

Affiliations listed below are based on the data as of March 2018

## Oral Session

Day 1 - July 26

Oral Sessions 10-07m1 8:40-9:40 Room 7 (504+505, 5F, Kobe International Conference Center)

## Synapse

Chairpersons: Keiko Matsuda *Keio University School of Medicine*  
Yoshihiro Kubo *National Institute for Physiological Sciences, Division of Biophysics & Neurobiology*

- 10-07m1-1 Actin is crucial for all kinetically distinguishable forms of endocytosis at synapses  
(8:40)  Sung Hoon Lee<sup>1,2,3,4</sup>, Xin-Sheng Wu<sup>2</sup>, Jiansong Sheng<sup>2</sup>, Zhen Zhang<sup>2</sup>, Wei-Dong Zhao<sup>2</sup>, Dongsheng Wang<sup>2</sup>, Yinghui Jin<sup>2</sup>, Patrick Charnay<sup>3</sup>, James M. Ervasti<sup>4</sup>, Ling-Gang Wu<sup>2</sup>  
<sup>1</sup>Chung-Ang University, <sup>2</sup>National Institute of Neurological Disorders and Stroke, 35 Convent Drive, Bethesda, MD 20892, USA, <sup>3</sup>Ecole Normale Supérieure, PSL Research University, CNRS, Inserm, Institut de Biologie de l'Ecole Normale Supérieure, F-75005 Paris, France, <sup>4</sup>Department of Biochemistry, Molecular Biology, and Biophysics, University of Minnesota, Minneapolis, MN 55455, USA
- 10-07m1-2 Two-component release latency distributions during presynaptic action potential trains at simple synapses  
(8:55) Takafumi Miki<sup>1,2</sup>, Yukihiro Nakamura<sup>3</sup>, Gerardo Malagon<sup>2</sup>, Isabel Llano<sup>2</sup>, Alain Marty<sup>2</sup>  
<sup>1</sup>Grad Sch Brain Science, Doshisha Univ, Kyoto, Japan, <sup>2</sup>Brain Physiology lab, Paris Descartes, Paris, France, <sup>3</sup>Dept Pharmacol, Jikei Univ Sch Med, Tokyo, Japan
- 10-07m1-3 Synaptic cleft protein Hlg inhibits endocytosis of an AchR subunit  $\alpha 5$  to regulate AchR clustering  
(9:10) Minoru Nakayama<sup>1,3</sup>, Osamu Nishimura<sup>2</sup>, Shigehiro Kuraku<sup>2</sup>, Masaki Sone<sup>1</sup>, Chihiro Hama<sup>3</sup>  
<sup>1</sup>Toho University, <sup>2</sup>RIKEN CLST, <sup>3</sup>Kyoto Sangyo University
- 10-07m1-4 Analysis of GABAergic inhibitory terminals on the Mauthner neurons in zebrafish larvae  
(9:25) Mio Aoki<sup>1</sup>, Shunpei Baba<sup>1</sup>, Tomohiro Inoue<sup>1,2</sup>, Tsutoshi Higashi<sup>1,2</sup>, Takayuki Sumimoto<sup>1</sup>, Takanori Ikenaga<sup>1,2</sup>, Masataka Nikaido<sup>1,2</sup>, Kohei Hatta<sup>1,2</sup>  
<sup>1</sup>Dept. of Sci., Univ. of Hyogo, Hyogo, Japan, <sup>2</sup>Grad. Sch. of life Science, University of Hyogo, Hyogo, Japan

Oral Sessions 10-07m2 9:40-10:40 Room 7 (504+505, 5F, Kobe International Conference Center)

## Synaptic Plasticity

Chairpersons: Tomoaki Shirao *Department of Neurobiology and Behavior Gunma University Graduate School of Medicine*  
Takuya Takahashi *Department of Physiology, Yokohama City University, Graduate School of Medicine*

- 10-07m2-1 Postsynaptic cAMP production predominantly contributes to synaptic depression in the *Drosophila* mushroom body calyx  
(9:40) Shoma Sato<sup>1</sup>, Kohei Ueno<sup>2</sup>, Takaomi Sakai<sup>1</sup>  
<sup>1</sup>Department of Biological Sciences, Tokyo Metropolitan Univ., Tokyo, Japan, <sup>2</sup>Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan

- 10-07m2-2 **Structural role of CaMKII for synaptic structure and structural plasticity**  
(9:55) Tomohisa Hosokawa, Pinwu Liu, Yasunori Hayashi  
*Kyoto University Graduate School of Medicine, Department of Pharmacology, Kyoto, Japan*
- 10-07m2-3 **Feedforward- and feedback-GABAergic control of the theta burst stimulation (TBS) induce phase-dependent selective long-term potentiation in area CA1 of the hippocampus**  
(10:10) Takashi Tominaga, Yoko Tominaga  
*Inst Neurosci, Tokushima Bunri Univ, Sanuki, Japan*
- 10-07m2-4 **Isoform specific dynamics of drebrin in dendritic spines regulates the mGluR5-dependent LTD induction in adult rat hippocampus**  
(10:25) Tomoaki Shirao, Kenji Hanamura, Hiroyuki Yamazaki, Yu Kai Chiu  
*Dept Neurobiol & Behav, Gunma Univ Grad Sch of Med, Maebashi, Japan*

**Oral Sessions 10-10m1** 8:40-9:40 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Functional Connecting Sensory Disorders

Chairpersons: Takashi Hanakawa *Department of Advanced Neuroimaging, Integrative Brain Imaging Center, National Center of Neurology and Psychiatry*  
Norihiro Sadato *National Institutes for Physiological Sciences*

- 10-10m1-1 **Compensatory changes in the intra-cerebellar connections in Parkinson disease and multiple system atrophy**  
(8:40) Wataru Sako<sup>1</sup>, Takashi Abe<sup>2</sup>, Takahiro Furukawa<sup>1</sup>, Ryosuke Oki<sup>1</sup>, Shotaro Haji<sup>1</sup>, Nagahisa Murakami<sup>1</sup>, Yuishin Izumi<sup>1</sup>, Masafumi Hrada<sup>2</sup>, Ryuji Kaji<sup>1</sup>  
*<sup>1</sup>Department of Clinical Neuroscience, Institute of Biomedical Sciences, Tokushima University Graduate School, Tokushima, Japan, <sup>2</sup>Department of Radiology, Institute of Biomedical Sciences, Tokushima University Graduate School, Tokushima, Japan*
- 10-10m1-2 **Physiological basis and clinical application of blood-flow lag structure in the fMRI signal**  
(8:55) Toshihiko Aso  
*Dept Psychiatry, Kyoto University, Kyoto, Japan*
- 10-10m1-3 **Medial prefrontal cortex is critically involved in rat placebo analgesia**  
(9:10) Ying Zeng, Di Hu, Emi Hayashinaka, Yasuhiro Wada, Yasuyoshi Watanabe, Yilong Cui  
*RIKEN Center for Life Science Technologies*
- 10-10m1-4 **Programmed death ligand-1 is an endogenous pain inhibitor and silences mouse and human nociceptive neurons**  
(9:25)  Gang Chen<sup>1,2</sup>, Yong Ho Kim<sup>2</sup>, Hui Li<sup>3</sup>, Hao Luo<sup>2,3</sup>, Da-Lu Liu<sup>3</sup>, Zhi-Jun Zhang<sup>2</sup>, Mark Lay<sup>2</sup>, Wonseok Chang<sup>2</sup>, Yu-Qiu Zhang<sup>3</sup>, Ru-Rong Ji<sup>2,4</sup>  
*<sup>1</sup>Nantong University, <sup>2</sup>Department of Anesthesiology, Duke University Medical Center, Durham, North Carolina, 27710, <sup>3</sup>Institute of Neurobiology, Fudan University, Shanghai 200032, China., <sup>4</sup>Department of Neurobiology, Duke University Medical Center, Durham, North Carolina, 27710*

Oral Sessions 10-10m2 9:40-10:40 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Sensory and Motor System

Chairpersons: Junichi Nakai *Graduate School of Science and Engineering, Saitama University*  
Takahiro Furuta *Dept. Oral Anatomy and Neurobiology, Grad. Sch. Dentistry, Osaka Univ*

- 10-10m2-1 (9:40) **The analysis of mGluR function for the behavioral choice induced by multiple sensory inputs using *C.elegans***  
Yuji Suehiro, Shohei Mitani  
*Department of Physiology, Tokyo Women's Medical University, Tokyo*
- 10-10m2-2 (9:55) **Sensory feedback regulates the development of locomotor circuits in *Drosophila* embryos**  
Xiangsunze Zeng<sup>1</sup>, Kengo Inada<sup>2</sup>, Hokto Kazama<sup>2</sup>, Akinao Nose<sup>1,3</sup>  
<sup>1</sup>*Dept Comp Sci Eng, Univ of Tokyo, Kashiwa, Japan, <sup>2</sup>RIKEN Brain Science Institute, Saitama, Japan, <sup>3</sup>Dept of Physics, Grad Sch of Sci, Univ of Tokyo, Japan*
- 10-10m2-3 (10:10) **Hunger causes the lower body temperature in *Drosophila***  
Yujiro Umezaki<sup>1</sup>, Sean E Hayley<sup>1</sup>, Michelle L Chu<sup>1</sup>, Hanna W Seo<sup>1</sup>, Prasun Shah<sup>1</sup>, Fumika N Hamada<sup>1,2,3</sup>  
<sup>1</sup>*Div Pediatric Ophthalmology, Cincinnati Children's Hospital Medical Center, Cincinnati, USA, <sup>2</sup>Dept Ophthalmology, College of Med, Univ of Cincinnati, Cincinnati, USA, <sup>3</sup>Div Developmental Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, USA*
- 10-10m2-4 (10:25) **Intracellular and morphological bases for neural activities used to detect song temporal patterns in the primary auditory forebrain of zebra finches**  
Makoto Araki, Yoko Yazaki-Sugiyama  
*OIST, Okinawa, Japan*

Oral Sessions 10-02a1 15:00-16:00 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

## Alzheimer's Disease and Dementia (1)

Chairpersons: Atsushi Iwata *Dept.of Neurology, Grad.Sch.of Med., Univ.of Tokyo*  
Hisatomo Kowa *Kobe University Graduate School of Health Sciences*

- 10-02a1-1 (15:00) **Tau-related dysfunction of BRCA1 lead to reduced neuronal plasticity in Alzheimer's disease**  
Tatsuo Mano<sup>1</sup>, Atsushi Iwata<sup>1</sup>, Takashi Nonaka<sup>2</sup>, Airi Tarutani<sup>2</sup>, Tadafumi Hashimoto<sup>3</sup>, Masato Hasegawa<sup>3</sup>, Takeshi Iwatsubo<sup>2</sup>, Tatsushi Toda<sup>1</sup>  
<sup>1</sup>*Dept Neurol, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>Dept Dementia and Higher Brain Function, Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan, <sup>3</sup>Dept Neuropath, Univ of Tokyo, Tokyo, Japan*
- 10-02a1-2 (15:15) **Tau Antibody Targeting Pathological Species Blocks Neuronal Uptake and Interneuron Propagation of Tau**  
Shuko Takeda<sup>1</sup>, Chloe Nobuhara<sup>2</sup>, Caitlin Commins<sup>2</sup>, Susanne Wegmann<sup>2</sup>, Sarah Devos<sup>2</sup>, Bradley T. Hyman<sup>2</sup>  
<sup>1</sup>*Department of Clinical Gene Therapy, Graduate School of Medicine, Osaka University, Osaka, Japan, <sup>2</sup>Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, U.S.A.*

10-02a1-3 CRISPR transcriptional activation analysis unmasks an occult gamma-secretase processivity defect  
(15:30) in familial Alzheimer's disease skin fibroblasts

Keiichi Inoue, Luis Ma Oliveira, Asa Abeliovich  
*Dept Pathology, Columbia Univ Med Center, New York, USA*

10-02a1-4 ApoE2, E3 and E4 differentially activate MAP-kinase signaling to promote synaptogenesis and  
(15:45) amyloid-beta secretion paralleling their role in Alzheimer Disease



Yu-Wen Alvin Huang<sup>1</sup>, Bo Zhou<sup>1,2</sup>, Marius Wernig<sup>2</sup>, Thomas C Sudhof<sup>1</sup>  
<sup>1</sup>*Dept. Mol. & Cell. Physiol., Stanford Univ., Stanford CA, United States*, <sup>2</sup>*Dept. Pathol., Stanford Univ., Stanford CA, United States*

Oral Sessions 10-03a1

15:00-16:00 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

## Molecular, Biochemical and Genetic Techniques

Chairpersons: Naruhiko Sahara *National Institutes for Quantum and Radiological Science and Technology*  
Yasushi Okamura *Graduate School of Medicine, Osaka University*

10-03a1-1 Platinum Nanoparticle-Based Microreactors as Support for Neuroblastoma Cells

(15:00)



Ana Armada-Moreira<sup>1,2,3</sup>, Essi Taipaleenmaki<sup>3</sup>, Marie Baekgaard-Laursen<sup>3</sup>, Philipp S Schattling<sup>3</sup>,  
Ana M Sebastiao<sup>1,2</sup>, Sandra H Vaz<sup>1,2</sup>, Brigitte Stadler<sup>3</sup>

<sup>1</sup>*Instituto de Farmacologia e Neurociencias, Faculdade de Medicina, Universidade de Lisboa, Lisboa, Portugal*, <sup>2</sup>*Instituto de Medicina Molecular, Faculdade de Medicina da Universidade de Lisboa, Lisboa, Portugal*, <sup>3</sup>*Interdisciplinary Nanoscience Center (iNANO), Aarhus University, Aarhus, Denmark*

10-03a1-2 Genetically encoded reporter for bimodal optical and PET imaging in the mammalian brain

(15:15)

Masafumi Shimojo<sup>1</sup>, Maiko Ono<sup>1</sup>, Hiroyuki Takuwa<sup>1</sup>, Masayuki Fujinaga<sup>2</sup>, Chie Seki<sup>1</sup>, Masaki Tokunaga<sup>1</sup>, Jun Maeda<sup>1</sup>, Yuhei Takado<sup>1</sup>, Manami Takahashi<sup>1</sup>, Takeharu Minamihisamatsu<sup>1</sup>, Ming-Rong Zhang<sup>2</sup>, Anton Maximov<sup>3</sup>, Tetsuya Suhara<sup>1</sup>, Naruhiko Sahara<sup>1</sup>, Makoto Higuchi<sup>1</sup>

<sup>1</sup>*Dept of Func Brain Imaging, Nat Inst of Radiol Sci, Chiba, Japan*, <sup>2</sup>*Dept of Radiopharm Dev, Nat Inst of Radiol Sci, Chiba, Japan*, <sup>3</sup>*Dept of Neurosci, TSRI, La Jolla, USA*

10-03a1-3 Small-animal neuroimaging-based integrated approaches for brain science

(15:30)

Yilong Cui, Ying Zeng, Tianliang Huang, Takashi Okauchi, Yasuhiro Wada, Yasuyoshi Watanabe  
*RIKEN Center for Life Science Technologie, Division of Bio-function Dynamics Imaging*

10-03a1-4 Three-dimensional Single-cell-resolution Whole-brain Atlas Using CUBIC-X Expansion Microscopy  
(15:45) and Tissue Clearing

Tatsuya Murakami, Hiroki Ueda  
*Grad Sch of Med, Univ of Tokyo*

Oral Sessions 10-04a1 15:00-16:00 Room 4 (401+402, 4F, Kobe International Conference Center)

## Axon/Dendrite Growth and Circuit Formation

Chairpersons: Mineko Kengaku *Institute for Integrated Cell-Material Sciences (iCeMS), Institute for Advanced Study, Kyoto University (KUIAS), Kyoto University*  
Takeshi Nakamura *RIBS, Tokyo University of Science*

10-04a1-1 Branch-specific extension speed for synchronous multi-areal targeting by a single cortical neuron (15:00)

Yuichiro Oka<sup>1,2</sup>, Yuka Lin<sup>1</sup>, Sheena Y.X. Tiong<sup>1,2,3</sup>, Tatsuya Sasaki<sup>1</sup>, Miyuki Doi<sup>1</sup>, Tokuichi Iguchi<sup>1</sup>, Makoto Sato<sup>1,2</sup>

<sup>1</sup>Dept Anat & Neurosci, Grad Sch Med, Osaka Univ, Osaka, Japan, <sup>2</sup>Div Dev Neurosci, United Grad Sch Child Dev, Osaka Univ, Osaka, Japan, <sup>3</sup>Fac Sci, Univ of Malaya, Kuala Lumpur, Malaysia

10-04a1-2 High temperature region in growth cones heats up TRPV2-mechanosensor function and axonal outgrowth (15:15)

Koji Shibasaki<sup>1</sup>, Shouta Sugio<sup>1</sup>, Mai Oda<sup>1</sup>, Kohki Okabe<sup>2</sup>, Yuko Iwata<sup>3</sup>, Katsuhiko Ono<sup>4</sup>, Yasuki Ishizaki<sup>1</sup>

<sup>1</sup>Dept Mol Cell Neurobiol, Gunma Univ Grad Sch Med, Maebashi, Japan, <sup>2</sup>Lab Chem Pharmacol, Grad Sch Pharma Sci, Univ of Tokyo, Tokyo, <sup>3</sup>Dep Clin Res Dev, Nat Cerebral Cardiovascular Center Res Institute, Suita, Osaka, <sup>4</sup>Dep Biol, Kyoto Pref Univ Med, Kyoto, Japan

10-04a1-3 *DISCO Interacting Protein 2* regulates multiple aspects of the development of axonal branches in *Drosophila* mushroom body neurons (15:30)

Yohei Nitta<sup>1,2</sup>, Daisuke Yamazaki<sup>2</sup>, Atsushi Sugie<sup>1</sup>, Makoto Hiroi<sup>2</sup>, Tetsuya Tabata<sup>2</sup>

<sup>1</sup>Center for Transdisciplinary Research, Niigata University, Niigata, Japan, <sup>2</sup>Institute of Molecular and Cellular Biosciences, Univ. of Tokyo, Tokyo, Japan

10-04a1-4 In vivo imaging reveals regrowth of serotonin axons following injury in the adult mouse brain (15:45)



Yunju Jin<sup>1,2</sup>, Sarah E. Dougherty<sup>2</sup>, Kevin Wood<sup>3</sup>, Landy Sun<sup>2</sup>, Robert H. Cudmore<sup>2</sup>, Aya Abdalla<sup>3</sup>, Geetha Kannan<sup>2,4</sup>, Mikhail Pletnikov<sup>2,4</sup>, Parastoo Hashemi<sup>3</sup>, David J. Linden<sup>2,4</sup>

<sup>1</sup>Center for Cognition and Sociality, Institute for Basic Science (IBS), Daejeon 34141, Republic of Korea, <sup>2</sup>Solomon H. Snyder Department of Neuroscience, The Johns Hopkins University School of Medicine, Baltimore MD, <sup>3</sup>Department of Chemistry, Wayne State University, Detroit, MI, <sup>4</sup>Department of Psychiatry and Department of Molecular and Comparative Pathobiology, The Johns Hopkins University School of Medicine; Department of Molecular Microbiology and Immunology, Bloomberg School of Public Health, The Johns Hopkins University, Baltimore MD

Oral Sessions 10-05a1 15:00-16:00 Room 5 (501, 5F, Kobe International Conference Center)

## Motivation

Chairpersons: Eriko Kage-Nakadai *Graduate School of Human Life Science, Osaka City University*  
Koji Jimura *Department of Biosciences and Informatics, Keio University*

10-05a1-1 Neural and molecular basis involved in low preference to *Bifidobacterium infantis* in *Caenorhabditis elegans* (15:00)

Simo Sun, Yoshikazu Nishikawa, Eriko Kage-Nakadai  
*Graduate School of Human Life Science, Osaka City Univ., Japan*

- 10-05a1-2 Accumulation of 8-oxoguanine in nuclear genome of neural progenitors in aged mouse brain causes atrophy of major island of Calleja resulting in locomotor hyperactivity (15:15)  
Naoki Haruyama<sup>1,2</sup>, Kunihiko Sakumi<sup>1,2</sup>, Atsuhisa Katogi<sup>1</sup>, Daisuke Tsuchimoto<sup>1</sup>, Yusaku Nakabeppu<sup>1</sup>  
<sup>1</sup>Div. Neurofunc. Medical Institute of Bioregulation, Kyushu University, <sup>2</sup>Dept Med Clin Sci
- 10-05a1-3 b-Learning, studying body and mind integrative science (2): theoretical lecture and descriptive practice with the intension of fusiing psychology and autopoietic cell biology - Key to conscious trunk adjustment method using tactile information (15:30)  
Yoriko Atomi<sup>1</sup>, Kaori Uno<sup>2</sup>, Yoshikazu Higashi<sup>1</sup>, Tomoaki Atomi<sup>3</sup>, Aya Atomi<sup>1</sup>, Miho Shimizu<sup>1</sup>, Eri Fujita<sup>1</sup>  
<sup>1</sup>Cell to Boin & Mind Dynamics Lab., Tokyo Univ. of Agliculture and Tech., <sup>2</sup>College of Psychology, Tsukuba Univ., <sup>3</sup>Department of Physical Therapy, Teikyo Univ. of Sci.
- 10-05a1-4 Attentional processes adapt to dynamic updates of value (15:45)  
Weiyan Chee<sup>1,2</sup>, Narun Pornpattananangkul<sup>1</sup>, Christopher L Asplund<sup>1,2,3,5,6</sup>, Rongjun Yu<sup>1,4</sup>  
<sup>1</sup>Department of Psychology, National University of Singapore, Singapore, <sup>2</sup>Singapore Institute of Neurotechnology, National University of Singapore, Singapore, <sup>3</sup>Yale-NUS College, National University of Singapore, Singapore, <sup>4</sup>School of Psychology, Center for Studies of Psychological Application, and Key Laboratory of Mental Health and Cognitive Science of Guangdong Province, South China Normal University, Guangzhou, China, <sup>5</sup>Center for Cognitive Neuroscience, Duke-NUS Graduate Medical School, Singapore, <sup>6</sup>Clinical Imaging Research Center, Singapore

## Oral Sessions 10-06a1

15:00-16:00 Room 6 (502, 5F, Kobe International Conference Center)

### Vision (1)

Chairpersons: Kenichi Ohki *Department of Physiology, Graduate School of Medicine, The University of Tokyo*  
Ichiro Fujita *Graduate School of Frontier Biosciences, Osaka University*

- 10-06a1-1 Electrical synapses of retinal ganglion cells and visual cortex pyramidal cells can enhance excitatory synapses through synchronous excitation between cells (15:00)  
Soh Hidaka<sup>1</sup>, Osamu Umino<sup>2</sup>  
<sup>1</sup>Dept Physiol, Fujita Health Univ School of Medicine, Toyoake, Aichi, Japan, <sup>2</sup>Dept Information Sci, Faculty of Sci, Toho Univ, Funabashi, Japan
- 10-06a1-2 Computational models of the basic modular organization in the neocortex (15:15)  
Toshihiko Hosoya, Taisuke Yoneda, Hisato Maruoka  
*RIKEN BSI, Wako, Saitama, Japan*
- 10-06a1-3 Local organization of spatial frequency tuning dynamics and its relation to population information transmission in the cat primary visual cortex (15:30)  
Hiroki Tanaka<sup>1</sup>, Izumi Ohzawa<sup>2</sup>  
<sup>1</sup>Facul of Comp Sci and Eng, Kyoto-Sangyo Univ, Kyoto, Japan, <sup>2</sup>Grad Sch Frontier Biosci, Osaka Univ, Suita, Japan
- 10-06a1-4 Effects of bilateral spontaneous activity on mouse visual cortex during a visual detection task (15:45)  
Daisuke Shimaoka<sup>1</sup>, Kenneth D Harris<sup>2,3</sup>, Matteo Carandini<sup>1</sup>  
<sup>1</sup>UCL Institute of Ophthalmology, University College London, London, UK, <sup>2</sup>UCL Institute of Neurology, University College London, London, UK, <sup>3</sup>UCL Institute of Neurology, University College London, London, UK

Oral Sessions 10-07a1 15:00-16:00 Room 7 (504+505, 5F, Kobe International Conference Center)

## Neurotransmitters and Signaling Molecules

Chairpersons: Shigeo Takamori *Laboratory of Neural Membrane Biology Graduate School of Brain Science, Doshisha University*  
Hiroyuki Nawa *Niigata University, Brain Research Institute*

- 10-07a1-1 (15:00) **Epidermal growth factor regulates accumulation of perineuronal nets in the developing GABA neurons**  
Yuriko Iwakura<sup>1</sup>, Yutaro Kobayashi<sup>1</sup>, Hisaaki Namba<sup>1</sup>, Yuichiro Watanabe<sup>2</sup>, Toshiyuki Someya<sup>2</sup>, Hiroyuki Nawa<sup>1</sup>, Takayuki Yukawa<sup>2</sup>  
<sup>1</sup>Dept of Mol Neurobiol, Brain Res Inst, Niigata Univ, <sup>2</sup>Dept of Psychiatry, Niigata Univ Med & Dent Hosp
- 10-07a1-2 (15:15) **3-mercaptopyruvate sulfurtransferase produces potential reox regulators cystein- and glutathione-persulfide (Cys-SSH and GSSH) together with signaling molecules H<sub>2</sub>S, H<sub>2</sub>S<sub>3</sub> and H<sub>2</sub>S<sub>4</sub>**  
Yuka Kimura<sup>1</sup>, Shin Koike<sup>2</sup>, Norihiro Shibuya<sup>1</sup>, David Lefter<sup>3</sup>, Yuki Ogasawara<sup>2</sup>, Hideo Kimura<sup>1</sup>  
<sup>1</sup>National Institute of Neuroscience, NCNP, Tokyo, Japan, <sup>2</sup>Dept Anal Chem, Meiji Pharma Univ, Tokyo, Japan, <sup>3</sup>Dept Pharmacol Exp Ther, LSU Health Sci Center, New Orleans, USA
- 10-07a1-3 (15:30) **Hydrogen sulfide and polysulfides as signaling molecules -biosynthesis and function-**  
Hideo Kimura<sup>1</sup>, Yuka Kimura<sup>1</sup>, Shin Koike<sup>2</sup>, Norihiro Shibuya<sup>1</sup>, David Lefter<sup>4</sup>, Noriyuki Nagahara<sup>3</sup>, Kenjiro Hanaoka<sup>5</sup>, Yasuteru Urano<sup>5</sup>, Yuki Ogasawara<sup>2</sup>  
<sup>1</sup>Natl Inst Neurosci, NCNP, Tokyo, Japan, <sup>2</sup>Meiji Pharmaceutical University, Tokyo, Japan, <sup>3</sup>Nippon Medical School, Tokyo, Japan, <sup>4</sup>LSU Health Science Center, New Orleans, USA, <sup>5</sup>Univ Tokyo, Faculty of Pharmaceu. Sci. Tokyo, Japan
- 10-07a1-4 (15:45) **Ulk4 regulates GABAergic signaling and anxiety-related behavior**  
Min Liu<sup>5</sup>, Marie Fitzgibbon<sup>2</sup>, Yanqin Wang<sup>1,3</sup>, Jamie Reilly<sup>1</sup>, Xiaohong Qian<sup>4</sup>, Timothy O'Brien<sup>1</sup>, Steve Clapcote<sup>5</sup>, Sanbing Shen<sup>1</sup>, Michelle Roche<sup>2</sup>  
 <sup>1</sup>Regenerative Medicine Institute, School of Medicine, National University of Ireland Galway, Galway, Ireland, <sup>2</sup>Physiology, School of Medicine, Galway Neuroscience Centre and Centre for Pain Research, National University of Ireland Galway, Ireland., <sup>3</sup>Department of Physiology, College of Life Science, Hebei Normal University, Shijiazhuang, China., <sup>4</sup>National Center for Protein Sciences, Beijing Proteome Research Center, National Engineering Research Center for Protein Drugs, Beijing Institute of Radiation Medicine, Beijing, China, <sup>5</sup>School of Biomedical Sciences, University of Leeds, Leeds, UK

Oral Sessions 10-08a1 15:00-16:00 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

## Sleep and Biological Rhythms (1)

Chairpersons: Hiromasa Funato *Toho University / University of Tsukuba*  
Michihiro Mieda *Dept. of Integrative Neurophysiology, Faculty of Medicine, Kanazawa University*

- 10-08a1-1 (15:00) **NREM sleep is modulated by zinc in mice and humans**  
Yoan Cherasse, Olusolape Ladenika, Gabrielle Boix, Yoshihiro Urade, Takeshi Sakurai  
*University of Tsukuba, International Institute for Integrative Sleep Medicine (WPI-IIS)*
- 10-08a1-2 (15:15) **How do D-neurons interact with pathogenesis of narcolepsy?**  
Keiko Ikemoto  
*Dept Psychiatry, Iwaki Kyoritsu Gen Hosp*

10-08a1-3 Adenosinergic Mechanisms of Sleep Control in the Nucleus Accumbens

(15:30) Xuzhao Zhou, Yo Oishi, Michael Lazarus  
*IIIS, Univ of Tsukuba, Tsukuba, Japan*

10-08a1-4 Communication of Cortical Neurons during Slow Wave Sleep

(15:45) Sumire Matsumoto<sup>1,2</sup>, Kaoru Ohyama<sup>2</sup>, Kaspar Vogt<sup>2</sup>  
*<sup>1</sup>School of Integrative and Global Majors, Univ of Tsukuba, Tsukuba, Ibaraki, Japan, <sup>2</sup>International Institute for Integrative Sleep Medicine, University of Tsukuba, Ibaraki, Japan*

Oral Sessions 10-09a1 15:00-16:00 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Mechanism of Neuronal Migration

Chairpersons: Yugo Fukazawa *Div. Brain Struct. Func., Faculty Med. Sci., University of Fukui*  
Kazunori Nakajima *Department of Anatomy, Keio University School of Medicine*

10-09a1-1 A transient postnatal peak of neurogenesis supports neuronal migration to the non-human primate neocortex

(15:00) Mariyam Akter<sup>1</sup>, Naoko Kaneko<sup>1</sup>, Kazunobu Sawamoto<sup>1,2</sup>  
*<sup>1</sup>Department of Developmental and Regenerative Biology, Nagoya City University Graduate School of Medical Sciences, Aichi, Japan, <sup>2</sup>Division of Neural Development and Regeneration, National Institute for Physiological Sciences, Aichi, Japan*

10-09a1-2 PlexinD1 signaling controls morphological changes and migration termination in newborn neurons

(15:15) Masato Sawada<sup>1</sup>, Nobuhiko Ohno<sup>2,3</sup>, Mitsuyasu Kawaguchi<sup>4</sup>, Shih-hui Huang<sup>1</sup>, Takao Hikita<sup>1</sup>, Youmei Sakurai<sup>1</sup>, Huy Bang Nguyen<sup>2</sup>, Truc Quynh Thai<sup>2</sup>, Yuri Ishido<sup>1</sup>, Yutaka Yoshida<sup>5</sup>, Hidehiko Nakagawa<sup>4</sup>, Akiyoshi Uemura<sup>6</sup>, Kazunobu Sawamoto<sup>1,7</sup>  
*<sup>1</sup>Dept Dev Regen Biol, Nagoya City Univ Grad Sch Med Sci, Nagoya, Japan, <sup>2</sup>Div Neurobiol Bioinfo, NIPS, Okazaki, Japan, <sup>3</sup>Dept Anat, Div Histol Cell Biol, Jichi Med Univ, Sch Med, Shimotsuke, Japan, <sup>4</sup>Dept Org Med Chem, Nagoya City Univ Grad Sch Phar Sci, Nagoya, Japan, <sup>5</sup>Div Dev Biol, Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA, <sup>6</sup>Dept Retinal Vasc Biol, Nagoya City Univ Grad Sch Med Sci, Nagoya, Japan, <sup>7</sup>Div Neural Dev Regen, NIPS, Okazaki, Japan*

10-09a1-3 Unified control of neuronal delamination and outer radial glial generation during cerebral development

(15:30) Ayano Kawaguchi<sup>1</sup>, Takumi Kawaue<sup>1</sup>, Atsunori Shitamukai<sup>2</sup>, Arata Nagasaka<sup>1</sup>, Tomoyasu Shinoda<sup>1</sup>, Kanako Saito<sup>1</sup>, Fumio Matsuzaki<sup>2</sup>, Takaki Miyata<sup>1</sup>  
*<sup>1</sup>Dept Anatomy and Cell Biology, Nagoya University Graduate School of Medicine, <sup>2</sup>Lab for Cell Asymmetry, CDB RIKEN*

10-09a1-4 Deciphering Ca<sup>2+</sup> signaling during radial migration of immature cortical neurons

(15:45) Shin-ichiro Horigane<sup>1,2</sup>, Sayaka Takemoto-Kimura<sup>1,2</sup>, Aki Adachi-Morishima<sup>2</sup>, Satoshi Kamijo<sup>2</sup>, Hajime Fujii<sup>2</sup>, Haruhiko Bito<sup>2</sup>  
*<sup>1</sup>Dept of Neurosci 1, Res Inst Environment Med, Nagoya Uni, Nagoya, Japan, <sup>2</sup>Dept Neurochem, Grad Sch of Med, Univ Tokyo, Tokyo*

Oral Sessions 10-10a1 15:00-16:00 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Translational and Applied Neuroscience

Chairpersons: Haruto Takagishi *Tamagawa University*  
Makiko Yamada *National Institutes for Quantum and Radiological Science and Technology*

- 10-10a1-1 Brain Aging in Major Depressive Disorder: findings from the ENIGMA MDD consortium (15:00)  
 Laura Kim Mae Han<sup>1</sup>, Richard Dinga<sup>1</sup>, Paul Thompson<sup>2</sup>, Dick J Veltman<sup>1</sup>, Brenda Penninx<sup>1</sup>, Lianne Schmaal<sup>3</sup>  
<sup>1</sup>VU University Medical Center, Department of Psychiatry, Amsterdam Neuroscience, GGZ inGeest, Amsterdam Public Health research institute, Amsterdam, The Netherlands, <sup>2</sup>Imaging Genetics Center, Mark and Mary Stevens Institute for Neuroimaging & Informatics, Keck School of Medicine of the University of Southern California, <sup>3</sup>Orygen, The National Centre of Excellence for Youth Mental Health, Melbourne, Australia
- 10-10a1-2 Respiratory modulation of cognitive performance during the retrieval process (15:15)  
 Nozomu Nakamura<sup>1</sup>, Masaki Fukunaga<sup>2</sup>, Yoshitaka Oku<sup>1</sup>  
<sup>1</sup>Dept Physiol, Hyogo Col Med, Nishinomiya, Japan, <sup>2</sup>Div Cereb Integration, NIPS, Okazaki, Japan
- 10-10a1-3 Structural and Functional Brain Connectivity in Homo Economicus: A multi-modal imaging study using the HCP pipeline (15:30)  
 Kei Kanari<sup>1</sup>, Atsushi Miyazaki<sup>1</sup>, Takayuki Fujii<sup>1</sup>, Toru Ishihara<sup>1</sup>, Hiroki Tanakata<sup>1</sup>, Kuniyuki Nishina<sup>1</sup>, Muneyoshi Takahashi<sup>1</sup>, Tetsuya Matsuda<sup>1</sup>, Toshio Yamagishi<sup>1,2</sup>, Haruto Takagishi<sup>1</sup>  
<sup>1</sup>Tamagawa University Brain Science Institute, Tokyo, Japan., <sup>2</sup>Hitotsubashi University, Tokyo, Japan
- 10-10a1-4 A possible involvement of the cerebellum in intuitive thought in shogi (Japanese chess) experts (15:45)  
 Hironori Nakatani<sup>1,2</sup>, Shoko Yuki<sup>1</sup>  
<sup>1</sup>Dept Arts and Sciences, The Univ of Tokyo, <sup>2</sup>RIKEN-BSI

Oral Sessions 10-02e1 16:00-17:00 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

## Parkinson's Disorder and $\alpha$ -Synuclein

Chairpersons: Hideki Mochizuki *Department of Neurology, Osaka University Graduate School of Medicine*  
Masato Hasegawa *Head of Department of Dementia and Higher Brain Function*

- 10-02e1-1 Loss of MicroRNA-7 Regulation Leads to  $\alpha$ -Synuclein Accumulation and Dopaminergic Neuronal Loss In Vivo (16:00)  
 Oscar Cordero Llana<sup>1</sup>, Kirsty McMillan<sup>1</sup>, Maeve Caldwell<sup>2</sup>, Liang Fong Wong<sup>1</sup>, Tracey Murray<sup>4</sup>, Richard Wade Martins<sup>3</sup>  
<sup>1</sup>University of Bristol, <sup>2</sup>Trinity College Dublin, <sup>3</sup>University of Oxford, <sup>4</sup>Eli Lilly & Co
- 10-02e1-2 Internalization, trafficking and release of alpha-synuclein aggregates in cellular models of Parkinson disease (16:15)  
 Anurag Tandon, Lilia Rodriguez  
*Department of Medicine, Center for Research in Neurodegenerative Diseases, University of Toronto*

**10-02e1-3 (16:30) Lysosomal exocytosis and astrocytic uptake regulate  $\alpha$ -synuclein levels in ATP13A2/PARK9 patient dopaminergic neurons**

Taiji Tsunemi<sup>1</sup>, Yuta Ishiguro<sup>1</sup>, Asako Yoroiyaka<sup>1</sup>, Wado Akamatsu<sup>2</sup>, Dimitri Krainc<sup>3</sup>, Nobutaka Hattori<sup>1</sup>

<sup>1</sup>Department of Neurology, Juntendo University School of Medicine, Tokyo, Japan, <sup>2</sup>Center for Genomic and Regenerative, Juntendo University School of Medicine, Tokyo, Japan, <sup>3</sup>Department of Neurology, Northwestern University, Chicago, USA

**10-02e1-4 (16:45) Changes in plasma fatty acid beta-oxidation are potential biomarkers for neurodegenerative diseases**

Shinji Saiki, Taku Hatano, Motoki Fujimaki, Nobutaka Hattori

Department of Neurology, Juntendo University Graduate School of Medicine, Tokyo, Japan

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**Oral Sessions 10-04e1 16:00-17:00 Room 4 (401+402, 4F, Kobe International Conference Center)**

**Molecular Mechanism of Circuit Formation**

Chairpersons: Kohtaro Takei *Yokohama City University Graduate School of Medical Life Science*  
Kazuo Emoto *Dep of Biol Sci, The Univ of Tokyo*

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**10-04e1-1 (16:00) Clustered protocadherins except three PcdhyC isoforms are necessary for generating functional neuronal circuits**

Kenji Takemoto, Hiroaki Kobayashi, Sonoko Hasegawa, Yukinori Inoue, Takahiro Hirabayashi, Takeshi Yagi

Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan

**10-04e1-2 (16:15) Cellular and molecular mechanisms of neurite remodeling in *Drosophila***

Eri Hasegawa, Yasuko Kitatani, Satoyoshi Yanagi, Akane Tezuka, Kazuo Emoto

Dept Biol Sci, Graduate schl of sci, Univ of Tokyo

**10-04e1-3 (16:30) The LKB1-SIK Pathway Controls Dendrite Self-avoidance in Purkinje Cells**

Kenichiro Kuwako, Hideyuki Okano

Dept Physiol, Keio Univ Sch of Med, Tokyo, Japan

**10-04e1-4 (16:45) Transcriptional mechanisms underlying the establishment of sensory areas**

Peishan Hou, Carina Hanashima

Department of Biology, Waseda University

Oral Sessions 10-05e1 16:00-17:00 Room 5 (501, 5F, Kobe International Conference Center)

## Social Behavior

Chairpersons: Eiji Watanabe *National Institute for Basic Biology*  
Masahiko Harumo *NICT CiNet*

- 10-05e1-1 The habenulo-interpedunculo-median raphe regulates social conflict  
(16:00) Miho Matsumata<sup>1</sup>, Kenzo Hirao<sup>1</sup>, Takuma Kobayashi<sup>1</sup>, Taku Sugiyama<sup>1</sup>, Yuki Kobayashi<sup>2</sup>, Huang J Arthur<sup>3</sup>, McHugh J Thomas<sup>3</sup>, Shigeyoshi Itoharu<sup>2</sup>, Hitoshi Okamoto<sup>1</sup>  
*<sup>1</sup>Lab for Neural circuit dynamics of decision making, Riken Center for Brain Science, Saitama, Japan, <sup>2</sup>Lab for Behavioral Genetics, Riken Center for Brain Science, Saitama, Japan, <sup>3</sup>Lab for Circuit and Behavioral Physiology, Riken Center for Brain Science, Saitama, Japan*
- 10-05e1-2 Neural network mechanisms for target changing behavior in bullying  
(16:15) Kyosuke Takami<sup>1,2</sup>, Masahiko Haruno<sup>2</sup>  
*<sup>1</sup>Osaka Univ. FBS, Osaka, <sup>2</sup>NICT Center for Information and Neuralnetwork, Osaka, Japan*
- 10-05e1-3 Medaka fish follow up the virtual conspecific turning its face toward them  
(16:30) Masaki Yasugi, Eiji Watanabe  
*National Institute for Basic Biology, Aichi, Japan*
- 10-05e1-4 Anticipating of other's behavior on the basis of understanding other's false beliefs in rhesus monkeys (*Macaca fuscata*)  
(16:45) Taketsugu Hayashi<sup>1</sup>, Keisuke Kawasaki<sup>2</sup>, Ryota Akikawa<sup>3</sup>, Isao Hasegawa<sup>2</sup>, Jun Egawa<sup>1</sup>, Toshiyuki Someya<sup>1</sup>, Atsuhiko Iijima<sup>3</sup>  
*<sup>1</sup>Dept Psychiatry, Niigata Univ, Niigata, <sup>2</sup>Dept Physiol, Niigata Univ, Niigata, <sup>3</sup>Dept Engineering, Niigata Univ, Niigata*

Oral Sessions 10-06e1 16:00-17:00 Room 6 (502, 5F, Kobe International Conference Center)

## Olfaction and Taste

Chairpersons: Kotaro Oka *Department of Biosciences and Informatics, Keio University*  
Kohei Ueno *Learn. & Mem. Proj., Tokyo Metropolitan Institute of Medical Science*

- 10-06e1-1 Identification and Characterization of Novel Olfactory Marker Protein Isoform in the Zebrafish Brain and Its Potential Role in the Regulation of Reproduction  
(16:00) Salmi Ab Aziz<sup>1</sup>, Moriya Shogo<sup>2</sup>, Parhar S. Ishwar<sup>2</sup>  
*<sup>1</sup>School of Health Sciences, Universiti Sains Malaysia, 16150 Kelantan, Malaysia, <sup>2</sup>Brain Research Institute, Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, 47500 Selangor, Malaysia*
- 10-06e1-2 Involvement of nicotinic cholinergic receptors in the olfactory processing  
(16:15) Sae Uchida, Ito Yoshie, Kagitani Fusako  
*Dept Auton Neurosci, Tokyo Metropol Inst Gerontol, Tokyo, Japan*
- 10-06e1-3 Potential roles of spontaneous activity of olfactory receptor neurons in the olfactory behavior of *Drosophila* larvae  
(16:30) Nao Utashiro, Kazuo Emoto  
*Dept Biol Sci, Univ of Tokyo, Tokyo, Japan*

- 10-06e1-4 Mechanism of learning-dependent activity changes in sensory neurons in *Caenorhabditis elegans* (16:45)  
Yosuke Ikejiri<sup>1</sup>, Tanimoto Yuki<sup>1</sup>, Yamazaki J Shuhei<sup>1</sup>, Fujita Kosuke<sup>1</sup>, Kimura Kotaro<sup>1,2</sup>  
<sup>1</sup>Dept. Biol., Grad. Sch. Sci., Osaka Univ, <sup>2</sup>Graduate School of Natural Science, Nagoya City University, Aichi, Japan

Oral Sessions 10-07e1 16:00-17:00 Room 7 (504+505, 5F, Kobe International Conference Center)

## Glial Mechanisms

Chairpersons: Kazunobu Sawamoto *Department of Developmental and Regenerative Biology, Nagoya City University Graduate School of Medical Sciences*  
Junichi Nabekura *National Institute for Physiological Sciences*

- 10-07e1-1 A computational approach for understanding the role of astrocytes in neuronal firing pattern modulation in the preBötzing Complex during hypoxia (16:00)  
Carlos Vivar<sup>1</sup>, Itaru Yazawa<sup>2</sup>, Isato Fukushi<sup>3</sup>, Shuntaro Okazaki<sup>3,4</sup>, Yasumasa Okada<sup>4</sup>  
<sup>1</sup>Dept. Molecular Biology and Biochemistry, University of Malaga, Spain., <sup>2</sup>Global Research Center for Innovative Life Science, Hoshi University, Japan, <sup>3</sup>Clinical Research Center, National Hospital Organization Murayama Medical Center, Japan, <sup>4</sup>Faculty of Human Sciences, Waseda University, Japan
- 10-07e1-2 Vesicular glutamate release from ensheathing glial transmits electric shock information to the mushroom bodies during olfactory conditioning in *Drosophila* (16:15)  
Tomoyuki Miyashita<sup>1</sup>, Kanako Murakami<sup>1,2</sup>, Takaaki Miyaji<sup>3</sup>, Kyouko Ofusa<sup>1</sup>, Emi Kikuchi<sup>1</sup>, Yoshinori Moriyama<sup>3</sup>, Minoru E Saito<sup>1</sup>  
<sup>1</sup>Tokyo Metropolitan Institute of Medical Science, <sup>2</sup>Tokyo Metropolitan University, <sup>3</sup>Okayama University
- 10-07e1-3 Hypoxanthine induces Fat3 expression and regulates microglial morphology (16:30)  
Tomomi Okajima, Ban Sato, Tomoki Chiba, Fuminori Tsuruta  
*Life and Environmental Science, University of Tsukuba, Ibaraki, Japan*
- 10-07e1-4 New insights into the accumulation of micronuclei associated with autophagy defect (16:45)  
Sarasa Yano, Ban Sato, Tomoki Chiba, Fuminori Tsuruta  
*The College of Biological Sciences, School of Life and Environmental Sciences, University of Tsukuba*

Oral Sessions 10-07e2 17:00-18:00 Room 7 (504+505, 5F, Kobe International Conference Center)

## Corticogenesis and Regeneration

Chairpersons: Tetsuo Yamamori *RIKEN Center for Brain Science (CBS)*  
Yukiko Gotoh *Graduate School of Pharmaceutical Sciences, The University of Tokyo*

- 10-07e2-1 Folding of the cerebral cortex requires Cdk5 in upper-layer neurons in gyrencephalic mammals (17:00)  
Yohei Shinmyo<sup>1</sup>, Yukari Terashita<sup>1</sup>, Tung Anh Dinh Duong<sup>1</sup>, Toshihide Horiike<sup>1</sup>, Muneko Kawasumi<sup>1</sup>, Kazuyoshi Hosomichi<sup>2</sup>, Atsushi Tajima<sup>2</sup>, Hiroshi Kawasaki<sup>1</sup>  
<sup>1</sup>Dept. of Med. Neurosci., Grad. Sch. of Med., Kanazawa Univ., Ishikawa, Japan, <sup>2</sup>Dept. of Bioinfo. and Geno., Grad. Sch. of Med., Kanazawa Univ., Ishikawa, Japan
- 10-07e2-2 Gyrfication of the cerebral cortex requires FGF signaling in the mammalian brain (17:15)  
Naoyuki Matsumoto, Yohei Shinmyo, Yoshie Ichikawa, Hiroshi Kawasaki  
*Dept of Med Neurosci, Grad Sch of Med, Kanazawa Univ, Ishikawa, Japan*

10-07e2-3 Dmrt genes regulate the development of Cajal-Retzius cells derived from specific origins in the cerebral cortex (17:30)  
 Takako Kikkawa<sup>1</sup>, Nobuyuki Sakayori<sup>2</sup>, Hayato Yuuki<sup>1</sup>, Noriko Osumi<sup>1</sup>  
<sup>1</sup>Dept. of Dev. Neurosci., Tohoku Univ. Sch. of Med., Miyagi, Japan, <sup>2</sup>Dep. Mol. Genet., Inst. Biomed. Sci., Fukushima Med. Univ., Fukushima, Japan

10-07e2-4 Angiogenic scaffold engineering for injured brain regeneration (17:45)  
 Itsuki Ajioka<sup>1,2</sup>, Mio Oshikawa<sup>1</sup>  
<sup>1</sup>Center for Brain Integration Research, Tokyo Medical and Dental University, <sup>2</sup>PRESTO, Japan Science and Technology Agency (JST)

Oral Sessions 10-07e3 18:00-19:00 Room 7 (504+505, 5F, Kobe International Conference Center)

## Nurodevelopmental Disorders (1)

Chairpersons: Taiichi Katayama *Osaka University, United graduate school of Child development*  
 Kazuya Iwamoto *Department of Molecular Brain Science, Graduate School of Medical Sciences, Kumamoto University*

10-07e3-1 Developing a method for detection of LINE-1 and its application to single brain cells (18:00)  
 Miki Bundo<sup>1,2</sup>, Junko Ueda<sup>3</sup>, Masaki Nishioka<sup>4</sup>, Emi Kiyota<sup>1</sup>, Kiyoto Kasai<sup>4</sup>, Tadafumi Kato<sup>3</sup>, Kazuya Iwamoto<sup>1</sup>  
<sup>1</sup>Dept Mol Brain, Kumamoto Univ, Kumamoto, Japan, <sup>2</sup>PRESTO JST, <sup>3</sup>Lab for Molecular Dynamics of Mental Disorders, RIKEN BSI, Saitama, Japan, <sup>4</sup>Dept Neuropsych, Univ of Tokyo, Tokyo, Japan

10-07e3-2 Impaired Synapse Development in Mouse Medial Prefrontal Cortex by Deletion of a Histone-Modifying Enzyme Implicated in Psychiatric Disorder (18:15)  
 Kenichiro Nagahama, Kazuto Sakoori, Takaki Watanabe, Naofumi Uesaka, Masanobu Kano  
*Dept Neurophysiol, the Univ of Tokyo, Tokyo, Japan*

10-07e3-3 Down-regulation of Calcium/calmodulin-dependent serine protein kinase (CASK) disrupts excitatory-inhibitory balance of synapses by down-regulation of GluN2B (18:30)  
 Takuma Mori<sup>1</sup>, Enas Ahmed Fathalla Kasem<sup>1</sup>, Xueshan Cao<sup>1</sup>, Emi Suzuki<sup>1</sup>, Xue Li<sup>1</sup>, Taiga Kurihara<sup>1</sup>, Takeshi Uemura<sup>1</sup>, Toru Yanagawa<sup>2</sup>, Katsuhiko Tabuchi<sup>1</sup>  
<sup>1</sup>Dept. Cell. and Mol. Physiology, Shinshu University, Nagano, JAPAN., <sup>2</sup>Department of Oral and Maxillofacial Surgery, Faculty of Medicine, University of Tsukuba, Ibaraki, Japan

10-07e3-4 Deficiency of cAMP-GEF2 affects impulsive control and delay discounting in distinct neural populations (18:45)  
 Yuki Kobayashi<sup>1</sup>, Naomi Kogo<sup>1</sup>, Atsuko Oba-Asaka<sup>1</sup>, Reiko Ando<sup>1</sup>, Hiroaki Kawasaki<sup>2</sup>, Shigeyoshi Itohara<sup>1</sup>  
<sup>1</sup>Laboratory for Behavioral Genetics, RIKEN Brain Science Institute, Wako, <sup>2</sup>Department of Psychiatry, Faculty of Medicine, Fukuoka University, JAPAN

Oral Sessions 10-08e1 16:00-17:00 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

## Learning, Memory and Plasticity (1)

Chairpersons: Kimiko Shimizu *Department of Biological Sciences, School of Science, The University of Tokyo*  
Noritaka Ichinohe *National Center for Psychiatry and Neurology*

- 10-08e1-1 Neural circuit underlying mechanosensory behavior and plasticity in *C. elegans*  
(16:00) Takuma Sugi, Masaki Nishimura  
*Mol Neurosci Res Ctr, Shiga Univ Med Sci, Shiga, Japan*
- 10-08e1-2 Metabotropic and ionotropic glutamate receptors coordinately enhance olfactory learning of *C. elegans* in a pair of interneurons  
(16:15) Shuhei Yamazaki<sup>1</sup>, Yuki Tanimoto<sup>1</sup>, Takeshi Ishihara<sup>2</sup>, Kotaro Kimura<sup>1,3</sup>  
*<sup>1</sup>Dept Biol Sci, Osaka Univ, Osaka, Japan, <sup>2</sup>Dept Biol, Grad Sch Sci, Kyushu Univ, Fukuoka, Japan, <sup>3</sup>Grad Sch Natural Sciences, Nagoya City Univ, Aichi, Japan*
- 10-08e1-3 Roles of the CLC chloride channel CLH-1 in food-associated salt chemotaxis learning of *C. elegans*  
(16:30) Chanhyun Park, Yuki Sakurai, Shinji Kanda, Yuichi Iino, Hirofumi Kunitomo  
*Dept Biol Sci, Graduate sch of sci, Univ of Tokyo*
- 10-08e1-4 The DAF-16/FOXO transcription factor regulates learning and memory in a sensory neuron in *C. elegans*  
(16:45) Takashi Nagashima, Masahiro Tomioka, Yuichi Iino  
*Grad School of Science, Univ of Tokyo, Tokyo, Japan*

Oral Sessions 10-09e1 16:00-17:00 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Activating Dependent Development and Behavior

Chairpersons: Yasunori Hayashi *Department of Pharmacology, Kyoto University Graduate School of Medicine*  
Kouichi Hashimoto *Department of Neurophysiology, Graduate School of Biomedical & Health Sciences, Hiroshima University*

- 10-09e1-1 Patchwork-type spontaneous activity in neonatal somatosensory cortex transmitted via thalamocortical projections  
(16:00) Hidenobu Mizuno<sup>1,2</sup>, Koji Ikezoe<sup>3</sup>, Shingo Nakazawa<sup>1,2</sup>, Takuya Sato<sup>1</sup>, Kazuo Kitamura<sup>3</sup>, Takuji Iwasato<sup>1,2</sup>  
*<sup>1</sup>Div Neurogenetics, National Institute of Genetics, Shizuoka, Japan, <sup>2</sup>Dept Genetics, SOKENDAI (Grad Univ for Advanced Studies), Shizuoka, Japan, <sup>3</sup>Dept Neurophysiol, Faculty of Medicine, Univ of Yamanashi, Yamanashi, Japan*
- 10-09e1-2 Roles of synaptic transmission in climbing fiber to Purkinje cell synapse elimination during postnatal cerebellar development  
(16:15) Tzu-Huei Kao<sup>1,2</sup>, Kyoko Matsuyama<sup>1</sup>, Naofumi Uesaka<sup>1</sup>, Masanobu Kano<sup>1,2</sup>  
*<sup>1</sup>Dept Neurophysiol, Grad Sch of Med, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>International Research Center for Neurointelligence (WPI-IRCN), UTIAS, Univ of Tokyo, Tokyo, Japan*

10-09e1-3 **De novo mutants of CaMKII $\alpha$ / $\beta$  responsible for neurodevelopmental disorders upregulate A-type voltage-dependent K<sup>+</sup> currents in hippocampal neurons**  
(16:30)

Tenpei Akita<sup>1</sup>, Kazushi Aoto<sup>2</sup>, Mitsuhiro Kato<sup>3</sup>, Masaaki Shiina<sup>4</sup>, Hiroki Mutoh<sup>1</sup>, Mitsuko Nakashima<sup>2,5</sup>, Ichiro Kuki<sup>6</sup>, Shin Okazaki<sup>6</sup>, Shinichi Magara<sup>7</sup>, Takashi Shiihara<sup>8</sup>, Kenji Yokochi<sup>9,10</sup>, Kaori Aiba<sup>10</sup>, Jun Tohyama<sup>7</sup>, Chihiro Ohba<sup>5</sup>, Satoko Miyatake<sup>5</sup>, Noriko Miyake<sup>5</sup>, Kazuhiro Ogata<sup>4</sup>, Atsuo Fukuda<sup>1</sup>, Naomichi Matsumoto<sup>5</sup>, Hiroto Saito<sup>2</sup>

<sup>1</sup>Dept Neurophysiol, Hamamatsu Univ Sch Med, Shizuoka, Japan, <sup>2</sup>Dept Biochem, Hamamatsu Univ Sch Med, Shizuoka, Japan, <sup>3</sup>Dept Pediatr, Showa Univ Sch Med, Tokyo, Japan, <sup>4</sup>Dept Biochem, Yokohama City Univ Grad Sch Med, Kanagawa, Japan, <sup>5</sup>Dept Hum Genet, Yokohama City Univ Grad Sch Med, Kanagawa, Japan, <sup>6</sup>Dept Pediatr Neurol, Pediatr Med Care Ctr, Osaka City Gen Hosp, Osaka, Japan, <sup>7</sup>Dept Pediatr, Epilepsy Ctr, Nishi-Niigata Chuo Natl Hosp, Niigata, Japan, <sup>8</sup>Dept Neurol, Gunma Child Med Ctr, Gunma, Japan, <sup>9</sup>Dept Pediatr Neurol, Seirei-Mikatahara Gen Hosp, Shizuoka, Japan, <sup>10</sup>Dept Pediatr, Toyohashi Munic Hosp, Aichi, Japan

10-09e1-4 **Anxiolytic effect of electroconvulsive treatment mediated by enhanced serotonin 5-HT<sub>4</sub> receptor signaling**  
(16:45)

Katsunori Kobayashi, Yasunori Mikahara, Hidenori Suzuki

Dept Pharmacol, Nippon Med Sch, Tokyo, Japan

**Oral Sessions 10-10e1 16:00-17:00 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)**

**Autonomic Regulation**

Chairpersons: Tatsushi Onaka *Division of Brain and Neurophysiology, Department of Physiology, Jichi Medical University*

Tomoyuki Kuwaki *Kagoshima University Graduate School of Medical and Dental Sciences*

10-10e1-1 **Control of micturition by manipulation of the activity of the anterior cingulate cortex**

(16:00)

Takanori Mochizuki<sup>1,2</sup>, Satoshi Manita<sup>1</sup>, Hiroshi Shimura<sup>2,3</sup>, Yuuki Imai<sup>2</sup>, Tatsuya Ihara<sup>2</sup>, Satoru Kira<sup>2</sup>, Hiroshi Nakagomi<sup>2</sup>, Norifumi Sawada<sup>2</sup>, Takahiko Mitsui<sup>2</sup>, Masayuki Takeda<sup>2</sup>, Kazuo Kitamura<sup>1</sup>

<sup>1</sup>Dept Neurophysiol, Fac Med, Univ Yamanashi, Yamanashi, Japan, <sup>2</sup>Dept Urol, Fac Med, Univ Yamanashi, Yamanashi, Japan, <sup>3</sup>Nagakubo hospital, Tokyo, Japan

10-10e1-2 **Central histaminergic nerves control the cerebral vasomotion**

(16:15)

Tomokazu Ohshiro, Hajime Mushiake

Dept Physiol, School of Medicine, Tohoku University, Sendai, Japan

10-10e1-3 **Optogenetic analysis of cells whose activities are associated either with slow waves or peritalsis in the simple gut of zebrafish larvae**  
(16:30)

Kohei Hatta<sup>1</sup>, Takuya Kojima<sup>2</sup>, Daiji Takamido<sup>1</sup>, Sayaka Nishida<sup>2</sup>, Masataka Nikaido<sup>1,2</sup>, Shin-ichi Okamoto<sup>1</sup>

<sup>1</sup>Grad Sch of Life Sci, Univ of Hyogo, Akou, Japan, <sup>2</sup>Facul of Biology, Univ of Hyogo, Akou, Japan

Oral Sessions 10-10e2 17:00-18:00 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Neuroinformatics and Large Scale Simulation (1)

Chairpersons: Shin Ishii *Kyoto University/ATR Cognitive Research Laboratories*  
Kotaro Kimura *Graduate School of Natural Sciences, Nagoya City University*

- 10-10e2-1 **Optimizing whole brain connectivity analysis through neurophysiological relevance**  
(17:00) Yosuke Morishima, Takuya Ishida  
*Translational Research Center, Univ Hospital of Psychiatry, Univ of Bern, Bern, Switzerland*
- 10-10e2-2 **Multi-label volume reconstruction of FIB/SEM images and its application to the simulation of extracellular DA signaling**  
(17:15) Hidetoshi Urakubo<sup>1</sup>, Laxmi Kumar Parajuli<sup>2,3</sup>, Torsten Bullmann<sup>1</sup>, Shigeyuki Oba<sup>1</sup>, Shigeo Okabe<sup>3</sup>, Shin Ishii<sup>1</sup>  
*<sup>1</sup>Dept Info, Kyoto Univ, Kyoto, Japan., <sup>2</sup>Juntendo Univ Med School, Tokyo, Japan, <sup>3</sup>Grad Sch Med, Univ of Tokyo, Tokyo, Japan*
- 10-10e2-3 **A pipeline for the automated integration of individual structural information from images of axonal tracer projections in marmoset brains into a structural map of full brain connectivity**  
(17:30) Henrik Skibbe<sup>1</sup>, Ken Nakae<sup>1</sup>, Akiya Watakabe<sup>2</sup>, Alexander Woodward<sup>5</sup>, Carlos Enrique Gutierrez<sup>6</sup>, Hiromichi Tsukada<sup>6</sup>, Rui Gong<sup>5</sup>, Junichi Hata<sup>3</sup>, Hideyuki Okano<sup>3,4</sup>, Tetsuo Yamamori<sup>2</sup>, Shin Ishii<sup>1</sup>  
*<sup>1</sup>Kyoto University, Department of Systems Science, <sup>2</sup>RIKEN Brain Science Institute, Japan, Laboratory for Molecular Analysis of Higher Brain Function, <sup>3</sup>RIKEN Brain Science Institute, Japan, Laboratory for Marmoset Neural Architecture, <sup>4</sup>Keio University School of Medicine, Japan, Department of Physiology, <sup>5</sup>RIKEN Brain Science Institute, Japan, Neuroinformatics Japan Center, <sup>6</sup>OIST, Okinawa, Japan, Neural Computation Unit*
- 10-10e2-4 **A general method for extracting whole brain activities from 3D images using deep learning**  
(17:45) Chentao Wen<sup>1</sup>, Takuya Miura<sup>1</sup>, Kotaro Kimura<sup>1,2</sup>  
*<sup>1</sup>Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan, <sup>2</sup>Graduate School of Natural Sciences, Nagoya City University, Nagoya*

Oral Sessions 10-10e3 18:00-19:00 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Brainstem and Spinal Cord

Chairpersons: Kazuhiko Seki *National Center of Neurology and Psychiatry*  
Hiroshi Nishimaru *System Emotional Science, University of Toyama*

- 10-10e3-1 **Projection areas of spinocerebellar fibers arising from the upper lumbar segments in the rat**  
(18:00) Matsuo Matsushita  
*Univ of Tsukuba, Tsukuba, Ibaraki, Japan*

- 10-10e3-2 (18:15)** The role of the diencephalon in the central control of respiration investigated with the isolated diencephalon-lower brainstem-spinal cord preparation  
Isato Fukushi<sup>1</sup>, Yosuke Kono<sup>1,2</sup>, Shigefumi Yokota<sup>3</sup>, Kotaro Takeda<sup>1,4</sup>, Shuntaro Okazaki<sup>1,5</sup>, Itaru Yazawa<sup>6</sup>, Hiroshi Onimaru<sup>7</sup>, Yasumasa Okada<sup>1</sup>  
*<sup>1</sup>NHO Murayama Medical Center, Clin Res Center, Tokyo, Japan, <sup>2</sup>Dept Pediatr, Univ of Yamanashi, Fac Med, Yamanashi, Japan, <sup>3</sup>Dept Anat & Morphol Neurosci, Shimane Univ, Shimane, Japan, <sup>4</sup>Fac Rehab, Sch Hlth Sci, Fujita Hlth Univ, Aichi, Japan, <sup>5</sup>Fac Human Sci, Waseda Univ, Saitama, Japan, <sup>6</sup>Global Res. Ctr. for Innovative Life Sci., Hoshi Univ. Sch. of Pharm. & Pharmaceut. Sci, Tokyo, Japan, <sup>7</sup>Dept Physiol, Showa Univ, Tokyo*
- 10-10e3-3 (18:30)** Fast volumetric functional imaging with axicon-based Bessel beam reveals neural birth timing-related recruitment pattern among brainstem descending neurons in larval zebrafish  
Masashi Tanimoto<sup>1,2</sup>, Rongwen Lu<sup>1</sup>, Avinash Pujala<sup>1</sup>, Na Ji<sup>1</sup>, Minoru Koyama<sup>1</sup>  
*<sup>1</sup>Janelia Research Campus of the Howard Hughes Medical Institute, Ashburn, USA, <sup>2</sup>Div Biol Sci, Grad Sch Sci, Nagoya Univ, Nagoya, Japan*
- 10-10e3-4 (18:45)** Genetic and functional dissection of corticospinal circuit for skilled motor behaviors  
Masaki Ueno<sup>1,2,3</sup>, Yuka Nakamura<sup>1,2</sup>, Jie Li<sup>4</sup>, Zirong Gu<sup>2</sup>, Jesse Niehaus<sup>2</sup>, Mari Maezawa<sup>2</sup>, Steven A Crone<sup>2</sup>, Martyn Goulding<sup>5</sup>, Mark L Baccei<sup>4</sup>, Yutaka Yoshida<sup>2</sup>  
*<sup>1</sup>Dept Syst Pathol Neurol Dis, Brain Research Institute, Niigata Univ, Niigata, Japan, <sup>2</sup>Div Dev Biol, Cincinnati Children's Hospital Medical Center, Cincinnati, USA, <sup>3</sup>PRESTO, JST, Saitama, Japan, <sup>4</sup>Pain Res Center, Univ of Cincinnati, Cincinnati, USA, <sup>5</sup>Mol Neurobiol Lab, Salk Inst, La Jolla, USA*

Oral Sessions 20-07m1 8:40-9:40 Room 7 (504+505, 5F, Kobe International Conference Center)

## Neuroinformatics and Large Scale Simulation (2)

Chairpersons: Jun-Ichiro Hirayama *RIKEN Center for Advanced Intelligence Project*  
Hidetoshi Urakubo *Kyoto University, Grad Sch Info*

- 20-07m1-1 Decoding of Global Activation Patterns from Local Activation Patterns  
(8:40) Balbir Singh<sup>1</sup>, Tetsuya Yamamoto<sup>1</sup>, Koji Jimura<sup>2</sup>, Junichi Chikazoe<sup>1</sup>, Norihiro Sadato<sup>1</sup>  
*<sup>1</sup>Div. of Cerebral Integration, National Institute for Physiological Sciences, JAPAN, <sup>2</sup>Department of Biosciences and Informatics, Keio University*
- 20-07m1-2 Predicting semantic space of visual stimulus from electrocorticogram  
(8:55) Ryohei Fukuma<sup>1,2</sup>, Takufumi Yanagisawa<sup>1,2,3,4</sup>, Shinji Nishimoto<sup>1,4,5</sup>, Masataka Tanaka<sup>1</sup>, Shota Yamamoto<sup>1</sup>, Satoru Oshino<sup>1</sup>, Yukiyasu Kamitani<sup>1,6,7</sup>, Haruhiko Kishima<sup>1,3</sup>  
*<sup>1</sup>Department of Neurosurgery, Graduate School of Medicine, Osaka University, Osaka, Japan, <sup>2</sup>Department of Neuroinformatics, ATR Computational Neuroscience Laboratories, Kyoto, Japan, <sup>3</sup>Osaka University Hospital Epilepsy Center, Osaka, Japan, <sup>4</sup>Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology (NICT), Osaka, Japan, <sup>5</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan, <sup>6</sup>Graduate School of Information Science, NAIST, Nara, JAPAN, <sup>7</sup>Department of Intelligence Science and Technology, Graduate School of Informatics, Kyoto University, Kyoto, Japan*
- 20-07m1-3 Extraction of network components from EEG signal: data-driven approach by using stacked pooling and linear components estimation  
(9:10) Takeshi Ogawa<sup>1</sup>, Takeshi Ogawa<sup>1</sup>, Hiroki Moriya<sup>1</sup>, Takashi Yamada<sup>2</sup>, Motoaki Kawanabe<sup>1,4</sup>, Jun-ichiro Hirayama<sup>3,4</sup>  
*<sup>1</sup>ATR Cognitive Mechanisms Labs., Kyoto, Japan, <sup>2</sup>ATR Computational Neuroscience Labs, Kyoto, Japan, <sup>3</sup>RIKEN-AIP, <sup>4</sup>ATR Neural Information Analysis Labs, Kyoto, Japan*
- 20-07m1-4 Error-gated Hebbian rule can perform multi-context blind source separation  
(9:25) Takuya Isomura, Taro Toyoizumi  
*RIKEN Brain Science Institute, Wako, Saitama, Japan*

Oral Sessions 20-07m2 9:40-10:40 Room 7 (504+505, 5F, Kobe International Conference Center)

## Language and Communication (1)

Chairpersons: Kuniyoshi Sakai *Department of Basic Science Graduate School of Arts and Sciences The University of Tokyo, Komaba*  
Akio Ikeda *Department of Epilepsy, Movement Disorders and Physiology Kyoto University Graduate School of Medicine*

- 20-07m2-1 Visual and auditory semantic processing converges in the anterior temporal lobe (9:40)  
Akihiro Shimotake<sup>1</sup>, Riki Matsumoto<sup>2</sup>, Katsuya Kobayashi<sup>2</sup>, Takayuki Kikuchi<sup>3</sup>, Kazumichi Yoshida<sup>3</sup>, Takeharu Kunieda<sup>4</sup>, Susumu Miyamoto<sup>3</sup>, Ryosuke Takahashi<sup>2</sup>, Matthew Rambon Lalph<sup>5</sup>, Akio Ikeda<sup>1</sup>  
<sup>1</sup>*Dept. of Epi, Mov Disord & Physiol, Grad. Sch. of Med., Kyoto Univ. Kyoto, Japan,* <sup>2</sup>*Dept. of Neurol, Grad. Sch. of Med., Kyoto Univ. Kyoto, Japan,* <sup>3</sup>*Dept. of Neurosug, Grad. Sch. of Med., Kyoto Univ. Kyoto, Japan,* <sup>4</sup>*Dept. of Neurosug, Grad. Sch. of Med., Ehime Univ. Ehime, Japan,* <sup>5</sup>*NARU, Sch of Psychol Sci, Univ. of Manchester, Manchester, UK*
- 20-07m2-2 Entorhinal preplay-like fMRI activity contributes to upcoming knowledge acquisition depending on prior knowledge (9:55)  
Hiroki Kurashige<sup>1,2</sup>, Yuichi Yamashita<sup>2</sup>, Takashi Hanakawa<sup>3</sup>, Manabu Honda<sup>2</sup>  
<sup>1</sup>*Dept Comp Net Eng, Univ of Electro-Communications, Tokyo, Japan,* <sup>2</sup>*NCNP, Tokyo, Japan,* <sup>3</sup>*NCNP, Tokyo, Japan*
- 20-07m2-3 The reproducibility and variety of the three syntax-related networks for sentence processing (10:10)  
Kyohei Tanaka<sup>1</sup>, Ryuta Kinno<sup>2</sup>, Kuniyoshi L. Sakai<sup>1</sup>  
<sup>1</sup>*Dept of Basic Science, Grad Sch Arts and Sci, Univ. of Tokyo, Tokyo,* <sup>2</sup>*Division of Neurology, Department of Medicine, Showa University School of Medicine*
- 20-07m2-4 (10:25)

Oral Sessions 20-10m1 8:40-9:40 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Neuroinflammation and Brain Tumor

Chairpersons: Shigeki Aoki *Juntendo University, Graduate school of Medicine*  
Ryuta Kinno *Department of Neurology, Showa University Fujigaoka Hospital*

- 20-10m1-1 Quantitative Synthetic MRI Assessment of Gray Matter Damage in Early and Late Relapsing-Remitting Multiple Sclerosis Using Gray-Matter Based Spatial Statistics Analysis (8:40)  
Christina Andica<sup>1</sup>, Akifumi Hagiwara<sup>1,2</sup>, Keigo Shimoji<sup>3</sup>, Koji Kamagata<sup>1</sup>, Asami Saito<sup>1</sup>, Yuki Takenaka<sup>1,4</sup>, Masaaki Hori<sup>1</sup>, Kazumasa Yokoyama<sup>5</sup>, Nobutaka Hattori<sup>5</sup>, Shigeki Aoki<sup>1</sup>  
<sup>1</sup>*Department of Radiology, Juntendo University Graduate School of Medicine, Tokyo, Japan,* <sup>2</sup>*Department of Radiology, The University of Tokyo Graduate School of Medicine, Tokyo, Japan,* <sup>3</sup>*Department of Radiology, Tokyo Metropolitan Geriatric Hospital and Institute of Gerontology, Tokyo, Japan,* <sup>4</sup>*Department of Radiological Sciences, Graduate School of Human Health Sciences, Tokyo Metropolitan University, Tokyo, Japan,* <sup>5</sup>*Department of Neurology, Juntendo University School of Medicine, Tokyo, Japan*
- 20-10m1-2 Cytokine-mediated cell-cell interaction between choroid plexus epithelium and stroma in response to systemic inflammation (8:55)  
Atsuyoshi Shimada, Akihiro Miura, Sanae Hasegawa-Ishii  
*Fac Health Sciences, Kyorin Univ, Tokyo, Japan*

20-10m1-3 **Plumbagin: Putative Mechanisms of Action mediating Cells Cycle, Metabolism, and Apoptosis in Glioblastoma cells**  
(9:10)



Upasana Kapoor, Nibedita Lenka  
*Indian Academy of Neurosciences*

20-10m1-4 **Effects of a left frontal glioma on the cortical structures of both hemispheres**

(9:25)

Ryuta Kinno<sup>1</sup>, Yoshihiro Muragaki<sup>2</sup>, Takashi Maruyama<sup>2</sup>, Manabu Tamura<sup>2</sup>, Kyohei Tanaka<sup>3</sup>, Kenjiro Ono<sup>1</sup>, Kuniyoshi L Sakai<sup>3</sup>

<sup>1</sup>*Div Neurol, Dept Med, Showe Univ Sch Med, Tokyo, Japan*, <sup>2</sup>*Dept Neurosurgery, Tokyo Women's Med Univ, Tokyo*, <sup>3</sup>*Dept Basic Science, Grad Sch Arts and Sci, Univ of Tokyo, Tokyo*

**Oral Sessions 20-10m2 9:40-10:40 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)**

## Cerebrovascular Disease

Chairpersons: Takashi Shichita *Stroke Renaissance Project, Tokyo Metropolitan Institute of Medical Science*  
Masafumi Ihara *National Cerebral and Cardiovascular Center(NCVC) Department of Neurology*

20-10m2-1 **Neural activity-dependent transcription factor Npas4 plays a crucial role in neuronal survival after ischemic stroke**  
(9:40)

Hiroo Takahashi, Ryo Asahina, Sei-ichi Yoshihara, Akio Tsuboi  
*Lab for Mol Biol of Neural System, Nara Med Univ, Kashihara, Japan*

20-10m2-2 **Neuroprotective effect and optimal dose of edaravone on ischemic cerebral injury in our three-vessel occlusion (3-VO) mouse model**  
(9:55)

Keiko Yamato<sup>1</sup>, Yukako Nakajo<sup>1,3</sup>, Masaki Nishimura<sup>2</sup>, Jun C. Takahashi<sup>2</sup>, Hiroji Yanamoto<sup>1,4</sup>  
<sup>1</sup>*Lab. of Neurol. and Neurosurg., Natl. Cerebral and Cardiovasc. Ctr., Suita, Japan*, <sup>2</sup>*Dept. of Neurosurg., Natl. Cerebral and Cardiovasc. Ctr., Suita, Japan*, <sup>3</sup>*Res. Laboratory, Rakuwa-kai Otowa Hosp., Kyoto, Japan*, <sup>4</sup>*Dept. of Cardiovasc. Science, Div. of Surgical Med., Osaka Univ. Grad. Sch. of Med., Suita, Japan*

20-10m2-3 **Anti-HMGB1 mAb ameliorates intracerebral hemorrhage-induced brain injury in rats**

(10:10)

Dengli Wang<sup>1</sup>, Keyue Liu<sup>1</sup>, Hidenori Wake<sup>1</sup>, Kiyoshi Teshigawara<sup>1</sup>, Shuji Mori<sup>2</sup>, Masahiro Nishibori<sup>1</sup>  
<sup>1</sup>*Department of Pharmacology, Okayama University Graduate School of Medicine, Dentistry & Pharmaceutical Sciences, Okayama, Japan*, <sup>2</sup>*School of Pharmacy, Shujitsu University, Okayama, Japan*

20-10m2-4 **The regulations of mitochondrial autophagy in ischemic neurons**

(10:25)



Xiangnan Zhang, Yanrong Zheng, Xiaoli Wu, Mengru Liu, Weidong Tang, Zhong Chen  
*Institute of Pharmacology and Toxicology, College of Pharmaceutical Sciences, Zhejiang University, China*

Oral Sessions 20-02a1 15:00-16:00 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

## Neurodegeneration and RNA Metabolism

Chairpersons: Yukio Kawahara *Department of RNA Biology and Neuroscience, Graduate School of Medicine, Osaka University*  
Gen Sobue *Nagoya University Graduate School of Medicine*

- 20-02a1-1 (15:00) PI3K $\alpha$ /mTOR pathway rescues neuronal atrophy induced by aberrant TDP-43 proteostasis in a zebrafish ALS model  
Kazuhide Asakawa<sup>1</sup>, Koichi Kawakami<sup>1,2</sup>  
<sup>1</sup>National Institute of Genetics, <sup>2</sup>SOKENDAI
- 20-02a1-2 (15:15) TAR DNA binding protein-43 mutant lacking its C-terminal domain causes age-dependent motor dysfunction via Notch1-Akt signaling pathway  
Seiji Watanabe<sup>1</sup>, Kohei Nishino<sup>1</sup>, Yuri Matsuoka<sup>1</sup>, Shijie Jin<sup>1</sup>, Okiru Komine<sup>1</sup>, Fumito Endo<sup>1</sup>, Hitomi Tsuiji<sup>2</sup>, Kenji Sakimura<sup>3</sup>, Koji Yamanaka<sup>1</sup>  
<sup>1</sup>Dept Neurosci Pathobiol, RIEM, Nagoya Univ, Aichi, Japan, <sup>2</sup>Dept Biomed Sci, Grad Sch Pharmaceut Sci, Nagoya City Univ, Aichi, Japan, <sup>3</sup>Dept Cellular Neurobiol, BRI, Niigata University, Niigata, Japan
- 20-02a1-3 (15:30) Loss of USP15 induces cerebellar neurodegeneration through the control of RNA metabolism  
Jaehyun Kim, Tomoki Chiba, Fuminori Tsuruta  
*Grad Sch of Life and Environ Sci, Univ of Tsukuba, Tsukuba, Japan*
- 20-02a1-4 (15:45) Neuron-specific cTag-CLIP reveals cell-specific diversity of functional RNA regulation in the brain  
Yuhki Saito<sup>1</sup>, Robert B Darnell<sup>1,2</sup>  
<sup>1</sup>The Rockefeller University, New York, NY, United States, <sup>2</sup>HHMI

Oral Sessions 20-03a1 15:00-16:00 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

## Executive Function

Chairpersons: Yuji Naya *Peking University, School of Psychological and Cognitive Sciences*  
Sonoko Ogawa *University of Tsukuba Faculty of Human Sciences*

- 20-03a1-1 (15:00) Thanks for being flexible: Cognitive flexibility training can attenuate the effects of a trauma model on fear extinction and dopamine levels in rats  
 Lauren Chaby<sup>1</sup>, Shane A Perrine<sup>2</sup>, Michael J Lisieski<sup>2</sup>, Klevis Karavidha<sup>2</sup>, Israel Liberzon<sup>1</sup>  
<sup>1</sup>University of Michigan, <sup>2</sup>Wayne State University
- 20-03a1-2 (15:15) Neuronal representations in the primate medial temporal lobe during the context-dependent use of item-place association memory  
Cen Yang<sup>1,2</sup>, Yuji Naya<sup>1,3,4,5</sup>  
<sup>1</sup>Center for Life Sciences, Peking Univ., Beijing, China, <sup>2</sup>Academy for Advanced Interdisciplinary Studies, Peking Univ., Beijing, China, <sup>3</sup>School of Psychological and Cognitive Sciences, Peking Univ., Beijing, China, <sup>4</sup>IDG/McGovern Institute for Brain Research at Peking University, Beijing, China, <sup>5</sup>Interdisciplinary Institute of Neuroscience and Technology, Zhejiang Univ., Hangzhou, China

- 20-03a1-3 **Neural activity during spelling the names of objects in the macaque prefrontal cortex**  
(15:30) Nanxi Liu<sup>1</sup>, Kento Ohashi<sup>2</sup>, Keisuke Kawasaki<sup>1</sup>, Takafumi Suzuki<sup>3</sup>, Takeshi Matsuo<sup>4</sup>, Atsuhiko Iijima<sup>2</sup>, Isao Hasegawa<sup>1</sup>  
*<sup>1</sup>Dept Physiol, Niigata Univ, Niigata, Japan, <sup>2</sup>Grad Sch of Sci & Tech, Niigata Univ, <sup>3</sup>Center for Information and Neural Networks, National Institute of Information and Communications Technology, Osaka, Japan, <sup>4</sup>Department of Neurosurgery, Tokyo Metropolitan Neurological Hospital, Tokyo, Japan*

- 20-03a1-4 **Causal role of the frontopolar cortex for metacognitive judgement on non-experienced events in primates**  
(15:45) Kentaro Miyamoto<sup>1,2</sup>, Rieko Setsuie<sup>1,2</sup>, Takahiro Osada<sup>1,2</sup>, Yasushi Miyashita<sup>1,2</sup>  
*<sup>1</sup>Dept Physiol, Univ of Tokyo, Tokyo, Japan, <sup>2</sup>Juntendo Univ Med School, Tokyo, Japan*

**Oral Sessions 20-04a1** 15:00-16:00 Room 4 (401+402, 4F, Kobe International Conference Center)

## **Appetitive and Aversive Learning**

Chairpersons: Takatoshi Hikida *Institute for Protein Research, Osaka University*  
Naoki Honda *Graduate School of Biostudies, Kyoto University*

- 20-04a1-1 **Ventral pallidum neurons control aversive learning**  
(15:00) Tom Macpherson<sup>1</sup>, Hiroyuki Mizoguchi<sup>2</sup>, Akihiro Yamanaka<sup>2</sup>, Takatoshi Hikida<sup>1</sup>  
*<sup>1</sup>Laboratory for Advanced Brain Functions, Osaka University Institute for Protein Research, Osaka, Japan, <sup>2</sup>Research Institute of Environmental Medicine, Nagoya University, Nagoya, Japan*
- 20-04a1-2 **Lateralization of lateral orbitofrontal cortex on acquisition of fear extinction in rats**  
(15:15) Yu-Hsuan Chang, Chun-Hui Chang  
*Institute of Systems Neuroscience, National Tsing Hua University, Hsinchu, Taiwan, ROC*
- 20-04a1-3 **Population coding of fear memory in medial prefrontal cortex**  
(15:30) Masakazu Agetsuma<sup>1,2,3</sup>, Yoshiyuki Arai<sup>3</sup>, Atsushi Kasai<sup>4</sup>, Hitoshi Hashimoto<sup>4</sup>, Takeharu Nagai<sup>3</sup>  
*<sup>1</sup>NIPS, Okazaki, Japan, <sup>2</sup>JST PRESTO, Kawaguchi, Japan, <sup>3</sup>ISIR, Osaka Univ, Ibaraki, Japan, <sup>4</sup>Graduate School of Pharmaceutical Sciences, Osaka Univ, Osaka, Japan*
- 20-04a1-4 **Identification of Animal Behavioral Strategies by Inverse Reinforcement Learning**  
(15:45) Honda Naoki<sup>1</sup>, Shoichiro Yamaguchi<sup>2</sup>, Muneki Ikeda<sup>3</sup>, Yuki Tsukada<sup>3</sup>, Shunji Nakano<sup>3</sup>, Ikue Mori<sup>3</sup>, Shin Ishii<sup>1</sup>  
*<sup>1</sup>Grad Sch Biostudies, Kyoto Univ, Kyoto, <sup>2</sup>Grad Sch Info, Kyoto Univ, Kyoto, Japan, <sup>3</sup>Grad Sch Sci, Nagoya Univ, Aichi, Japan*

**Oral Sessions 20-05a1** 15:00-16:00 Room 5 (501, 5F, Kobe International Conference Center)

## **Neural Network Modeling and Artificial Intelligence**

Chairpersons: Makoto Osanai *Tohoku University Graduate School of Medicine*  
Toshiya Matsushima *Department of Biology, Faculty of Science, Hokkaido University*

- 20-05a1-1 **Altered Frontal Networks In The Adolescent Brain With A History Of Sexual Abuse**  
(15:00) Ozgun Ozalay  
*Neuroscience Dept, Graduate School of Health Sciences, Ege University Izmir*

20-05a1-2 Application of U-Net Deep Learning Architecture for Segmenting Low Contrast Calcium Fluorescence Image Stacks of Neurons  
(15:15)

Pelonomi Moilola<sup>1</sup>, Noriyasu Homma<sup>2</sup>, Makoto Osanai<sup>2</sup>  
<sup>1</sup>Tohoku University, <sup>2</sup>Tohoku University Graduate School of Medicine, Sendai

20-05a1-4 Estimation of neuronal couplings from multi-point activity data: how effective is the McCulloch-Pitts model for inference?  
(15:45)

Yu Terada<sup>1</sup>, Tomoyuki Obuchi<sup>1</sup>, Takuya Isomura<sup>2</sup>, Yoshiyuki Kabashima<sup>1</sup>  
<sup>1</sup>Dept Math and Comput Sci, Tokyo Tech, Tokyo, Japan, <sup>2</sup>RIKEN BSI, Saitama, Japan

Oral Sessions 20-06a1 15:00-16:00 Room 6 (502, 5F, Kobe International Conference Center)

## Vision (2)

Chairpersons: Yoshio Hata *Division of Integrative Bioscience, Tottori University, Graduate School of Medical Sciences.*  
Satoshi Shimegi *Center for Education in Liberal Arts and Sciences, Osaka University*

20-06a1-1 One-out-of-nine high-performance classification of single-trial epidural ECoG signals from monkey primary visual cortex  
(15:00)

Detlef Wegener<sup>1</sup>, Benjamin Fischer<sup>1</sup>, Andreas Kreiter<sup>1</sup>, Andreas Schander<sup>2</sup>, Walter Lang<sup>2</sup>  
<sup>1</sup>Brain Research Institute, University of Bremen, <sup>2</sup>IMSAS, University of Bremen

20-06a1-2 Flexible neural representations for perceiving object motion during self-motion in macaque areas VIP and MSTl  
(15:15)

Ryo Sasaki<sup>1</sup>, Gregory C Deangelis<sup>2</sup>, Dora E Angelaki<sup>3</sup>  
<sup>1</sup>Department of Neuroscience Graduate School of Medicine Kyoto University, Kyoto, Japan, <sup>2</sup>Dept. of Brain and Cognitive Sciences, Univ. of Rochester, Rochester, NY, USA, <sup>3</sup>Dept. of Neurosci., Baylor Col. of Med., Houston, TX, USA

20-06a1-3 Temporal Compensation of Orientation Selectivity Bias in Early Visual Areas  
(15:30)

Huining Wu<sup>1</sup>, Yuji Ikegaya<sup>2,3</sup>, Hiroshi Ban<sup>1,3</sup>  
<sup>1</sup>Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan, <sup>2</sup>Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan, <sup>3</sup>Center for Information and Neural Networks, National Institute of Information and Communications Technology, Osaka, Japan

20-06a1-4 Predicting neural response latency of human early visual cortex from structural properties of the optic radiation  
(15:45)

Hiromasa Takemura<sup>1,2</sup>, Shai Berman<sup>3</sup>, Kenichi Yuasa<sup>1,2</sup>, Aviv Mezer<sup>3</sup>, Kaoru Amano<sup>1,2</sup>  
<sup>1</sup>Center for Information and Neural Networks (CiNet), NICT, Osaka, Japan, <sup>2</sup>Grad Sch Front Bio, Osaka Univ, Osaka, Japan, <sup>3</sup>The Edmond and Lily Safra Center for Brain Science, The Hebrew University of Jerusalem, Jerusalem, Israel

Oral Sessions 20-07a1 15:00-16:00 Room 7 (504+505, 5F, Kobe International Conference Center)

## Cerebellum

Chairpersons: Masanori Matsuzaki *Graduate School of Medicine, The University of Tokyo*  
Izumi Sugihara *Department of Systems Neurophysiology, Tokyo Medical and Dental University*  
*Graduate School of Medical and Dental Sciences*

20-07a1-1 (15:00) **Protocadherin 10 expression reveals topographic axonal connection among positive compartments in the mouse cerebellar system**

Gideon A Sarpong<sup>1</sup>, Shinji Hirano<sup>3</sup>, Izumi Sugihara<sup>1,2</sup>

<sup>1</sup>Tokyo Medical and Dental University, <sup>2</sup>Center for Brain Integration Research, Tokyo Medical and Dental University,

<sup>3</sup>Department of Biology, Kansai Medical University, Osaka, Japan

20-07a1-2 (15:15) **Axonal Spike Bursting in the Inferior Olive is Oscillatory-State Dependent**

Alexander Tang, Marylka Y Uusisaari

*Okinawa Institute of Science and Technology Graduate University*

20-07a1-3 (15:30) **Input-Output Organization of the Posterior Vermis and Fastigial Nucleus for Control of Saccadic Eye Movements**

Mayu Takahashi, Yuriko Sugiuchi, Yoshikazu Shinoda

*Dept of Systems Neurophysiology, Tokyo Medical and Dental University, Tokyo, Japan*

20-07a1-4 (15:45) **Functional compartmentalization of the cerebellar circuits: three-dimensional analysis in zebrafish**

Kanae Hiyoshi<sup>1</sup>, Kyo Yamasu<sup>1</sup>, Sachiko Tsuda<sup>1,2</sup>

<sup>1</sup>Grad Sch of Sci and Eng, Saitama Univ, Saitama, Japan, <sup>2</sup>R&D Bureau, Saitama Univ, Saitama Japan

Oral Sessions 20-08a1 15:00-16:00 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

## Autism Spectrum Disorders

Chairpersons: Haruhiro Higashida *Research Center for Child Mental Development, Kanazawa University*  
Masami Ishido *National Institute for Environmental Studies*

20-08a1-1 (15:00) **POSTNATAL ALLERGEN EXPOSURE INDUCES AUTISM-LIKE ABNORMAL BEHAVIOR IN MALE MICE VIA HIPPOCAMPAL SYNAPTOPATHY: AN INDICATION FOR NEW ENVIRONMENTAL MODEL FOR AUTISM**

Ban-yu Saitoh, Ryo Yamasaki, Daan Van Kruining, Claudia Thomsen, Jun-ichi Kira

*Dept Neurol, Kyushu Univ Grad Sch of Med, Fukuoka, Japan*

20-08a1-2 (15:15) **Cutaneous and stick rabbit illusion tasks in individuals with autism spectrum disorder**

Makoto Wada<sup>1</sup>, Masakazu Ide<sup>1</sup>, Hanako Ikeda<sup>1</sup>, Misako Sano<sup>1,2,4</sup>, Ari Tanaka<sup>1</sup>, Mayuko Suzuki<sup>3</sup>, Hiromi Agarie<sup>3</sup>, Sooyung Kim<sup>3</sup>, Kengo Nishimaki<sup>3</sup>, Reiko Fukatsu<sup>1,2,3</sup>, Yasoichi Nakajima<sup>1,5</sup>, Makoto Miyazaki<sup>6</sup>

<sup>1</sup>Dept of Rehab for Brain Funct, Res Inst of NRCD, Saitama, Japan, <sup>2</sup>Inform and Supp Cent for Persons with Dev Disord, NRCD, Saitama, Japan, <sup>3</sup>Hospital of NRCD, Saitama, Japan, <sup>4</sup>Natl Rehab Cent for Children with Disabilities, Tokyo, Japan,

<sup>5</sup>Nagano University of Health and Medicine, Nagano, Japan, <sup>6</sup>Faculty of Informatics, Shizuoka Univ, Shizuoka, Japan

20-08a1-3 Brain dynamics underlying typical and atypical intelligence

(15:30) Takamitsu Watanabe, Geraint Rees  
*Inst Cognitive Neuroscience, UCL, London, UK*

20-08a1-4 De novo inheritance of environmental chemicals-primed rat hyperactivity

(15:45) Masami Ishido  
*Natl Inst for Environmental Studies, Tsukuba, Japan*

Oral Sessions 20-09a1 15:00-16:00 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Alzheimer's Disease and Dementia (2)

Chairpersons: Taisuke Tomita *Laboratory of Neuropathology and Neuroscience, Graduate School of Pharmaceutical Sciences, The University of Tokyo*  
 Koji Yamanaka *Nagoya University, RIEM*

20-09a1-1 Alternative splicing of *TREM2* and its abnormality caused by a mutation associated with Nasu-Hakola disease

(15:00) Yoshihiro Kino, Motoaki Yanaizu, Kenji Sakai, Youhei Tosaki, Jun-ichi Satoh  
*Dept Bioinformatics, Meiji Pharm Univ, Tokyo*

20-09a1-2 Sex-dependent effects of thyroidism on neuron-glia morphology and behavior

(15:15) Mami Noda<sup>1</sup>, Yusaku Yoshioka<sup>1</sup>, Yosuke Kitahara<sup>2</sup>, Mahomi Kuroiwa<sup>2</sup>, Takahide Shuto<sup>2</sup>, Akinori Nishi<sup>2</sup>  
<sup>1</sup>*Lab Pathophysiol, Grad Sch Pharm Sci, Kyushu Univ, Fukuoka, Japan*, <sup>2</sup>*Dept Pharmacol, Kurume Univ Sch Med, Fukuoka, Japan*

20-09a1-3 Plasmalogens attenuate the activation of PKC  $\delta$  associated with the brain inflammation

(15:30) Sanyu Sejimo<sup>1</sup>, MD. Shamim Hossain<sup>2</sup>  
<sup>1</sup>*Dept Med, Univ of Kyushu, Fukuoka, Japan*, <sup>2</sup>*Dept Med, Univ of Kyusyu, Fukuoka, Japan*

20-09a1-4 Hippocampal Dysrhythmia in the APPswePS1dE9 Model of Alzheimer's Disease: evaluating EEG as an Alzheimer's Disease Biomarker

(15:45)  Anna Papazoglou<sup>1</sup>, Julien So&oacute;acute;s<sup>1,2</sup>, Varunraj Ginde<sup>1,2</sup>, Christina Henseler<sup>1</sup>, Carola Wormuth<sup>1</sup>, Andreas Lundt<sup>1</sup>, Ralf Mueller<sup>3</sup>, Karl Broich<sup>1</sup>, Kai Xie<sup>2</sup>, Dan Ehninger<sup>2</sup>, Britta Haenisch<sup>2</sup>, Marco Weiergraeber<sup>1</sup>  
<sup>1</sup>*Experimental Neuropsychopharmacology, Federal Institute for Drugs and Medical Devices, Bonn, Germany*, <sup>2</sup>*German Center for Neurodegenerative Diseases, Bonn, Germany*, <sup>3</sup>*Department of Psychiatry and Psychotherapy, University of Cologne, Cologne, Germany*

## Epilepsy

Chairpersons: Riki Matsumoto *Department of Neurology, Kyoto University Graduate School of Medicine*  
Taku Kaitsuka *Department of Molecular Physiology, Faculty of Life Sciences, Kumamoto University*

- 2O-10a1-1 (15:00) Realistic Head Modeling of High Frequency Sources from Tripolar Electroencephalography of Epilepsy Patients**  
Walter Besio<sup>1,2,3</sup>, Christopher Toole<sup>2</sup>  
<sup>1</sup>University of Rhode Island Biomedical Engineering, <sup>2</sup>University of Rhode Island Interdisciplinary Neuroscience Program, <sup>3</sup>CREmedical Corp.
- 2O-10a1-2 (15:15) The long isoform of eukaryotic elongation factor 1B $\delta$ , eEF1B $\delta$ L knockout mice exhibit audiogenic seizure**  
Taku Kaitsuka<sup>1</sup>, Kazuhito Tomizawa<sup>1</sup>, Masayuki Matsushita<sup>2</sup>  
<sup>1</sup>Dept Mol Physiol, Facult Life Sci, Kumamoto Univ, Kumamoto, Japan, <sup>2</sup>Dept Mol Cell Physiol, Grad Sch Med, Univ of Ryukyus, Okinawa, Japan
- 2O-10a1-3 (15:30) The usefulness of intracranial ictal DC shifts and HFOs among multi-institutes**  
Mitsuyoshi Nakatani<sup>1,2</sup>, Moritoo Inouchi<sup>3</sup>, Junpei Togawa<sup>1</sup>, Tomohiko Murai<sup>1</sup>, Masako Daifu<sup>1</sup>, Katsuya Kobayashi<sup>1</sup>, Takefumi Hitomi<sup>4</sup>, Satoka Hashimoto<sup>5</sup>, Motoki Inaji<sup>5</sup>, Hiroshi Shirozu<sup>6</sup>, Kyoko Kanazawa<sup>7</sup>, Masaki Iwasaki<sup>8</sup>, Naotaka Usui<sup>9</sup>, Yushi Inoue<sup>10</sup>, Taketoshi Maehara<sup>5</sup>, Akio Ikeda<sup>3</sup>  
<sup>1</sup>Dept of Neurology, Kyoto University, <sup>2</sup>Dept of Neurology, Juntendo University, <sup>3</sup>Dep of Epilepsy, Movement Disorders and Physiology, Kyoto University, <sup>4</sup>Dept of Laboratory medicine, Kyoto University, <sup>5</sup>Dept of Neurosurgery, Tokyo Medical and Dental University, <sup>6</sup>Dept of Neurosurgery, Nishi-Niigata Chuo National Hospital, <sup>7</sup>Dept of Neurology, National Center of Neurology and Psychiatry, <sup>8</sup>Dept of Neurosurgery, National Center of Neurology and Psychiatry, <sup>9</sup>Dept of Neurosurgery, Shizuoka Institute of Epilepsy and Neurological Disorders, <sup>10</sup>Dept of Psychiatry, Shizuoka Institute of Epilepsy and Neurological Disorders
- 2O-10a1-4 (15:45) ctal direct current shifts with time constant (TC2) seconds and its comparison with TC 10 seconds: invasive EEG data from intractable human epilepsy**  
Shunsuke Kajikawa<sup>1</sup>, Katsuya Kobayashi<sup>1</sup>, Masako Daifu<sup>1</sup>, Masao Matsushashi<sup>2</sup>, Takefumi Hitomi<sup>3</sup>, Yukihiro Yamao<sup>4</sup>, Takayuki Kikuchi<sup>4</sup>, Kazumichi Yoshida<sup>4</sup>, Takeharu Kunieda<sup>5</sup>, Riki Matsumoto<sup>1</sup>, Ryosuke Takahashi<sup>1</sup>, Akio Ikeda<sup>6</sup>  
<sup>1</sup>Department of Neurology, Kyoto University Graduate School of Medicine, <sup>2</sup>Human Brain Research Center, Kyoto University Graduate School of Medicine, <sup>3</sup>Department of Clinical Laboratory, Kyoto University Graduate School of Medicine, <sup>4</sup>Department of Neurosurgery, Kyoto University Graduate School of Medicine, <sup>5</sup>Department of Neurosurgery, Ehime University Graduate School of Medicine, <sup>6</sup>Department of Epilepsy, Movement Disorders and Physiology, Kyoto University Graduate School of Medicine.

Oral Sessions 20-07e1 16:00-17:00 Room 7 (504+505, 5F, Kobe International Conference Center)

## Sleep and Biological Rhythms (2)

Chairpersons: Takeshi Sakurai *Faculty of Medicine/WPI-IIIIS, University of Tsukuba*  
Eiko N. Minakawa *Department of Degenerative Neurological Diseases, National Institute of Neuroscience, National Center of Neurology and Psychiatry*

### 20-07e1-1 Newly identified sleep regulation circuits

(16:00)

Masayoshi Ito<sup>1,3</sup>, Gerald Rubin<sup>1</sup>, Kei Ito<sup>2,3</sup>

<sup>1</sup>HHMI Janelia Research Campus, <sup>2</sup>Inst for Zoology, Univ of Cologne, Cologne, Germany, <sup>3</sup>Inst of Molecular and Cellular Biology, Univ of Tokyo, Tokyo, Japan

### 20-07e1-2 Neural circuits of narcolepsy

(16:15)

Emi Hasegawa<sup>1</sup>, Takashi Maejima<sup>2</sup>, Takayuki Yoshida<sup>3</sup>, Masseck A Olivia<sup>4</sup>, Herlitze Stefan<sup>4</sup>, Mitsuhiro Yoshioka<sup>3</sup>, Michihiro Mieda<sup>2</sup>, Takeshi Sakurai<sup>1,5</sup>

<sup>1</sup>IIIIS, Univ of Tsukuba, Ibaraki, Japan, <sup>2</sup>Dept Physiol, Fae Med, Kanazawa Univ, Kanazawa, Japan, <sup>3</sup>Dept Neuropharmacol, Hokkaido Univ, Sapporo, Japan, <sup>4</sup>Department of General Zoology and Neurobiology, Ruhr-University Bochum, Universitätsstrasse, Bochum, Germany, <sup>5</sup>TARA, Univ of Tsukuba, Tsukuba, Japan

### 20-07e1-3 SIK3 as a key regulator of homeostasis directing metabolism, sleep and circadian rhythms

(16:30)

Naoto Hayasaka<sup>1</sup>, Arisa Hirano<sup>2</sup>, Yuka Miyoshi<sup>3</sup>, Isao T Tokuda<sup>4</sup>, Hikari Yoshitane<sup>2</sup>, Junichiro Matsuda<sup>5</sup>, Yoshitaka Fukada<sup>2</sup>

<sup>1</sup>Dept Neurosci II, RIEM, Nagoya Univ, Aichi, Japan, <sup>2</sup>Dept Biol Sci, Graduate Schl of Sci, Univ of Tokyo, Tokyo, Japan, <sup>3</sup>Dept Anat & Neurobiol, Kindai Univ Fac of Med, Osaka, Japan, <sup>4</sup>Dept Mech Engineering, Ritsumeikan Univ, Shiga, Japan, <sup>5</sup>Lab Animal Models, Natl Inst Biomed Innov Health Nutri, Osaka, Japan

### 20-07e1-4 Investigation of Sleep/Wake Regulatory Mechanisms by Analysis of the *Sik3* Gene Identified Through Forward Genetics

(16:45)

Takato Honda<sup>1,2</sup>, Tomoyuki Fujiyama<sup>1</sup>, Chika Miyoshi<sup>1</sup>, Aya Ikkyu<sup>1</sup>, Noriko Hotta-Hirashima<sup>1</sup>, Satomi Kanno<sup>1</sup>, Hiromasa Funato<sup>1,3</sup>, Masashi Yanagisawa<sup>1</sup>

<sup>1</sup>International Institute for Integrative Sleep Medicine (WPI-IIIIS), Univ of Tsukuba, Tsukuba, Japan, <sup>2</sup>Research Fellow, Japan Society for the Promotion of Science (JSPS), <sup>3</sup>Dept Anatomy, School of Medicine, Toho Univ, Tokyo, Japan

Oral Sessions 20-07e2 17:00-18:00 Room 7 (504+505, 5F, Kobe International Conference Center)

## Learning, Memory and Plasticity (2)

Chairpersons: Kazuto Kobayashi *Fukushima Medical University*  
Tomoyuki Furuyashiki *Division of Pharmacology, Graduate School of Medicine, Kobe University*

### 20-07e2-1 The effects of stress hormones on a memory engram

(17:00)

Sylvie Lisa Lesuis<sup>1</sup>, Michel van den Oever<sup>2</sup>, Paul J. Lucassen<sup>1</sup>, Harm J. Krugers<sup>1</sup>

<sup>1</sup>University of Amsterdam, <sup>2</sup>CNCR, VU, Amsterdam, The Netherlands



### 20-07e2-2 NMDA receptor-dependent dynamics of hippocampal place cell ensembles

(17:15)

Yuichiro Hayashi

*Lab of Biomed Sci, Kansai Medical Univ*

20-07e2-3 Behavioral selection and switching flexibility regulated by thalamostriatal circuit  
(17:30) Shigeki Kato, Kazuto Kobayashi  
*Dept. Mol. Genet, Fukushima Med. Univ., Fukushima, Japan*

20-07e2-4  
(17:45)

Oral Sessions 20-10e1 16:00-17:00 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Sensory Organ

Chairpersons: Sumiko Watanabe *Institute of Medical Science, University of Tokyo*  
Daisuke Yamamoto *Advanced ICT Research Institute, NICT*

20-10e1-1 Plastic changes in the olfactory bulb coupled with the inflammatory status of the nasal cavity  
(16:00) Sanae Hasegawa-Ishii<sup>1,2</sup>, Atsuyoshi Shimada<sup>1</sup>, Fumiaki Imamura<sup>2</sup>  
*<sup>1</sup>Fac Health Sci, Kyorin Univ, Tokyo, Japan, <sup>2</sup>Dept Pharmacol, Penn State Coll Med, Hershey, USA*

20-10e1-2 Gene expression analysis of cone photoreceptors derived from human induced pluripotent stem cell in three dimensional retinal differentiation culture  
(16:15) Kohei Homma, Yoko Ozawa  
*Dept Ophthalmol, Keio Univ, Tokyo, Japan*

20-10e1-3 Color of Light Affected Circadian Rhythmic Expression of Clock Genes and Arylalkylamine N-acetyltransferase in Chick Retina  
(16:30) Jing Cao, Jiang Bian, Zixu Wang, Yulan Dong, Yaoxing Chen  
*Laboratory of Anatomy of Domestic Animals, College of Veterinary Medicine, China Agricultural University, Beijing, China*

Oral Sessions 20-10e2 17:00-18:00 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Stimulation and Excitation

Chairpersons: Haruyuki Kamiya *Department of Neurobiology, Hokkaido University Graduate School of Medicine*  
Misato Yasumura *Dept of Anat and Neurosci, Grad Sch of Med, Osaka Univ*

20-10e2-1 Rapid and sensitive microscopic imaging of action potentials in cultured neurons on the plasmonic chip  
(17:00) Wataru Minoshima<sup>1</sup>, Hosokawa Chie<sup>2</sup>, Kudoh N. Suguru<sup>1,2</sup>, Tawa Keiko<sup>1,2</sup>  
*<sup>1</sup>School of Science and Technology, Kwansei Gakuin University, <sup>2</sup>Biomedical Institute, AIST*

20-10e2-2 Sodium channel-dependent short-term depression of axonal spikes at the hippocampal mossy fibers  
(17:15) Shunsuke Ohura, Haruyuki Kamiya  
*Dept Neurobiol, Grad Sch Med, Hokkaido Univ, Hokkaido*

20-10e2-3 High-frequency deep brain stimulation of the lateral hypothalamic area prevents morphine reinforcement  
(17:30) Esmail Riahi  
*Tehran University of Medical Sciences*



## Oral Session

Day 3 - July 28

Oral Sessions 30-10m1 8:40-9:40 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Decision Making

Chairpersons: Junya Hirokawa *Graduate School of Brain Science, Doshisha University*  
Miki Hirabayashi *Japan Aerospace Exploration Agency (JAXA)*

- 30-10m1-1 Graded roles of consciousness and confidence in reinforcement learning (8:40)  
Aurelio Cortese<sup>1</sup>, Hakwan Lau<sup>2,3</sup>, Mitsuo Kawato<sup>1</sup>  
<sup>1</sup>Computational Neuroscience Labs, ATR Institute International, Kyoto, Japan, <sup>2</sup>Dep. of Psychology, UCLA, Los Angeles, USA, <sup>3</sup>Dep. of Psychology, Hong Kong University, Hong Kong
- 30-10m1-2 Differential activation of striatal pathways during action selection after reward and aversive learning (8:55)  
Merlin Lange, Hisaya Kakinuma, Bor-Wei Cheng, Toshiyuki Shiraki, Ryo Aoki, Tanvir Islam, Hiroshi Hama, Atsushi Miyawaki, Hitoshi Okamoto  
*RIKEN Center for Brain Science, Wako, Japan*
- 30-10m1-3 A Bayesian psychophysics model of sense of agency (9:10)  
Roberto Legaspi<sup>1,2</sup>, Taro Toyoizumi<sup>1,2</sup>  
<sup>1</sup>Lab for Neural Computation and Adaptation, RIKEN Brain Science Institute, <sup>2</sup>RIKEN BSI-OMRON Collaboration Center
- 30-10m1-4 Emerging Dynamics of Brain Functions from Self-organized Criticality in Audio-visual Integration (9:25)  
Miki Hirabayashi, Hirotada Ohashi  
*Dept Sys Inov, Univ of Tokyo, Tokyo, Japan*

Oral Sessions 30-10m2 9:40-10:40 Room 10 (3B, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

## Neuroendocrine System

Chairpersons: Yuko Maejima *Fukushima Medical University School of Medicine Department of Bioregulation and Pharmacological Medicine*  
Harumi Hotta *Department of Autonomic Neuroscience, Tokyo Metropolitan Institute of Gerontology*

- 30-10m2-1 Thyroxine secretion from the thyroid gland is promoted by non-noxious mechanical stimulation of the pharyngeal mucosa in anesthetized rats (9:40)  
Kaori Iimura, Akiko Onda, Harue Suzuki, Harumi Hotta  
*Dept Auton Neurosci, Tokyo Metropol Inst Gerontol, Tokyo, Japan*
- 30-10m2-2 Mild blast traumatic brain injury differentially disrupts stress regulation in male and female mice (9:55)  
Ashley Lynn Russell<sup>1,2</sup>, Riley Richardson<sup>3</sup>, Robert J Handa<sup>4</sup>, T. John Wu<sup>1,2,3</sup>  
 <sup>1</sup>Program in Neuroscience, Uniformed Services University, Bethesda, Maryland, <sup>2</sup>Center for Neuroscience and Regenerative Medicine, Uniformed Services University, Bethesda, Maryland, <sup>3</sup>Department of Obstetrics and Gynecology, Uniformed Services University, Bethesda, Maryland, <sup>4</sup>Department of Biomedical Sciences, Colorado State University, Fort Collins, Colorado

- 30-10m2-3 Induction of PTPRJ in the hypothalamus is a cause of the development of leptin resistance (10:10)**  
 Takafumi Shintani<sup>1,2</sup>, Satoru Higashi<sup>1,2</sup>, Ryoko Suzuki<sup>1</sup>, Yasushi Takeuchi<sup>1</sup>, Reina Ikaga<sup>3</sup>, Tomomi Yamazaki<sup>3</sup>, Kenta Kobayashi<sup>4</sup>, Masaharu Noda<sup>1,2</sup>  
<sup>1</sup>*Div Mol Neurobiol, Natl Inst Basic Biol, Okazaki, Japan*, <sup>2</sup>*SOKENDAI, Basic Biology, Okazaki, Japan*, <sup>3</sup>*Sec Major Nutrients, Dep Nutritional Science, Natl Inst Health and Nutrition, Tokyo, Japan*, <sup>4</sup>*Sec Viral Vector Development, Natl Inst Physiological Sciences*
- 30-10m2-4 Identification and analysis of neurons and non-neuronal cells whose activities are associated either with peritalsis or slow waves in the gut of zebrafish larvae (10:25)**  
 Daiji Takamido<sup>1</sup>, Sayaka Nishida<sup>2</sup>, Takuya Kojima<sup>2</sup>, Masataka Nikaido<sup>1</sup>, Shin-ichi Okamoto<sup>1,2</sup>, Kohei Hatta<sup>1</sup>  
<sup>1</sup>*Grad Sch of Life Sci, Univ of Hyogo, Akou, Japan*, <sup>2</sup>*Facul of Biology, Univ of Hyogo, Akou, Japan*

**Oral Sessions 30-02a1 15:00-16:00 Room 2 (International Conference Room, 3F, Kobe International Conference Center)**

## Language and Communication (2)

Chairpersons: Masayuki Hirata *Endowed Research Department of Clinical Neuroengineering Global Center for Medical Engineering and Informatics, Osaka University*  
 Shinri Ohta *Faculty of Humanities, Kyushu University*

- 30-02a1-1 Double dissociation of the semantic and phonological processing in reading Kanji and Kana words: a quantitative low-intensity cortical stimulation study (15:00)**  
 Masako Daifu<sup>1</sup>, Riki Matsumoto<sup>1</sup>, Akihiro Shimotake<sup>2</sup>, Makiko Ota<sup>1</sup>, Mitsuhiro Sakamoto<sup>1</sup>, Katsuya Kobayashi<sup>1</sup>, Takayuki Kikuchi<sup>3</sup>, Kazumichi Yoshida<sup>3</sup>, Takeharu Kunieda<sup>3,4</sup>, Ryosuke Takahashi<sup>1</sup>, Matthew A Lambon Ralph<sup>5</sup>, Akio Ikeda<sup>2</sup>  
<sup>1</sup>*Dept Neurology, Kyoto Univ, Kyoto, Japan*, <sup>2</sup>*Dept Epilepsy, Movement Disorders and Physiology, Kyoto Univ, Kyoto, Japan*, <sup>3</sup>*Dept Neurosurg, Kyoto Univ, Kyoto, Japan*, <sup>4</sup>*Dept Neurosurgery, Ehime Univ Grad School of Med, Ehime, Japan*, <sup>5</sup>*Neuroscience and Aphasia Research Unit (NARU), School of Psychological Sciences, University of Manchester, Manchester, UK*
- 30-02a1-2 Commonality between language and music based on the brain activation of violin students (15:15)**  
 Yoshiaki Oshiba<sup>1</sup>, Hayate Tada<sup>1</sup>, Takeaki Miyamae<sup>2,3</sup>, Ryugo Hayano<sup>3</sup>, Kuniyoshi L. Sakai<sup>1</sup>  
<sup>1</sup>*Dept Basic Science, Grad Sch Arts and Sci, Univ of Tokyo, Tokyo*, <sup>2</sup>*University of Pittsburgh Medical Center Western Psychiatric Institute and Clinic, Pittsburgh, USA*, <sup>3</sup>*Suzuki School of Music, Nagano, Japan*
- 30-02a1-3 Syntax-related networks of newly acquiring a language for multilinguals (15:30)**  
 Keita Umejima<sup>1</sup>, Atora Yamada<sup>1</sup>, Run Chen<sup>2</sup>, Suzanne Flynn<sup>2</sup>, Kuniyoshi L. Sakai<sup>1</sup>  
<sup>1</sup>*Dept Basic Science, Grad Sch Arts and Sci, Univ of Tokyo, Tokyo*, <sup>2</sup>*Dept Linguistics and Philosophy, MIT, Massachusetts, USA*
- 30-02a1-4 Localized brain activation decrease caused by learning a second language abroad (15:45)**  
 Tatsuro Kuwamoto, Kuniyoshi L. Sakai  
*Dept Basic Science, Grad Sch Arts and Sci, Univ of Tokyo, Tokyo*

## Oral Sessions 30-03a1

15:00-16:00 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

## Parkinson's Disorder and Neurodegeneration

Chairpersons: Nobutaka Hattori *Department of Neurology, Juntendo University School of Medicine*  
 Tatsushi Toda *Division of Neurology Graduate School of Medicine The University of Tokyo*

- 30-03a1-1 (15:00) Introduction of photoenergetic mitochondria improves neuronal activity of dopaminergic neurons in *Drosophila* model of mitochondria-associated Parkinson's disease  
 Tsuyoshi Inoshita<sup>1</sup>, Hongrui Meng<sup>2</sup>, Kiyotaka Y Hara<sup>3</sup>, Naoya Sawamura<sup>4,5</sup>, Yuzuru Imai<sup>6,7</sup>, Nobutaka Hattori<sup>1,6,7</sup>  
<sup>1</sup>Dept MS Disease, Juntendo Univ Grad Sch of Med, Tokyo, Japan, <sup>2</sup>Research Institute for Old age disease, Juntendo Univ Grad Sch of Med, Tokyo, Japan, <sup>3</sup>Grad Sch of Nutritional and Environmental Sci, Univ of Shizuoka, Shizuoka, Japan, <sup>4</sup>Research Organization for Nano and Life Innovation, Waseda Univ, Tokyo, Japan, <sup>5</sup>Faculty of Sci and Engineering, Waseda Univ, Tokyo, Japan, <sup>6</sup>Dept Neurol, Juntendo Univ Grad Sch of Med, Tokyo, Japan, <sup>7</sup>Dept Parkinson Disease, Juntendo Univ Grad Sch of Med, Tokyo, Japan
- 30-03a1-2 (15:15) Chronic L-dopa treatment alters basal ganglia signaling in Parkinson's disease model mice  
 Indriani Dwi Wahyu<sup>1</sup>, Hiromi Sano<sup>1,2</sup>, Satomi Chiken<sup>1,2</sup>, Atsushi Nambu<sup>1,2</sup>  
<sup>1</sup>National Institute for Physiological Sciences, <sup>2</sup>Department of Physiological Sciences, The Graduate University for Advanced Studies, Okazaki, Japan
- 30-03a1-3 (15:30) Developmental YAPdeltaC determines adult pathology in a model of spinocerebellar ataxia type 1  
 Kazuhiko Tagawa<sup>1</sup>, Kyota Fujita<sup>1</sup>, Ying Mao<sup>1</sup>, Shigenori Uchida<sup>1</sup>, Xigui Chen<sup>1</sup>, Kei Watase<sup>2</sup>, Hidenori Homma<sup>1</sup>, Marius Sudol<sup>3</sup>, Hitoshi Okazawa<sup>1,2</sup>  
<sup>1</sup>Dept Neuropathology, Tokyo Medical and Dental Univ, Tokyo, Japan, <sup>2</sup>Center for Brain Integration Research, Tokyo Medical and Dental Univ, Tokyo, Japan, <sup>3</sup>Mechanobiology Institute, National University of Singapore, Singapore, Singapore
- 30-03a1-4 (15:45) A novel form of necrosis, TRIAD, in Huntington's disease  
 Kyota Fujita, Ying Mao, Xigui Chen, Emiko Yamanishi, Hidenori Homma, Kazuhiko Tagawa, Hitoshi Okazawa  
 Dept Neuropathology, Medical Research Institute, Tokyo Medical and Dental Univ, Tokyo, Japan

## Oral Sessions 30-04a1

15:00-16:00 Room 4 (401+402, 4F, Kobe International Conference Center)

## Movement

Chairpersons: Fumino Fujiyama *Laboratory of Neural Circuitry, Grad Sch Brain Science, Doshisha University*  
 Yukio Nishimura *Tokyo Metropolitan Institute of Medical Science, Department of Dementia and Higher Brain Function, Neural Prosthesis Project*

- 30-04a1-1 (15:00) Primary motor cortex underlies online control of reaching based on natural variability in hand motion  
 Tomohiko Takei<sup>1</sup>, Frederic Crevecoeur<sup>1,4,5</sup>, Troy M Herter<sup>1,6</sup>, Kevin Cross<sup>1</sup>, Stephen H Scott<sup>1,2,3</sup>  
<sup>1</sup>Centre for Neuroscience Studies, Queen's University, Kingston, Canada, <sup>2</sup>Department of Biomedical and Molecular Sciences, Queen's University, Kingston, Canada, <sup>3</sup>Department of Medicine, Queen's University, Kingston, Canada, <sup>4</sup>Institute of Communication Technologies, Electronics and Applied Mathematics, Universite catholique de Louvain, Louvain-la-Neuve, Belgium, <sup>5</sup>Institute of Neuroscience, Universite catholique de Louvain, Louvain-la-Neuve, Belgium, <sup>6</sup>Department of Exercise Science, University of South Carolina, Columbia, USA

- 30-04a1-2 Phase Locking of  $\beta$  Oscillation in the Monkey Motor Cortical Areas  
(15:15) Hidenori Watanabe<sup>1</sup>, Hajime Mushiake<sup>1</sup>, Kazutaka Takahashi<sup>2</sup>  
*<sup>1</sup>Dept Physiol, Grad Sch Med, Tohoku Univ, Miyagi, Japan, <sup>2</sup>Dept Organ Biol Anat, Univ Chicago, Il, US*
- 30-04a1-3 Identification of human ocular tremor in fixation eye movement in terms of size, direction, velocity and frequency  
(15:30) Yasuto Tanaka<sup>1,3</sup>, Hiroyuki Fujie<sup>2,3</sup>  
*<sup>1</sup>Neuromathematics Laboratory, <sup>2</sup>Miki R&D Co Ltd, <sup>3</sup>Dept. Sci Eng, KwansaiGakuin Univ.*
- 30-04a1-4 CRMP2 Binding Compound Accelerates Motor Function Recovery from Brain Damage  
(15:45) Susumu Jitsuki<sup>1</sup>, Hiroki Abe<sup>1</sup>, Waki Nakajima<sup>1</sup>, Akane Sano<sup>1</sup>, Kumiko Suyama<sup>1</sup>, Takashi Komori<sup>2</sup>, Nobuyuki Mochizuki<sup>2</sup>, Hitoshi Masuyama<sup>2</sup>, Tomohiro Okuda<sup>2</sup>, Yoshio Goshima<sup>3</sup>, Takuya Takahashi<sup>1</sup>  
*<sup>1</sup>Dept Physiol, Yokohama City Univ, Yokohama, Japan, <sup>2</sup>Pharmacology research Dept, Toyama Chemical Co., Ltd., <sup>3</sup>Dept of Molecular Pharmacol and Neurobiol, Yokohama City Univ, Yokohama, Japan*

Oral Sessions 30-05a1 15:00-16:00 Room 5 (501, 5F, Kobe International Conference Center)

## Learning, Memory and Plasticity (3)

Chairpersons: Emiko Suzuki *National Institute of Genetics, SOKENDAI*  
Masanori Sakaguchi *Univ. Tsukuba, WPI-IIIIS*

- 30-05a1-1 Decoding spaced training is mediated by a GABAergic and a trigger neuron in Drosophila  
(15:00) Yukinori Hirano, Hiroko Awata  
*Dept Med, Univ of Kyoto, Kyoto, Japan*
- 30-05a1-2 Plasmalogens enhances neuronal differentiation by accelerating the retinoid X receptor signaling  
(15:15) Shamim Md Hossain, Yutaka Oomura  
*Kyushu University, Graduate School of Medical Sciences*
- 30-05a1-3 The molecular motor KIF21B mediates synaptic plasticity and fear extinction  
(15:30) Momo Morikawa, Yosuke Tanaka, Hyun-Soo Cho, Masaharu Yoshihara, Nobutaka Hirokawa  
*Dept Cell Biol/Anat, Grad Sch Med, Univ Tokyo, Tokyo, Japan*
- 30-05a1-4 Dentate granule cell activity during fear memory extinction in freely moving mice  
(15:45) Alvaro Carrier Ruiz, Yuki Sugaya, Masanobu Kano  
*Department of Neurophysiology, Graduate School of Medicine, The University of Tokyo*

Oral Sessions 30-06a1 15:00-16:00 Room 6 (502, 5F, Kobe International Conference Center)

## Vision (3)

Chairpersons: Yumiko Yoshimura *National Institute for Physiological Sciences*  
Hiroshi Tamura *Graduate School of Frontier Biosciences, Osaka University*

30-06a1-1 (15:00) Visuotactile cue combination in rodents in a dynamic sensory environment with nonstationary cue-outcome contingencies



Mehdi Adibi Sede<sup>1,2</sup>, Nader Nikbakht<sup>1</sup>, Mathew E Diamond<sup>1</sup>

<sup>1</sup>International School for Advanced Studies (SISSA), Trieste, Italy, <sup>2</sup>School of Psychology, University of New South Wales, Sydney, Australia

30-06a1-2 (15:15) Behavioral study of haptic material perception in macaque monkeys

Minami Ito<sup>1</sup>, Chisaki Hatta<sup>2</sup>, Sakie Yoshida<sup>2</sup>

<sup>1</sup>Dept Biophys Sys Eng, Grad Sch Health Care Sci, Tokyo Med Dent Univ, Tokyo, Japan, <sup>2</sup>School of Medicine, Tokyo Med Dent Univ, Tokyo, Japan

30-06a1-3 (15:30) Rat retrosplenial cortical representation of wayfinding based on visual and locomotor cues

Chinzorig Choijiljav Ikhrud<sup>1</sup>, Hiroshi Nishimaru<sup>1</sup>, Jumpei Matsumoto<sup>1</sup>, Yusaku Takamura<sup>1</sup>, Alain Berthoz<sup>2</sup>, Taketoshi Ono<sup>1</sup>, Hisao Nishijo<sup>1</sup>

<sup>1</sup>System Emotional Science, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Toyama 930-0194, Japan, <sup>2</sup>Center for Interdisciplinary Research in Biology (CIRB), Collège de France, Paris, France

30-06a1-4 (15:45) Item-location representations in the medial temporal lobe of macaque monkeys during a short-term-retention task

He Chen<sup>1,5</sup>, Yuji Naya<sup>1,2,3,4</sup>

<sup>1</sup>Center for Life Sciences, Peking Univ., Beijing, China, <sup>2</sup>School of Psychology and Cognitive Sciences, Peking Univ., Beijing, China, <sup>3</sup>IDG/McGovern Institute for Brain Research, Peking Univ., Beijing, China, <sup>4</sup>Interdisciplinary Institute of Neuroscience and Technology, Zhejiang Univ., Hangzhou, China, <sup>5</sup>Academy for Advanced Interdisciplinary Studies, Peking Univ., Beijing, China

Oral Sessions 30-02e1 16:00-17:00 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

## Nurodevelopmental Disorders (2)

Chairpersons: Katsuhiko Tabuchi *Department of Biological Sciences for Intractable Neurological Diseases, Institute for Biomedical Sciences, Interdisciplinary Cluster for Cutting Edge Research/Department of Molecular & Cellular Physiology, Shinshu University School of Medicine*  
Teruyuki Tanaka *Department of Developmental Medical Sciences, Graduate School of Medicine, The University of Tokyo*

30-02e1-1 (16:00) Prenatal neurogenesis induction therapy normalizes brain structure and functions in Down syndrome mice

Akiko Nakano-Kobayashi<sup>1</sup>, Tomonari Awaya<sup>1</sup>, Isao Kii<sup>1</sup>, Yuto Sumida<sup>2</sup>, Yukiko Okuno<sup>3</sup>, Keiko Wanezaki<sup>1</sup>, Suguru Yoshida<sup>2</sup>, Tomoe Sumida<sup>2</sup>, Haruhisa Inoue<sup>4</sup>, Takamitsu Hosoya<sup>2</sup>, Masatoshi Hagiwara<sup>1</sup>

<sup>1</sup>Dept Medicine, Kyoto Univ, Kyoto, <sup>2</sup>Tokyo Med and Dental Univ, Tokyo, <sup>3</sup>Support center, Kyoto Univ, <sup>4</sup>CiRA, Kyoto Univ, Kyoto

- 30-02e1-2 Analysis of empathic neural circuit regulated by oxytocin**  
(16:15)  
Saori Yada, Kengo Horie, Shizu Hidema, Katsuhiko Nishimori  
*Lab for Mol Biol, Dept of Mol and Cell Biol, Div of Life Sci, Grad Sch of Agricultural Sci, Tohoku Univ, Sendai, Japan*
- 30-02e1-3 Model mice with chromosome 15q11-13 duplication show severe developmental abnormalities**  
(16:30)  
Jin Nakatani<sup>1</sup>, Futoshi Toyoda<sup>2</sup>, Yasuhiro Go<sup>3</sup>, Shin-Ichi Horike<sup>4</sup>, Natsu Koyama<sup>5</sup>, Seiji Hitoshi<sup>5</sup>, Toru Takumi<sup>7</sup>, Tomoko Kato<sup>6</sup>, Ikuo Tooyama<sup>6</sup>, Akihiko Shiino<sup>6</sup>, Shigehiro Morikawa<sup>6</sup>, Toshiro Inubushi<sup>6</sup>, Hidekazu Tanaka<sup>1</sup>  
*<sup>1</sup>Dept Pharmacology, Ritsumeikan Univ, <sup>2</sup>Dept Cell Physiology, Shiga Univ of Medical Science, <sup>3</sup>Dept Brain Sciences, National Institute of Natural Sciences, <sup>4</sup>Advanced Science Research Center, Kanazawa Univ, <sup>5</sup>Dept Integrative Physiology, Shiga Univ of Medical Science, <sup>6</sup>Molecular Neuroscience Research Center, Shiga Univ of Medical Science, <sup>7</sup>Brain Science Institute, RIKEN*
- 30-02e1-4 Allelic mutations in the L type calcium channel subunit Cacna1c as a risk factor in diverse neuropsychiatric diseases**  
(16:45)  
 Petrina Lau<sup>1</sup>, Eleanor Hobbs<sup>2</sup>, Valter Tucci<sup>3</sup>, Glenda Lassi<sup>3</sup>, Michael Parsons<sup>1</sup>, Gareth T Banks<sup>1</sup>, Patrick M Nolan<sup>1</sup>  
*<sup>1</sup>Medical Research Council Harwell Institute, <sup>2</sup>University of Manchester, Manchester, UK, <sup>3</sup>Neurobehavioural Genet. Group, Neurosci. and Brain Technologies, Genova, Italy*

Oral Sessions 30-03e1

16:00-17:00 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

## Mechanisms of Neurodegeneration

Chairpersons: Osamu Onodera *Dept. of Neurology, Brain Research Institute, Niigata University*  
Masahisa Katsuno *Department of Neurology, Nagoya University, Graduate School of Medicine*

- 30-03e1-1 Pharmacology and phosphorylation of NMDA receptor in Hippocampal Sclerosis(HS)**  
(16:00)  
Maysa Mashhour Sayel Falah<sup>1,2</sup>, James Gray<sup>1</sup>, Frances Platt<sup>1</sup>, Matthew Walker<sup>3</sup>, Arjune Sen<sup>1,2</sup>, John Jefferys<sup>1</sup>  
*<sup>1</sup>University of Oxford Nuffield department of Clinical Neuroscience and department of Pharmacology, <sup>2</sup>Oxford Epilepsy Research Group, NIHR Biomedical Research Centre, Nuffield Department of Clinical Neurosciences, University of Oxford., <sup>3</sup>Institute of Neurology, Queen Square, London, WC1N 3BG, UCL*
- 30-03e1-2 Neuroprotective effects of endocannabinoids in models of neuronal damage induced by HIV-1 Tat protein**  
(16:15)  
Bogna Marta Ignatowska-Jankowska<sup>1</sup>, Changqing Xu<sup>2</sup>, Douglas J Hermes<sup>2</sup>, Ian R Jacobs<sup>2</sup>, Rick B Meeker<sup>3</sup>, Ken Mackie<sup>4</sup>, Micah J Niphakis<sup>5</sup>, Aron H Lichtman<sup>6</sup>, Sylvia Fitting<sup>2</sup>  
*<sup>1</sup>Okinawa Institute of Science and Technology, Neuronal Rhythms in Movement Unit, <sup>2</sup>Department of Psychology & Neuroscience, University of North Carolina Chapel Hill, Chapel Hill, NC, USA, <sup>3</sup>Department of Neurology, University of North Carolina Chapel Hill, Chapel Hill, NC, USA, <sup>4</sup>Department of Psychological & Brain Science, Indiana University, Bloomington, IN, USA, <sup>5</sup>Department of Chemical Physiology, Scripps Research Institute, La Jolla, CA, USA, <sup>6</sup>Department of Pharmacology & Toxicology, Virginia Commonwealth University, Richmond, VA, USA*
- 30-03e1-3 Construction and analysis of protein-protein interaction networks based on genomics data in response to oxidative stress mediated neurodegeneration**  
(16:30)  
 Prachi Srivastava<sup>1</sup>, Neha Srivastava<sup>1,2</sup>  
*<sup>1</sup>AMITY University Uttar Pradesh Lucknow, UP, India, <sup>2</sup>Dr. A.P.J. Abdul Kalam Technical University, Lucknow, UP, India-226021*

30-03e1-4 Reorganization of large-scale functional brain networks over the adult lifespan: The BMRC aging cohort study (16:45)

Epifanio Jr. T Bagarinao<sup>1</sup>, Hirohisa Watanabe<sup>1</sup>, Satoshi Maesawa<sup>1</sup>, Daisuke Mori<sup>1</sup>, Kazuhiro Hara<sup>2</sup>, Kazuya Kawabata<sup>2</sup>, Masahisa Katsuno<sup>2</sup>, Shuji Koyama<sup>1</sup>, Minoru Hoshiyama<sup>1</sup>, Haruo Isoda<sup>1</sup>, Shinji Naganawa<sup>1,3</sup>, Gen Sobue<sup>1</sup>

<sup>1</sup>Brain and Mind Research Center, Nagoya University, Nagoya, Japan, <sup>2</sup>Department of Neurology, Nagoya University Graduate School of Medicine, Nagoya, Japan, <sup>3</sup>Department of Radiology, Nagoya University Graduate School of Medicine, Nagoya, Japan

Oral Sessions 30-04e1 16:00-17:00 Room 4 (401+402, 4F, Kobe International Conference Center)

## Brain Function

Chairpersons: Takuya Hayashi *RIKEN Center for Biosystems Dynamics Research*  
Emiko Shishido *Nagoya University Graduate School of Medicine*

30-04e1-1 Human medial parietal cortices have distinct connectivity patterns: Evidence from standardized connectivity map using cortico-cortical evoked potential (16:00)

Masaya Togo<sup>1</sup>, Riki Matsumoto<sup>1</sup>, Takuro Nakae<sup>2</sup>, Hirofumi Takeyama<sup>3</sup>, Katsuya Kobayashi<sup>1</sup>, Kiyohide Usami<sup>1</sup>, Akihiro Shimotake<sup>4</sup>, Takayuki Kikuchi<sup>2</sup>, Kazumichi Yoshida<sup>2</sup>, Takeharu Kunieda<sup>5</sup>, Susumu Miyamoto<sup>2</sup>, Ryosuke Takahashi<sup>1</sup>, Akio Ikeda<sup>4</sup>

<sup>1</sup>Dept Neurology, Kyoto Univ, Kyoto, <sup>2</sup>Dept Neurosurgery, Kyoto Univ, Kyoto, <sup>3</sup>Dept Respiratory Care and Sleep Control Medicine, <sup>4</sup>Dept Epilepsy, Movement disorder and physiology, <sup>5</sup>Dept Neurosurgery, Ehime Univ, Ehime

30-04e1-2 Resting state functional connectivity in Parkinsonian monkeys (16:15)

Joonas A Autio<sup>1</sup>, Takayuki Ose<sup>1</sup>, Kantaro Nishigori<sup>1</sup>, Noboyoshi Tanki<sup>2</sup>, Jun Takahashi<sup>3</sup>, Matthew F Glasser<sup>4,5</sup>, Takuya Hayashi<sup>1</sup>

<sup>1</sup>RIKEN Center for Life Science Technologies, <sup>2</sup>Okayama University, Okayama, Japan, <sup>3</sup>Kyoto University, Kyoto, Japan, <sup>4</sup>Department of Neuroscience, Washington University, St. Louis, MO, United States, <sup>5</sup>St. Luke's hospital, St. Louis, MT, United States

30-04e1-3 Cortical processing of others' action in the STS of common marmoset revealed by optical intrinsic signal imaging (16:30)

Wataru Suzuki<sup>1,2</sup>, Toshiki Tani<sup>1,2</sup>, Taku Hayami<sup>1,3</sup>, Taku Banno<sup>1,4</sup>, Naohisa Miyakawa<sup>1,5</sup>, Hiroshi Abe<sup>1,2</sup>, Satoshi Watanabe<sup>1</sup>, Hiromi Mashiko<sup>1,2</sup>, Noritaka Ichinohe<sup>1,2</sup>

<sup>1</sup>National Center of Neurology and Psychiatry, 4-1-1, Ogawahigashi, Kodaira, Tokyo, Japan, <sup>2</sup>Lab for Molecular Analysis of Higher Brain Function, RIKEN BSI, <sup>3</sup>Tokyo University of Agriculture and Technology, <sup>4</sup>University of Pennsylvania School of Medicine, PA, US, <sup>5</sup>National Institute of Radiological Sciences

30-04e1-4 Altered metacognition in visual perception among schizophrenic patients (16:45)

Ai Koizumi<sup>1,7</sup>, Tomoki Hori<sup>2,7</sup>, Brian Maniscalco<sup>3</sup>, Ryo Mishima<sup>2</sup>, Makoto Hayase<sup>2</sup>, Jun Miyata<sup>2</sup>, Toshihiko Aso<sup>4</sup>, Lau Hakwan<sup>5,6,8</sup>, Hidehiko Takahashi<sup>2,8</sup>, Kaoru Amano<sup>1,8</sup>

<sup>1</sup>Center for Information and Neural Networks (CiNet), <sup>2</sup>Department of Psychiatry, Kyoto University Graduate School of Medicine, Kyoto, Japan, <sup>3</sup>School of medicine, NYU, New York, USA, <sup>4</sup>Human Brain Research Center, Kyoto University Graduate School of Medicine, Kyoto, Japan, <sup>5</sup>Department of Psychology, UCLA, Los Angeles, USA, <sup>6</sup>Brain Research Institute, UCLA, Los Angeles, USA, <sup>7</sup>Equally contributed first author, <sup>8</sup>Equally contributed last author

## Oral Sessions 30-05e1

16:00-17:00 Room 5 (501, 5F, Kobe International Conference Center)

### Stress

Chairpersons: Kazuhiro Nakamura *Department of Integrative Physiology, Nagoya University Graduate School of Medicine*  
Atsushi Sugie *Center for Transdisciplinary Research, Niigata University*

- 30-05e1-1 Role of mitochondrial dysfunction on central sensitization of neuropathic pain**  
(16:00)  
 Yayun Wang<sup>1,2,3,4,5</sup>, Baolin Guo<sup>1,5</sup>, Sheng-ming Wang<sup>1,5</sup>, Yun-hu Bai<sup>2</sup>, Fei-fei Wu<sup>1,5</sup>, Xiang-jun Xie<sup>3</sup>, Sheng-xi Wu<sup>4,5</sup>, Yan-ling Yang<sup>2</sup>  
<sup>1</sup>*the fourth military medical university, 2*Department of Hepatobiliary Surgery, Xi-Jing Hospital, The Fourth Military Medical University, Xian, China, <sup>3</sup>Department of Preventive Medicine, The Fourth Military Medical University, Xian, China, <sup>4</sup>Department of Neurobiology, The Fourth Military Medical University, Xian, China, <sup>5</sup>Collaborative Innovation Center for Brain Science, Fudan University, Shanghai, China
- 30-05e1-2 A Stress-related Neuropeptide Bombesin Centrally Induces Frequent Urination in Rats**  
(16:15)  
Takahiro Shimizu<sup>1,2</sup>, Shogo Shimizu<sup>1</sup>, Youichirou Higashi<sup>1</sup>, Kumiko Nakamura<sup>1</sup>, Katsumi Kadekawa<sup>2</sup>, Naoki Wada<sup>2</sup>, Tsuyoshi Majima<sup>2</sup>, Naoki Yoshimura<sup>2</sup>, Motoaki Saito<sup>1</sup>  
<sup>1</sup>Dept of Pharmacol, Kochi Med Sch, Kochi Univ, <sup>2</sup>Dept of Urol, Univ of Pittsburgh Sch of Med
- 30-05e1-3 Synaptic and neuronal degeneration through the excessive visual stimulation**  
(16:30)  
Atsushi Sugie<sup>1</sup>, Yohei Nitta<sup>1</sup>, Melisande Richard<sup>2</sup>, Gaia Tavosanis<sup>2</sup>, Takashi Suzuki<sup>3</sup>  
<sup>1</sup>Center for Transdisciplinary Research, Niigata University, Niigata, Japan, <sup>2</sup>Dynamics of Neuronal Circuits, German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany, <sup>3</sup>Core Division of Advanced Research, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology (Titech), Yokohama, Japan
- 30-05e1-4 Anatomical connectivity from the dorsomedial hypothalamus to the ventral medullary cardiovascular regions: neural pathway mediating the descending sympathetic information**  
(16:45)  
Yosuke Kono<sup>1,2</sup>, Yosuke Arima<sup>3</sup>, Shigefumi Yokota<sup>3</sup>, Hiroshi Onimaru<sup>4</sup>, Isato Fukushi<sup>2</sup>, Keiichi Koizumi<sup>1</sup>, Yohei Hasebe<sup>2,5</sup>, Masashi Yoshizawa<sup>1</sup>, Hiroaki Kise<sup>1</sup>, Minako Hoshiai<sup>6</sup>, Kanji Sugita<sup>1</sup>, Takako Toda<sup>1</sup>, Yasumasa Okada<sup>2</sup>  
<sup>1</sup>Dept of Pediatr, Univ of Yamanashi, Fac Med, Yamanashi, Japan, <sup>2</sup>Clin Res Ctr, Murayama Medical Ctr, Tokyo, Japan, <sup>3</sup>Dept Anat & Morphol Neurosci, Shimane Univ, Shimane, Japan, <sup>4</sup>Dept Physiol, Showa Univ, Tokyo, <sup>5</sup>Dept Neonatol, Yamanashi Pref Central Hospital, Yamanashi, Japan., <sup>6</sup>Dept Pediatr, Yamanashi Pref Central Hospital, Yamanashi, Japan.

## Oral Sessions 30-06e1

16:00-17:00 Room 6 (502, 5F, Kobe International Conference Center)

### Pain, Others

Chairpersons: Fusao Kato *Dept Neurosci, Jikei Univ Sch Med*  
Ayako M. Watabe *Institute of Clinical Medicine and Research, Research Center for Medical Science, The Jikei University School of Medicine*

- 30-06e1-1 The involvement of P2X7 and BDNF in the animal model of the central post stroke pain**  
(16:00)  
Bai-Chuang Shyu, Hsi-Chien Shih, Yun-Hei Kuan  
*Institute of Biomedical Sciences, Academia Sinica*

- 30-06e1-2 The atypical kinesin KIF26A facilitates pain termination  
(16:15) Li Wang, Yosuke Tanaka, Momo Morikawa, Ruyun Zhou, Noriko Homma, Doudou Wang, Yuki Miyamoto, Nobutaka Hirokawa  
*Dept Cell Biol & Anat, Grad Sch Med, Univ Tokyo*
- 30-06e1-3 Dysgranular area in the primary somatosensory cortex selectively encodes noxious information  
(16:30) Hironobu Osaki, Yoshifumi Ueta, Mariko Miyata  
*Dept Physiol, Tokyo Women's Med Univ, Tokyo*
- 30-06e1-4 Sensing of circulating LPS by the brain: role of perivascular macrophages in the subfornical organ  
(16:45) Shoko Takemura Morita<sup>1</sup>, Kazuki Nakahara<sup>1</sup>, Sanae Ishii Hasegawa<sup>2</sup>, Ayami Isonishi<sup>1</sup>, Kouko Tatsumi<sup>1</sup>, Hiroaki Okuda<sup>3</sup>, Tatsuhide Tanaka<sup>1</sup>, Akio Wanaka<sup>1</sup>  
<sup>1</sup>*Dept. Anat. Neurosci., Nara Med. Univ., Nara, Japan, <sup>2</sup>Fac. Health. Sci., Kyorin Univ., Tokyo, Japan, <sup>3</sup>Dept. Anat., Grad. Sch. Med. Sci., Kanazawa Univ., Ishikawa, Japan*