento di Scienze della Salute, Università del Piemonte Orientale, ⁴Laboratory for Transcriptome Technology, RIKEN Center for Integrative Medical Sciences, ⁵Functional Genomics Laboratory, Graduate School of Medical Life Science, Yokohama City University)

2PS-17-Conclusion**[17:55]****Piero Carninci** (RIKEN)