

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

Symposium

Day 1 - July 26

Symposium
July 26

Symposium 1S01m 8:40-10:40 Room 1 (Main Hall, 1F, Kobe International Conference Center)

JNS - JSN Joint Symposium: New Frontiers of Disease Neuroscience Based on Time Axis Signal

JNS-Organized Symposium

Chairpersons: Michisuke Yuzaki *Department of Neurophysiology, Keio University School of Medicine*
Hidehiro Mizusawa *National Center of Neurology and Psychiatry*

Introduction (8:40)

- 1S01m-1 (8:44) Comprehensive analyses reveal new concepts of neurodegeneration in time axis
Hitoshi Okazawa
Neuropathology, Med.Res.Inst., Tokyo Med.&Dent.Univ.
- 1S01m-2 (9:12) From interactomics and OMICs data to neurodegenerative disease processes
Erich E. Wanker
Max Delbrück Center for Molecular Medicine
- 1S01m-3 (9:40) Using genome editing and induced pluripotent stem cells (iPSCs) to model late onset Alzheimer's disease
Li-Huei Tsai
Massachusetts Institute of Technology
- 1S01m-4 (10:08) An advanced clinical study on Alzheimer disease at the preclinical stage
Hiroshi Mori^{1,2}
¹*Dept Clinical Neuroscience, Osaka City Univ, Osaka, Japan, ²Tamiya Hospital, Nagaoka, Niigata, Japan*

Conclusion (10:36)

Symposium 1S02m 8:40-10:40 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

Frontiers of Neurointelligence

The Annual Meeting-Organized Symposium

Chairpersons: Takao Hensch *Harvard University / IRCN, The University of Tokyo*
Masanobu Kano *Dept Neurophysiol, Grad Sch Med, Univ of The Tokyo / IRCN, The University of Tokyo*

- 1S02m-1 (8:40) Development of face responses in infant cortex: new fMRI results and what they mean
Rebecca Saxe
MIT

- 1S02m-2 **Predictive Coding Networks for Future Frame Visual Prediction and Unsupervised Learning**
(9:05) David Daniel Cox^{1,2,3}, William Lotter³
¹IBM Research, ²Department of Molecular and Cellular Biology, Harvard University, ³School of Engineering and Applied Sciences, Harvard University
- 1S02m-3 **Learning and transfer: Lessons from action video games**
(9:30) Daphne Bavelier
University of Geneva, Geneva, Switzerland
- 1S02m-4 **Computational neuroscience for psychiatry**
(9:55) Mitsuo Kawato
ATR Brain Information Communication Research Laboratory Group

Symposium 1S03m 8:40-10:40 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

Expressing love and hate: neural mechanisms controlling pathos

Chairpersons: Azusa Kamikouchi *Nagoya University*
Hiroataka Sakamoto *Ushimado Marine Institute, Okayama University*

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- 1S03m-1 **Neural mechanisms underlying positive and negative valence of social memory**
(8:40) Teruhiro Okuyama
IMCB, Univ of Tokyo, Tokyo
- 1S03m-2 **Determination of reward values through the regulation of dopamine neurons**
(8:59) Hiromu Tanimoto, Nobuhiro Yamagata
Grad Sch Life Sci, Tohoku Univ, Sendai
- 1S03m-3 **Genetic and neural basis of action choice during social behavior in *Drosophila***
(9:18) Kenta Asahina¹, Kenichi Ishii¹, Margot Wohl^{1,2}, Andre DeSouza^{1,2}
¹Molecular Neurobiology Laboratory, The Salk Institute, La Jolla, U.S.A., ²Neuroscience Graduate Program, Univ. California, San Diego, La Jolla, U.S.A.
- 1S03m-4 **Auditory experience controls the maturation of song discrimination in fruit flies**
(9:37) Azusa Kamikouchi, Hiroshi Ishimoto, Xiaodong Li
Graduate School of Science, Nagoya University, Aichi, Japan
- 1S03m-5 **The peptidergic control circuit for male sexual behavior in rats**
(9:56) Hiroataka Sakamoto
Ushimado Marine Institute, Grad Sch of Nat Sci and Tech, Okayama Univ, Okayama, Japan
- 1S03m-6 **Neural and physiological bases of in-group love and out-group hate: Lessons from psychopathy**
(10:15) Hideki Ohira
Dept Psychol, Nagoya Univ, Nagoya, Japan

Symposium 1S04m 8:40-10:40 Room 4 (401+402, 4F, Kobe International Conference Center)

Dynamic interaction between long - range and local cortical circuit for information processing

Chairpersons: Hirofumi Morishita *Friedman Brain Institute, Icahn School of Medicine at Mount Sinai*
Taro Toyozumi *Lab of Neural Computation and Adaptation, RIKEN Brain Science Institute*

- 1S04m-1 (8:40) Developmental shift in local/long-range input balance essential for prefrontal top-down cognitive control
Hirofumi Morishita
Friedman Brain Institute, Icahn School of Medicine at Mount Sinai, New York, USA
- 1S04m-2 (9:04) Intrinsic spine dynamics plays a critical role for learning in recurrent circuit models
Taro Toyozumi
RIKEN Brain Science Institute
- 1S04m-3 (9:28) The role of thalamocortical network in short-term memory
Zeng-Cai Guo
Tsinghua University
- 1S04m-4 (9:52) A brain-inspired algorithm for motion recognition
Yuanyuan Mi¹, Si Wu²
¹*Institute of Basic Medical Sciences, ²Beijing Normal University*
- 1S04m-5 (10:16) Learning-related recruitment of top-down control in the mouse cortex
Hiroshi Makino
Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

Symposium 1S05m 8:40-10:40 Room 5 (501, 5F, Kobe International Conference Center)

Neuromodulatory regulation of brain states in health and disease: bridging experiments and computational models

Chairpersons: Shuzo Sakata *Strathclyde Institute of Pharmacy and Biomedical Sciences, University of Strathclyde*
Srikanth Ramaswamy *Ecole Polytechnique Federale De Lausanne*

- 1S05m-1 (8:40) State-dependent neural ensemble dynamics in brainstem
Shuzo Sakata, Tomomi Tsunematsu, Charlotte Herice, Amisha Patel
University of Strathclyde
- 1S05m-2 (9:00) Imaging neuromodulatory activity in mouse visual cortex
Jack Waters
Allen Institute for Brain Science
- 1S05m-3 (9:20) A framework for data-driven modeling of cholinergic modulation of neural microcircuits
Srikanth Ramaswamy
Ecole Polytechnique Federale de Lausanne

- 1S05m-4 **Modulation of sensory processing and integration in the mammalian cortex**
(9:40) Seung-Hee Lee
 KAIST
- 1S05m-5 **Role of cholinergic neurons in the septum on the regulation of sleep and memory**
(10:00) Akihiro Yamanaka^{1,2}, Toh Miyazaki^{1,2}
 ¹Research Institute of Environmental Medicine (RIEM), Nagoya University, ²CREST, JST, Japan
- 1S05m-6 **Social Transmission of Maternal Behavior**
(10:20) Ioana Carcea¹, Rumi Oyama^{1,2}, Joyce Mendoza¹, Daniel Ramos¹, Naomi Lopez¹, Kazutaga Mogi²,
 Takefumi Kikusui², Regina Sullivan¹, Robert Froemke¹
 ¹New York University, ²School of Veterinary Medicine, Azabu University

Symposium 1S06m 8:40-10:40 Room 6 (502, 5F, Kobe International Conference Center)

Molecular and Cellular Mechanisms of Cognition

The Annual Meeting-Organized Symposium

Chairpersons: Sumantra Chatterji *National Centre for Biological Sciences Tata Institute of Fundamental Research*
 Thomas J. McHugh *RIKEN Center for Brain Science*

- 1S06m-1 **Ca²⁺-dependent signaling in regulation of cognitive behavior**
(8:40) Haruhiko Bito
 Department of Neurochemistry, The University of Tokyo Graduate School of Medicine, Tokyo, Japan
- 1S06m-2 **The ion channel TRPM7 regulates synapse density, plasticity and learning & memory by modulating**
(9:10) **cofilin activity via its intracellular kinase domain**
 Nashat Abu Maria, Yuqiang Liu, Cui Chen, Wei Li
 Institutes of Brain Science, Shanghai Medical College, Fudan University
- 1S06m-3 **Physiology of the Hippocampal Engram**
(9:40) Thomas J. McHugh
 RIKEN Center for Brain Science
- 1S06m-4 **Timing is everything: divergent effects of stress on fear extinction**
(10:10) Sumantra Chatterji
 National Centre for Biological Sciences at Institute of Fundamental Research

Symposium 1S08m 8:40-10:40 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

How a supercomputer accelerates neuroscience: towards the exaflops era

Chairpersons: Tadashi Yamazaki *The University of Electro-Communications*
 Jun Igarashi *RIKEN Advanced Center for Computing and Communication*

- 1S08m-1 **Towards building a human-scale artificial cerebellum**
(8:40) Tadashi Yamazaki, Hiroshi Yamaura, Wataru Furusho
 The University of Electro-Communications

- 1S08m-2 Data-driven construction of insect brain simulations using HPC
(9:02) Tomoki Kazawa
Research Center for Advanced Science and Technology, The University of Tokyo, Japan
- 1S08m-3 In vivo two-photon calcium imaging and large-scale simulation
(9:24) Riichiro Hira, Spencer L Smith
UNC Chapel Hill, Neuroscience center
- 1S08m-4 Neuronal network simulation technology for exascale computers
(9:46) Susanne Kunkel
Norwegian University of Life Sciences (NMBU)
- 1S08m-5 Toward human-scale whole-brain cortical simulation by exascale supercomputers
(10:08) Jun Igarashi
RIKEN Information Systems Division

Symposium 1S09m 8:40-10:40 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

Neural network disturbance from birth to death

Chairpersons: Toru Takumi *RIKEN Brain Science Institute*
Thomas Bourgeron *Institut Pasteur*

- 1S09m-1 Paternal aging-induced differential DNA methylation in sperm can register neurodevelopmental gene expression and behavior in offspring
(8:40) Noriko Osumi
Tohoku University Graduate School of Medicine, Division of Developmental Neuroscience
- 1S09m-2 CHD8 haploinsufficiency results in autistic-like phenotypes in mice
(9:04) Masaaki Nishiyama¹, Keiichi I. Nakayama²
¹*Dept Hist Cel Biol, Grad Sch Med Sci, Kanazawa Univ, Kanazawa, Japan,* ²*Dept Mol Cel Biol, Med Inst Bioreg, Kyushu Univ, Fukuoka, Japan*
- 1S09m-3 Tackling the genetic and synaptic heterogeneity in autism from risk to resilience
(9:28) Thomas Bourgeron
Institut Pasteur
- 1S09m-4 Network of social behavior and its disturbance
(9:52) Toru Takumi
RIKEN Brain Research Institute
- 1S09m-5 The proinflammatory cytokine-mediated neuronal homeostasis in mouse model of Alzheimer's disease
(10:16) Kensuke Futai¹, Te-Chen Tzeng², Wenjie Mao¹, Yuto Hasegawa¹, Michael Heneka^{2,3}, Douglas T Golenbock²
¹*BNRI, Dept Neurobiology, Univ of Massachusetts Medical School, Worcester, USA,* ²*Dept Medicine, Univ of Massachusetts Medical School, Worcester, USA,* ³*Institute of Innate Immunity, Univ of Bonn, Bonn, Germany*

Symposium 1S02e 17:00-19:00 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

Adaptive Behaviours Mediated by Olfactory Inputs: From Molecules to the Central Brain

Chairpersons: Kazunari Miyamichi *RIKEN Biosystems Dynamics Research, Kobe, Japan*
Yoshihiro Yoshihara *RIKEN Brain Science Institute*

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- 1S02e-1** **Representations of Novelty and Familiarity in the Fly Olfactory System**
(17:00) Daisuke Hattori¹, Yoshinori Aso², Kurtis J Swartz¹, Gerald M Rubin², Larry F Abbott¹, Richard Axel¹
¹Department of Neuroscience, Columbia University, New York, NY, USA, ²Janelia Farm Research Campus, Ashburn, VA, USA
- 1S02e-2** **Terminal Nerve GnRH3 Neurons Mediate Slow Avoidance of Carbon Dioxide in Larval Zebrafish**
(17:24) Tetsuya Koide¹, Yoshihiro Yoshihara^{1,2,3}
¹RIKEN Brain Science Institute, Saitama, Japan, ²RIKEN BSI-KAO Collaboration Center, ³JST ERATO Touhara Chemosensory Signal Project
- 1S02e-3** **Molecular and neural sensing of social cues**
(17:48) Yoh Isogai
Sainsbury Wellcome Centre, University College London, London, United Kingdom
- 1S02e-4** **Pheromone-triggered limbic circuits that control sexual behaviors in mice**
(18:12) Kazunari Miyamichi
RIKEN Biosystems Dynamics Research, Kobe, Japan
- 1S02e-5** **Contextual control of innate sexually dimorphic behaviors**
(18:36) Nirao Shah
Stanford University

Symposium 1S03e 17:00-19:00 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

Symposium on Industry-Academia Collaboration

JNS-Organized Symposium

Chairpersons: Manabu Honda *National Center of Neurology and Psychiatry*
Ippei Hagiwara *NTT Data Institute of Management Consulting, Inc*

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- 1S03e** **AI and Neuroscience: Their Co-evolution and Our Future**
(17:00) Manabu Honda¹, Mitsuo Kawato², Tadahiro Taniguchi³, Akira Sato⁴, Yousuke Okada⁵, Takuya Ibaraki⁶
¹National Center for Neurology and Psychiatry, Kodaira, Japan, ²ATR Brain Information Communication Research Laboratory Group, Kyoto, Japan, ³College of Information Science & Engineering Ritsumeikan University, Shiga, Japan, ⁴Connectome.design, inc., Tokyo, Japan, ⁵ABEJA, Inc., Tokyo, Japan, ⁶NTT Data Institute of Management Consulting, Inc., Tokyo, Japan

Symposium 1S04e 17:00-19:00 Room 4 (401+402, 4F, Kobe International Conference Center)

Circuits Mechanisms for Sensory Coding

Sponsored by Grant-in-Aid for Scientific Research on Innovative Areas “Dynamic regulation of Brain Function by Scrap & Build System”

Chairpersons: Hiroyuki Kato *University of North Carolina at Chapel Hill, Neuroscience Center and Department of Psychiatry*
Takeshi Imai *Department of Developmental Neurophysiology, Graduate School of Medical Sciences, Kyushu University*

- 1S04e-1 (17:00) **Control of sensory tuning in the auditory cortex by recurrent circuits**
Hiroyuki K Kato^{1,2}
¹Neuroscience Center, Univ. of North Carolina, Chapel Hill, USA, ²Dept. Psychiatry, Univ. of North Carolina, Chapel Hill, USA
- 1S04e-2 (17:25) **Innate and acquired auditory neuronal pathways for zebra finch song learning**
Yoko Yazaki-Sugiyama
Neuronal Mechanism of Critical Period Unit, OIST Graduate University, Okinawa, Japan
- 1S04e-3 (17:50) **Corticothalamic neurons dynamically regulate auditory perception via local inhibitory circuits**
Daniel Polley
Harvard Medical School
- 1S04e-4 (18:15) **Sparse population coding in the visual cortex**
Kenichi Ohki^{1,2,3}
¹Dept Physiol, Univ of Tokyo, Tokyo, Japan, ²Dept Mol Physiol, Grad Sch Med Sci, Kyushu Univ, Fukuoka, Japan, ³IRCN-WPI
- 1S04e-5 (18:40) **Phase coding of odor identity in the olfactory bulb**
Takeshi Imai
Grad Sch Med Sci, Kyushu Univ, Fukuoka, Japan

Symposium 1S05e 17:00-19:00 Room 5 (501, 5F, Kobe International Conference Center)

Neural basis for emergence of individuality and face-body expression

Chairpersons: Noriko Osumi *Dept Devel Neuroscience, ART, Tohoku University School Medicine*
Masami K. Yamaguchi *Chuo University, Faculty of Letters, Department of Psychology*

- 1S05e-1 (17:00) **Diversity of Faces**
Katsumi Watanabe
Waseda University, Tokyo, Japan
- 1S05e-2 (17:20) **Cultural differences and its neural basis in emotion perception from faces and voices**
Akihiro Tanaka
Dept Psychology, Tokyo Woman's Christian Univ, Tokyo, Japan
- 1S05e-3 (17:40) **Do Infants Have Direct Gaze Prior?**
Yumiko Otsuka¹, Nobu Shirai²
¹Faculty of Law and Letters, Ehime University, Ehime, Japan, ²Faculty of Humanities, Niigata University, Niigata, Japan

- 1S05e-4
(18:00) Individual differences in gaze patterns and visual impressions are attributed to polymorphic color vision
Chihiro Hiramatsu¹, Tatsuhiko Takashima¹, Hiroaki Sakaguchi¹, Satohiro Tajima^{2,3}, Takeharu Seno¹, Shoji Kawamura⁴
¹Dept Design, Kyushu Univ, Fukuoka, Japan, ²Dept Basic Neurosci, Univ Geneva, ³PRESTO JST, ⁴Dept Integrated Biosci, Univ of Tokyo, Tokyo
- 1S05e-5
(18:20) Ultrasonic vocalizations in mice as emotional expression and its inter and intraindividual differences
Kouta Kanno
Dept Humanities, Kagoshima University, Kagoshima, Japan
- 1S05e-6
(18:40) A computational approach to model individual differences in developmental trajectories of behavioral traits
Kentaro Katahira
Dept Psychol, Grad Sch Inform, Nagoya Univ, Nagoya, Japan

Symposium 1S06e

17:00-19:00 Room 6 (502, 5F, Kobe International Conference Center)

Cerebellar Plasticity

The Annual Meeting-Organized Symposium

Chairpersons: Bong-Kiun Kaang *School of Biological Sciences, Seoul National University*
Shin-ya Kawaguchi *Society-Academia Collaboration for Innovation, Kyoto University*

- 1S06e-1
(17:05) Neural circuit mechanisms underlying activity-dependent synapse elimination in the developing cerebellum
Masanobu Kano^{1,2}
¹Dept Neurophysiol, Grad Sch Med, Univ of Tokyo, Tokyo, ²WPI-IRCIN, UTIAS, Univ of Tokyo, Tokyo
- 1S06e-2
(17:28) Intrinsic plasticity of cerebellar Purkinje cells in motor learning circuits
Sang Jeong Kim
Dept Physiology, Seoul National University College of Medicine, Seoul, Korea
- 1S06e-3
(17:51) A novel signaling module that regulates RIM1 activity and Purkinje cell plasticity
Ying Shen¹, Xin-Tai Wang¹, Fang-Xiao Xu¹, Lin Zhou¹, De-Juan Wang¹, Chris I. De Zeeuw²
¹Dept Neurobiol, Zhejiang Univ School Med, Hangzhou, China, ²Dept Neurosci, Erasmus MC, Rotterdam, Netherlands
- 1S06e-4
(18:14) The Ito cell: a new cerebellar interneuron implicated in circuit plasticity and motor learning
George J. Augustine
Nanyang Technological University
- 1S06e-5
(18:37) Dynamic information processing in an axon and presynaptic boutons in the cerebellar circuit
Shin-ya Kawaguchi^{1,2,3}
¹Society-Academia Collaboration for Innovation, Kyoto Univ, Kyoto, Japan, ²Dept Biophys, Grad Schl Sci, Kyoto Univ, ³Institute for Advanced Study, Kyoto Univ, Kyoto, Japan

Symposium 1S08e 17:00-19:00 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

Necessity of distinct neural ensembles for various learned behaviors

Chairpersons: Shigenobu Toda *Department of Psychiatry, Showa University School of Medicine*
Eisuke Koya *School of Psychology, University of Sussex*

- 1S08e-1 (17:00) Stage-dependent integration of regulatory processes for the transition from goal-directed to habitual action in striatal direct pathway.
Shigenobu Toda^{1,2}
¹Dept. of Psychiatry, Showa University School of Medicine, ²Dept. of Psychiatry and Behavioral Science, Kanazawa University
- 1S08e-2 (17:30) Dopaminergic memory boosting by two distinct novelty systems
Tomonori Takeuchi^{1,2,3}
¹Dept Biomedicine, Aarhus Univ, Aarhus, Denmark, ²Danish Res Inst Translational Neurosci (DANDRITE), Aarhus Univ, Aarhus, Denmark, ³Aarhus Inst Adv Studies (AIAS), Aarhus Univ, Aarhus, Denmark
- 1S08e-3 (18:00) Changes in Appetitive Associative Strength and Reward Value Modulate the Intrinsic Excitability of Nucleus Accumbens Neuronal Ensembles
Eisuke Koya, Meike C Sieburg, Gabriella Margetts-Smith, Joseph J Ziminski, Hans S Crombag, Leonie Brebner
University of Sussex
- 1S08e-4 (18:30) Emerging dynamics of thalamocortical ensemble activity through learning of self-initiated lever pull
Yasuyo H Tanaka¹, Yasuhiro R Tanaka¹, Masashi Kondo¹, Shin-Ichiro Terada¹, Yasuo Kawaguchi², Masanori Matsuzaki¹
¹Dept Physiol, Univ of Tokyo, Tokyo, Japan, ²Division of Cerebral Circuitry, National Institute for Physiological Sciences, Okazaki, Japan

Symposium 1S09e 17:00-19:00 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

Cutting edge approach for understanding brain dynamics

Chairpersons: Hiromasa Takemura *Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology*
Ken Takiyama *Institute of Engineering, Tokyo University of Agriculture and Technology (TUAT)*

- 1S09e-1 (17:00) Embedding and Predicting Neural Dynamics
Taro Toyozumi
RIKEN Brain Science Institute
- 1S09e-2 (17:30) Dynamics of neural color representation in higher visual area
Hidehiko Komatsu
Tamagawa Univ. Brain Science Institute, Tokyo
- 1S09e-3 (18:00) Integrated information and dimensionality in continuous attractor dynamics
Ryota Kanai
Araya, Inc.
- 1S09e-4 (18:30) The Agony of Choice: Optimal Policies for Value-based Decision Making
Alexandre Pouget
University of Geneva

Symposium

Day 2 - July 27

Symposium 2S01m 8:40-10:40 Room 1 (Main Hall, 1F, Kobe International Conference Center)

Japan - Canada Joint Symposium: Synaptic plasticity/Learning and Memory

JNS-Organized Symposium

Chairpersons: Paul Frankland *Program in Neuroscience and Mental Health, Hospital for Sick Children*
Haruo Kasai *The University of Tokyo*

- 2S01m-1 (8:40) Heterogeneous microdomain calcium dynamics dictate short-term plasticity and information coding at hippocampal dentate granule cell synapses
Katalin Toth
Universite Laval
- 2S01m-2 (9:10) Epilepsy-related ligand/receptor LGI1 and ADAM22 trans-synaptically regulate excitatory synaptic strength
Yuko Fukata
Div Memb Physiol, Natl Inst of Physiol Sci (NIPS), Okazaki, Japan
- 2S01m-3 (9:40) Hippocampal neurogenesis modulates forgetting via remodeling of hippocampal circuits
Paul Frankland
Hospital for Sick Children
- 2S01m-4 (10:10) Bidirectional tuning of behavioral conditioning and synaptic plasticity by dopamine in the nucleus accumbens
Haruo Kasai^{1,2}, Yusuke Iino^{1,2}, Ryosuke Nakazato^{1,2}, Kenji Yamaguchi^{1,2}, Takeshi Sawada^{1,2}, Sho Yagishita^{1,2}
¹*Department of Physiology, Graduate School of Medicine, The University of Tokyo,* ²*International Research Center for Neurointelligence (WPI-IRCN), UTIAS, The University of Tokyo*

Symposium 2S02m 8:40-10:40 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

Seeing the invisible: the art of deep brain imaging

Sponsored by Grant-in-Aid for Scientific Research on Innovative Areas "Brain information dynamics underlying multi-area interconnectivity and parallel processing"

Chairpersons: Masaaki Sato *Brain Body System Science Institute, Graduate School Science and Engineering, Saitama University*
Kazuo Kitamura *Dept Neurophysiol, Div Med, Univ Yamanashi*

- 2S02m-1 (8:40) Deep brain imaging 101: an introduction to technical approaches and applications
Masaaki Sato^{1,2,3}
¹*Grad Sch Sci Eng, Saitama Univ, Saitama, Japan,* ²*Brain Body Sys Sci Inst, Saitama Univ, Saitama, Japan,* ³*RIKEN, Saitama, Japan*

- 2S02m-2 In vivo 3-photon Imaging of brain structure and function
(8:52) Chris Xu
Cornell University
- 2S02m-3 Ensemble representation of contextual memory in hippocampal engram cells
(9:19) Noriaki Ohkawa^{1,2,3}, Kaoru Inokuchi^{1,3}
¹*Dept Biochem, Univ of Toyama Grad Sch Med Pharm*, ²*PRESTO, JST*, ³*CREST, JST*
- 2S02m-4 Video-Rate Volumetric Functional Imaging of the Brain at Synaptic Resolution
(9:46) Rongwen Lu¹, Masashi Tanimoto¹, Yajie Liang¹, Guanghan Meng^{1,2}, Cristina Rodriguez¹, Na Ji^{1,2}
¹*Janelia Research Campus*, ²*Department of Physics, University of California Berkeley*
- 2S02m-5 Deep and wide two-photon imaging of the mouse frontal cortex
(10:13) Masanori Matsuzaki
Department of Physiology, University of Tokyo.

Symposium 2S03m

8:40-10:40 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

Memory dynamics revealed by new technologies for observation / manipulation of molecules, cells and circuits

Chairpersons: Takashi Kitamura *University of Texas Southwestern Medical Center*
Hiroyuki Okuno *Laboratory of Biochemistry and Molecular Biology, Graduate School of Medical and Dental Sciences, Kagoshima University*

- 2S03m-1 Synaptic m6A Epitranscriptome Reveals Functional Partitioning of Localized Transcripts for Dynamic Tripartite Synapse Modulation
(8:40) Dan Ohtan Wang
Institute for Integrated Cell-Material Sciences, Kyoto University
- 2S03m-2 Plasticity of Engram Excitability State as a mechanism for Short-term Memory
(9:04) Michele Pignatelli¹, Tomas J Ryan^{1,2}, Dhheraj Roy¹, Shruti Mulalhidar¹, Chanel Lovet¹, Lily Smith¹, Susumu Tonegawa¹
¹*RIKEN-MIT Center for Neural Circuit Genetics at the Picower Institute for Learning and Memory, Department of Biology and Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA 02139, U.S.A.*, ²*School of Biochemistry and Immunology, Trinity Biomedical Sciences Institute, and Trinity College Institute of Neuroscience, Trinity College Dublin, Dublin, Ireland*
- 2S03m-3 Contribution of dentate gyrus granule cells to remote memory retrieval revealed novel Arc-based labeling
(9:28) Hiroyuki Okuno
Laboratory of Biochemistry and Molecular Biology, Graduate School of Medical and Dental Sciences, Kagoshima University
- 2S03m-4 Anatomical and functional diversity in amygdala and insular circuits
(9:52) Anna Beyeler
University of Bordeaux
- 2S03m-5 Neural circuits and computation for negative regulation of episodic memory formation
(10:16) Takashi Kitamura
Dept Psychiatry, UT Southwestern Medical Center

Symposium 2S04m 8:40-10:40 Room 4 (401+402, 4F, Kobe International Conference Center)

New horizons in Cognitive Neuroscience using the mouse as a model organism

Chairpersons: Daisuke Shimaoka *Institute of Ophthalmology, University College London*
 Andrea Benucci *RIKEN Brain Science Institute*

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- 2S04m-1 **Neural substrates of action timing decisions**
 (8:40) Masayoshi Murakami, Zachary F. Mainen
Champalimaud Centre for the Unknown
- 2S04m-2 **Circuit Mechanisms of Perceptual Memory Consolidation**
 (9:03) Masanori Murayama
Lab for Behavioral Neurophysiology, Brain Science Institute, RIKEN, Saitama, Japan
- 2S04m-3 **Cortical state fluctuations predict the accuracy of visual spatial perception in mice**
 (9:26) Bilal Haider¹, Anderson Speed¹, Joseph Del Rosario¹, Christopher P Burgess²
¹Georgia Tech & Emory University, ²University College London
- 2S04m-4 **Projection-specific signaling in mouse sensorimotor cortex during active behaviors**
 (9:49) Takayuki Yamashita^{1,2}
¹Dept Neurosci II, RIEM, Nagoya Univ, Nagoya, Japan, ²JST PRESTO, Kawaguchi, Japan
- 2S04m-5 **Sensory Representation Plasticity Driven by Patterned Optogenetic Stimulation in the Mouse Cortex**
 (10:12) Andrea Benucci
RIKEN Brain Science Institute

Symposium 2S05m 8:40-10:40 Room 5 (501, 5F, Kobe International Conference Center)

New research foresight of complex motor skill learning and production through the bird song

Chairpersons: Kazuhiro Wada *Faculty of Science, Hokkaido University*
 Kazuo Okanoya *Graduate School of Arts and Sciences, The University of Tokyo*

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- 2S05m-1 **Mechanisms underlying the experience-dependent development of birdsongs**
 (8:40) Kentaro Abe
Graduate School of Life Sciences, Tohoku university, Miyagi, Japan
- 2S05m-2 **Identify the genetic and behavioral mechanisms of communication disorders**
 (8:58) Wan-Chun Liu
Colgate University
- 2S05m-3 **The functions of a basal ganglia-forebrain circuit in birdsong learning**
 (9:16) Satoshi Kojima
Korea Brain Research Institute, Daegu, South Korea

- 2S05m-4 (9:34) **A midbrain-cortical circuit is essential to encoding tutor song representations that guide vocal learning**
Masashi Tanaka¹, Fangmiao Sun^{2,3}, Yulong Li^{2,3,4}, Richard Mooney¹
¹Dept Neurobiol, Duke Univ Sch Med, Durham, USA, ²State Key Laboratory of Membrane Biology, Peking Univ Sch Life Sci, Beijing, China, ³PKU-IDG/McGovern Institute for Brain Research, Beijing, China, ⁴Peking-Tsinghua Center for Life Sciences, Beijing, China
- 2S05m-5 (9:52) **Auditory experience-dependent cortical circuit shaping for memory formation in bird song learning**
Shin Yanagihara^{1,2}, Yoko Yazaki-Sugiyama²
¹Dept Life Sci, Grad Sch Arts & Sci, Univ of Tokyo, Tokyo, Japan, ²OIST, Okinawa, Japan
- 2S05m-6 (10:10) **Neural Mechanisms of Song Evaluation and Mate Choice in Female Songbirds**
Jonathan Prather, Koedi S Lawley, Jeffery L Dunning, Sarah E Maze, Ethan J Atwood, Fenn Thomas
University of Wyoming, Laramie, Wyoming, USA

Symposium 2S06m 8:40-10:40 Room 6 (502, 5F, Kobe International Conference Center)

Dynamic cerebellum: neural mechanisms underlying emerging information processing

Chairperson: Shinji Kakei *Tokyo Metropolitan Institute of Medical Science*

- 2S06m-1 (8:40) **Introduction: emerging dynamic information processing through the cerebellum**
Shinji Kakei
Mov Disord Proj, Tokyo Metr Inst Med Sci, Tokyo, Japan
- 2S06m-2 (8:50) **Encoding of voluntary whisker movement at input and output stages of the cerebellar cortex**
Paul Chadderton
Imperial College London
- 2S06m-3 (9:15) **Probabilistic information coding in cerebellar complex spikes**
Takayuki Michikawa¹, Takamasa Yoshida², Satoshi Kuroki², Takahiro Ishikawa³, Shinji Kakei³, Shigeyoshi Itoharu², Atsushi Miyawaki^{1,4}
¹RIKEN Center for Advanced Photonics, Saitama, Japan, ²Laboratory for Behavioral Genetics, RIKEN BSI, Saitama, Japan, ³Movement Disorder Project, Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan, ⁴Laboratory for Cell Function Dynamics, RIKEN BSI, Saitama, Japan
- 2S06m-4 (9:40) **Dynamic features of activities of cerebellar mossy fibers, Purkinje cells and dentate cells in behaving monkeys**
Takahiro Ishikawa¹, Saeka Tomatsu², Donna S Hoffman^{3,4}, Shinji Kakei¹
¹Tokyo Metro Inst of Med Sci, Tokyo, Japan, ²Natl Ctr of Neurology and Psychiatry, Kodaira, Japan, ³Dept of Neurobiology, Univ of Pittsburgh Sch of Med, Pittsburgh, USA, ⁴Ctr for the Neural Basis of Cognition, Univ of Pittsburgh, USA
- 2S06m-5 (10:05) **Neural Evidence of the Cerebellum as a State Predictor**
Hirokazu Tanaka¹, Takahiro Ishikawa², Shinji Kakei²
¹Japan Advanced Institute of Science and Technology, Ishikawa, Japan, ²Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan

Symposium 2S08m 8:40-10:40 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

Emerging tools and modalities for imaging and control of neural signaling

Sponsored in part by a Grant-in-Aid for Scientific Research on Innovative Areas "Brain information dynamics underlying multi-area interconnectivity and parallel processing"

Sponsored in part by Brain Science Foundation

Sponsored in part by Optogenetics Research Conference

Chairpersons: Haruhiko Bito *Department of Neurochemistry, Graduate School of Medicine, The University of Tokyo*
Robert E. Campbell *Department of Chemistry, Faculty of Science, University of Alberta*

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- 2S08m-1 **Imaging of multiple Ca²⁺ signaling components in living neurons and synapses.**
(8:40) Hajime Fujii, Masatoshi Inoue, Haruhiko Bito
Department of Neurochemistry, The University of Tokyo Graduate School of Medicine
- 2S08m-2 **A recombinant system for ablating individual synapses with light**
(9:00) Don Arnold¹, Aida Bareghamyan¹, Garrett G Gross¹, Wei Zhang², Robert E Campbell²
¹*University of Southern California*, ²*University of Alberta*
- 2S08m-3 **Optogenetic manipulation of neurotrophin signaling**
(9:20) Bianxiao Cui, Liting Duan, Jen Hope, Qunxiang Ong, Shunling Guo
Stanford University
- 2S08m-4 **Treatment of ischemic brain injury by TrkB agonistic antibody**
(9:40) Bai Lu
Tsinghua University
- 2S08m-5 **Bioluminescent indicators for neuroscience research**
(10:00) Takeharu Nagai
Osaka University
- 2S08m-6 **Engineering proteins to create optogenetic tools for visualization and control of neural activity**
(10:20) Robert E Campbell
University of Alberta

Symposium 2S09m 8:40-10:40 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

Neurodegenerative diseases; protein aggregation, propagation, phase transition and more

Chairpersons: Yoshitaka Nagai *Department of Neurotherapeutics, Osaka University Graduate School of Medicine*
Erich E. Wanker *Max Delbrück Center for Molecular Medicine (MDC)*

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- 2S09m-1 **Supersaturation-limited Phase Transition of Denatured Proteins and its Role in Amyloidosis**
(8:40) Yuji Goto
Inst Protein Res, Osaka University, Osaka, Japan

- 2S09m-2 (9:10) Liquid-liquid phase separation of the microtubule-binding repeats of the Alzheimer-related protein Tau
Markus Zweckstetter¹, Susmitha Ambadipudi¹, Jacek Biernat³, Dietmar Riedel², Eckhard Mandelkow³
¹German Center for Neurodegenerative Diseases (DZNE), ²Max-Planck-Institut fuer Biophysikalische Chemie, Am Fassberg 11, 37077 Goettingen, Germany, ³Deutsches Zentrum fuer Neurodegenerative Erkrankungen (DZNE), Ludwig-Erhard-Allee 2, 53175 Bonn, Germany
- 2S09m-3 (9:40) Different properties of α -synuclein conformational strains
Genjiro Suzuki, Masato Hasegawa
Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan
- 2S09m-4 (10:10) Structural basis of polyglutamine protein aggregation and propagation, and its therapeutic opportunities
Yoshitaka Nagai
Dept Neurotherapeutics, Osaka Univ

Symposium 2S02e

16:00-18:00

Room 2 (International Conference Room, 3F, Kobe International Conference Center)

Motion vision - from circuits to behavior

Chairpersons: Keisuke Yonehara *DANDRITE, Aarhus University*
Fumi Kubo *Max Planck Institute of Neurobiology*

- 2S02e-1 (16:00) How do Neurons Compute the Direction of Motion?
Alexander Borst
Max-Planck-Institute of Neurobiology
- 2S02e-2 (16:30) Cell type specific circuit motif for visual motion computation in the mouse retina
Akihiro Matsumoto, Keisuke Yonehara
DANDRITE, Dept Biomed, Aarhus University, Aarhus, Denmark
- 2S02e-3 (16:50) Function and connectivity of the optic flow processing circuit in the zebrafish pretectum
Fumi Kubo¹, Svava Fabian², Kramer Anna², Denk Winfried², Baier Herwig²
¹National Institute of Genetics, Mishima, Japan, ²Max Planck Institute of Neurobiology, Martinsried, Germany
- 2S02e-4 (17:10) Motion vision underlying optokinetic responses in primates: Spatiotemporal frequency characteristics
Kenichiro Miura¹, Aya Takemura²
¹Dept. Integ Brain Sci, Grad Sch. Med, Kyoto Univ, Kyoto, Japan, ²Human Informatics Res. Inst, AIST, Tsukuba, Japan
- 2S02e-5 (17:30) Goal directed eye movements in freely moving rats, mice, ferrets and tree shrews
Jason Kerr
caesar, an institute of the Max Planck Society

Coordination of Neuroscience and Behavior for understanding behavioral strategy for survival

Chairpersons: Reiko Kobayakawa *Kansai Medical University*
Tadao Usui *Kyoto University Graduate School of Biostudies*

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- 2S03e-1 (16:00) **Sensory representations and integrational processing for innate versus learned olfactory behaviors and beyond**
Reiko Kobayakawa, Ko Kobayakawa, Tomohiko Matsuo
Inst Biomedical Science, Kansai Medical Univ, Osaka, Japan
- 2S03e-2 (16:24) **Information processing mediated by firing rate fluctuations in *Drosophila* sensory system**
Tadao Usui¹, Koun Onodera¹, Shumpei Baba¹, Akira Murakami², Tadashi Uemura¹
¹*Grad Sch Biostudies, Kyoto Univ, Kyoto, 2*Grad Sch of Info, Kyoto Univ, Kyoto
- 2S03e-3 (16:48) **Behavioral and Neural Basis of Odor-Searching Strategy**
Ryohei Kanzaki, Tomoki Kazawa, Noriyasu Ando, Shigehiro Namiki, Takeshi Sakurai, Hidefumi Mitsuno
RCAST, The University of Tokyo, Tokyo, Japan
- 2S03e-4 (17:12) **Calcium-dependent phosphorylation signaling in emotional and social amygdala circuits**
Sayaka Takemoto-Kimura^{1,2,3}, Shuhei Ueda¹, Haruhiko Bito³
¹*Res Inst Environ Med, Nagoya Univ, Nagoya, Japan, 2*PRESTO, Japan Science and Technology Agency, Kawaguchi, Japan, ³*Dept Neurochem, Univ of Tokyo Grad Sch Med, Tokyo*
- 2S03e-5 (17:36) **Large-scale forward genetics screening identifies TRPA1 as a chemosensor for thiazolines- evoked innate fear/defensive behaviors**
Qinghua Liu^{1,3}, Yibing Wang³, Liqin Cao¹, Chia-Ying Lee², Tomohiko Matsuo², Kejia Wu³, Gregory Asher¹, Lijun Tang³, Tsuyoshi Saitoh¹, Jamie Russell³, Daniela Klewe-Nebenius¹, Emi Hasegawa¹, Shingo Soya¹, Katsuyasu Sakurai¹, Hiromasa Funato¹, Takeshi Sakurai¹, Masashi Yanagisawa¹, Hiroshi Nagase¹, Reiko Kobayakawa², Ko Kobayakawa², Bruce Beutler³
¹*University of Tsukuba International Institute for Integrative Sleep Medicine (WPI-IIS), 2*Kansai Medical University, ³*UT Southwestern Medical Center, USA*

Symposium 2S04e 16:00-18:00 Room 4 (401+402, 4F, Kobe International Conference Center)

Neural representations and functions generated through interactions between external sensory stimuli and internal states

This symposium is held as part of a RIKEN symposium.

Chairpersons: Hokto Kazama *RIKEN Brain Science Institute*

Yuko Yotsumoto *The University of Tokyo Graduate School of Arts and Sciences*

- 2S04e-1 (16:00) **The Neural Circuit Mechanisms for the Switch of Attractive and Aversive Responses to Chemosensory Stimuli in the Nematode *C. elegans***
 Yuichi Iino¹, Hirofumi Sato¹, Yu Toyoshima¹, Suzu Oe², Moon-Sun Jang¹, Stephen Wu³, Manami Kanamori¹, Hirofumi Kunitomo¹, Yuishi Iwasaki⁴, Ryo Yoshida³, Takeshi Ishihara²
¹Dept Biol Sci, Graduate schl of sci, Univ of Tokyo, ²Dept Biol, Grad Sch Sci, Kyushu Univ., Fukuoka, ³Inst Statistical Mathematics, ⁴College of Engineering, Ibaraki Univ
- 2S04e-2 (16:24) **Plasticity and stability of olfactory representations in the *Drosophila* memory center**
 Hokto Kazama^{1,2}
¹RIKEN BSI, Saitama Japan, ²Dept Life Sci, Grad Sch Arts & Sci, Univ of Tokyo, Tokyo, Japan
- 2S04e-3 (16:48) **Hierarchical neural regulation of thirst**
 Yuki Oka
California Institute of Technology, CA, USA.
- 2S04e-4 (17:12) **Value Decoding from ElectroCorticoGraphic Signals in Monkey Prefrontal Cortices and its Modulation by Decoded Neurofeedback**
 Masamichi Sakagami¹, Shingo Tanaka²
¹Brain Science Institute Tamagawa University, Tokyo, Japan, ²Department of Physiology, Niigata University School of Medicine, Niigata, JAPAN
- 2S04e-5 (17:36) **Modulation of Functional Connectivity Induced by Transcranial Electric Stimulations: Within-subject Comparison of Four Different Stimulation Protocols.**
 Yuko Yotsumoto
The University of Tokyo

Symposium 2S05e 16:00-18:00 Room 5 (501, 5F, Kobe International Conference Center)

Basic Principles of Information Processing Extracted from Simple Neural Circuits - Towards Application to Complex Brains

Chairpersons: Ichiro Aoki *Neuroscience Institute of the Graduate School of Science, Nagoya University*

Hirofumi Kunitomo *Department of Biological Sciences, School of Science, University of Tokyo*

- 2S05e-1 (16:00) **Alteration between positive and negative valence of a neuronal connection shapes a *C. elegans* navigation behavior**
 Shunji Nakano¹, Muneki Ikeda¹, Yuki Tsukada¹, Ayana Sano¹, Rumi Kondo¹, Takamasa Suzuki², Tetsuya Higashiyama², Ikue Mori¹
¹Graduate School of Science, Nagoya University, Nagoya, ²ITbM, Nagoya University, Nagoya

- 2S05e-2 **Neural dynamics during flight orientation in the central brain of *Drosophila***
(16:16) Hiroshi M. Shiozaki, Hokto Kazama
RIKEN BSI, Saitama, Japan
- 2S05e-3 **Studies on the molecular mechanism and function of sleep using *Caenorhabditis elegans***
(16:32) Yu Hayashi
International Institute for Integrative Sleep Medicine, Univ of Tsukuba, Tsukuba, Japan
- 2S05e-4 **Dopamine release is gated by postsynaptic activity in *Drosophila* brain**
(16:48) Kohei Ueno
Tokyo Met. Inst. Med. Sci.
- 2S05e-5 **Co-transmitters of dopaminergic neurons diversify memory dynamics in parallel memory circuits**
(17:04) Yoshinori Aso, Rubin M. Gerald
Janelia Research Campus, Virginia, USA
- 2S05e-6 **Glia developmental plasticity couples behaviour to reproductive needs**
(17:25) Arantza Barrios¹, Laura Molina-Garcia¹, Steven J Cook², Byunghyuk Kim³, Michele Sammut¹,
Rachel Bonnington¹, David H Hall², Scott W Emmons^{2,3}, Richard J Poole¹
¹University College London, ²Dominick P. Purpura Department of Neuroscience, Albert Einstein College of Medicine, NY,
³Department of Molecular Genetics, Albert Einstein College of Medicine, NY

Symposium 2S06e

16:00-18:00 Room 6 (502, 5F, Kobe International Conference Center)

Variability in neural dynamics and brain functions

Chairpersons: Keiichi Kitajo *RIKEN Brain Science Institute*
Hirokazu Takahashi *Research Center for Advanced Science and Technology, The University of Tokyo*

- 2S06e-1 **Intelligence emerging from spontaneously active neuronal culture**
(16:00) Hirokazu Takahashi
Research Center for Advanced Science and Technology, Univ of Tokyo, Tokyo, Japan.
- 2S06e-2 **Spatio-temporal packets of cortical activity.**
(16:24) Artur Luczak
University of Lethbridge
- 2S06e-3 **Bring the noise: Variability as signal in the study of human aging and cognition**
(16:48) Douglas D Garrett
Max Planck Institute for Human Development
- 2S06e-4 **State-unspecific Modes of Whole-brain Functional Connectivity Predict Intelligence and Life Outcomes**
(17:12) Yu Takagi^{1,2,3}, Jun-Ichiro Hirayama^{1,4}, Saori S Tanaka¹
¹ATR CNS, Kyoto, Japan, ²Dept Psychi, University of Oxford, Oxford, UK, ³Dept Psych, Univ of Tokyo, Tokyo, ⁴RIKEN Center for Advanced Intelligence Project
- 2S06e-5 **Variability in noise-induced neural dynamics in the human brain**
(17:36) Keiichi Kitajo¹, Takumi Sase¹, Yoko Mizuno¹, Hiromichi Suetani^{1,2}
¹RIKEN CBS, Saitama, Japan, ²Fac of Sci and Tech, Oita Univ, Oita, Japan

Symposium 2S08e 16:00-18:00 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

Biophysical Approach to Study Neuronal Cell Biology

Chairpersons: Takao Nakata *Department of Cell Biology, Tokyo Medical and Dental University Graduate School of Medical and Dental Sciences*
Naoki Watanabe *Laboratory of Single - Molecule Cell Biology, Kyoto University Graduate School of Biostudies*

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- 2S08e-1 Lamellipodium tip actin assembly as a Brownian ratchet-based force sensor
(16:00) Naoki Watanabe^{1,2}
¹Kyoto Univ Grad Sch of Biostudies, ²Kyoto Univ Grad Sch of Medicine
- 2S08e-2 Cellular and molecular mechanisms regulating dendrite directionality of cerebellar Purkinje cell
(16:20) Kazuto Fujishima¹, Mineko Kengaku^{1,2}
¹KUIAS-iCeMS, Kyoto Univ, Kyoto, Japan, ²Grad Sch Biostudies, Kyoto Univ, Kyoto
- 2S08e-3 Biophysical and quantitative analyses of the axonal transport using advanced bioimaging techniques
(16:40) Yasushi Okada^{1,2}
¹BDR, RIKEN, ²Dept Physics, UBI, IRCN, Univ of Tokyo, Tokyo, Japan
- 2S08e-4 Optogenetics of Signaling Proteins in Neurons
(17:00) Takao Nakata^{1,2}
¹Dept Cell Biol, Tokyo Medical and Dental Univ, Tokyo, Japan, ²CBIR (center for integrated brain research), Tokyo Medical and Dental Univ, Tokyo, Japan
- 2S08e-5 From molecule to mind - disentangling the brain with light
(17:20) Hiromu Yawo, Toru Ishizuka
Tohoku University Graduate School of Life Sciences

Symposium 2S09e 16:00-18:00 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

The latest development of Alzheimer disease research

Chairpersons: Takaomi Saido *RIKEN Brain Science Institute*
Amaia Arranz Mendiguren *VIB Center for Brain & Disease Research and KU Leuven Department of Neurosciences*

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- 2S09e-1 In vivo exploration of protective mutations for Alzheimer's disease pathology
(16:00) Kenichi Nagata, Mika Takahashi, Yukio Matsuba, Takaomi C Saido
Laboratory for Proteolytic Neuroscience, RIKEN Center for Brain Science, Saitama, Japan
- 2S09e-2 Mechanisms of redox perturbation in the App-knockin mouse model of Alzheimer's disease
(16:30) Shoko Hashimoto, Naoko Kamano, Takashi Saito, Takaomi C. Saido
Laboratory for Proteolytic Neuroscience RIKEN Center of Brain Science

- 2S09e-3 Neural activity loss in the entorhinal-hippocampal circuit of knock-in Alzheimer model
(17:00) Kei M Igarashi
 University of California, Irvine, USA
- 2S09e-4 The use of chimeric mouse models to understand the cellular phase of AD
(17:30) Amaia Arranz
 VIB-KU Leuven

Symposium

Day 3 - July 28

Symposium 3S01m 8:40-10:40 Room 1 (Main Hall, 1F, Kobe International Conference Center)

In the beginning was the Synapse: neuropsychiatric disorders as synaptopathy

Chairpersons: Michisuke Yuzaki *Department of Physiology, Keio University School of Medicine*
Cagla Eroglu *Department of Cell Biology, Duke University School of Medicine*

Introduction (8:40)

- 3S01m-1 (8:42) The C1q complement family of synaptic organizers: not just complementary.
Michisuke Yuzaki
Dept Physiol, Keio Univ School of Med, Tokyo
- 3S01m-2 (9:10) LRR transmembrane proteins control the localization of glutamate receptors
Jun Aruga
Dept Med Pharmacol, Inst Biomed Sci, Nagasaki Univ, Nagasaki, Japan
- 3S01m-3 (9:38) Inhibitory synapse development regulated by IgSF21-Neurexin2 α complex and its involvement in brain function
Hideto Takahashi^{1,2}
¹Institut de recherches cliniques de Montreal (IRCM), Montreal, Canada, ²Dept Med, Universite de Montreal
- 3S01m-4 (10:06) How do glia sculpt synaptic circuits?
Cagla Eroglu
Duke University Medical Center

Symposium 3S02m

8:40-10:40 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

Mismatch negativity as a translatable biomarker bridging a gap between animal model and human disease

Co-hosted by Grant-in-Aid for Scientific Research on Innovative Areas: Science of personalized value development through adolescence: integration of brain, real-world, and life-course approaches (JSPS KAKENHI Grant Number JP16H06395, 16H06399, & 16K21720)

Co-hosted by The Brain Mapping by Integrated Neurotechnologies for Disease Studies (Brain/MINDS) from Japan Agency for Medical Research and development, AMED.

Chairpersons: Kiyoto Kasai *Dept. of Neuropsychiatry, Graduate School of Medicine, The University of Tokyo*
Gregory A. Light *Department of Psychiatry, University of California San Diego*

- 3S02m-1 (8:40) MMN in human adolescence and in early psychosis**
Daisuke Koshiyama¹, Kenji Kirihara¹, Mariko Tada¹, Tatsuya Nagai¹, Mao Fujioka¹, Kaori Usui¹, Shinsuke Koike^{1,2,3}, Motomu Suga^{1,4}, Tsuyoshi Araki¹, Kiyoto Kasai¹
¹Department of Neuropsychiatry, Graduate School of Medicine, The University of Tokyo, Tokyo, ²University of Tokyo Institute for Diversity & Adaptation of Human Mind (UTIDAHM), Tokyo, Japan, ³Center for Evolutionary Cognitive Sciences, Graduate School of Art and Sciences, The University of Tokyo, Tokyo, Japan, ⁴Department of Rehabilitation, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan
- 3S02m-2 (8:55) Biomarkers of Neural System Engagement With Initial Exposure to Procognitive Interventions for Schizophrenia**
Gregory Light
University of California San Diego
- 3S02m-3 (9:25) Human ECoG study on the lateral superior temporal gyrus: deviance detection versus adaptation**
Naoto Kunii¹, Yohei Ishishita¹, Seijiro Shimada¹, Mariko Tada², Kenji Kirihara², Takanori Uka³, Kiyoto Kasai², Nobuhito Saito¹
¹Dept Neurosurg, Univ of Tokyo, Tokyo, ²Dept Psych, Univ of Tokyo, Tokyo, ³Department of Integrative Physiology, University of Yamanashi, Yamanashi, Japan
- 3S02m-4 (9:40) Uncovering the neural networks for mismatch negativity using ECoG in macaque monkeys**
Takanori Uka¹, Kenji Matsumoto²
¹Dept Integrative Physiol, Grad Sch Med, Univ Yamanashi, Yamanashi, Japan, ²Brain Sci Inst, Tamagawa Univ, Tokyo, Japan
- 3S02m-5 (9:55) Mismatch negativity in common marmosets**
Noritaka Ichinohe^{1,2}, Misako Komatsu¹
¹RIKEN, Brain Science Institute, Ichinohe group, ²NCNP, Tokyo, Japan
- 3S02m-6 (10:10) From clinical to pre-clinical research – using MMN in animal models to understand the neurobiology of schizophrenia**
Patricia Therese Michie
University of Newcastle Australia

Symposium 3S03m

8:40-10:40 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

Forming and reformatting aversive emotional memories

This symposium is held as part of a RIKEN symposium.

Chairpersons: Joshua P. Johansen *RIKEN Brain Science Institute*
Karim Nader *McGill University*

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- 3S03m-1 (8:40) **Understanding mechanisms of fear memory regulation and their applications for treatment of PTSD**
Satoshi Kida
Dep. Biosci., Tokyo Univ. of Agriculture, Tokyo
- 3S03m-2 (9:00) **Prefrontal somatostatin interneurons orchestrate fear memory expression**
Roger L Clem, Kirstie A Cummings, Ryan Monasch, Ciorana Roman Ortiz
Icahn School of Medicine at Mount Sinai
- 3S03m-3 (9:20) **Neuronal circuits underlying emotional memories**
Ayako M Watabe
Inst Clinical Medicine and Research, Jikei Univ. Schl Med, Japan
- 3S03m-4 (9:40) **Specific Impairments of consolidation, reconsolidation, and LTMm lead to memory erasure. Targeting memories as a new therapeutic approach to psychopathologies.**
Karim Nader
McGill University
- 3S03m-5 (10:00) **Neuromodulation of fear memory formation and reconsolidation**
Joshua P. Johansen
RIKEN Brain Science Institute, Wako-shi, Japan

Symposium 3S04m

8:40-10:40 Room 4 (401+402, 4F, Kobe International Conference Center)

Connectomic approaches and discoveries

Chairpersons: Yoshiyuki Kubota *National Institute for Physiological Sciences Laboratory of Cerebral Circuitry*
Sebastian Seung *Neuroscience Institute and Computer Science Department, Princeton University*

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- 3S04m-1 (8:40) **Connectomics studies in the *Drosophila* brain**
Shinya Takemura
Janelia Research Campus, Howard Hughes Medical Institute
- 3S04m-2 (9:10) **A Carbon Nanotube Tape for Serial-Section Electron Microscopy of Brain Ultrastructure**
Yoshiyuki Kubota^{1,2}
¹*Division of Cerebral Circuitry, National Institute for Physiological Sciences, Okazaki, Japan,* ²*Department of Physiological Sciences, The Graduate University for Advanced Studies*
- 3S04m-3 (9:40) **Cerebral Cortex Connectomics**
Moritz Helmstaedter
Max Planck Institute for Brain Research

3S04m-4 Dense anatomy and physiology of neural circuits: from retina to cortex
(10:10) Sebastian Seung
Princeton University

Symposium 3S05m 8:40-10:40 Room 5 (501, 5F, Kobe International Conference Center)
Neuronal circuits and dynamics of the cortical limbic system for spatial navigation

This symposium is held as part of RIKEN symposium.

Chairpersons: Shigeyoshi Fujisawa *RIKEN Brain Science Institute*
Adrien Peyrache *McGill University*

3S05m-1 Theta oscillations synchronize hippocampal retrosplenial circuits in a memory task
(8:40) Shigeyoshi Fujisawa
RIKEN Brain Science Institute

3S05m-2 Supramammillary nucleus modulates signal flow in the prefrontal-thalamo-hippocampal circuit during navigation
(9:10) Hiroshi Ito
Max Planck Institute for Brain Research, Frankfurt am Main, Germany

3S05m-3 Transformation of the head-direction signal into a spatial code
(9:40) Adrien Peyrache
McGill University

3S05m-4 Subiculum and Retrosplenial Cortex Map the Structural Layout of Path Networks
(10:10) Douglas Nitz
University of California, San Diego

Symposium 3S06m 8:40-10:40 Room 6 (502, 5F, Kobe International Conference Center)
Rebuilding of neurons, connections and behavior

Chairpersons: Takashi Suzuki *Tokyo Institute of Technology*
Giorgio Francesco Gilestro *Faculty of Natural Sciences, Department of Life Sciences, Imperial College London*

3S06m-1 Activity-dependent rebuilding of active zones in the *Drosophila* visual system
(8:40) Hinata Kawamura¹, Atsushi Sugie², Tomohiro Araki¹, Keita Oochi¹, Satoko Hakeda-Suzuki¹, Takashi Suzuki¹
¹Dept Life Sci & Tech, Tokyo Inst of Tech, Tokyo Japan, ²Dept Neurosci of Disease

3S06m-2 Regulation of exocytosis by cAMP at hippocampal mossy fiber terminals.
(8:58) Takeshi Sakaba
Graduate School of Brain Science, Doshisha University

- 3S06m-3 (9:16) Activity dependent Btd3 protein dynamics for selective dendrite morphogenesis in developing neuron
Tomomi Shimogori
RIKEN Brain Research Institute
- 3S06m-4 (9:34) Integral system by the active zone proteins CAST and ELKS to control retinal synaptic transmission and photoreceptor remodeling
Toshihisa Ohtsuka
Dept Biochem, Grad Sch Med, Univ of Yamanashi
- 3S06m-5 (9:52) Rebuilding of the two process model.
Kazuhiko Kume
Grad Sch Pharm Sci, Nagoya City Univ, Aichi, Japan
- 3S06m-6 (10:15) ninna nanna defines a sleep-regulating circuit integrating circadian and homeostatic drive
Giorgio Francesco Gilestro
Imperial College London

Symposium 3S07m 8:40-10:40 Room 7 (504+505, 5F, Kobe International Conference Center)

Japan-China Joint Symposium: Beyond Frontier-toward new dimensions of depression and emotion

JNS-Organized Symposium

Chairpersons: Hailan Hu *Interdisciplinary Institute of Neuroscience and Technology, Zhejiang University School of Medicine*
Fusao Kato *Department of Neuroscience, Jikei University School of Medicine*

- 3S07m-1 (8:40) The central amygdala as a hub for the sensory and emotional signals underlying pain experience regulation
Fusao Kato
Dept Neurosci, Jikei Univ Sch Med
- 3S07m-2 (9:05) Ketamine blocks bursting in lateral habenula to cause rapid antidepressant
Hailan Hu
Zhejiang University
- 3S07m-3 (9:30) Emotional control of innate behavior in *Drosophila*
Kazuo Emoto^{1,2}, Masato Tsuji¹, Natsuko Ishikawa¹, Jiro Yoshino¹
¹Dept Biol, Univ of Tokyo, Japan, ²WPI International Research Center for Neurointelligence, Univ of Tokyo, Tokyo, Japan
- 3S07m-4 (9:55) Targeted exome-sequencing analysis reveals major molecular pathways for risk and antidepressant response in patients with major depressive disorder
Zhijun Zhang
Affiliated ZhongDa Hospital, Southeast University

Symposium 3S08m 8:40-10:40 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

Blood-Brain Barrier Dysfunction and Neuropsychiatric Diseases: from Mechanisms to Treatment

Chairpersons: Hiroshi Kunugi *Department of Mental Disorder Research, National Institute of Neuroscience, National Center of Neurology and Psychiatry*
Tetsuya Terasaki *Division of Membrane Transport and Drug Targeting, Graduate School of Pharmaceutical Sciences, Tohoku University*

- 3S08m-1 (8:40) **Blood brain barrier integrity is regulated by clock genes**
Takeshi Takarada, Kenji Kawabe
Dept Regenerative Sci, Okayama Univ, Okayama, Japan
- 3S08m-2 (9:04) **Mechanism of disease effect on the brain barrier transport system analysed by proteomics**
Tetsuya Terasaki
Grad. Sch. Pharm. Scis. Tohoku Univ., Sendai, Japan
- 3S08m-3 (9:28) **Destruction and repair of blood-brain barrier in neuroimmunological disorders**
Takashi Kanda
Dept. Neurol. Yamaguchi Univ Grad Sch, Ube, Japan
- 3S08m-4 (9:52) **Blood brain barrier disturbances in psychiatric disorders : evidence from cerebrospinal fluid studies**
Kotaro Hattori^{1,2}, Kazuhiro Sohya¹, Hiroshi Kunugi¹
¹Department of Mental Disorder Research, National Institute of Neuroscience, National Center of Neurology and Psychiatry (NCNP), ²Medical Genome Center, National Center of Neurology and Psychiatry
- 3S08m-5 (10:16) **Fibrinogen in Neurological Diseases: mechanisms, imaging, therapeutics**
Katerina Akassoglou
Gladstone Institutes/UCSF

Symposium 3S09m 8:40-10:40 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

Microglia, the dying - and - rising immune cell in the brain

Chairpersons: Ryuta Koyama *Laboratory of Chemical Pharmacology, Graduate School of Pharmaceutical Sciences, The University of Tokyo*
Hiroaki Wake *Division of System Neuroscience, Kobe University Graduate School of Medicine*

- 3S09m-1 (8:40) **Microglia in health and disease. - lesson from schizophrenia model mice-**
Hiroaki Wake^{1,2}
¹Kobe University Graduate School of Medicine, ²CREST, JST, Japan
- 3S09m-2 (9:10) **Loss of microglial TDP-43 induces alteration in cytokine expression, and is associated with loss of synapses and motor deficits in mice**
Rosa Chiara Paolicelli, Andrea Valeri, Lawrence Rajendran
IREM - Institute for Regenerative Medicine, University of Zurich, Switzerland

3S09m-3 Neuroprotective function of microglia in the postnatal brain
(9:40) Yuki Fujita^{1,2}, Masaki Ueno³, Toru Nakanishi¹, Toshihide Yamashita^{1,2,4}
¹Dept Mol Neurosci, Osaka Univ, Osaka, ²WPI Immunology Frontier Research Center, Osaka University, ³Brain Research Institute, Niigata University, ⁴Grad Sch Frontier Biosci, Osaka Univ

3S09m-4 Microglia regulate synaptic structures and affect brain functions
(10:10) Ryuta Koyama
Lab Chem Pharmacol, Grad Sch Pharma Sci, Univ of Tokyo, Tokyo

Mini Symposium 3MS02 13:00-13:50 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

Molecular therapy with oligonucleotide therapeutics for neurodegenerative diseases

Chairperson: Takanori Yokota *Department of Neurology and Neurological Science, Tokyo Medical and Dental University*

3MS02-1 Contribution of chemistry to nucleic acid drugs
(13:00) Shigeki Sasaki
Lab Chem Bioorg Chem, Grad Sch Pharm Sci, Univ Kyushu, Japan

3MS02-2 Development of oligonucleotide therapies for neurodegenerative disease
(13:25) Tetsuya Nagata
Department of Neurology and Neurological Science, Graduate School, Tokyo Medical and Dental University

Symposium 3S07a 15:00-17:00 Room 7 (504+505, 5F, Kobe International Conference Center)

From bodily action to the social cognition: For an integrated view of the diverse processes

Chairpersons: Motoaki Sugiura *IDAC, Tohoku University*
Gianluca Esposito *Division of Psychology - SoSS, Nanyang Technological University, Singapore*

3S07a-1 Above the Surface: Genetic and Brain Mechanisms of Social Interaction
(15:00) Gianluca Esposito^{1,2}
¹Nanyang Technological University, ²University of Trento, Rovereto, Italy

3S07a-2 Neural basis of integrating self with other: Hyperscanning neuroimaging studies
(15:25) Takahiko Koike¹, Hiroki C Tanabe², Masaki Abe³, Saori Adachi-Abe⁴, Motofumi Sumiya¹, Eri Nakagawa¹, Masako Hirotani⁵, Norihiro Sadato¹
¹National Institute for Physiological Sciences, ²Nagoya University, ³Hokkaido University, ⁴Tokyo Medical and Dental University, ⁵Carleton University

3S07a-3 The role of the extrastriate body area in social cognition: from body recognition to contingency detection
(15:45) Ryo Kitada
Nanyang Technological University

3S07a-4 Neural mechanisms of cheering and vicarious reward
(16:05) Sotaro Shimada
Meiji University

3S07a-5 Life-Long Roles of the Bodily Cognition in Social Adoption
(16:25) Motoaki Sugiura^{1,2}
¹IDAC, Tohoku Univ, ²IRIDeS, Tohoku Univ

Symposium 3S08a 15:00-17:00 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

Development and emergence of functional specificity in the brain

Chairpersons: Madoka Narushima *Division of Homeostatic Development, National Institute for Physiological Sciences*
Nathalie Rochefort *University of Edinburgh*

3S08a-1 In vivo imaging of barrel cortex circuit refinement in neonates
(15:00) Takuji Iwasato^{1,2}

¹Div. Neurogenetics, National Institute of Genetics, Shizuoka, Japan, ²Department of Genetics, SOKENDAI, Shizuoka, Japan

3S08a-2 Retrograde BDNF signaling required for synapse elimination in the developing cerebellum
(15:24) Myeong Jeong Choo^{1,4}, Naofumi Uesaka¹, Masahiko Watanabe², Kenji Sakimura³, Masanobu Kano¹

¹Dept Neurophysiol, Univ of Tokyo, Tokyo, Japan, ²Dept Anat, Grad Sch Med, Hokkaido Univ, Sapporo, Japan, ³Dept Cell Neurobiol, Brain Res Inst, Niigata Univ, Niigata, Japan, ⁴Dept Biomed, Univ of Basel, Basel, Switzerland

3S08a-3 The metabotropic glutamate receptor subtype 1 mediates experience-dependent maintenance of mature synaptic connectivity in the thalamus
(15:48)

Madoka Narushima^{1,2}

¹Div Homeostatic Development, NIPS, Okazaki, Japan, ²Dept Physiol I, Tokyo Women's Medical Univ, Tokyo, Japan

3S08a-4 Function and development of motion-sensitive circuits from retina to visual centers
(16:12)

Keisuke Yonehara

DANDRITE, Aarhus University, Aarhus, Denmark

3S08a-5 Neural circuits for vision in action
(16:36)

Nathalie Rochefort

University of Edinburgh

Symposium 3S09a 15:00-17:00 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

Gene regulatory mechanisms in cortical development

Chairpersons: Carina Hanashima *Waseda University*
 Victor Borrell *Instituto de Neurociencias, Consejo Superior de Investigaciones Científicas, Universidad Miguel Hernández*

- 3S09a-1 (15:00) **Transcriptional control of fate specification and circuit specialization in the neocortex**
 Carina Hanashima^{1,2}
¹Dept Biol, Waseda Univ, Tokyo, Japan, ²Dept Integr Biosci Biomed Eng, Waseda Univ, Tokyo, Japan
- 3S09a-2 (15:24) **Assembly of inhibitory circuitry by FoxG1, a gene associated with autism spectrum disorders**
 Goichi Miyoshi
 Tokyo Women's Med Univ
- 3S09a-3 (15:48) **Genome Stability by DNA polymerase β in Cortical Development**
 Noriyuki Sugo
 Grad Sch Frontier Biosci, Osaka Univ, Suita, Japan
- 3S09a-4 (16:12) **Interplay between cell extrinsic cues and intrinsic epigenetic programs in the regulation of developmental stage-dependent fate specification of neural stem cells**
 Kinichi Nakashima
 Dept Stem Cell Biol Med, Grad Sch Med Sci, Kyushu Univ, Fukuoka, Japan
- 3S09a-5 (16:36) **Genetic mechanisms of cerebral cortex expansion**
 Victor Borrell
 Institute of Neuroscience, CSIC - UMH, San Juan de Alicante, Spain

Symposium 3S01e 16:00-19:00 Room 1 (Main Hall, 1F, Kobe International Conference Center)

Integrated Symposia: Neural mechanisms controlling circadian rhythm and sleep

Chairpersons: Kazuhiko Kume *Department of Neuropharmacology, Graduate School of Pharmaceutical Sciences, Nagoya City University*
 Kazuhiro Yagita *Department of Physiology and Systems Bioscience, Kyoto Prefectural University of Medicine*
 Hiroki R. Ueda *University of Tokyo / RIKEN*

- 3S01e-1 (16:00) **Identification of sleep-regulating central complex neurons in *Drosophila melanogaster***
 Jun Tomita, Gosuke Ban, Kazuhiko Kume
 Department of Neuropharmacology, Graduate School of Pharmaceutical Sciences, Nagoya City University, Nagoya, Japan
- 3S01e-2 (16:13) **Sleep oscillations in reptilian ex vivo brain**
 Hiroaki Norimoto, Lorenz A Fenk, Hsing-Hsi Li, Gilles Laurent
 Laboratory for Neural Systems, Max Planck Institute for Brain Research, Frankfurt, Germany

- 3S01e-3
(16:26) **A human mutation causes Advanced Sleep Phase by modulating the circadian clock in humans.**
Arisa Hirano¹, Ying-Hui Fu², Louis J Ptacek²
¹International Institute for Integrative Sleep Medicine, University of Tsukuba, Tsukuba, Japan, ²University of California, San Francisco, San Francisco, USA
- 3S01e-4
(16:39) **Circadian rhythm establishment and sleep control by the light-induced clock factors**
Jun Hirayama
Komatsu Univ. Depart. Clinic. Engineering
- 3S01e-5
(16:52) **Neural mechanisms underlying the central circadian pacemaker of the SCN**
Michihiro Mieda
Dept Integr Neurophysiol, Kanazawa Univ, Ishikawa, Japan
- 3S01e-6
(17:10) **Circadian regulation of higher brain functions in mice**
Kimiko Shimizu, Yoshitaka Fukada
Dept Biol Sci, Graduate schl of sci, Univ of Tokyo
- 3S01e-7
(17:28) **Circadian regulations in Physiological timing.**
Wataru Nakamura¹, Nana N Takasu¹, Takahiro J Nakamura²
¹Dept Oral Chrono-Physiol, Nagasaki Univ, Nagasaki, Japan, ²Lab Animal Physiol, Meiji Univ, Kanagawa, Japan
- 3S01e-8
(17:46) **Two interactive Casein Kinase 1 Delta isoforms regulated by m6A methylation.**
Jean-Michel Fustin
University of Kyoto
- 3S01e-9
(18:04) **Why do we fall asleep when bored? - The control of sleep and wakefulness by the nucleus accumbens**
Michael Lazarus, Yo Oishi
International Institute for Integrative Sleep Medicine (WPI-IIS), University of Tsukuba, Tsukuba, Japan
- 3S01e-10
(18:22) **Forward genetic research on Sleep using mice**
Hiromasa Funato^{1,2}
¹Dept Anat, Toho Univ Sch Med, Tokyo, Japan, ²IIS, Univ of Tsukuba, Tokyo, Japan
- 3S01e-11
(18:40) **Systems Biology of Mammalian Sleep/wake Cycles ~Involvement of Ca²⁺-Dependent Hyperpolarization in Sleep Duration in Mammals~**
Hiroki R Ueda^{1,2}
¹The University of Tokyo, ²Riken

Symposium 3S02e

17:00-19:00 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

JNS - JSNP Joint Symposium: Frontier of developmental disorder research—From molecular levels to clinical border

JNS-Organized Symposium

Chairpersons: Hirokazu Hirai *Department of Neurophysiology, Gunma University*
Kazutaka Ikeda *Tokyo Metropolitan Institute of Medical Science*

Introduction

(17:00)

3S02e-1 AUTS2 (Autism Susceptibility Candidate 2) gene and psychiatric disorders

(17:05)

Mikio Hoshino, Kei Hori

Dept of Biochem and Cellular Biol, Natl Inst of Neurosci, NCNP, Kodaira, Japan

3S02e-2 Mechanism and potential treatment of autism spectrum disorder in tuberous sclerosis complex

(17:33)

Atsushi Sato^{1,2}*¹Dept Pediatr, The Univ of Tokyo Hosp, Tokyo, Japan, ²Addictive Substance Project, Tokyo Metropolitan Institute of Medical Science*

3S02e-3 The spliced lncRNA SNORD116HG is essential for the high order chromatin dynamics of the MAGEL2 and NDN locus over long distance.

(18:01)

Shin-Ichi Horike¹, Sachiyo Akagi¹, Gensaku Okada¹, Dag H Yasui², Janine M LaSalle², Makiko Meguro-Horike¹*¹Advanced Science Research Center, Kanazawa Univ, Ishikawa, Japan, ²Dept of Medical Microbiology and Immunology, UC Davis, USA*

3S02e-4 Paternal ageing affects phenotypes of mice progeny possibly through epigenetic alteration in sperm

(18:29)

Ryuichi Kimura¹, Kaichi Yoshizaki², Tasuku Koike³, Shinya Oki⁴, Nana Aoki⁶, Kentaro Mochizuki¹, Hisato Kobayashi⁵, Takako Kikkawa¹, Hitoshi Inada¹, Yasuhisa Matsui⁶, Tomohiro Kono³, Noriko Osumi¹*¹Dept Dev Neurosci, Tohoku Univ, Sendai, Japan, ²Dept of Path, Inst for Dev Res, Aichi, Japan, ³Dept of Biosci, Tokyo Univ of Agri, Tokyo, Japan, ⁴Dept of Dev Bio, Kyusyu Univ, Fukuoka, Japan, ⁵NODAI genome research center, Tokyo Univ of Agri, Tokyo, Japan, ⁶Cell resource center for Biomed res, IDAC, Tohoku Univ, Sendai, Japan*

Symposium 3S03e

17:00-19:00 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

Recent advances in the neuroimaging of primate cognitive processes

Chairpersons: Teppei Matsui *Department of Physiology, University of Tokyo School of Medicine*
Kiyoshi Nakahara *Kochi University of Technology Brain Communication Research Center*

3S03e-1 Calcium imaging during free viewing of natural images from the primary visual cortex of marmosets

(17:00)

Osamu Sadakane¹, Declan Patrick Rowley^{1,2}, Akiya Watakabe¹, Toshiki Tani¹, Hiroshi Abe¹, Noritaka Ichinohe^{1,3}, Hiroaki Mizukami⁴, Marcello G. P. Rosa^{1,2}, Hsin-Hao Yu², Tetsuo Yamamori¹*¹Laboratory for Molecular Analysis of Higher Brain Functions, RIKEN BSI, Saitama, Japan, ²Biomedicine Discovery Institute, Monash University, Melbourne, Australia, ³Department of Ultra Structural Research, National Center for Neurology and Psychiatry, Tokyo, Japan, ⁴Center for Molecular Medicine, Jichi Medical University, Tochigi, Japan*

- 3S03e-2 (17:20) **Two-photon calcium imaging in the motor cortex of common marmosets during upper-limb movement tasks**
Yoshito Masamizu, Teppei Ebina, Masanori Matsuzaki
Dept Mol Cell Physiol, Grad Sch Med, Univ of Tokyo, Tokyo, Japan
- 3S03e-3 (17:40) **Multiscale and multimodal functional imaging in the marmoset visual cortex**
Teppei Matsui¹, Takayuki Hashimoto¹, Masato Uemura¹, Tomonari Murakami¹, Kohei Kikuta¹, Toshiki Kato¹, Kenichi Ohki^{1,2}
¹Dept Physiol, Univ of Tokyo, Tokyo, Japan, ²IRCN-WP
- 3S03e-4 (18:00) **An MRI-Based Connectome for the Marmoset Brain**
Afonso C. Silva, Cecil Cc Yen, CiRong Liu
National Institutes of Health, Bethesda, USA
- 3S03e-5 (18:20) **Selectivity, plasticity, and network affiliation of face patches neurons in the rhesus macaques**
Kenji W Koyano¹, Soo Hyun Park¹, Brian E Russ^{1,2}, Elena N Waidmann¹, David A Leopold^{1,3}
¹Section on Cognitive Neurophysiol and Imaging, NIMH, Bethesda, USA, ²Center for Biomed Imaging and Neuromodulation, Nathan S Kline Inst for Psychiatric Research, Orangeburg, USA, ³Neurophysiol Imaging Facility, NIMH, NINDS, NEI, Bethesda, USA
- 3S03e-6 (18:40) **The Dual Face: Vision's Inroad into the Social Brain**
Winrich Freiwald
The Rockefeller University

Symposium 3S04e 17:00-19:00 Room 4 (401+402, 4F, Kobe International Conference Center)

From local membrane biophysics to neural functions

Chairpersons: Akiyuki Taruno *Department of Molecular Cell Physiology, Kyoto Prefectural University of Medicine*
Hiroshi Kuba *Department of Cell Physiology, Nagoya University*

- 3S04e-1 (17:00) **Ionic mechanisms of cell volume regulation under hypo/hyperosmotic conditions in AVP neurons and effects of AVP secretion thereon**
Kaori Sato-Numata^{1,2}, Naomi Yasui³, Tomohiro Numata², Yoichi Ueta⁴, Yasunobu Okada^{5,6}
¹Japan Society for the Promotion of Science, Tokyo, Japan, ²Dept Physiol, Sch Med, Fukuoka Univ, Fukuoka, Japan, ³Natl Inst Basic Biol, Aichi, Japan, ⁴Dept Physiol, Sch Med, Univ Occupat Environment Health, Fukuoka, Japan, ⁵Dept Mol Cell Physiol, Sch Med, Kyoto Prefectural Univ of Med, Kyoto, Japan, ⁶Natl Inst Physiol Sci, Aichi, Japan
- 3S04e-2 (17:24) **Na_x channel: a brain Na⁺ sensor in glial cells involved in the control of neural activities**
Y. Takeshi Hiyama^{1,2}
¹Nat'l Inst Basic Bio, Okazaki, Japan, ²SOKENDAI, Okazaki, Japan
- 3S04e-3 (17:48) **Activity-dependent tuning of Kv1.1 expression in brainstem auditory circuit**
Hiroshi Kuba
Dept Cell Physiol, Nagoya Univ, Aichi, Japan

3S04e-4 (18:12) CALHM1/3, a novel voltage-gated ATP-permeable channel, mediates action potential-dependent rapid purinergic neurotransmission of tastes

Akiyuki Taruno¹, Zhongming Ma², Ichiro Matsumoto³, Michael G. Tordoff³, J. Kevin Foskett²

¹Dept Mol Cell Physiol, Kyoto Pref Univ of Med, Kyoto, Japan, ²Dept Physiol, Univ Pennsylvania, Philadelphia, USA,

³Monell Chemical Senses Center, Philadelphia, USA

3S04e-5 (18:36) What vestibular and taste cells have in common: otopetrins, a family of proton-selective ion channels

Emily Liman

Univ of Southern California

Symposium 3S05e

17:00-19:00 Room 5 (501, 5F, Kobe International Conference Center)

Frontier of perineuronal net research: from molecular assembly to plasticity, aging, and behavior

Chairpersons: Toshitaka Oohashi *Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences*

Jessica Kwok *University of Leeds*

3S05e-1 (17:00) How does perineuronal net control plasticity?

Jessica Kwok

University of Leeds, Leeds, United Kingdom

3S05e-2 (17:20) Perineuronal matrix in the brain: Its functional and structural diversity in space and time

Shinji Miyata

Grad Sch Bioagri Sci, Nagoya Univ, Nagoya, Japan

3S05e-3 (17:40) Dendritic organization of cortical interneurons in anticipation of postnatal plasticity

Sayaka Sugiyama

Grad Sch Med Dent Sci, Niigata Univ

3S05e-4 (18:00) The Brain-specific link protein, Hapln4/Bral2, is a selective regulator for formation and transmission of GABAergic synapses between Purkinje and deep cerebellar nuclei neurons

Toshitaka Oohashi¹, Midori Edamatsu¹, Takeshi Sakaba²

¹Dept Mol Biol Biochem, Okayama Univ, Okayama, Japan, ²Graduate School Brain Science, Doshisha Univ, Kyoto, Japan

3S05e-5 (18:20) Perineuronal nets of deep cerebellar nuclear neurons modulate GABAergic transmission and regulate eyeblink conditioning

Moritoshi Hirono, Hiroaki Misonou

Grad Sch Brain Sci, Doshisha Univ

3S05e-6 (18:40) Structural and functional aspects of perineuronal nets formation around GABAergic neurons in a subclass-specific manner

Shozo Jinno

Dept Anat Neurosci, Grad Sch Med Sci, Kyushu Univ, Fukuoka, Japan

Symposium 3S06e

17:00-19:00 Room 6 (502, 5F, Kobe International Conference Center)

Virtual reality and its clinical application

Chairpersons: Yukari Ohki *Department of Physiology, Kyorin University School of Medicine*
Yasuo Terao *Department of Physiology, Kyorin University School of Medicine*

- 3S06e-1 **Recalibration and consolidation of body image in illusionary environment**
(17:00) Motoyasu Honma, Yasuo Terao
Dept Physiol, Kyorin Univ, Tokyo, Japan
- 3S06e-2 **EEG activities related to the sense of body ownership**
(17:20) Yukari Ohki, Satoshi Shibuya, Satoshi Unenaka
Dep Physiol, Kyorin Univ Sch Med
- 3S06e-3 **Bionic limbs and neurorehabilitation of pain**
(17:40) Max Ortiz Catalan
Chalmers University of Technology
- 3S06e-4 **The effect of the immersiveness of VR to motor control of stroke patients**
(18:00) Tamami Sudo¹, Yutaka Oouchida², Naoki Aizu³, Shin-Ichi Izumi¹
¹Graduate School of Biomedical Engineering, Tohoku University, ²Osaka-Kyoiku University, ³Dept of Rehabilitation, Tohoku University Hospital
- 3S06e-5 **Neurorehabilitation platform using immersive virtual reality**
(18:20) Toshiyuki Kondo
Dept Comp & Info Sci, Tokyo Univ of Agr and Technol, Tokyo, Japan

Symposium 3S07e

17:00-19:00 Room 7 (504+505, 5F, Kobe International Conference Center)

Novel functions of adrenergic nervous system for stress and emotion

Chairpersons: Akiko Arata *Department of Physiology, Brain Science Group, Hyogo College of Medicine*
Youichirou Ootsuka *Centre for Neuroscience, College of Medicine and Public Health, Flinders University of South Australia*

- 3S07e-1 **C1 neurons mediate a stress-induced protection of renal ischemia/reperfusion injury**
(17:00) Chikara Abe¹, Tsuyoshi Inoue², Mark D Okusa², Guyenet G Patrice³
¹Dept Physiol, Gifu Univ Grad Sch of Med, ²Department of Medicine, Division of Nephrology and Center for Immunity, Inflammation, and Regenerative Medicine, Charlottesville, VA, USA, ³Department of Pharmacology, University of Virginia, Charlottesville, VA, USA
- 3S07e-2 **The role of the central noradrenaline system in autonomic responses to psychological stress**
(17:30) Youichirou Ootsuka, Youichirou Ootsuka, Mazher Mohammed, Anna Antipov, William W Blessing
College of Medicine and Public Health, Flinders Univ, Adelaide, Australia
- 3S07e-3 **Distinct noradrenaline neurons coordinates opposing learning states**
(18:00) Akira Uematsu
RIKEN

- 3S07e-4 Roles of noradrenaline in neurocognitive function
(18:30) Makiko Yamada, Tetsuya Suhara
Dept Functional Brainimaging research, NIRS, QST, Japan

Symposium 3S08e 17:00-19:00 Room 8 (2A, 2F, Hall No.2 Building, Kobe International Exhibition Hall)

Myelination throughout life to debris as myelin — a hint of the therapeutic cue

Chairpersons: Junji Yamauchi *Molecular Neuroscience and Neurology Lab, Tokyo University of Pharmacy and Life Sciences*
Toru Ogata *Center for Sport Science and Health Promotion, National Rehabilitation Center for Persons with Disabilities*

- 3S08e-1 Molecular mechanisms of node of Ranvier formation and disruption
(17:00) Keiichiro Susuki
Dept Neurosci, Cell Biol&Physiol, Wright State Univ, Dayton, USA
- 3S08e-2 VCAM1 and its integrin ligand regulate oligodendrocyte myelination
(17:24) Junji Yamauchi¹, Yuki Miyamoto^{1,2}
¹Laboratory of Molecular Neuroscience and Neurology, Tokyo University of Pharmacy and Life Science, ²Dept Pharmacol, NICHD
- 3S08e-3 Establishment of co-culture systems with lined neurons and Schwann cells for the study of demyelinating neuropathies
(17:48) Kazunori Sango¹, Shizuka Takaku¹, Tomoyo Akamine^{1,2}, Naoko Niimi¹, Hideji Yako¹, Daiji Kawanami², Kazunori Utsunomiya²
¹Diabetic Neuropathy PJ, Tokyo Met Inst Med Sci, Tokyo, Japan, ²Div Diabetes, Metab & Endocrinol, Det Internal Med, Jikei Univ, Sch of Med, Tokyo, Japan
- 3S08e-4 Therapeutic potential of remyelination in spinal cord injury
(18:12) Toru Ogata¹, Toru Doi², Motoshi Nagao¹
¹National Rehabilitation Center for Persons with Disabilities, ²Dept Ortho, Univ of Tokyo, Tokyo, Japan
- 3S08e-5 Differentiation of oligodendrocyte progenitor cells from dissociated monolayer and feeder-free cultured pluripotent stem cells
(18:36) Tomoko Yamashita
Sohyaku. Innovative Research, Mitsubishi Tanabe Pharma Corporation, Kanagawa, Japan

Symposium 3S09e 17:00-19:00 Room 9 (3A, 3F, Hall No.2 Building, Kobe International Exhibition Hall)

Traumatic Brain Injury (TBI): Translational approach, Novel directions & Challenges

Chairpersons: Toshihide Yamashita *Department of Molecular Neuroscience, Graduate School of Medicine, Osaka University*
Wael Mohamed *Department of BMS, Medical School International Islamic University Malaysia (IIUM)*

- 3S09e-1 (17:00) **Development of therapeutic strategies to repair neuronal network after injuries in the central nervous system**
Toshihide Yamashita^{1,2}
¹Dept Mol Neurosci, Grad Sch Med, Osaka Univ, Osaka, Japan, ²Dept Mol Neurosci, Grad Sch Front Biosci, Osaka Univ, Osaka, Japan
- 3S09e-2 (17:20) **The Dual Neurotherapeutic Effects of Docosahexaenoic Acid and Neural Stem Cell Transplantation on Neurogenesis and Motor Recovery Post-TBI**
Firas H Kobeissy, Naify Ramadan, Hussein Ghazalah, Hala Darwish, Jihane Soueid, Firas Kobeissy
American University of Beirut, Faculty of Medicine
- 3S09e-3 (17:40) **Cognitive Sequel of Traumatic Brain Injury**
Hala Jamil Darwish
American University of Beirut
- 3S09e-4 (18:00) **Biomarkers for brain damage; where are we?**
Mohamed Salama¹, Ali Shalash², Wael Mohamed³, Mohamed Abou Donia⁴
¹Mansoura University, ²Ain Shams University, Neurology Department, EGYPT, ³Menoufia University, Clinical Pharmacology Department, EGYPT, ⁴Duke University, Pharmacology and Cancer Biology Department, USA
- 3S09e-5 (18:20) **Blood based analysis of biomarkers for TBI: beliefs and evidence to support changes in clinical practice**
Stefania Mondello¹, Endre Czeiter², Abayomi Sorinola², Anneliese Synnot³, Andrew I.R. Maas⁴, Andras Buki²
¹University of Messina, ²Pecs University, ³Monash University, ⁴Antwerp University
- 3S09e-6 (18:40) **Brain Ischemia: What animal models tell us?**
Wael My Mohamed
International Islamic University Malaysia (IIUM)

Symposium

Day 4 - July 29

Symposium 4S02m 9:00-16:00 Room 2 (International Conference Room, 3F, Kobe International Conference Center)

Elsevier/NSR Symposium: The 20th Anniversary of Parkin Discovery: To the Past, the Present, and the Future

JNS-Organized Symposium

Co-hosted by Elsevier/NSR

Sponsored by Movement Disorder Society

Chairpersons: Nobutaka Hattori *Department of Neurology, Juntendo University School of Medicine*

Ryosuke Takahashi *Department of Neurology, Kyoto University Graduate School of Medicine*

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- 4S02m-1 **The Dawning of the Neurodegeneration: The Parkin**
(9:05) Yoshikuni Mizuno
Department of Neurology, Juntendo University School of Medicine, Tokyo, Japan
- 4S02m-2 **Parkin - Overview**
(9:20) Keiji Tanaka
Tokyo Metropolitan Institute of Medical Science
- 4S02m-3 **Parkin-linked Parkinson's disease: From clinical insights to pathogenic mechanisms and novel therapeutic approaches**
(9:35) Christine Klein
Department of Neurology, University of Luebeck
- 4S02m-4 **Twenty years of Parkin: from Biology to Therapeutics?**
(10:05) Edward Anthony Fon
Department of Neurology and Neurosurgery, McGill University Montreal Neurological Institute and Hospital, Canada
- 4S02m-5 **Decoding Parkinson's disease with patient-specific neurons**
(10:50) Jian Feng
Department of Physiology and Biophysics, School of Medicine and Biomedical Sciences, State University of New York at Buffalo, USA
- 4S02m-6 **PARIS: The Rosetta Stone to Understanding Parkinson's Disease**
(11:20) Ted Murray Dawson
Neuroregeneration and Stem Cell Programs, Institute for Cell Engineering, Johns Hopkins University School of Medicine, Baltimore, MD 21205, U.S.A.
- 4S02m-7 **Fifteen years of research on PINK1: beyond neurodegeneration**
(13:00) Enza Maria Valente^{1,2}
¹Department of Molecular Medicine, University of Pavia, ²Neurogenetics Unit, IRCCS Santa Lucia Foundation, Rome, Italy
- 4S02m-8 **How PINK1 and Parkin catalyze mitochondrial ubiquitylation, and how the ubiquitin chain prevents Parkinson's disease**
(13:30) Noriyuki Matsuda
Tokyo Metro. Inst. of Med. Sci., Tokyo, Japan

- 4S02m-9 The axonal transport of mitochondria regulated by PINK–Parkin signaling: Lessons from *Drosophila*
(14:00) Yuzuru Imai
Department of Research for Parkinson's Disease, Juntendo University Graduate School of Medicine
- 4S02m-10 Synthetic Phenotypes in Mice lacking PINK1 and Parkin-mediated Mitophagy
(14:45) Richard James Youle
NINDS, National Institutes of Health
- 4S02m-11 Parkin mutation analysis in Juntendo University and Parkinson's disease model mice
(15:15) Shigeto Sato
Department of Neurology, Juntendo University School of Medicine

Symposium 4S03m

9:00-12:00 Room 3 (Reception Hall, 3F, Kobe International Conference Center)

Integrated Symposia: Future Prospects of multi - organ information network

Chairpersons: Akiko Hayashi-Takagi *Gunma University*
Kenji Wada *National Institute of Neuroscience, National Center of Neurology and Psychiatry*
Kazuhiro Suzuki *Immune response Center, Osaka University*
Hideki Enomoto *Kobe University Graduate School of Medicine*

Introduction (9:00)

- 4S03m-1 GLP-1/insulin to vagal afferent axis mediates meal-brain coupling
(9:05) Toshihiko Yada¹, Goswami Chayon¹, Yusaku Iwasaki²
¹Integrative Physiology, Kansai Electric Power Medical Research Institute, Kobe, Japan, ²Laboratory of Animal Science, Graduate School of Life and Environmental Sciences, Kyoto Prefectural University
- 4S03m-2 Hyperbranching axons to enlarged human brain and autonomic system as a structural template to feature Lewy pathology and Parkinson disease
(9:25) Toshiki Uchihara^{1,2}
¹Neurology Clinic and Neuromorphomics Laboratory, Nitobe Memorial Nakano General Hospital, Tokyo, Japan, ²Neurology and Neurological Science, Tokyo Medical and Dental University, Tokyo, Japan
- 4S03m-3 Mechanisms of Brain Aging and Rejuvenation
(9:45) Saul Villeda
Univ of California San Francisco
- 4S03m-4 Circulating factors regulate central nervous system regeneration
(10:05) Rieko Muramatsu, Toshihide Yamashita
Dept Mol Neurosci, Osaka Univ, Osaka, Japan
- 4S03m-5 Neuronal Information Highways for Systemic Regulation of Glucose and Energy Metabolism
(10:25) Hideki Katagiri, Junta Imai
Dept Metab Diabet, Tohoku Univ Grad Sch of Med
- 4S03m-6 The gut-brain communication by food-derived bioactive peptides
(10:45) Kousaku Ohinata
Div Food Sci & Biotech, Grad Sch Agri, Kyoto Univ

4S03m-7 Central circuit mechanisms of infection-induced and psychogenic fever: What's different?
(11:05) Kazuhiro Nakamura
Dep of Integrative Physiol, Nagoya Univ Grad Sch of Med, Nagoya, Japan

4S03m-8 Gateway reflex, a new concept of neuro-immune interaction
(11:25) Masaaki Murakami
Div Psychoimmunol, Inst Genet Med, Hokkaido Univ

Mini Symposium 4S04m 9:00-12:00 Room 4 (401+402, 4F, Kobe International Conference Center)

Optogenetics and Chemogenetics in Monkey Brains

Chairpersons: Takafumi Minamimoto *National Institutes for Quantum and Radiological Science and Technology*
Ken-Ichi Inoue *Primate Research Institute, Kyoto University*

4S04m-1 PET imaging-guided chemogenetic modification of reward-related circuits in monkeys.
(9:00) Takafumi Minamimoto
Department of Functional Brain Imaging, Natl Inst Radiological Sci, QST, Chiba, Japan

4S04m-2 Mapping neural circuits with chemogenetic tools (DREADDs)
(9:15) Mark A G Eldridge
NIMH, NIH, USA

4S04m-3 Cell type-specific investigation of reward system function
(9:35) William R Stauffer
Dept. Neurobiology, Systems Neuroscience Center, University of Pittsburgh

4S04m-4 Pathway-selective optogenetic modulation of value-biased saccade circuits in the monkey basal ganglia
(9:55) Hidetoshi Amita¹, Okihide Hikosaka¹, Hyoung F Kim², Ken-Ichi Inoue³, Masahiko Takada³
¹National Eye Institute, NIH, MD, U.S.A., ²Dept. of Biomed. engineering, Sungkyunkwan Univ., Suwon, Gyeonggi-Do, Korea, ³Primate Res. Institute, Kyoto Univ., Inuyama, Japan

4S04m-5 Development of viral vectors for delivering functional molecules into nonhuman primate brains
(10:15) Ken-Ichi Inoue^{1,2}
¹Sys Neurosci Sec, Primate Res Inst, Kyoto Univ, Inuyama, Japan, ²PRESTO, JST, Kawaguchi, Japan

A new horizon of optogenetics researches

Chairpersons: Tadashi Isa *Department of Neuroscience, Graduate School of Medicine, Kyoto University*
Dai Watanabe *Graduate School of Medicine, Kyoto University*

4S04m-6 From Atoms to Animals: Engineering Fluorescent Proteins for Optical Reporting and Control of Neurobiology
(10:30) Michael Lin¹, Xin Zhou¹, Mariya Chavarha¹, Vincent Villette², Linlin Fan¹, Stephen W Evans¹, Jonathan Bradley², Lin Ning¹, Dongqing Shi¹, Pengpeng Li¹, Stephane Dieudonne², Kang Shen¹
¹Stanford University, ²INSERM, Ecole Normale Supérieure, Paris

- 4S04m-7 Visualization and manipulation of protein kinase activities in live tissues under a multi-photon
(10:52) excitation microscope
Michiyuki Matsuda
Grad Sch Biostudies, Kyoto Univ, Kyoto
- 4S04m-8 Using light to dissect and direct transport inside neurons
(11:14) Lukas Kapitein
Utrecht University
- 4S04m-9 Synaptic optogenetics for memory structures
(11:36) Haruo Kasai^{1,2}
¹Graduate School of Medicine, The University of Tokyo, ² International Research Center for Neurointelligence (WPI-IRCN),
UTIAS, The University of Tokyo

Symposium 4S05m 9:00-12:00 Room 5 (501, 5F, Kobe International Conference Center)
Integrated Symposia: Dissecting the molecular mechanism of neural development and diseases pathogenesis through RNA regulation

Chairpersons: Hitomi Tsuiji *Graduate School of Pharmaceutical Sciences, Nagoya City University*
Hideyuki Okano *Department of Physiology, Keio Univ. Sch. Med.*

- 4S05m-1 TDP-43 accelerates age-dependent degeneration of interneurons
(9:04) Hitomi Tsuiji
Dept Biomed Sci, Nagoya City Univ, Nagoya
- 4S05m-2 Functional Loss of FUS in neurodegenerative diseases
(9:29) Shinsuke Ishigaki¹, Gen Sobue²
¹Dept Neurology, Nagoya Univ, Nagoya, Japan, ²Dept Therapeutics for Intractable Neurological Disorders, Nagoya Univ,
Nagoya, Japan
- 4S05m-3 Protein Co-Aggregation Disrupts Local Translation in Dendrites and Mental Function in FTL D
(9:54) Motomasa Tanaka¹, Ryo Endo¹, Noriko Takashima¹, Akira Sawa²
¹RIKEN Brain Research Institute, ²Department of Psychiatry, Johns Hopkins University School of Medicine
- 4S05m-4 Drug discovery targetting RNA for congenital neuronal diseases
(10:19) Masatoshi Hagiwara
Dept Anat & Dev Biol, Grad Sch Med, Kyoto Univ, Kyoto, Japan
- 4S05m-5 Cell-type specific RNA-binding proteins in the developing central nervous system
(10:44) Masato Yano¹, Hideyuki Okano², Kenji Sakimura³, Hirohide Takebayashi², Satoshi Suyama², Yoshika
Hyakawa-Yano¹
¹Div of Neurobiol & Anat, Grad Sch of Med Dent Sci, Niigata Univ, Niigata, ²Department of Physiology, Keio Univ School
of Medicine, Tokyo, Japan, ³Dept Cell Neurobiol, Brain Res Inst, Niigata Univ, Niigata
- 4S05m-6 Role of RNA-Binding Protein in Musashi in Stem Cells and Cancer
(11:09) Hideyuki Okano
Dept Physiol, Keio Univ Sch of Med, Tokyo, Japan
- 4S05m-7 Expanding insights into mechanisms of *C9orf72* mutations in ALS and FTD
(11:34) Aaron D. Gitler
Stanford University

Symposium 4S06m 9:00-12:00 Room 6 (502, 5F, Kobe International Conference Center)
Integrated Symposia: Inflamed brain phenotypes -Morphological and Functional Remodeling

Chairpersons: Hiroshi Ueda *Department of Pharmacology and Therapeutic Innovation Nagasaki University
 Institute of Biomedical Sciences*
 Takashi Saito *RIKEN Brain Science Institute*

- 4S06m-1 (9:00) **Neurobiology of prothymosin α , a DAMPs molecule, which protects ischemic brain**
 Hiroshi Ueda
Dept Pharmacol and Ther Innov, Nagasaki Univ Inst Biomed Sci, Nagasaki, Japan
- 4S06m-2 (9:25) **Anti-HMGB1 monoclonal antibody therapy for broad range of CNS Injuries: Protection of blood-brain barrier**
 Masahiro Nishibori¹, Shuji Mori², Hideo K Takahashi³, Hidenori Wake¹
¹*Dept Pharmacol, Okayama Univ Grad School Med, Okayama, Japan, ²Shujitsu University, Okayama, Japan, ³Department of Pharmacol, Faculty of Medicine, Kinki University, Osaka-Sayama, Japan*
- 4S06m-3 (9:50) **Astrocyte-dependent brain remodeling**
 Schuichi Koizumi
Dept Neuropharmacol, Interdisciplinary Grad Sch Med, Univ Yamanashi, Yamanashi, Japan
- 4S06m-4 (10:15) **Cerebral sterile inflammation**
 Takashi Shichita, Jun Tsuyama, Seiichiro Sakai
Stroke Renaissance Project, Tokyo Metro Inst Med Sci, Tokyo, Japan
- 4S06m-5 (10:40) **Roles and activation mechanisms of innate immunity pathway in the medial prefrontal cortex in repeated social defeat stress**
 Tomoyuki Furuyashiki
Div Pharmacol, Grad Sch of Med, Kobe Univ, Hyogo, Japan
- 4S06m-6 (11:05) **Microglial translocator protein as a diagnostic and therapeutic target in Alzheimer's disease**
 Anna M. Barron^{1,2}, Roshan Naik¹, Mohamed Helmy¹, Naruhiko Sahara², Bin Ji²
¹*Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, ²Department of Functional Brain Imaging Research, National Institutes for Quantum and Radiological Science and Technology, Chiba, Japan*
- 4S06m-7 (11:30) **Neuroinflammation underlying pathogenesis of Alzheimer's disease**
 Takashi Saito, Takaomi C. Saido
RIKEN CBS, Saitama, Japan