SL8  Mitochondria in fetal programming of metabolic syndrome-associated end organ dysfunctions in adults

Julie YH Chan¹, Yung-Mei Chao¹, You-Lin Tain²
¹Institute for Translational Research in Biomedicine, Kaohsiung Chang Gung Memorial Hospital, Taiwan, ²Department of Pediatric Nephrology, Kaohsing Chang Gung Memorial Hospital, Taiwan

SL9  Modeling Human Neurological/Psychiatric Disorders using iPS cells and Transgenic Non-Human Primates

Hideyuki Okano
Department of Physiology, Keio University School of Medicine, Japan
Symposium60

March 31, Sun., 8:00-9:30
[Room C] 3F, Conference Center

S60  Hibernation and Torpor in mammals

Chair:  Yoshifumi Yamaguchi (Hokkaido University, Japan)
Co-Chair:  Genshiro A Sunagawa (RIKEN Center for Biosystems Dynamics Research, Japan)

S60-1  Daily torpor in mice as a model of active hypometabolism
Genshiro A Sunagawa
Laboratory for Retinal Regeneration, RIKEN Center for Biosystems Dynamics Research, Japan

S60-2  Hypothalamic control of mouse daily torpor
Hiroshi Yamaguchi, Luis De Lecea
Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, USA

S60-3  Cold-inducible RNA-binding protein may participate in cold tolerance in hibernating hamsters
Yasutake Shimizu1,2), Yuuki Horii3), Hiroki Shimaoka3), Takahiko Shiina3)
1Department of Basic Veterinary Science, Laboratory of Physiology, The United Graduate School of Veterinary Sciences, Gifu University, Japan, 2Center for Highly Advanced Integration of Nano and Life Sciences (G-CHAIN), Gifu University, Japan

S60-4  IPSCs from hibernators: a way to study hibernation-related cell protection mechanisms
Jingxing Ou, Wei Li
National Eye Institute, National Institute of Health, USA

S60-5  Systemic body remodelling preceding hibernation in a mammalian hibernator, Syrian hamster
Yoshifumi Yamaguchi1), Daisuke Anegawa1,2), Yuya Sato1,2), Yuichi Chayama3), Lisa Ando3), Shuji Shigenobu3), Yutaka Tamura3), Masayuki Miura3)
1Institute of Low Temperature Science, Hokkaido University, Japan, 2Department of Genetics, Graduate School of Pharmaceutical Science, The University of Tokyo, Japan, 3National Institute of Basic Biology, Japan, 4Fukuyama University, Japan
Symposium 61

March 31, Sun., 8:00-9:30

[Room D] 4F, Conference Center

S61 The Social Brain: Recent Progress in Understanding Molecules and Networks of Social Behavior

Chair: Sonoko Ogawa (University of Tsukuba, Japan)
Co-Chair: Nandini Vasudevan (University of Reading, UK)

S61–1 Non-genomic action by gonadal steroids drives social behaviours
   Nandini Vasudevan
   School of Biological Sciences, University of Reading, UK

S61–2 Neuroendocrine Regulation of Neural Networks for Social Behavior
   Sonoko Ogawa
   Laboratory of Behavioral Neuroendocrinology, University of Tsukuba, Japan

S61–3 Serotonin interactions with the gonadotropin-inhibitory hormone system during social isolation
   Tomoko Soga
   Brain Research Institute, School of Medicine and Health Science, Monash University, Malaysia

S61–4 The Neurobiology of Pair Bonding in Monogamous Prairie Voles
   Larry James Young\textsuperscript{1,2}
   \textsuperscript{1}Center for Social Neural Networks, University of Tsukuba, Japan, \textsuperscript{2}Center for Translational Social Neuroscience, Department of Psychiatry and Behavioral Sciences, Emory University, USA
Symposium 62

March 31, Sun., 8:00-9:30  
[Room E] 4F, Conference Center

S62  
Integrative neural processing of sound information in the higher auditory centers

Chair: Munenori Ono (Kanazawa Medical University, Japan)  
Co-Chair: Ling Qin (China Medical University, China)

S62-1  
Excitatory and inhibitory neural circuits in the auditory midbrain  
Munenori Ono  
Department of Physiology, Kanazawa Medical University, Japan

S62-2  
Characterization of the secondary auditory field in the mouse auditory cortex  
Hiroaki Tsukano  
Department of Neurophysiology, Brain Research Institute, Niigata University, Japan

S62-3  
Acute restraint stress alters sound-evoked neural responses in the rat auditory cortex  
Ma Lanlan, Jiaozhen Zhang, Ling Qin  
Department of Physiology, China Medical University, China

S62-4  
Sound representation of long-lasting sustained activity in rat auditory cortex  
Tomoyo Isoguchi Shiramatsu, Hirokazu Takahashi  
Research Center for Advanced Science and Technology, The University of Tokyo, Japan
### S63 Implication of tonic inhibition for Brain function

*Chair:  Bo-Eun Yoon (Dankook University, Korea)  
Co-Chair: C. Justin Lee (Korea Institute of Science and Technology, Korea)*

| S63-1 | Function of cerebellar tonic inhibition  
Bo-Eun Yoon  
Department of Molecular Biology, Dankook University, Korea |
| S63-2 | Pathophysiological impact of diverse deregulation of tonic inhibition in Angelman syndrome  
Kiyoshi Egawa¹, Atsuo Fukuda²  
¹Department of Pediatrics, Hokkaido University School of Medicine, Japan, ²Department of Neurophysiology, Hamamatsu University School of Medicine, Japan |
| S63-3 | Critical role of tonic GABA from reactive astrocytes in neurodegenerative diseases  
C. Justin Lee  
Institute for Basic Science, Korea |
| S63-4 | Best1-mediated tonic GABA release alleviating seizure susceptibility in kainate-induced epilepsy  
Jin Bong Park  
Department of Physiology, College of Medicine, Chungnam National University, Korea |
**Symposium64**

**March 31, Sun., 8:00-9:30**

**Room G** 5F, Conference Center

### S64

**New insights into the cellular and molecular mechanisms of neurological diseases using experimental model systems**

**Chair:** Ching-Yi Tsai (Chang Gung Memorial Hospital, Taiwan)

**Co-Chair:** Sujira Mukda (Mahidol University, Thailand)

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| **S64-1** | Modulatory roles of Pnn in glial apoptosis induced by disrupted energy homeostasis during ischemia | Sujira Mukda  
Research Center for Neuroscience, Institute of Molecular Biosciences, Mahidol University, Thailand |
| **S64-2** | Emerging the synaptopathology-based therapies in the environmental-toxin induced rat model of autism | Hui-Ching Lin  
Department and Institute of Physiology, National Yang-Ming University, Taiwan |
| **S64-3** | The roles of microglial on the molecular mechanism of painful diabetic neuropathy in the rat | Idris Long¹, Che Aishah Nazariah Ismail², Che Badariah Ab Aziz², Rapeah Suppian¹  
¹School of Health Sciences, Health Campus, Universiti Sains Malaysia, Malaysia, ²School of Medical Sciences, Health Campus, Universiti Sains Malaysia, Malaysia |
| **S64-4** | Role of PI3K/Akt signaling in experimental brain stem death: Modulations by FLJ10540 and PTEN | Ching-Yi Tsai  
Institute for Translational Research in Biomedicine, Chang Gung Memorial Hospital, Taiwan |
Symposium 65

March 31, Sun., 8:00-9:30

[Room H] 5F, Conference Center

S65 Intervention factors of neuronal irregular development: from gut bacteria to mental situation via chemicals

Chair: Sachiko Yoshida (Toyohashi University of Technology, Japan)
Co-Chair: Yasunari Kanda (National Institute of Health Sciences (NIHS), Japan)

S65-1 Development of in vitro developmental neurotoxicity testing
Yasunari Kanda, Daiju Yamazaki
Division of Pharmacology, National Institute of Health Sciences (NIHS), Japan

S65-2 Prenatal maternal depression and stress on infant temperament at: A disaster research in the USA
Yoko Nomura1,2,3,4,5), Kei Davey5), Patricia Pehme1,2), Jackie Finik1,6), Wei Zhang1,7), Melissa Haung1,2), Jessica Buthmann1,2), Kathryn Dana1,2), Yasunari Kanda5), Sachiko Yoshida6), Kenji Tsuchiya6)
1Queens College, The City University of New York, USA, 2Graduate Center, The City University of New York, USA, 3Department of Psychiatry, Icahn School of Medicine at Mount Sinai, USA, 4Advanced Science Research Center, Japan, 5Bryn Mawr College, USA, 6CUNY Graduate School of Public Health, USA, 7New Jersey City University, USA, 8Division of Pharmacology, National Institute of Health Sciences, Japan, 9Department of Environmental and Life Sciences, Toyohashi University of Technology, Japan, 10Department of Child and Adolescent Psychiatry, Hamamatsu University School of Medicine, Japan

S65-3 Language development is affected by maternal postpartum depression, not by unwanted pregnancy
Kenji J Tsuchiya1,2,3), Sona Sanae Aoyagi2), Yoko Nomura1,3,4,5,6,7), Sachiko Yoshida7), Tomoko Nishimura1,2), Damee Choi1,2), Taeko Harada1,2), Toshiki Iwabuchi1,2), Ryuji Nakahara1,2), Akemi Okumura1,2)
1Research Center for Child Mental Development, Hamamatsu University School of Medicine, Japan, 2United Graduate School of Child Development, Hamamatsu University School of Medicine, Japan, 3Department of Psychology, Queens College, City University of New York, USA, 4Graduate Center, City University of New York, USA, 5Department of Psychiatry, Icahn School of Medicine at Mount Sinai, USA, 6Advanced Science Research Center, CUNY, USA, 7Department of Environmental and Life Sciences, Toyohashi University of Technology, Japan, 8Department of Child and Adolescent Psychiatry, Hamamatsu University School of Medicine, Japan

S65-4 Meconium microbiota is associated with maternal anxiety experienced during pregnancy
Jianzhong Hu1), Jenny Ly2), Wei Zhang2), Yonglin Huang2), Vivette Glover4), Inga Peter1), Yasmin L Hurd5,6,7), Yoko Nomura2,3,5)
1Department of Genetics and Genomic Sciences, Icahn School of Medicine at Mount Sinai, USA, 2Department of Psychology, Queens College, City University of New York, USA, 3Graduate Center, City University of New York, USA, 4Institute of Reproductive and Developmental Biology, Imperial College London, UK, 5Department of Psychiatry, Icahn School of Medicine at Mount Sinai, USA, 6Department of Neuroscience, Icahn School of Medicine at Mount Sinai, USA, 7Department of Pharmacological Sciences, Icahn School of Medicine at Mount Sinai, USA

S65-5 Developmental neurotoxicity and immune abnormality with chemicals and stress exposure on the rat
Sachiko Yoshida1), Yukiko Fueta2), Susumu Ueno3), Yoko Sekino4), Yasunari Kanda6)
1Department of Environmental and Life Sciences, Toyohashi University of Technology, Japan, 2Department of Environmental Management and Control, School of Health Sciences, University of Occupational and Environmental Health, Japan, 3Department of Occupational Toxicology, Institute of Industrial Ecological Sciences, University of Occupational and Environmental Health, Japan, 4Graduate School of Pharmaceutical Sciences, The University of Tokyo, Japan, 5Department of Psychology, Queens College, City University of New York, USA, 6Division of Pharmacology, National Institute of Health Sciences, Japan
# Symposium 66

**Inflammation and Atherosclerosis**

**Chair:** Yi Zhu (Tianjin Medical University, China)
**Co-Chair:** Ding Ai (Tianjin Medical University, China)

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<td>Flow and Atherosclerosis - Roles of MicroRNAs</td>
<td>Jeng-Jiann Chiu</td>
<td>National Health Research Institutes, Taiwan</td>
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<td>S66-2</td>
<td>Nectin-Like Molecules as Novel Regulators in Angiogenesis and Atherosclerosis</td>
<td>Yoshiyuki Rikitake</td>
<td>Laboratory of Medical Pharmaceutics, Kobe Pharmaceutical University, Japan</td>
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<td>S66-3</td>
<td>YAP promotes angiogenesis via STAT3 in endothelial cells</td>
<td>Ding Ai</td>
<td>Department of Physiology, Tianjin Medical University, China</td>
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<td>S66-4</td>
<td>Integrin-YAP/TAZ-JNK cascade mediates atheroprotective effect of unidirectional shear flow</td>
<td>Yi Zhu</td>
<td>Department of Physiology, Tianjin Medical University, China</td>
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Symposium 67
March 31, Sun., 8:00-9:30
[Room J] 2F, Exhibition Hall

S67  The potential roles of NMDAR in neurological and neuropsychiatric disorders: new findings and therapeutic targets

Chair:  Wen-Sung Lai (National Taiwan University, Taiwan)
Co-Chair: Hisashi Mori (University of Toyama, Japan)

S67-1  Roles of D-serine, an endogenous co-agonist of NMDAR in psychiatric and neurodegenerative disorders
Hisashi Mori
Department of Molecular Neuroscience, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Japan

S67-2  The therapeutic potentials and underlying mechanism of sarcosine and RS-D7 in schizophrenia
Wen-Sung Lai¹,²,³)
¹Department of Psychology, National Taiwan University, Taiwan, ²Graduate Institute of Brain and Mind Sciences, National Taiwan University, Taiwan, ³Neurobiology and Cognitive Science Center, National Taiwan University, Taiwan

S67-3  The roles of NMDA receptors in regulating real-time motor control and parkinsonian motor behaviors
Ming-Kai Pan¹,²)
¹Department of Medical Research, National Taiwan University Hospital, Taiwan, ²Department of Neurology, College of Medicine, National Taiwan University, Taiwan

S67-4  Novel mechanism of Ketamine’s rapid action through the cytoplasmic domain of the NMDA receptor
Noboru Komiyama
Centre for Clinical Brain Sciences, University of Edinburgh, UK
Symposium 68

March 31, Sun., 8:00-9:30 | Room K 2F, Exhibition Hall

S68 Pulmonary hypertension and inflammation: the interdependent processes triggered by each other

Chair: Xiaoqun Qin (Central South University, China)
Co-Chair: Qinghua Hu (Tongji Medical College, China)

S68-1 MicroRNA-9 drives the development of severe asthma by modulating the function of lung macrophages
Ming Yang
University of Newcastle, Australia

S68-2 Monocrotaline Induces Pulmonary Hypertension By Targeting the Extracellular Calcium-Sensing Receptor
Qinghua Hu
Department of Pathophysiology, Tongji Medical College, China

S68-3 Endothelial Cell Integrin β4 Knockout Attenuates LPS-Induced Murine Acute Lung Injury
Weiguo Chen, Zhigang Hong, Patrick Belvitch, Jeffrey R Jacobson
Department of Medicine, University of Illinois at Chicago, USA

S68-4 The regulation of pulmonary immunity and stress response by airway expressed adhesion molecules
Xiaoqun Qin, Chi Liu, Yang Xiang, Yurong Tan, Xiangping Qu, Huijun Liu
Department of Physiology, Xiangya School of Medicine, Central South University, China
Symposium 69
March 31, Sun., 8:00-9:30

[Room L] 3F, Exhibition Hall

S69 Optogenetics: Contributions to Physiology and Medicine Beyond Brain Circuit-Breaking

Chair: Hiromu Yawo (Tohoku University Graduate School of Life Sciences, Japan)
Co-Chair: George J. Augustine (Nanyang Technological University, Singapore)

S69-1 Using optogenetics to elucidate the function of pancreatic delta cells
George J. Augustine
Nanyang Technological University, Singapore

S69-2 Optical control of the genome
Moritoshi Sato
Graduate School of Arts and Sciences, The University of Tokyo, Japan

S69-3 Optogenetic study of cell polarity - a simple assay
Takao Nakata
Department of Cell Biology, Tokyo Medical and Dental University, Japan

S69-4 Glial optogenetics for understanding the cross talk between metabolism and information processing
Ko Matsui
Super-network Brain Physiology, Graduate School of Life Sciences, Tohoku University, Japan

S69-5 Organelle-optogenetics - direct manipulation of intracellular Ca\textsuperscript{2+} dynamics by light
Hiromu Yawo\textsuperscript{1)}, Toshifumi Asano\textsuperscript{2)}, Hiroyuki Igarashi\textsuperscript{3)}, Toru Ishizuka\textsuperscript{1)}
\textsuperscript{1}Department of Integrative Life Sciences Developmental Biology and Neurosciences, Tohoku University Graduate School of Life Sciences, Japan, \textsuperscript{2}Department of Cell Biology, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University (TMDU), Japan, \textsuperscript{3}Department of Physiology and Pharmacology, Schulich School of Medicine and Dentistry, Robarts Research Institute, Western University, Canada
S70  Contribution of brain research to the understanding of the physiology, psychology and communication of acute and chronic pain

Chair: Mathieu Piché (Université du Québec à Trois-Rivières, Canada)
Co-Chair: Pierre Rainville (University of Montreal, Canada)

S70-1  Imaging pain in the human brain: classical debates revisited with new methods
Pierre Rainville¹,²)
¹Department of Stomatology, University of Montreal, Canada, ²Centre de recherche, Institut universitaire de gériatrie de Montréal, Canada

S70-2  The cerebral correlates of pain decoding: from overexposure to other people’s pain to empathy
Philip L. Jackson
School of Psychology, Laval University, Canada

S70-3  Improving cognitive pain inhibition using neuromodulation of the dorsolateral prefrontal cortex
Alice Wagenaar-Tison
Department of Chiropractic, Université du Québec à Trois-Rivières, Canada

S70-4  Influence of inflammation on cardiac responses to skeletal muscle stimulation
Nobuhiro Watanabe, Harumi Hotta
Department of Autonomic Neuroscience, Tokyo Metropolitan Institute of Gerontology, Japan
Symposium71 (Local Organizing Committee Symposium)

March 31, Sun., 10:30-12:30

[Room A] 1F, Conference Center

S71 Toward understanding the neural basis of memory
(Co-organized by the Japan Neuroscience Society)

Organizers: Kazuhiro Nakamura (Nagoya University Graduate School of Medicine, Japan)
Michisuke Yuzaki (Nagoya University Graduate School of Medicine, Japan)
(Chair) Kaoru Inokuchi (University of Toyama, Japan)
(Chair) Naoki Matsuo (Osaka University, Japan)

S71-1 Robustness and Flexibility of Neuronal Ensembles in Memory
Naoki Matsuo
Graduate School of Medicine, Osaka University, Japan

S71-2 Association and identity of memory
Kaoru Inokuchi
Faculty of Medicine, University of Toyama, Japan

S71-3 Understanding Synaptic Basis of Learning and Memory
Bong-Kiun Kaang
School of Biological Sciences, Seoul National University, Korea

S71-4 Social memory engram in the hippocampus
Teruhiro Okuyama
Institute for Quantitative Biosciences (IQB), The University of Tokyo, Japan

S71-5 Hippocampal encoding of spatial information of self and other
Shigeyoshi Fujisawa
RIKEN Center for Brain Science, Japan
S72 Neurobiology of reward system in the Brain (ISPP, Iran)

Chairs: Abbas Haghparast (Shahid Beheshti University of Medical Sciences, Iran)
Abdolrahman Sarihi (Hamadan University of Medical Science, Iran)

S72-1 Effects of Stress on Brain Reward Centres and Circadian Rhythms
Dipesh Chaudhury
New York University Abu Dhabi (NYUAD), United Arab Emirates

S72-2 Roles of Parvalbumin interneurons in ventral hippocampus in social behavior and memory
Jing Liang\textsuperscript{1,2)}
\textsuperscript{1}Institute of Psychology, Chinese Academy of Sciences, China, \textsuperscript{2}Department of Psychology, University of Chinese Academy of Sciences, China

S72-3 Brain Orexinergic System and Reward-related Behaviors
Abbas Haghparast
Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Iran

S72-4 Early detection and intervention on methamphetamine addiction: Towards biobehavioral markers
Yonghui Li
Institute of Psychology, Chinese Academy of Sciences, China

S72-5 Specificity in the Role of Different Metabotropic Glutamate Receptor Subtypes in Reward Circuitry
Abdolrahman Sarihi\textsuperscript{1)}, Nahid Roohi\textsuperscript{1)}, Negar Baharloui\textsuperscript{1)}, Mahsaneh Vatankhah\textsuperscript{1}}, Abass Haghparast\textsuperscript{2)}
\textsuperscript{1}Neurophysiology Research Center, Hamadan Uni. of Med. Sci., Iran, \textsuperscript{2}Neuroscience Research Center, Shahid Beheshti University of Medical Sciences, Iran
Sponsored Symposium
Symposium73
March 31, Sun., 10:30-12:30
[Room C] 3F, Conference Center

S73 New Twists in Understanding Taste

(Com-sponsored by AJINOMOTO CO., INC.)

Chairs: Yuzo Ninomiya (Kyushu University, Japan)
Robert F. Margolskee (Monell Chemical Senses Center, USA)

S73-1 Gingival solitary chemosensory cells serve as immune sentinels to protect against periodontitis
Robert F. Margolskee
Monell Chemical Senses Center, USA

S73-2 Structural basis of amino acid-perception by T1r taste receptors
Atsuko Yamashita
Division of Pharmaceutical Sciences, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan

S73-3 Ion channel synapses of the taste bud
Akiyuki Taruno, Zhongming Ma, Makoto Ohmoto, Mizuho A. Kido, Michael G. Tordoff, Ichiro Matsumoto, J. Kevin Foskett
1Department of Molecular Cell Physiology, Kyoto Prefectural University of Medicine, Japan, 2JST, PRESTO, Japan, 3Department of Physiology, University of Pennsylvania, USA, 4Monell Chemical Senses Center, USA, 5Department of Anatomy and Physiology, Saga University, Japan

S73-4 Novel taste sensory pathways for sugars and fatty acids in the mouse periphery
Yuzo Ninomiya, Keiko Yasumatsu, Shusuke Iwata, Ryusuke Yoshida
1Division of Sensory Physiology, R&D Center for Five-Sense Devices, Kyushu University, Japan, 2Monell Chemical Senses Center, USA, 3Department of Oral Physiology, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan
The Symposium 74 (International Scientific Program Committee Symposium)

March 31, Sun., 10:30-12:30  
[Room D] 4F, Conference Center

S74  The consequences of preterm birth, intrauterine growth restriction and hypoxia-ischemia (PSNZ, New Zealand)

Chair: Laura Bennet (The University of Auckland, New Zealand)

S74-1  Therapeutic potential of recombinant human erythropoietin for hypoxic-ischaemic encephalopathy

Simerdeep Kaur Dhillon, Guido Wassink, Christopher A Lear, Joanne O Davidson, Alistair J Gunn, Laura Bennet  
The University of Auckland, New Zealand

S74-2  A vessel’s a vessel, no matter how small: microvascular tone regulation in the preterm neonate

Rebecca Maree Dyson1,2), Ian MR Wright3), Max J Berry1,2)  
1Department of Paediatrics & Child Health, University of Otago Wellington, New Zealand, 2Centre for Translational Physiology, University of Otago Wellington, New Zealand, 3Illawarra Health and Medical Research Institute, University of Wollongong, Australia

S74-3  High prevalence, low severity problems with neurodevelopment after common complications of pregnancy

Julia B Pitcher, Jago M Van Dam  
Robinson Research Institute, Adelaide Medical School, University of Adelaide, Australia

S74-4  Longer half-life phosphodiesterase 5 inhibitor, tadalafil therapy for fetal growth restriction

Tomoaki Ikeda  
Department of Obstetrics and Gynecology, Mie University Graduate School of Medicine, Japan
Symposium75

March 31, Sun., 10:30-12:30

[Room E] 4F, Conference Center

S75 Ca\(^{2+}\)-permeable channels of excitable and non-excitable cells in health and disease

Chair: Masayuki X Mori (Kyoto University, Japan)

S75-1 Ca-secretion coupling at mammalian CNS synapses
Takeshi Sakaba
Graduate School of Brain Science, Doshisha University, Japan

S75-2 CELF1 mediates connexin 43 mRNA degradation in dilated cardiomyopathy
Guey-Shin Wang\(^1\), Kuei-Ting Chang\(^1\), Ching-Feng Cheng\(^2,3\), Pei-Chih King\(^1\)
\(^1\)Institute of Biomedical Sciences, Academia Sinica, Taiwan, \(^2\)Department of Medical Research, Tzu Chi General Hospital, Taiwan, \(^3\)Department of Pediatrics, Tzu Chi University, Taiwan

S75-3 Fine tuning of neuronal Ca\(_{\text{V}}\)1.3 channels functions by alternative splicing and A-to RNA editing
Hua Huang, Tuck Wah Soong
Department of Physiology, National University of Singapore, Singapore

S75-4 Glomerular disease-associated mutations impair Ca\(^{2+}\)-dependent inactivation of TRPC6 channels
Masayuki X Mori\(^1\), Onur K Polat\(^1\), Yasuo Mori\(^1\), Masatoshi Uno\(^2\), Hidehito Tochio\(^3\)
\(^1\)Department of Synthetic Chemistry and Biological Chemistry, Kyoto University, Japan, \(^2\)Department of Biophysics, Kyoto University, Japan, \(^3\)Department of Energy Science, Kyoto University, Japan

S75-5 Structural basis of regulation of the endolysosomal calcium channel TRPML3
Jian Yang\(^1,3\), Minghui Li\(^1\), Xiaoyuan Zhou\(^2\), Deyuan Su\(^1\), Huan Li\(^3\), Xueying Li\(^2\)
\(^1\)Biological Sciences, Columbia University, USA, \(^2\)School of Life Sciences, Tsinghua University, China, \(^3\)Kunming Institute of Zoology, China
### Symposium76 (International Scientific Program Committee Symposium)

**March 31, Sun., 10:30-12:30**  
**[Room F] 5F, Conference Center**

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Chae-Hun Leem (University of Ulsan College of Medicine/Asan Medical Center, Korea) |
| S76-1   | Image-based modeling of flow and transport processes at organ level | Vartan Kurtcuoglu  
Institute of Physiology, University of Zurich, Switzerland |
| S76-2   | In silico screening system for drug-induced arrhythmogenic risk | Seiryo Sugiura¹, Jun-Ichi Okada¹, Takashi Yoshinaga², Junko Kurokawa³,  
Takumi Washio¹, Tetsushi Furukawa⁴, Kohei Sawada³, Toshiaki Hisada¹  
¹UT-Heart Inc., Japan, ²Eisai Co., Ltd., Japan, ³University of Shizuoka, Japan, ⁴Tokyo Medical and Dental University, Japan |
| S76-3   | Model based interpretation of diabetes and prediabetes | Chaehun Leem, Young Boum Lee, Jeong Hoon Lee, Ki Hwan Hong,  
Pham Duc Duong  
Department of Physiology University of Ulsan College of Medicine/Asan Medical Center, Korea |
| S76-4   | A virtual stenosis method to predict plaque progression in coronary arteries | Eun Bo Shim¹, Kyung Eun Lee¹, Eun Seok Shin³  
¹Department of Mechanical and Biomedical Engineering, Kangwon National University, Korea, ³Department of Cardiology, School of Medicine, University of Ulsan, Korea |
Symposium77 (International Scientific Program Committee Symposium)
March 31, Sun., 10:30-12:30 [Room G] 5F, Conference Center

S77 Advances in the role of adipocyte in health and disease (CPS, Taiwan)

Chair: Po-Shiuan Hsieh (National Defense Medical Center, Taiwan)

S77-1 Physiological Role and Therapeutic Potential of Thermogenic Fat
Yu-Hua Tseng
Joslin Diabetes Center, Harvard Medical School, USA

S77-2 Adipose tissue stiffness in the development of metabolic diseases
Yau-Sheng Tsai¹, Ann Huang², Yi-Shiuan Lin², Yu-Wei Chiou², Hsi-Hui Lin³, Ming-Jer Tang³
¹Institute of Clinical Medicine, National Cheng Kung University, Taiwan, ²Department of Physiology, National Cheng Kung University, Taiwan

S77-3 Modulation of adipokine biosynthesis and secretion in adipocytes
Juu-Chin Lu¹⁻², Yu-Ting Chiang¹, Chia-Yun Lu¹, Ying-Yu Wu¹
¹Department of Physiology and Pharmacology, Chang Gung University, Taiwan, ²Division of Endocrinology and Metabolism, Department of Internal Medicine, Chang Gung Memorial Hospital, Taiwan

S77-4 Novel structures and functions of adiponectin receptors
Toshimasa Yamauchi
Department of Diabetes and Metabolic Diseases, The University of Tokyo, Japan
S78  “Ins” and “outs” of smooth muscle

Chair: Hikaru Hashitani (Nagoya City University, Japan)
Co-Chair: Dirk Ferdinand van Helden (University of Newcastle, Australia)

S78-1  Novel mechanism of electrical rhythmicity in smooth muscle
Nick John Spencer
College of Medicine and Public Health, Flinders University, Australia

S78-2  Regulation of spontaneous contractile activity of the bladder muscularis mucosa
Russ Chess-Williams, Christian Moro
Centre for Urology Research, Bond University, Australia

S78-3  Regulation and dysregulation of airway smooth muscle contractility
Jane Elizabeth Bourke
1Biomedicine Discovery Institute, Department of Pharmacology, Monash University, Australia

S78-4  New insights into understanding labour contractions in women
Helena C. Parkington1), Mary A. Tonta1), Ranga I. Siriwardhana1), Penelope J. Sheehan2), Harold A. Coleman1), Shaun P. Brennecke3)
1Department of Physiology, Monash University, Australia, 2The Royal Women’s Hospital, Australia, 3Department of Obstetrics and Gynecology, The University of Melbourne, Australia

S78-5  Regulatory mechanisms underlying the contractility of intra-organ microvasculature
Hikaru Hashitani, Retsu Mitsui
Department of Cell Physiology, Nagoya City University, Japan
Symposium79 (Local Organizing Committee Symposium)

March 31, Sun., 10:30-12:00

[Room I] 5F, Conference Center

S79 Mechanomedicine
(Co-sponsored by Grant-in-Aid for Scientific Research (S): Mechanomedicine)

Chairs: Keiji Naruse (Okayama University, Japan)
Hyoung kyu Kim (Inje University, Korea)

S79-1 Plasma membranes can act as mechanosensors in vascular endothelial cells
Kimiko Yamamoto1, Joji Ando2
1The University of Tokyo, Japan, 2Dokkyo Medical University, Japan

S79-2 Wall stretch-induced anti-contractile signaling via smooth muscle expressed eNOS in pulmonary artery
Sung Joon Kim, Hae Jin Kim
Department of Physiology, Ischemic/Hypoxic Disease Institute, Seoul National University College of Medicine, Korea

S79-3 Analysis of nanoscale vibrations in the inner ear by advanced vibrometries
Hiroshi Hibino1,2, Takeru Ota1,2, Samuel Choi2,3, Fumiaki Nin1,2
1Department of Molecular Physiology, Niigata University School of Medicine, Japan,
2AMED-CREST, AMED, Japan, 3Department of Electrical and Electronics Engineering, Niigata University, Japan

S79-4 Mechano-property of tendon/ligament and its application to regenerative medicine
Hiroshi Asahara1,2
1Tokyo Medical and Dental University, Japan, 2The Scripps Research Institute, Japan
S80 Daily / adaptable Yin-Yang transitions in diverse physiological processes coordinated by multi-cellular Chrono-molecular signal

S80-1 Cellular and molecular basis of chronotherapy for cancer
Masaaki Ikeda¹, Megumi Kumagai¹, Yasutsuna Sasaki⁴, Yoshihiro Nakajima³, Ken-Ichi Fujita²
¹Department of Physiology, Faculty of Medicine, Saitama Medical University, Japan, ²Cancer Cell Biology, School of Pharmacy, Showa University, Japan, ³Cellular Imaging Research Group, AIST Health Research Institute, Japan, ⁴Department of Oncology, School of Medicine, Showa University, Japan

S80-2 Initial protein events synchronizing cellular clocks to elicit environmental stress adaptation
Teruya Tamaru¹, Genki Kawamura³, Hikari Yoshitane³, Yoshitaka Fukada³, Takeaki Ozawa³, Ken Takamatsu¹
¹Department of Physiology, Toho University School of Medicine, Japan, ³Department of Chemistry, School of Science, The University of Tokyo, Japan

S80-3 Dysregulation of Hepatic SREBP1c-CRY1 Axis Promotes Hyperglycemia in Obese Animals
Jae Bum Kim, Ye Young Kim, Hagoon Jang, Yong Keun Jeon
Center for Adipose Tissue Remodeling, Institute of Molecular Biology and Genetics, School of Biological Sciences, Seoul National University, Korea

S80-4 Mechanism of circadian regulation of memory in mice
Kimiko Shimizu, Erika Nakatsuji, Yodai Kobayashi, Yoshitaka Fukada
Department of Biological Sciences, The University of Tokyo, Japan

S80-5 Good times, bad times …. Impact of the circadian clock on health and disease
Gijsbertus Van Der Horst
Department of Molecular Genetics, Erasmus University Medical Center, The Netherlands
Symposium81

March 31, Sun., 10:30-12:30

[Room K] 2F, Exhibition Hall

S81  Mechanisms of systemic beauty and health

Chair: Motohiro Nishida (ExCELLS, National Institutes of Natural Sciences, Japan)
Co-Chair: Jin Han (Inje University, Korea)

S81-1  How to use the natural products?: Inhibition of UV-induced melanogenesis by targeting ion channels
Joo Hyun Nam1,2)
1Department of Physiology, Dongguk University College of Medicine, Korea,
2Channelopathy Research Center, Dongguk University College of Medicine, Korea

S81-2  PKCβII facilitates desmoglein internalization in Rpgrip1I mutant mice and pemphigus
Yeun Ja Choi1), Li Li2), Ning Yang3), Xuming Mao4), Kenneth R Shroyer3),
Peter J Koch9), Yusuf A Hannun6), Richard A Clark7), Jiang Chen3,7)
1Department of Biopharmaceutical Engineering, Dongguk University Korea,
2Department of Dermatology, Peking Union Medical College Hospital, China,
3Department of Pathology, Stony Brook University, USA,
4Department of Dermatology, University of Pennsylvania, USA,
5Department of Dermatology and Center for Regenerative Medicine and Stem Cell Biology, University of Colorado, USA,
6Department of Medicine, Stony Brook University, USA,
7Department of Dermatology, Stony Brook University, USA

S81-3  Chiral amino acid analysis using 2D/3D-HPLC for the screening of functional molecules and biomarkers
Kenji Hamase
Graduate School of Pharmaceutical Sciences, Kyushu University, Japan

S81-4  Transport system of amino acids
Shushi Nagamori
Nara Medical University, Japan

S81-5  Importance of receptor-activated Ca2+ influx in wound healing
Takuro Numaga-Tomita1,2,3), James W Putney, Jr4), Motohiro Nishida1,2,3,4)
1Department of Creative Research, Exploratory Research Center on Life and Living Systems: ExCELLS, National Institutes of Natural Sciences, Japan,
2National Institute for Physiological Sciences (NIPS), National Institutes of Natural Sciences, Japan,
3School of Life Sciences, SOKENDAI, Japan,
4Graduate School of Pharmaceutical Sciences, Kyushu University, Japan,
5National Institute of Environmental Health Sciences, National Institutes of Health, USA
Symposium 82

March 31, Sun., 10:30-12:30

Room L 3F, Exhibition Hall

S82  Amygdala Neuronal Circuits in Adaptive Behaviors

Chair: Ayako M Watabe (Jikei University School of Medicine, Japan)
Co-Chair: Pankaj Sah (The University of Queensland, Australia)

S82-1  Neural Circuits Between the Central Amygdala and Basal Forebrain mediate Anxiety behaviours
        Pankaj Sah, Ya-Jie Sun, Lei Qian, Li Xu
        Queensland Brain Institute, The University of Queensland, Australia

S82-2  Neuronal circuits underlying the regulation of aversive valence in mice
        Ayako M Watabe
        Institute of Clinical Medicine and Research, Jikei University School of Medicine, Japan

S82-3  Brain circuits for triggering and reversing emotional memories
        Joshua Johansen
        RIKEN Center for Brain Science, Japan

S82-4  Exploring molecular pathways involved in central amygdala-dependent control of emotional behaviors
        Sayaka Takemoto-Kimura\textsuperscript{1,2)
        \textsuperscript{1}Neuroscience, RIEM, Nagoya University, Japan, \textsuperscript{2}PRESTO-JST, Japan
## Symposium83

**March 31, Sun., 10:30-12:30**

[Room M] 3F, Exhibition Hall

### S83 Neurobiology of obesity and its metabolic comorbidities

**Chair:** Makoto Fukuda (Baylor College of Medicine, USA)

**Co-Chair:** Toshihiko Yada (Kansai Electric Power Medical Research Institute, Japan)

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<td>S83-1</td>
<td>Postprandial hormones regulate feeding and glucose metabolism via interacting with vagal afferents</td>
<td>Yusaku Iwasaki¹, Toshihiko Yada²,³</td>
</tr>
</tbody>
</table>

¹Graduate School of Life and Environmental Sciences, Kyoto Prefectural University, Japan, ²Center for Integrative Physiology, Kansai Electric Power Medical Research Institute, Japan, ³System Physiology, Graduate School of Medicine, Kobe University, Japan

| S83-2   | Disruption of Steroid Receptor Coactivator-1 Signaling is Associated with Obesity | Yong Xu, Yongjie Yang, Liangru Zhu |

Department of Pediatrics, Baylor College of Medicine, USA

| S83-3   | Central and peripheral mechanisms underlying glucocorticoid-increased adiposity | Feifan Guo |

Shanghai Institute of Nutrition and Health(SINH), Chinese Academy of Sciences, China

| S83-4   | Gut hormone GIP drives hypothalamic pathogenesis of obesity via Epac-Rap1 signaling | Makoto Fukuda |

Baylor College of Medicine, USA

| S83-5   | Neurohormonal mechanism for circadian feeding rhythm that prevents obesity | Toshihiko Yada¹,², Masanori Nakata³ |

¹Center for Integrative Physiology, Kansai Electric Power Medical Research Institute, Japan, ²System Physiology, Graduate School of Medicine, Kobe University, Japan, ³Physiology, Wakayama Prefectural Medical University, Japan
Tutorial for Physiologists

March 31, Sun., 8:00-9:10

[Room B] 3F, Conference Center

T  Practical Approaches to Protein Structural Information

Organizer: Yuichiro Fujiwara (Kagawa University, Japan)

Lecturers: Takushi Shimomura
National Institute for Physiological Sciences, Japan

1. Displaying protein structures
2. Analysis of structural information

Katsumasa Irie
Nagoya University, Japan

1. Making homology model
2. Making ligand binding model
3. Analysis ligand binding mode

In this tutorial, the audiences will learn how to process structure files using the softwares:
Pymol, Ligplot+ and SWISS-MODEL (web-based).
Main analyses are following;
–Making homology model
–Structural alignment
–Investigating protein-ligand integration
A carry-on of your laptop computer is recommended.
For more information and file download, see http://www.nips.ac.jp/faops2019/tutorial_html
No pre-registration is required.
Young Scientist Travel Awards

**Y-01** Effect of Swimming Exercise to Cardiac PGC-1α and HIF-1α Gene Expression in Mice  
Nova Sylviana\(^1\), Hanna Goenawan\(^1\), Ronny Lesmana\(^1\), Badai Batara Tiknsadi\(^3\), Hasrayati Agustina\(^5\), Bethy S Hernowo\(^9\), Vita Murniati Tarawan\(^1\), Unang Supratman\(^9\), Ambrosius Purba\(^1\), Setiawan Setiawan\(^1,2\)

\(^1\)Department Biomedical Sciences, Faculty Medicine, Padjadjaran University, Bandung, Indonesia, \(^2\)Laboratorium Central, Universitas Padjadjaran, Indonesia, \(^3\)Department of Cardiology and Vascular Medicine, Universitas Padjadjaran-Hasan Sadikin Hospital, Indonesia, \(^5\)Department of Pathology Anatomy, Universitas Padjadjaran-Hasan Sadikin Hospital, Indonesia

**Y-02** Respiratory Muscle Training (RMT), Aerobic Fitness and Performance in Sri Lankan Rowers  
Dilani Priyashanthi Perera\(^1\), Anoja Ariyasinghe\(^5\), Anula Kariyawasam\(^2\)

\(^1\)Department of Physiotherapy, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka, \(^2\)Department of Physiology, Faculty of Medicine, University of Peradeniya, Sri Lanka

**Y-03** Factors affecting oxygen pulse in a healthy Thai population  
Tichanon Promsrisuk, Napatr Sriraksa, Ratchaniporn Kongsui

Division of Physiology, School of Medical Sciences, University of Phayao, Thailand

**Y-04** Mitochondrial fusion promoter attenuates left ventricular dysfunction in pre-diabetic rats  
Chayodom Maneechote\(^1,2,3\), Siripong Palee\(^1,2,3\), Nattayaporn Apaija\(^1,2,3\), Thidarat Jaiwongkam\(^1,2,3\), Sasiwan Kerdphoo\(^1,2,3\), Siriporn C Chattipakorn\(^1,2,4\), Nipon Chattipakorn\(^1,2,3\)

\(^1\)Cardiac Electrophysiology Research and Training Center, Faculty of Medicine, Chiang Mai University, Thailand, \(^2\)Center of Excellence in Cardiac Electrophysiology Research, Chiang Mai University, Thailand, \(^3\)Cardiac Electrophysiology Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, \(^4\)Department of Oral Biology and Diagnostic Sciences, Faculty of Dentistry, Chiang Mai University, Thailand

**Y-05** Crossbridge thermodynamics in right heart failure  
June-Chiew Han\(^1\), Toan Pham\(^1\), Kenneth Tran\(^1\), Andrew J. Taberner\(^1,2\), Denis S. Loiselle\(^1,3\)

\(^1\)Auckland Bioengineering Institute, The University of Auckland, New Zealand, \(^2\)Department of Engineering Science, The University of Auckland, New Zealand, \(^3\)Department of Physiology, The University of Auckland, New Zealand

**Y-06** LysoPC plays a crucial role in cholesterol-induced nonobese MS cardiomyopathy  
Jiung-Pang Huang, Li-Man Hung

Department of Biomedical Sciences, Chang Gung University, Taiwan

**Y-07** Inhibition of p16\(^{NK4a}\) protects against myocardial ischemia/reperfusion injury  
Zhou Qiulian, Bei Yihua, Meng Xiangmin, Xiao Junjie
Influence of Tobacco smoking on carboxyhaemoglobin levels and blood lipid levels
Prasanna Herath\(^1\), Savithri Wimalasekera\(^2\), Thamara Amarasekara\(^3\)
\(^1\)Department of Nursing and Midwifery, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University, Sri Lanka, \(^2\)Department of Physiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka, \(^3\)Department of Allied Health Sciences, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka

FUNDC2 regulates platelet activation through AKT/GSK-3β/cGMP axis
Qi Ma\(^1\), Weilin Zhang\(^2\), Heping Cheng\(^3\), Junling Liu\(^3\), Quan Chen\(^3\)
\(^1\)Institute of Molecular Medicine, Peking University, China, \(^2\)Institute of Zoology, Chinese Academy of Sciences, Beijing, China, \(^3\)School of Medicine, Shanghai Jiao Tong University, China

Genistein and running exercise modulates HDAC3 and the fibrosis markers in OVX rats with NASH
Namthip Witayavanitkul\(^1\), Duangporn Werawatganon\(^1\), Naruemon Klaikew\(^2\), Prasong Siriviriyakul\(^1\)
\(^1\)Department of Physiology, Faculty of Medicine, Chulalongkorn University, Thailand, \(^2\)Department of Pathology, Faculty of Medicine, Chulalongkorn University, Thailand

The influence of central leptin signalling upon Obesity-induced hypertension
Stephanie Elise Simonds, Jack T Pryor, Tony Tiganis, Michael A Cowley
Monash University, Australia

FKBP51 defect is resistant to diet induced obesity, inflammation and insulin resistance
Luen-Kui Chen\(^1\), Chi-Chang Juan\(^1,2,3\)
\(^1\)Institute of Physiology, School of Medicine, National Yang-Ming University, \(^2\)Department of Medical Research, Taipei Veterans General Hospital, \(^3\)Department of Education and Research, Taipei City Hospital, Taiwan

Effect of Dapagliflozin on Glucose Metabolism and Renal and Hepatic PEPCK Expression in Obese Rats
Myat Theingi Swe, Krit Jaikumkao, Laongdao Thonak, Anchalee Pongchaidecha, Anusorn Lungkaphin
Epithelial Transport and Intracellular Signaling Regulation Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand

Correlation of median nerve parameters with TSH values in hypothyroid patients
Shital Gupta\(^1\), Rita Khadka\(^1\), Dilip Thakur\(^1\), Bishnu Hari Poudel\(^1\), Kishun Deo Mehta\(^2\), Robin Maskey\(^3\)
\(^1\)Department of Basic & Clinical Physiology, B.P.Koirala Institute of Health Science, Nepal, \(^2\)Department of Biochemistry, B.P.Koirala Institute of Health Science, Nepal, \(^3\)Department of Internal Medicine, B.P.Koirala Institute of Health Sciences, Nepal

Overexpression of Anthrax toxin receptor 2 (ANTXR2) promotes early development of endometriosis
Shih-Chieh Lin\(^1\), Hsiu-Chi Lee\(^2\), Ching-Ting Hsu\(^1\), Yi-Han Huang\(^3\), Wan-Ning Li\(^2\), Pei-Ling Hsu\(^1\), Meng-Hsing Wu\(^2\), Shaw-Jenq Tsai\(^1\)
\(^1\)Department of Physiology, College of Medicine, National Cheng Kung University, Taiwan, \(^2\)Department of Surgery, College of Medicine, National Cheng Kung University, Taiwan, \(^3\)Department of Obstetrics and Gynecology, College of Medicine, National Cheng Kung University, Taiwan
TRPA1 channel is critical for gliotransmitter release from astrocyte by eliciting calcium entry

Jung Moo Lee¹,², Soo-Jin Oh²,³, Wuhyun Koh²,⁴, Changjoon Justin Lee¹,²
¹KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea, ²Center for Glia-Neuron Interaction, Korea Institute of Science and Technology (KIST), Republic of Korea, ³Convergence Research Center for Diagnosis, Treatment and Care System of Dementia, Korea Institute of Science and Technology, Republic of Korea, ⁴Division of Bio-Medical Science & Technology, KIST School, Korea University of Science and Technology, Republic of Korea

Molecular profiling of the subthalamic nucleus

Jiwon Kim¹,², Hyungju Jeon¹, Hojin Lee¹,², Linqing Feng¹, Jinhyun Kim¹,²
¹Center for Functional Connectomics, Korea Institute of Science and Technology (KIST), Korea, ²Division of Bio-Medical Science & Technology, KIST-School, University of Science and Technology (UST), Republic of Korea

Characterization of a novel and potent neuronal Kv7/M opener SCR2682 for anti-epilepsy

Yani Liu¹, Fan Zhang², Feng Tang³, Bo Liang³, Huanming Chen³, Ge Jin⁴, Qi Sun⁵, Hailin Zhang⁶, Kewei Wang¹
¹Department of Pharmacology, School of Pharmacy, Qingdao University, China, ²Department of Pharmacology, Hebei Medical University, China, ³Medicinal Chemistry, Simcere Pharmaceuticals, China, ⁴Department of Pharmacology, Shenyang Medical College, China, ⁵Department of Medicinal Chemistry, School of Pharmaceutical Sciences, Peking University, China

Molecular mechanism of dopamine-induced itch in mice

Youngin Choi¹, Pyungsun Cho¹,², Hankyu Lee¹, Sungjun Jung¹
¹Department of Biomedical Science, Hanyang University, Korea, ²Department of Physiology, Korea University, Republic of Korea

Molecule REST interacts with brain 5-HT system in tilapia fish during social stress

Shingo Nakajima, Tomoko Soga, Ishwar S Parhar
Brain Research Institute Monash Sunway (BRIMS), School of Medicine and Health Sciences, Monash University Malaysia

Altered electrical responsiveness of CA1 pyramidal neurons in a valproic acid rat model of autism

Mona Rahdar, Razieh Hajisoltani, Shima Davoudi, Narges Hosseinmardi, Mahyar Janahmadi
Neuroscience Research Center and Dept. of Physiology, Medical School, Shahid Beheshti University of Medical Sciences, Iran

Lumbrokinase improves neurological deficit by preventing endoplasmic reticulum stress

Yi Hsin Wang¹, Hsing Hui Su², Jiuan Miaw Liao³, Shiang Suo Huang⁴
¹Institute of Medicine, Chung Shan Medical University, Taiwan, ²Department and Institute of Pharmacology, School of Medicine, National Yang-Ming University, Taiwan, ³Department of Physiology, Chung Shan Medical University and Chung Shan Medical University Hospital, Taiwan, ⁴Department of Pharmacology and Institute of Medicine, Chung Shan Medical University, and Department of Pharmacy, Chung Shan Medical University Hospital, Taiwan

Young Scientist Travel Awards
Y-24  Oxytocin effects on nicotine aversion and anxiety in nicotine-exposed early adolescent rats  
Minji Jang, Taesub Jung, Jihyun Noh  
Department of Science education, University of Dankook, South Korea

Y-25  Mesenchymal stem cell conditioned medium therapy modulates neuroinflammatory symptoms  
Vida Nazemian, Jalal Zaringhalam  
Physiology Department, Shahid Beheshti University of Medical Sciences

Y-26  Depolarized subicular microcircuits mediate generalized seizure in temporal lobe epilepsy  
Yi Wang, Cenglin Xu, Zhenghao Xu, Caihong Ji, Ying Wang, Shuang Wang, Xiaoming Li, Zhong Chen  
School of Medicine, Zhejiang University, China

Y-27  Mitochondrial fission inhibitor attenuates brain mitochondrial dysfunction in pre-diabetic rats  
Siripong Palee1,2), Chayodom Maneechote1,2,3), Nattayaporn Apaijai1,2), Thidarat Jaiwongkam1,2,3), Sasiwan Kerdpoo1,2), Nipon Chattipakorn1,2,3), Siriporn C Chattipakorn1,2,4)  
1Cardiac Electrophysiology Research and Training Center, Faculty of Medicine, Chiang Mai University, Thailand, 2Center of Excellence in Cardiac Electrophysiology Research, Chiang Mai University, Thailand, 3Cardiac Electrophysiology Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, 4Department of Oral Biology and Diagnostic Sciences, Faculty of Dentistry, Chiang Mai University, Thailand

Y-28  Protective effects of dapagliflozin and atorvastatin on renal function in insulin-resistant rats  
Laongdao Thongnak, Myat Theingi Swe, Krit Jaikumkao, Anchalee Pongchaidecha, Anusorn Lungkaphin  
Epithelial transport and Intracellular signaling regulation unit, Department of Physiology, Chiang Mai University, Thailand

Y-29  Melatonin activates sirtuin 3 to protect the kidney from long-term consequences of bisphenol A  
Anongporn Kobroob1), Wachirasek Peerapanyasut2), Sirinart Kumfu3), Nipon Chattipakorn3), Orawan Wongmekiat2)  
1Division of Physiology, School of Medical Sciences, University of Phayao, Thailand, 2Renal Physiology Unit, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand, 3Cardiac Electrophysiology Research and Training Center, Department of Physiology, Faculty of Medicine, Chiang Mai University, Thailand

Y-30  Protein arginine methyltransferase 1-dependent regulation of slow delayed rectifier K+ current **Masao Ito Memorial Awards**  
Kim Hyun-Ji1,2,3), Bok-Geon Kim1,2,3), Chang-Seok Ki4), Jong-Sun Kang2,3), Hana Cho1,2,3)  
1Department of physiology, University of Sungkyunkwan, Korea, 2Department of Molecular and Cellular Biology, Sungkyunkwan University School of Medicine, Republic of Korea, 3Single Cell Network Research Center, Sungkyunkwan University School of Medicine, Republic of Korea, 4Department of Laboratory Medicine and Genetics, Samsung Medical Center, Sungkyunkwan University School of Medicine, Republic of Korea

Y-31  TTYH family encodes the pore-forming subunits of the volume-regulated anion channel in the brain **Masao Ito Memorial Awards**  
Young Scientist Travel Awards
The Arginine in the side portal determines the physiological $[\text{pH}]_o$ sensing of TALK1

Tsai Wen-Hao$^{1,2}$, Shi-Bing Yang$^3$

$^1$Institute of Biomedical Science, Academia Sinica, Taiwan, $^2$ Taiwan International Graduate Program-Molecular Medicine, National Yang-Ming University, Taiwan

Circadian gene Clock post-transcriptionally regulates mitochondrial morphology and functions

Xu Lirong$^1$, Qianyun Cheng$^1$, Bingxuan Hua$^3$, Tingting Cai$^1$, Jiaxin Lin$^1$, Gongsheng Yuan$^1$, Zuoqin Yan$^3$, Xiaobo Li$^1$, Ning Sun$^1$, Chao Lu$^{1,2}$, Ruizhe Qian$^{1,2}$

$^1$Department of Physiology and Pathophysiology, School of Basic Medical Sciences, Fudan University, China, $^2$Basic Research Institute for Aging and Medicine, School of Basic Medical Sciences, Fudan University, China, $^3$Department of Orthopedics, Zhongshan Hospital, Fudan University, China

The impact of DNA methyltransferase 3A in erythrocytic differentiation

Lin Chang-Yi Eric, Po-Shu Tu, Hsiao-Wen Chen, Yuan-I Chang

Department of physiology, National Yang-Ming University, Taiwan

Hearing status of Rickshaw’s drivers in Karachi, Pakistan assessed by Pure tone audiometry

Muhammad Adnan Kanpurwala$^{1,2}$, Furqan Mirza$^3$

$^1$Department of Physiology, Karachi Institute of Medical Sciences, Pakistan, $^2$Department of Physiology, University of Karachi, $^3$Department of Health Management, Institute of Business Management

Life-span Interventions Exhibit a Sex specific Strehler? Mildvan Inverse Relationship

Jie Shen

College of Life Information Science & Instrument Engineering, Hangzhou Dianzi University, China

Alpha-5 integrin mediates simvastatin-induced osteogenesis of bone marrow mesenchymal stem cells

Pei Lin Shao$^1$, Shun Cheng Wu$^{2,3}$, Zih Yin Lin$^{2,3}$, Chau Zen Wang$^{2,3}$, Chung-Hwan Chen$^3$, Mei-Ling Ho$^{2,3}$

$^1$Department of Nursing, Asia University, Taiwan, $^2$Orthopaedic Research Center, College of Medicine, Kaohsiung Medical University, Taiwan, $^3$Department of Physiology, College of Medicine, Kaohsiung Medical University, Taiwan
Y-38 Vitamin D Receptor Polymorphism Fok1 and Chest X-ray in Tuberculosis Patients of Batak Ethnic
Debby Mirani Lubis¹, Seri Rayani Bangun², Yahwardiah Siregar³, Bintang YM Sinaga³
¹Department of Physiology, University of Muhammadiyah Sumatera Utara, Indonesia,
²Biomedical Science, University of North Sumatera, ³Pulmonology Department, University of North Sumatera

Y-39 Flipped classroom in Faculty of Medicine Universitas Indonesia: a personal experience
Sophie Yolanda
Department of Medical Physiology, Faculty of Medicine Universitas Indonesia, Indonesia

Y-40 The Anti-depressive and the Involvement of ERK Pathway of Electroacupuncture on Depression Model
Shao-Yuan Li¹, Pei-Jing Rong¹,², Xiao Guo¹
¹Institute of Acu.-Moxi., China Academy of Chinese Medical Sciences, China,
²Guangzhou University of Chinese Medicine

Y-41 Malaysian Tualang Honey Protects Endothelial Barrier Integrity from Insults by Hydrogen Peroxide
Yoke Keong Yong¹, Kogilavanee Devasvaran¹, Jun Jie Tan²
¹Department of Human Anatomy, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Malaysia, ²Advance Medical and Dental Institute, Universiti Sains Malaysia, Malaysia

JGP Poster Awards
The Journal of General Physiology (JGP) poster awardees have poster presentation. See p.26

PSJ Awards
See p.96-97 for each presentation.