

Symposium

Day 1 - Thursday, September 11th

Symposium S1-A-1

9:00~11:00 Room A (Main Hall)

Integrated Symposium of Basic and Clinical Neuroscience : Induced pluripotent stem (iPS) cells: from basic research to clinical application

Chairpersons : Ryosuke Takahashi *Department of Neurology, Kyoto University Graduate School of Medicine, Japan*
 Hideyuki Okano *Department of Physiology, Keio University School of Medicine, Japan*

S1-A-1-1 iPS cells technology: its application for regenerative medicine and diseases modeling

Hideyuki Okano
Keio University School of Medicine, Japan

S1-A-1-2 The use of iPS cells toward the treatment of neurodegenerative diseases

Haruhisa Inoue^{1,2}
¹Laboratory of Stem Cell Medicine, Department of Cell Growth and Differentiation, Center for iPS Cell Research and Application (CiRA), Kyoto University, Japan ²Japan Science and Technology Agency, CREST, Japan

S1-A-1-3 Challenges towards stem cell therapy for Parkinson's disease

Jun Takahashi
Center for iPS Cell Research and Application, Kyoto University, Japan

S1-A-1-4 Retinal cell therapy using iPS cells

Masayo Takahashi
Center for Developmental Biology, RIKEN, Japan

Symposium S1-A-2

17:00~19:00 Room A (Main Hall)

Neurobiology of aggression

Chairperson : Hitoshi Okamoto *RIKEN Brain Science Institute, Japan*

S1-A-2-1 Genetic manipulations in the fruit fly fight club: how do amine neurons work?

Edward Kravitz, Olga V Alekseyenko, Yick-Bun Chan
Dept Neurobiology, Harvard Medical School, Boston, MA, USA

S1-A-2-2 Modular genetic and neural control of aggressive behavior

Nirao Shah
Department of Anatomy, Univ. of San Francisco, USA

S1-A-2-3 Neural mechanism of social hierarchy

Hailan Hu
Institute of Neuroscience, Chinese Academy of Sciences, Shanghai, China

S1-A-2-4 Evolutionarily conserved role of the habenula in control of self-confidence in aggression

Hitoshi Okamoto
RIKEN Brain Science Institute, Japan

Symposium S1-B-1

9:00~11:00 Room B (501)

Memory traces and tags in the brain

Chairpersons : Hiroyuki Okuno *Medical Innovation Center, Kyoto University Graduate School of Medicine, Japan*
 Haruhiko Bito *Department of Neurochemistry, The University of Tokyo Graduate School of Medicine, Japan*

S1-B-1-1 Signaling from synapse to the nucleus and imaging of active neuronal ensembles

Haruhiko Bito^{1,2}, Masatoshi Inoue^{1,2}, Mio Nonaka¹, Nan Yagishita-Kyo^{1,2}, Takashi Kawashima¹, Kanzo Suzuki^{1,2}, Yuichiro Ishii^{1,2}, Hajime Fujii¹, Toshihiro Endo¹, Manaka Goto¹, Hiroaki Koyama¹, Sayaka Takemoto-Kimura¹, Ryang Kim^{1,2}
¹Dept Neurochem, Univ of Tokyo Grad Sch Med, Tokyo, Japan ²CREST-JST, Japan

S1-B-1-2 Adult born hippocampal neurons and their role in hippocampal information processing

Victor Ramirez-Amaya¹, Paola Cristina Bello Medina²
¹Facultad de Ciencias Naturales, Universidad Autónoma de Querétaro, Mexico
²Departamento de Neurobiología Conductual y Cognitiva, Instituto de Neurobiología, UNAM, Mexico

- S1-B-1-3** Arc's roles in inverse synaptic tagging and memory formation
Hiroyuki Okuno¹, Keiichiro Minatohara¹, Hiroaki Masuda^{1,2}
¹Med Innov Ctr, Grad Sch of Med, Kyoto Univ, Kyoto, Japan ²Dept Neurol, Hospital Grad Sch of Med, Kyoto Univ, Kyoto, Japan
- S1-B-1-4** Memory traces regulating reconsolidation and extinction after retrieval
Satoshi Kida
Dept.of Biosci., Tokyo Univ.of Agriculture, Japan
- S1-B-1-5** CRTC1 signaling from synapse to nucleus during long-term neuronal plasticity
Kelsey Martin¹, Toh Hean Ch'ng¹, Martina DeSalvo¹, Thomas J . O'dell², James Wohlschlegel¹
*¹Dept. of Biological Chemistry, University of California, Los Angeles (UCLA), USA
²Department of Physiology, University of California, Los Angeles, USA*

Symposium S1-B-2

14:00 ~ 16:00 Room B (501)

Neural mechanism of voluntary movement and development of therapeutic approach

Chairpersons : Toshihide Yamashita *Department of Molecular Neuroscience, Graduate School of Medicine, Osaka University, Japan*
Eiji Hoshi *Frontal Lobe Function Project, Tokyo Metropolitan Institute of Medical Science, Japan*

- S1-B-2-1** Molecular mechanism of formation and restoration of corticospinal tract
Toshihide Yamashita
Department of Molecular Neuroscience., Graduate School of Medicine, Osaka University, Japan
- S1-B-2-2** Programming and reprogramming neuronal diversity in the cerebral cortex
Paola Arlotta
Harvard University, Cambridge, USA
- S1-B-2-3** Role of the cortico-basal ganglia networks in the generation of goal-directed action
Eiji Hoshi
Frontal Lobe Function Project, Tokyo Metropolitan Institute of Medical Science, Japan
- S1-B-2-4** rTMS treatment for Parkinson's disease
Yoshikazu Ugawa
Dept.of Neurol., School of Medicine, Fukushima Medical University, Japan
- S1-B-2-5** Physiological Basis for Movement Disorders and Their Therapeutics through the Basal Ganglia Circuitry
Atsushi Nambu
Div of System Neurophysiol, Natl Inst for Physiol Sci, Okazaki, Japan

Symposium S1-B-3

17:00 ~ 19:00 Room B (501)

Integrative function of higher-order behaviors through interaction of brain neural circuitry

Chairpersons : Satoshi Kida *Department of Bioscience, Tokyo University of Agriculture, Japan*
Kazuto Kobayashi *Department of Molecular Genetics, Fukushima Medical University, Japan*

- S1-B-3-1** Corticostriatal circuits mediating learning
Andrew Holmes
NIH, USA
- S1-B-3-2** The interaction of the prefrontal cortex and dorsomedial striatum mediates the acquisition of goal-directed action
Bernard Balleine
Brain & Mind Research Institute, University of Sydney, Australia
- S1-B-3-3** The representational-hierarchical organization of cognition
Tim Bussey
University of Cambridge, UK
- S1-B-3-4** Targeted pharmacogenetic interrogation of a fear memory network
Paul Frankland
Hospital for Sick Children, Canada

S1-B-3-5 Thalamostriatal system that regulates response selection and flexibility

Kazuto Kobayashi, Shigeki Kato
Dept Mol Genet, Fukushima Med Univ, Fukushima, Japan

Symposium S1-C-1

9:00 ~ 11:00 Room C (502)

Brain oscillations in its physiology and pathophysiology

Chairpersons : Akio Ikeda *Department of Epilepsy, Movement Disorders and Physiology, Kyoto University Graduate School of Medicine, Japan*

Tatsuya Mima *Human Brain Research Center, Kyoto University Graduate School of Medicine, Japan*

S1-C-1-1 Neural oscillation activity from neuron, neuron population to cerebral cortices as the physiological and pathological basis

Akio Ikeda
Department of Epilepsy, Movement Disorders and Physiology, Kyoto University Graduate School of Medicine, Japan

S1-C-1-2 Hippocampal network dynamics in optogenetically induced seizure model

Masaki Iwasaki¹, Shin-ichiro Osawa¹, Ryosuke Hosaka², Yoshiya Matsuzaka³, Hiroshi Tomita⁴, Toru Ishizuka⁵, Eriko Sugano⁴, Eiichi Okumura⁶, Hiromu Yawo⁵, Nobukazu Nakasato⁶, Teiji Tominaga¹, Hajime Mushiake³

¹*Department of Neurosurgery, Tohoku University Graduate School of Medicine, Japan*

²*Department of Applied Mathematics, Fukuoka University, Fukuoka, Japan*

³*Department of Physiology, Tohoku University Graduate School of Medicine, Sendai, Japan*

⁴*Department of Chemistry and Bioengineering, Faculty of Engineering, Graduate School of Science and Engineering, Iwate University, Morioka, Japan*

⁵*Department of Developmental Biology and Neuroscience, Tohoku University Graduate School of Life Sciences, Sendai, Japan*

⁶*Department of Epileptology, Tohoku University Graduate School of Medicine, Japan*

S1-C-1-3 Social interaction represented by Inter-individual neural synchronization

Takahiko Koike¹, Hiroki Tanabe^{1,2}, Shuntaro Okazaki^{1,3}, Jorge Bosch¹, Norihiro Sadato¹

¹*National Institute for Physiological Sciences, Aichi, Japan*

²*Graduate School of Environmental Studies, Nagoya University, Nagoya, Japan* ³*Cuban Neuroscience Center, Habana, Cuba*

S1-C-1-4 Non-invasive oscillatory brain stimulation coupling with rhythmical movements and induction of brain plastic change

Satoko Koganemaru
Dept Med, Kyoto Univ, Japan

S1-C-1-5 Spontaneous and induced neural oscillations in human epilepsy

Riki Matsumoto¹, Takeharu Kunieda², Akio Ikeda¹
¹*Dept Epilepsy, Mov Disord and Physiol, Kyoto Univ Grad Sch Med, Japan* ²*Dept Neurosurg, Kyoto Univ Grad Sch Med, Japan*

Discussion

Symposium S1-C-2

14:00 ~ 16:00 Room C (502)

Elsevier - NSR Sponsored Symposium : Somatosensory; Fundamental sensory system for bodily alert, motor control, development, and self-consciousness

Chairpersons : Akira Murata *Department of Physiology, Kinki University Faculty of Medicine, Japan*

Eiichi Naito *Center for Information and Neural Networks (CiNet), National Institute of Information and Communication Technology, Japan*

Introduction**S1-C-2-1 The topography of learning mechanisms for pain and temperature**

Ben Seymour
Center for Information and Neural Networks, Japan

S1-C-2-2 Incorporation of tools in the body schema : a dual time scale process

Ganesh Gowrishankar
Centre national de la recherche scientifique (CNRS-France), France

S1-C-2-3 Large-scale somatotopic reorganization via remodeling of thalamic afferent synapses after peripheral sensory nerve injury

Yuichi Takeuchi, Mariko Miyata
Dept of Physiol, School of Med, Tokyo Women's Med Univ, Tokyo, Japan

S1-C-2-4 Simulating Human Fetal Development - Embodied Sensory-Motor Experiences Shape Early Brain

Yasuo Kuniyoshi
The University of Tokyo, Japan

Discussion

Symposium S1-C-3

17:00 ~ 19:00 Room C (502)

Symposium on Industrial - Academic Collaboration : Toward the New Horizon of Applied Neuroscience: Bridging Seeds and Needs

Chairpersons : Manabu Honda *National Center of Neurology and Psychiatry, Japan*
Ippei Hagiwara *Management Innovation Center, NTT DATA INSTITUTE OF MANAGEMENT CONSULTING, Inc., Japan*

S1-C-3-1 Possible industrial transfer of recent findings in visual neuroscience

Manabu Tanifuji
RIKEN Brain Science Institute, Japan

S1-C-3-2 The status of neuroscience applications in the marketing field in and outside of Japan

Yukinori Ueshima
HAKUHODO INC., Japan

S1-C-3-3 Recent examples and the future prospects of industry-academia collaboration in cognitive behavioral neuroscience

Jun-ichiro Kawahara
Chukyo University, Japan

S1-C-3-4 What corporations expect from neuroscience: R&D perspectives

Takeshi Mihirogi
Kewpie Corporation R&D DIV., Japan

Symposium S1-D-1

14:00 ~ 16:00 Room D (503)

Mechanisms controlling expression and memory of emotions

Chairpersons : Kozo Kaibuchi *Nagoya University Graduate School of Medicine, Japan*
Masabumi Minami *Department of Pharmacology, Graduate School of Pharmaceutical Sciences, Hokkaido University, Japan*

S1-D-1-1 A neural circuit mechanism for triggering and setting the strength of fear memories

Joshua Johansen
RIKEN BSI, Japan

S1-D-1-2 Segregation of Anxiety and Fear by Two Parallel Septo-Habenular Pathways

Takashi Yamaguchi¹, Teruko Danjo¹, Ira Pastan², Takatoshi Hikida¹, Shigetada Nakanishi¹
¹*Dept Systems Biol, Osaka Bioscience Inst, Osaka, Japan* ²*National Cancer Institute, Bethesda, USA*

S1-D-1-3 Opposing effects of CRF and NPY on neuronal excitability in the BNST: Role in pain-induced aversion

Masabumi Minami
Dept Pharmacol, Grad Sch Pharm Sci, Hokkaido Univ, Hokkaido, Japan

S1-D-1-4 A critical time window for dopamine actions on the dendritic spines of nucleus accumbens

Haruo Kasai, Sho Yagishita
The University of Tokyo, Japan

S1-D-1-5 Phosphoproteomic analysis of monoamine signals to understand the monoamine actions

Kozo Kaibuchi
Nagoya University, Japan

Symposium S1-E-1

9:00 ~ 11:00 Room E (301)

Synaptic regulation in the cerebellum and motor control

Chairpersons : Hirokazu Hirai *Department of Neurophysiology, Gunma University Graduate School of Medicine, Japan*
Tomoo Hirano *Department of Biophysics, Graduate School of Science, Kyoto University, Japan*

Introduction

- S1-E-1-1** Inhibitory synaptic plasticity in cerebellar Purkinje neurons and its contribution to motor learning
Tomoo Hirano
Dept. of Biophys., Grad. Sch. of Sci., Kyoto Univ., Japan
- S1-E-1-2** Understanding both enhanced and impaired learning with enhanced plasticity: a saturation hypothesis
Jennifer Raymond, T.d. Barbara Nguyen-Vu, Grace Q. Zhao, Subhaneil Lahiri, Aparna Suvrathan, Hanmi Lee, Surya Ganguli, Carla J. Shatz
Stanford University School of Medicine, USA
- S1-E-1-3** The link between cerebellar synaptic functions and movement coordination
Henrik Jörntell
Neural Basis for Sensorimotor Control, Lund University, Lund, Sweden
- S1-E-1-4** Impairment of synaptic transmission that induces cerebellar ataxia and the underlying molecular mechanisms
Hirokazu Hirai
Department of Neurophysiology, Gunma University Graduate School of Medicine, Japan

Symposium S1-E-2

14:00 ~ 16:00 Room E (301)

RNA regulation in neural development and diseases

Chairpersons : Yukio Kawahara *Osaka University, Graduate School of Medicine, Japan*
Hitomi Tsuiji *Department of Biomedical Science, Nagoya City University, Graduate School Pharmaceutical Science, Japan*

- S1-E-2-1** Musashi, a post-transcriptional regulator of stem cells functions
Hideyuki Okano, Masato Yano
Dept. of Physiol., Keio Univ. Sch. Med., Japan
- S1-E-2-2** Abnormal RNA metabolism in motor neuron disease ALS
Hitomi Tsuiji
Dept Biomedical Sci, Nagoya City Univ Grad Sch Pharmaceutical Science, Aichi, Japan
- S1-E-2-3** Elucidation of Ataxin-2-mediated regulation of RNA metabolism
Yukio Kawahara
Osaka University, Graduate School of Medicine, Japan
- S1-E-2-4** High-throughput Genetic Screens to Define Mechanisms of Neurodegenerative Diseases
Aaron Gitler
Stanford University, USA
- S1-E-2-5** Challenge to cure hereditary diseases with "RNA-targeting" chemical compounds
Masatoshi Hagiwara
Kyoto University, Japan

Symposium S1-E-3

17:00 ~ 19:00 Room E (301)

Brain Proteinopathy 2014

Chairpersons : Motomasa Tanaka *Laboratory for Protein Conformation Diseases, RIKEN Brain Science Institute, Japan*
Nobuyuki Nukina *Department of Neuroscience for Neurodegenerative Disorders, Juntendo University Graduate School of Medicine, Japan*

- S1-E-3-1** Prion-like properties of pathological insoluble TDP-43 in diseased brains
Takashi Nonaka¹, Masami Masuda-Suzukake¹, Tetsuaki Arai², Mari Yoshida³, Shigeo Murayama⁴, David Mann⁵, Haruhiko Akiyama¹, Masato Hasegawa¹
¹Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan ²Univ. of Tsukuba, Ibaraki, Japan ³Aichi Medical Univ., Aichi, Japan ⁴Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan ⁵Univ. of Manchester, Manchester, UK
- S1-E-3-2** Yeast prion promotes acquired cellular adaptation to environmental stress
Motomasa Tanaka
RIKEN Brain Science Institute, Japan
- S1-E-3-3** FTLD/ALS causing C9orf72 intronic hexanucleotide repeat is translated into aggregating dipeptide repeat proteins
Kohji Mori
Adolf Butenandt-Institute, Ludwig-Maximilians University Munich, Germany

- S1-E-3-4** **Reversible Polymeric Fibers Formed From Low-Complexity Sequences as an Underlying Basis of RNA Metabolism and Neurodegenerative Diseases**
Masato Kato, Steven McKnight
University of Texas Southwestern Medical Center, USA
- S1-E-3-5** **Aggregate-associated proteins as potential modifiers of polyglutamine diseases**
Yoshihiro Kino^{1,2}, Nobuyuki Nukina²
¹*Dept Bioinformatics and Mol Neuropathol, Meiji Pharmaceutical University, Tokyo, Japan*
²*Dept Neurosci for Neurodegenerative Disorders, Juntendo Univ Grad Sch of Med, Tokyo, Japan*

Symposium S1-F-1

9:00 ~ 11:00 Room F (302)

Circadian pacemaking beyond clock genes: Neural network-based coherent oscillation and adaptive phasing by the suprachiasmatic nucleus

Chairpersons : Sato Honma *Department of Physiol Chronomedicine, Hokkaido University Graduate School of Medicine, Japan*
Masao Doi *Department of Systems Biology, Graduate School of Pharmaceutical Sciences, Kyoto University, Japan*

- S1-F-1-1** **Circadian rhythm generation and tuning in the suprachiasmatic nucleus, the master clock of mammals**
Daisuke Ono¹, Sato Honma², Ken-ichi Honma²
¹*Photonic Bioimaging Sec, Hokkaido Univ, Grad Sch of Med, Hokkaido, Japan*
²*Dep of Physiol Chronomed, Hokkaido Univ, Grad Sch of Med, Hokkaido, Japan*
- S1-F-1-2** **Effect of MeCP2 on Molecular Clock Development in the SCN**
Kazuhiro Yagita
Dept. of Physiology and Systems Bioscience, Kyoto Prefectural University of Medicine, Japan
- S1-F-1-3** **Vasopressin-mediated cell-cell communication and jet lag**
Yoshiaki Yamaguchi, Hitoshi Okamura
Dept Sys-Bio, Kyoto Univ, Kyoto, Japan
- S1-F-1-4** **Roles of AVP-producing neurons in the central circadian pacemaker of the suprachiasmatic nucleus**
Michihiro Mieda
Department of Molecular Neuroscience and Integrative Physiology, Graduate School of Medical Science, Kanazawa University, Japan
- S1-F-1-5** **Mathematical Model of Suprachiasmatic Nucleus: Mechanism of Jet Lag**
Hiroshi Kori
Ochanomizu University, Japan

Symposium S1-F-2

14:00 ~ 16:00 Room F (302)

Volitional control of neural activity via neural operant conditioning and brain-machine interfaces

Chairpersons : Yoshio Sakurai *Department of Psychology, Kyoto University, Japan*
Eberhard Fetz *Department of Physiology and Biophysics, University of Washington, USA*

- S1-F-2-1** **Volitional enhancement of firing synchrony of hippocampal neurons by neuronal operant conditioning**
Yoshio Sakurai
Dept Psychol, Kyoto Univ, Kyoto, Japan
- S1-F-2-2** **Operant conditioning of single-neuron firing rate in rat motor cortex allows graded control of an actuator**
Valerie Ego-Stengel, Pierre-Jean Arduin, Daniel Shulz, Yves Fregnac
Unit of Neuroscience Information and Complexity, French National Centre for Scientific Research (CNRS), France
- S1-F-2-3** **Volitional Control of Gamma Oscillations and Precise Spike Synchrony via Brain-Machine Interface**
Eilon Vaadia¹, Ben Engelhard^{1,2}
¹*The Edmond and Lily Safra Center for Brain Sciences, Hebrew University of Jerusalem, Jerusalem, Israel*
²*Department of Medical Neurobiology, Institute of Medical Research Israel-Canada, The Hebrew University-Hadassah Medical School, Israel*
- S1-F-2-4** **Operant conditioning of neural activity in freely behaving monkeys using intracranial reinforcement**
Eberhard Fetz, Ryan Eaton, Tyler Libey
Univ of Washington, USA

Symposium S1-F-3

17:00 ~ 19:00 Room F (302)

Challenges of imaging functional architecture of large-scale network

Chairpersons : Norihiro Sadato *Department of Cerebral Research, National Institute for Physiological Sciences, Japan*
Takuya Hayashi *Functional Architecture Imaging Unit, RIKEN Center for Life Science Technologies, Japan*

- S1-F-3-1** **Imaging brain network of plasticity and degeneracy with MRI**
Takuya Hayashi
RIKEN Center for Life Science Technologies, Japan
- S1-F-3-2** **Cutting-edge diffusion-weighted imaging for non-invasive mapping of neurite morphology**
Gary Hui Zhang
Department of Computer Science and Centre for Medical Image Computing, University College London, London, UK
- S1-F-3-3** **The relationship between intrinsic functional connectivity and structural connectivity: importance of large scale network interactions**
Jill O'Reilly¹, Paula L Croxson², Mark G Baxter²
¹Oxford University UK ²Ichan School of Medicine, Mount Sinai Medical School, New York, USA
- S1-F-3-4** **Large-scale neural connectivity for social cognition - a cross-species approach**
Rogier Mars
University of Oxford, UK
- S1-F-3-5** **Exploring Human Visual Cortex With High-Resolution fMRI**
Kang Cheng
Lab. for Cognitive Brain Mapping, RIKEN, BSI, Japan

Symposium S2-A-1

9:00~11:00 Room A (Main Hall)

Chromatin (Epigenetic) regulation of neuronal development

Chairpersons : Yukiko Gotoh *Graduate School of Pharmaceutical Sciences, The University of Tokyo, Japan*
Toru Takumi *RIKEN Brain Science Institute, Japan*

- S2-A-1-1** **Decoding epigenetics related to distinct phases of long-term memory in Drosophila**
Yukinori Hirano¹, Nakamura Naosuke¹, Minoru Saitoe²
¹Kyoto University Graduate School of Medicine, Japan ²Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan
- S2-A-1-2** **DNA demethylation-mediated acquisition of astrocyte differentiation potential by neural stem cells during brain development**
Kinichi Nakashima
Dep Stem Cell Biol Med, Grad Sch Med Sci, Kyushu Univ, Japan
- S2-A-1-3** **Neural genome analysis of bipolar disorder and schizophrenia**
Tadafumi Kato¹, Kazuya Iwamoto²
¹RIKEN Brain Science Institute, Japan ²Department of Molecular Psychiatry, Faculty of Medicine, University of Tokyo, Japan
- S2-A-1-4** **The anti-apoptotic factor bclw promotes viability of axons within functional circuits**
Rosalind Segal, Maria Pazyra-Murphy, Katharina Cosker
Dana Farber Cancer Institute, USA
- S2-A-1-5** **Signaling networks that regulate synapse development and cognitive function**
Michael Greenberg
Harvard Medical School, USA

Symposium S2-B-1

9:00~11:00 Room B (501)

Sculpting the neuronal intracellular environment: from single molecule behavior to local signal integration

Chairpersons : Yukiko Goda *RIKEN, Brain Science Institute, Japan*
Mitsutoshi Setou *Department of Cell Biology and Anatomy Hamamatsu University School of Medicine, Japan*

- S2-B-1-1** **Balancing synaptic strengths across the dendritic tree**
Yukiko Goda, Mathieu Letellier
RIKEN, Brain Science Institute, Japan
- S2-B-1-2** **Abnormal dynamics of plasma membrane molecules in synapses and initial segments as revealed by single-molecule tracking**
Akihiro Kusumi
Institute for Integrated Cell-Material Sciences and Institute for Frontier Medical Sciences, Kyoto Univ., Japan
- S2-B-1-3** **Calcium signaling in dendrite development and remodeling**
Kazuo Emoto
Graduate School of Science, The University of Tokyo, Japan
- S2-B-1-4** **Imaging and controlling the biochemical reactions in single dendritic spines of hippocampal neuron by 2-photon excitation based technique**
Hideji Murakoshi^{1,2}
¹National Institute for Physiological Sciences, Japan ²PRESTO, JST, Saitama, Japan
- S2-B-1-5** **Abnormal neurofilament distribution without polyglutamylases Ttl1 and Ttl7**
Mitsutoshi Setou
Hamamatsu University School of Medicine, Japan

Symposium S2-B-2

15:00~17:00 Room B (501)

Cutting edge approaches to the architectures of cortical circuitsChairpersons : Kenichi Ohki *Department of Molecular Physiology, Graduate School of Medical Sciences, Kyushu University, Japan*Toshihiko Hosoya *RIKEN Brain Science Institute, Japan***S2-B-2-1 The effect of visual deprivation on the maturation of secondary visual cortex**Yumiko Yoshimura^{1,2}¹NIPS, Okazaki, Japan ²Sch Life Sci, SOKENDAI, Japan**S2-B-2-2 Functional organization of synaptic strength in mouse visual cortex**Thomas Mrsic-Flogel¹, Lee Cossell^{1,2}, Maria F Iacuruso^{1,2}, Dylan R Muir¹, Sonja Hofer^{1,2}¹University of Basel, Switzerland ²University College London, UK**S2-B-2-3 Interplay between innate circuits and neuronal activity in the formation of orientation selectivity in visual cortex**

Kenichi Ohki

*Department of Molecular Physiology, Kyushu University, Graduate School of Medical Sciences, Japan***S2-B-2-4 Canonical organization of a deep cortical layer**

Toshihiko Hosoya

*RIKEN Brain Science Institute, Japan***Symposium S2-B-3**

17:10~19:10 Room B (501)

Behavior control by manipulating neurocircuit using optogenetics and/or chemicogeneticsChairpersons : Hiromi Naritsuka *Department of Physiology, Graduate School of Medicine, University of Tokyo, Japan*Akihiro Yamanaka *Research Institute of Environmental Medicine, Nagoya University, Japan***S2-B-3-1 Activity-dependent integration of adult-born granule cells into neuronal circuits of the mouse olfactory bulb**

Hiromi Naritsuka, Kensaku Mori, Masahiro Yamaguchi

*Dept Physiol, Univ of Tokyo, Tokyo, Japan***S2-B-3-2 The role of adenosine A_{2A} receptors in the nucleus accumbens for the control of sleep and wakefulness**

Michael Lazarus

*International Institute for Integrative Sleep Medicine (WPI-IIS), University of Tsukuba, Japan***S2-B-3-3 The role of melanin concentrating hormone in the regulation of wakefulness, non-REM sleep and REM sleep**

Akihiro Yamanaka, Ayumu Inutsuka, Tomomi Tsunematsu

*Research Institute of Environmental Medicine, Nagoya University, Japan***S2-B-3-4 Manipulation of Memory Engram Using Chemical Genetics**Naoki Matsuo^{1,2}¹The Hakubi Center, Kyoto Univ., Japan ²PRESTO, JST, Japan**S2-B-3-5 Novel circuits for stress coping**

Jaideep Bains, Tamas Fuzesi, Wataru Inoue, Jaclyn Cusulin

*Hotchkiss Brian Institute, University of Calgary, Calgary, Canada***Symposium S2-C-1**

9:00~11:00 Room C (502)

Joint Symposium of the Japan Neuroscience Society and the Korean Society of Brain and Neuroscience : Molecular Mechanisms underlying Parkinson DiseaseChairpersons : Hideki Mochizuki *Department of Neurology, Osaka University Graduate School of Medicine, Japan*Young Jun Oh *Department of Systems Biology, Yonsei University College of Life Science and Biotechnology, Korea***S2-C-1-1 Opening Remarks for the First Korea-Japan Neuroscience Symposium**

Ryosuke Takahashi

Department of Neurology, Kyoto University Graduate School of Medicine, Japan

- S2-C-1-2** Lysosomal dysfunction is the key factor for propagation of synucleinopathy
Seung-Jae Lee¹, Eun-Jin Bae¹, Na-Young Yang¹, Cheol-Soon Lee¹, He-Jin Lee¹, Eliezer Masliah², Pablo Sardi³
¹Konkuk University, Seoul, Korea ²University of California, San Diego, La Jolla, CA, USA
³Genzyme, a Sanofi Company, Framingham, MA, USA
- S2-C-1-3** Function of transient receptor potential vanilloid 1 in Parkinson's disease
Byung Kwan Jin
Kyung Hee University, Korea
- S2-C-1-4** Impaired autophagic flux is linked to calcium-dependent dopaminergic neuronal death
Young Jun Oh
Yonsei University, Korea
- S2-C-1-5** Structure and function of α -synuclein
Hideki Mochizuki
Department of Neurology, Osaka University Graduate School of Medicine, Japan
- S2-C-1-6** Spreading of pathological alpha-synuclein explain the disease progression
Masato Hasegawa
Tokyo Metropolitan Institute of Medical Science, Japan

Symposium S2-C-2

15:00~17:00 Room C (502)

Japan - Canada Collaborative Symposium : Motor Neuron Disease Update; En Route to Therapeutic Targets

Chairpersons : Makoto Urushitani *Department of Neurology, Kyoto University Graduate School of Medicine, Japan*
Guy Rouleau *Montreal Neurological Institute - Department Neurology and Neurosurgery McGill University, Canada*

- S2-C-2-1** Translating the Disruptive Science of Protein Misfolding to Amyotrophic Lateral Sclerosis and Alzheimer's Disease
Neil Cashman
University of British Columbia, Canada
- S2-C-2-2** The role of conformation of RNA recognition motifs of TDP-43 in the protein quality control system in ALS
Makoto Urushitani
Kyoto University Graduate School of Medicine, Japan
- S2-C-2-3** Perspectives of disease-modifying therapy for neurodegenerative diseases
Gen Sobue
Dep. of Neurology, Nagoya Univ. Grad. Sch. of Med, Japan
- S2-C-2-4** GLE1 mutations alter the cellular pools of this essential mRNA metabolism factor in ALS patients
Guy Rouleau
Montreal Neurological Institute - McGill University, Canada

Symposium S2-C-3

17:10~19:10 Room C (502)

Joint Symposium of the Japan Neuroscience Society and the Chinese Society for Neuroscience : Neuronal signaling for development and plasticity

Chairperson : Hiroyuki Kamiguchi *RIKEN Brain Science Institute, Japan*

- S2-C-3-1** Non-apoptotic role of caspase-3 in synapse refinement
Zhenge Luo, Jinyuan Wang, Fei Chen, Xiuqing Fu, Xiaohui Zhang
Institute of Neuroscience, Chinese Academy of Sciences, China
- S2-C-3-2** Roles of PICK1-ICA69 BAR Domain Complexes in Protein Trafficking
Jun Xia
Hong Kong University of Science and Technology, China
- S2-C-3-3** Molecular mechanisms for axon guidance: from Ca²⁺ signals to membrane trafficking
Fumitaka Wada, Hiroyuki Kamiguchi
Lab for Neuronal Growth Mechanisms, RIKEN BSI, Saitama, Japan
- S2-C-3-4** Semaphorin3A regulates dendritic patterning by driving AMPA Receptor Subunit to dendrites and synapses
Yoshio Goshima¹, Naoya Yamashita^{1,2,3}
¹Dept. of Pharmacol., Yokohama City Univ. Sch. of Med., Japan ²Dept. of Biol, Johns Hopkins Univ, Baltimore, USA
³JSPS Postdoc Fellow for Res Abroad, Chiyoda-Ku, Tokyo, Japan

Symposium S2-D-1

15:00~17:00 Room D (503)

Dematuration in the adult brain

Chairpersons : Katsunori Kobayashi *Department of Pharmacology, Nippon Medical School, Japan*
 Tsuyoshi Miyakawa *Division of Systems Medical Science, Institute for Comprehensive Medical Science, Fujita Health University, Japan*

- S2-D-1-1** Bidirectional change of maturation status of cells in the brain: Relevance to neuropsychiatric disorders
 Tsuyoshi Miyakawa
Fujita Health University, Japan
- S2-D-1-2** Wiring and Unwiring the Brain: Role of Glia and the Classical Complement Cascade
 Beth Stevens, Dorothy P Schafer, Ryuta Koyama, Yuwen Wu, Emily Lehrman, Allison P Bialas, Soyoon Hong, Arnaud Frouin, Chris Heller
F.M. Kirby Neurobiology Center, Children's Hospital Boston, and Program in Neuroscience, Harvard Medical School, USA
- S2-D-1-3** Activity-dependent regulation of the functional maturation of adult hippocampal neurons
 Katsunori Kobayashi
Dept. Pharmacol, Nippon Med.Sch., Tokyo, Japan
- S2-D-1-4** Activity-dependent reduction of expression of neuronal maturation markers in the adult hippocampal neurons
 Eri Segi-Nishida
Center for Integrative Edu. Grad.Sch.of Pharm.Sci., Kyoto Univ., Kyoto, Japan
- S2-D-1-5** Balancing plasticity / stability across brain development
 Takao Hensch
Harvard University, USA

Symposium S2-E-1

9:00~11:00 Room E (301)

Challenge of Neuroscience against Amyotrophic Lateral Sclerosis

Sponsored by Eisai Co.,Ltd.

Chairpersons : Makiko Nagai *Department of Neurology, Kitasato University, Japan*
 Takanori Yokota *Department of Neurology and Neurological Science, Tokyo Medical and Dental University, Japan*

- S2-E-1-1** Clinical Translation of Hepatocyte Growth Factor for ALS
 Masashi Aoki¹, Hitoshi Warita¹, Masaaki Kato¹, Naoki Suzuki¹, Masaya Nakamura², Hideyuki Okano³
¹Dept Neurol, Tohoku Univ Grad Sch of Med, Sendai, Japan ²Dept Orthop Surg Sch of Med, Keio Univ, Tokyo, Japan
³Dept Physiol Sch of Med, Keio Univ, Tokyo, Japan
- S2-E-1-2** RNA metabolism and ALS
 Osamu Onodera
Brain Research Institute, Niigata University, Japan
- S2-E-1-3** Oligonucleotide Gene Therapy for ALS
 Takanori Yokota
Department of Neurology and Neurological Science, Tokyo Medical and Dental University, Japan
- S2-E-1-4** ALS astrocytes kill motor neurons via ligation of death receptor 6 by a fragment of N-APP/APLP1
 Diane Re¹, Virginia Le Verche¹, Mariano Alvarez¹, Dimitra Papadimitriou¹, Tetsuya Nagata¹,
 Andrea Califano¹, Harry Ishiropoulos², Manuel Than³, Marc Tessier-Lavigne⁴, Serge Przedborski¹
¹Columbia University, USA ²The Children's Hospital of Philadelphia, USA ³Leibniz Institute for Age Research, Leipzig, Germany
⁴Rockefeller University, NY, USA

Symposium S2-E-2

15:00~17:00 Room E (301)

Brain Environment: Glia in neurological disease

Co-hosted by 'Brain Environment' Grant-in-Aid for Scientific Research on Innovative Areas

Chairpersons : Okiru Komine *Department of Neuroscience and Pathobiology, Research Institute for Environmental Medicine, Nagoya University, Japan*

Rieko Muramatsu *Department of Molecular Neuroscience, Graduate School of Medicine, Osaka University, Japan*
Precursory Research for Embryonic Science and Technology (PRESTO), Japan Science and Technology Agency, Japan

S2-E-2-1 Molecular mechanism of disease progression and remission in multiple sclerosis

Rieko Muramatsu^{1,2}, Toshihide Yamashita¹

¹Dept Mol Neurosci, Grad Sch Med, Osaka Univ, Japan ²JST, PRESTO, Japan

S2-E-2-2 The factors regulating microglial activation after neuronal injury

Hiroyuki Konishi^{1,2}, Masaaki Kobayashi¹, Hiroshi Kiyama^{1,2}

¹Dept. Functional Anat. and Neurosci., Nagoya Univ. Grad. Sch. of Med, Nagoya, Japan ²CREST, JST, Japan

S2-E-2-3 Age-related changes in systemic immune factors regulate neurogenesis and cognition

Saul Villeda

University of California San Francisco, USA

S2-E-2-4 Activity dependent myelination and impaired motor learning as its disruption

Hiroaki Wake

Division of Homeostatic Development, National Institute of Physiological Sciences, Japan

S2-E-2-5 The role of the infiltrating immune cells in amyotrophic lateral sclerosis

Okiru Komine¹, Hirofumi Yamashita², Noriko Fujimori-Tonou¹, Yasuhiro Moriwaki³, Hidemi Misawa³, Koji Yamanaka¹

¹Dept Neurosci and Pathobiol, Res Inst of Env Med, Nagoya Univ, Aichi, Japan ²Dept Neurol, Kyoto Univ, Kyoto, Japan

³Dept Pharmacol, Facul of Pharma, Keio Univ, Tokyo, Japan

Symposium S2-E-3

17:10~19:10 Room E (301)

Roles for innate immunity in neurological and psychiatric disorders

Chairpersons : Koji Yamanaka *Research Institute of Environmental Medicine, Nagoya University, Japan*

Tomoyuki Furuyashiki *Division of Pharmacology, Kobe University Graduate School of Medicine, Japan*

Introduction

S2-E-3-1 The role of innate immune system in sporadic and inherited amyotrophic lateral sclerosis

Koji Yamanaka

Nagoya University, Research Institute of Environmental Medicine, Japan

S2-E-3-2 Regulation of post-ischemic inflammation by DAMPs and immune cells

Takashi Shichita^{1,2}, Akihiko Yoshimura¹

¹Department of Microbiology and Immunology, School of Medicine, Keio University, Japan

²Precursory Research for Embryonic Science and Technology (PRESTO), Japan Science and Technology Agency, Japan

S2-E-3-3 Nuclear receptor-mediated regulation of innate immune responses in microglia cells and their impact on neurological disease

Kaoru Saijo

University of California, Berkeley, USA

S2-E-3-4 A role for innate immune molecules for stress-related behaviors in mice

Tomoyuki Furuyashiki

Div Pharmacol, Kobe Univ Grad Sch Med, Hyogo, Japan

Symposium S2-F-1

9:00 ~ 11:00 Room F (302)

Functional dissection of neural circuits through coupling between experimental and theoretical approaches

Co-hosted by Grants-in-Aid for Scientific Research on Innovative Areas “Mesoscopic neurocircuitry: towards understanding of the functional and structural basis of brain information processing”

Chairpersons : Shin Ishii *Department of Systems Science, Graduate School of Informatics, Kyoto University, Japan*
Akinao Nose *Department of Complexity Science and Engineering, Graduate School of Frontier Sciences, The University of Tokyo, Japan*

- S2-F-1-1** Dynamics of cortical neuronal activity during learning of a motor task
Masanori Matsuzaki^{1,2}, Yoshito Masamizu¹, Yasuhiro R Tanaka¹, Yasuyo H Tanaka¹, Riichiro Hira^{1,2}, Fuki Ohkubo^{1,2}
¹Div. of Brain Circuits., National Institute for Basic Biology, Japan ²SOKENDAI, Japan
- S2-F-1-2** Single-cell multimodal encoding of noxious thermal and light sensation in *Drosophila* primary sensory neurons
Tadao Usui¹, Shin-ichiro Terada^{1,2}, Daisuke Matsubara¹, Koun Onodera¹, Masanori Matsuzaki², Tadashi Uemura¹
¹Grad Sch Biostudies, Kyoto Univ, Kyoto, Japan ²Div Brain Circuits, National Institute for Basic Biology, Aichi, Japan
- S2-F-1-3** Connectome of the Fly Visual Circuitry
Shinya Takemura
Janelia Farm Research Campus, HHMI, Ashburn, VA, USA
- S2-F-1-4** Exploring the mechanisms of value learning from the architecture of the cortico-basal ganglia circuits
Kenji Morita
Physical & Health Educ, Grad Sch of Educ, Univ of Tokyo, Tokyo, Japan
- S2-F-1-5** Reverse engineering-based methods for elucidating functions of neural systems
Shin Ishii^{1,2}
¹Dept of Systems Science, Graduate School of Informatics, Kyoto Univ., Japan ²ATR Cognitive Mechanisms Labs., Japan

Symposium S2-F-2

15:00 ~ 17:00 Room F (302)

Control of neural circuit function by the endocannabinoid 2-arachidonoylglycerol

Chairpersons : Masanobu Kano *Department of Neurophysiology, Graduate School of Medicine, The University of Tokyo, Japan*
Masahiko Watanabe *Department of Anatomy, Hokkaido University Graduate School of Medicine, Japan*

Introduction

- S2-F-2-1** 2-Arachidonoylglycerol, an endogenous cannabinoid receptor ligand - an overview
Takayuki Sugiura, Saori Oka, Takashi Tanikawa
Teikyo University, Japan
- S2-F-2-2** Unique molecular-anatomical organization of 2-AG-mediated retrograde signaling at CCK/VGLUT3-expressing basket cell-pyramidal cell synapses
Motokazu Uchigashima, Masahiko Watanabe
Dept Ant Hokkaido Univ Grad Sch Med, Sapporo, Japan
- S2-F-2-3** Modulation of synaptic transmission by 2-arachidonoylglycerol and its metabolites
Takako Ohno-Shosaku¹, Masanobu Kano²
¹Fac Health Sci, Kanazawa Univ, Kanazawa, Japan ²Dept Neurophysiol, Grad Sch of Med, Univ of Tokyo, Tokyo, Japan
- S2-F-2-4** Cannabinoid-dependent reorganization of neuronal projection in the developing barrel cortex
Fumitaka Kimura¹, Chiaki Itami², J-E Huang³, Miwako Yamasaki⁴, Masahiko Watanabe⁴, H-C Lu³
¹Osaka Univ.Grad.Sch.of Med., Japan ²Dept Physiol, Saitama Med Univ, Saitama, Japan
³Dept Pediatrics, Baylor Coll Med, Houston, USA ⁴Dept Anatomy, Hokkaido Univ, Hokkaido, Japan
- S2-F-2-5** The endocannabinoid 2-arachidonoyl glycerol suppresses epileptic seizures through the activation of CB1 and CB2 receptors
Yuki Sugaya¹, Maya Yamazaki², Kenji Sakimura², Masanobu Kano¹
¹Dept. Neurophysiol., Univ of Tokyo, Tokyo, Japan ²Dept. Cell. Neurobiol., Brain Res. Inst., Niigata Univ., Niigata, Japan

- S2-F-2-6 The role of endocannabinoid signaling in the striatum for reinforcement learning**
Yasumasa Ueda¹, Satoru R Okazaki⁴, Ko Yamanaka², Kazuyuki Samejima², Kazuki Enomoto², Masanobu Kano³, Minoru Kimura²
¹Kansai Medical University, Japan ²Tamagawa Univ. Brain Sci. Inst, Japan ³Dept. Neurophysiol., Univ. Tokyo, Japan
⁴Kyoto Pref. Univ. Med, Japan

Symposium S2-F-3

17:10~19:10 Room F (302)

Elucidation of principle of neural circuits using small circuits

Chairpersons : Azusa Kamikouchi *Graduate School of Science, Nagoya University, Japan*
Ikue Mori *Graduate School of Science, Nagoya University, Japan*

- S2-F-3-1 Computation of Behavior by Whole-Brain Dynamics**
Saul Kato, Harris S Kaplan, Tina Schrödel, Manuel Zimmer
IMP Research Institute of Molecular Pathology, Austria
- S2-F-3-2 Decoding of decision-making, learning and memory in the neural circuits of the nematode *C. elegans***
Ikue Mori
Nagoya University, Japan
- S2-F-3-3 Brain wide connectomics analysis of using *Drosophila* as a model**
Kei Ito, Jun Tanimura, Chloe Murtin, Masayoshi Ito
Institute of Molecular and Cellular Biosciences, University of Tokyo, Japan
- S2-F-3-4 A spatial representation of the pattern of antennal movement in the fruit-fly brain**
Azusa Kamikouchi^{1,2}, Eriko Matsuo¹, Daichi Yamada¹
¹Nagoya University, Japan ²PREST, Japan Science and Technology Agency, Japan
- S2-F-3-5 To turn left or right? A circuit motif for a two alternative behavioral choice in the zebrafish hindbrain**
Minoru Koyama^{1,2}, Francesca Minale³, Jennifer Shum³, Nozomi Nishimura³, Chris B Scahffer³, Joseph Fetcho²
¹HHMI/Janelia Farm, Ashburn, VA, USA ²Department of Neurobiology and Behavior, Cornell University, Ithaca, NY, USA
³Department of Biomedical Engineering, Cornell University, Ithaca, NY, USA
- S2-F-3-6 Interrogation of whole-brain function in zebrafish at neuron-level resolution**
Misha Ahrens
Janelia Research Campus, Howard Hughes Medical Institute, USA
- S2-F-3-7 Neural circuits underlying operant learning in larval zebrafish**
Florian Engert
Harvard University, National Institute of Genetics (Visiting Professor), USA

Symposium S2-G-1

15:00~17:00 Room G (303)

Sensory-input dependent refinement of neural circuits

Chairpersons : Hiroshi Kuba *Department of Cell Physiology, Nagoya University, Japan*
Mariko Miyata *Department of Physiology, Tokyo Women's Medical University, Japan*

- S2-G-1-1 Molecular mechanism of sensory experience-dependent maintenance of neuronal circuits**
Mariko Miyata^{1,5}, Madoka Narushima¹, Motokazu Uchigashima², Kouichi Hashimoto³, Takeshi Harada⁴, Atsu Aiba⁴, Masahiko Watanabe², Masanobu Kano^{5,6}
¹Dept. of Physiology, Tokyo Women's Medical Univ., Japan ²Dept Anatomy, Grad Sch Med, Hokkaido Univ, Sapporo, Japan
³Dept Neurophysiol, Grad Sch Biomed & Health Sci, Hiroshima Univ, Hiroshima, Japan
⁴Lab Animal Resources, CDBIM, Sch Med, Univ Tokyo, Tokyo, Japan ⁵PRESTO, JST, Kawaguchi, Japan
⁶Dept Neurophysiol, Grad Sch Med, Univ Tokyo, Tokyo, Japan
- S2-G-1-2 Experience-Dependent Rewiring of a CNS Synapse by Redistribution of Synaptic Contacts**
Chinfei Chen
Boston Children's Hospital, Harvard Medical School, USA
- S2-G-1-3 Homeostatic regulation of neuronal activity in an auditory circuit**
Hiroshi Kuba^{1,2}
¹Dept Cell Physiol, Nagoya Univ, Aichi, Japan ²JST PRESTO, Japan
- S2-G-1-4 Migration and maturation of new neurons in the adult olfactory bulbs**
Kazunobu Sawamoto
Department of Developmental and Regenerative Biology, Nagoya City University Graduate School of Medical Sciences, Japan

- S2-G-1-5 Gene therapy using channelrhodopsins for restoring vision**
Hiroshi Tomita^{1,2}, Eriko Sugano¹, Kitako Tabata¹, Fumiaki Nishiyama¹, Namie Murayama¹,
Maki Takahashi¹, Takehiko Saito¹, Makoto Tamai³
¹Dept of Chemistry and Bioengineering, Iwate University, Morioka, Japan
²Clinical Research, Innovation and Education Center, Tohoku University Hospital, Japan
³Graduate School of Medicine, Tohoku University, Japan

Symposium S2-G-2

17:10~19:10 Room G (303)

Novel molecular mechanisms of release and catch of neural signals

Chairpersons : Yoshihiro Kubo *Division of Biophysics and Neurobiology, National Institute of Physiological Science, Japan*
Yasuo Mori *Graduate of School Engineering and Environmental Studies, Kyoto University, Japan*

- S2-G-2-1 Transsynaptic channelosome: Non-conducting role of voltage gated calcium channels for presynaptic differentiation**
Hiroshi Nishimune
Dept. Anatomy and Cell Biology, Univ of Kansas, Sch of Medicine, Kansas City, USA
- S2-G-2-2 Calcium homeostasis modulator (CALHM) ion channel family encoding voltage-gated ATP release ion channels involved in non-synaptic purinergic neurotransmission**
Akiyuki Taruno¹, J. Kevin Foskett², Yoshinori Marunaka¹
¹Dept Mol Cell Physiol, Kyoto Prefect Univ Med, Kyoto, Japan ²Dept Physiol, Univ of Pennsylvania, Philadelphia, PA, USA
- S2-G-2-3 Activation signal transmission within the trimeric ATP receptor channel P2X₂ and the voltage-dependent structural rearrangements**
Yoshihiro Kubo, Batu Keceli
Div Biophys and Neurobiol, Natl Inst for Physiol Sci, Aichi, Japan
- S2-G-2-4 Novel oxygen receptors in neurons**
Yasuo Mori
Grad Sch Eng & Envir Studies, Kyoto Univ, Kyoto, Japan

Symposium S3-A-1

9:00~11:00 Room A (Main Hall)

Joint Symposium of the Japan Neuroscience Society and the Japanese Society of Neurology : Neuroimmunology Cutting Edge Symposium: Mechanisms of Immune-mediated Neurological Disease

Chairpersons : Jun-ichi Kira *Department of Neurology, Neurological Institute, Graduate School of Medical Sciences, Kyushu University, Japan*

Takashi Kanda *Department of Neurology and Clinical Neuroscience, Yamaguchi University Graduate School of Medicine, Japan*

S3-A-1-1 Early Disruption of the Glial Syncytium via Connexins and Energy Transporters in Demyelinating Disorders

Jun-ichi Kira, Katsuhisa Masaki
Kyushu University, Japan

S3-A-1-2 Guillain-Barré syndrome and anti-ganglioside antibodies: a clinician-scientist's journey

Nobuhiro Yuki
Dept Med, National University of Singapore, Singapore

S3-A-1-3 Immue-mediated channelopathy in neuroimmunological diseases

Osamu Watanabe
Depat Neurol, Univ of Kagoshima, Kagoshima, Japan

S3-A-1-4 Immune-mediated disruption of neurovascular units in neuroimmunological diseases

Takashi Kanda
Department of Neurology and Clinical Neuroscience, Yamaguchi University Graduate School of Medicine, Japan

Symposium S3-A-2

17:10~19:10 Room A (Main Hall)

Frontiers in Neuronal Circuits for Memory Association and Separation

Chairpersons : Kaoru Inokuchi *Department of Biochemistry, Graduate School of Medicine and Pharmaceutical Sciences, University of Toyama, Japan*

Takashi Kitamura *RIKEN-MIT Center for Neural Circuit Genetics at the Picower Institute for Learning and Memory, Massachusetts Institute of Technology (MIT), USA*

S3-A-2-1 Optogenetic Manipulations of Memory Engrams

Xu Liu^{1,2}, Steve Ramirez¹, Susumu Tonegawa^{1,2}
¹RIKEN-MIT Center for Neural Circuit Genetics at the Picower Institute for Learning and Memory, MIT, Cambridge, USA
²Howard Hughes Medical Institute, MIT, Cambridge, USA

S3-A-2-2 Memory association process based on the cell ensemble dynamics

Kaoru Inokuchi^{1,2}
¹University of Toyama, Japan ²CREST, JST, Japan

S3-A-2-3 New Excitatory Input from the Entorhinal Cortex into the Hippocampus Inhibits the Associations of Temporally Discontinuous Events

Takashi Kitamura
RIKEN-MIT Center for Neural Circuit Genetics at the Picower Institute for Learning and Memory, Massachusetts Institute of Technology (MIT), USA

S3-A-2-4 Mutual interaction between spatial information processing and adult neurogenesis in the dentate gyrus

Ayumu Tashiro^{1,2}
¹Warwick-NTU Neuroscience Programme, School of Biological Sciences, Nanyang Technological University, Singapore
²Warwick-NTU Neuroscience Programme, School of Life Sciences, University of Warwick, Coventry, UK

S3-A-2-5 Network mechanisms of pattern separation and completion in hippocampus

Tomoki Fukai
Brain Sci.Inst., RIKEN, Saitama, Japan

Discussion

Symposium S3-B-1

9:00 ~ 11:00 Room B (501)

Quarter Century after the Direct and Indirect Pathways: Towards Comprehensive Understandings of the Basal Ganglia

Chairpersons : Atsushi Nambu *Division of System Neurophysiology, National Institute for Physiological Sciences, Japan*
Fumino Fujiyama *Laboratory of Neural Circuitry, Graduate School of Brain Science, Doshisha University, Kyoto, Japan*

Introduction

- S3-B-1-1** Cell type-specific plasticity of striatal projection neurons in parkinsonism and L-DOPA-induced dyskinesia
Dalton James Surmeier, Jr.
Department of Physiology, Northwestern University, Feinberg School of Medicine, USA
- S3-B-1-2** Anatomical aspect of the basal ganglia circuitry, in relation to cortical projection
Fuyuki Karube^{1,2}, Fumino Fujiyama^{1,2}
¹*Graduate School of Brain Science, Doshisha University, Kyoto, Japan* ²*CREST, JST, Tokyo, Japan*
- S3-B-1-3** Motor and reward information in direct and indirect pathway neurons
Yoshikazu Isomura^{1,2}
¹*Tamagawa University, Japan* ²*JST CREST, Tokyo, Japan*
- S3-B-1-4** What does dopamine tell striatal neurons through D1 and D2 receptors?
Satomi Chiken
Div Syst Neurophysiol, Natl Inst Physiol Sci, and Grad Univ Adv Studies, Okazaki, Japan
- S3-B-1-5** Neuro-computational modeling of synaptic plasticity in multiple basal ganglia pathways
Fred Hamker^{1,3}, Javier Baladron Pezoa¹, Henning Schroll^{1,2,3}
¹*Chemnitz University of Technology, Germany* ²*Neurology, Charité - Universitätsmedizin Berlin, Germany*
³*Bernstein Center for Computational Neuroscience, Germany*

Discussion

Symposium S3-B-2

15:00 ~ 17:00 Room B (501)

Spike syntax and oscillations: emerging views for neuronal temporal assembling

Chairpersons : Kei M Igarashi *Kavli Institute for Systems Neuroscience, Norwegian University of Science and Technology, Norway*
Shigeyoshi Fujisawa *RIKEN Brain Science Institute, Japan*

- S3-B-2-1** Neuronal sequences in the hippocampus for memory and imagination
David Foster
The Johns Hopkins University School of Medicine, USA
- S3-B-2-2** Coordination of entorhinal-hippocampal ensemble activity during associative learning
Kei M Igarashi¹, Li Lu¹, Laura L Colgin², May-Britt Moser¹, Edvard I Moser¹
¹*Kavli Institute for Systems Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway*
²*Center for Learning and Memory, The University of Texas at Austin, Austin, USA*
- S3-B-2-3** The role of slow and fast gamma rhythms in spatial memory processing
Laura Colgin
University of Texas at Austin, USA
- S3-B-2-4** Computational principles of microcircuits for representation and memory retrieval of objects in macaque inferotemporal cortex
Toshiyuki Hirabayashi
Dept. of Physiol., The Univ. of Tokyo Sch. of Med., Japan
- S3-B-2-5** Neuronal synchronization in Prefrontal, Hippocampal and midbrain networks in working memory
Shigeyoshi Fujisawa
RIKEN Brain Science Institute, Japan

Symposium S3-B-3

17:10 ~ 19:10 Room B (501)

The neural basis of empathetic systems

Chairperson : Takefumi Kikusui *School of Veterinary Medicine, Azabu University, Japan*

Introduction

S3-B-3-1 Observational fear learning in the mouse

Hee Sup Shin
Center for Cognition and Sociality, Institute for Basic Science, Korea

S3-B-3-2 Empathy-related behaviors in monkeys and dogs

Kazuo Fujita
Grad Sch Letters, Kyoto Univ, Kyoto, Japan

S3-B-3-3 Can we predict burnout among medical professionals from empathy-related brain activity?

Hidehiko Takahashi
Department of Psychiatry Kyoto University Hospital, Japan

S3-B-3-4 Make Contact: The role of eye contact in spontaneous social cognition and its impairment in individuals with autism spectrum disorder

Atsushi Senju
Birkbeck, University of London, London, UK

Symposium S3-C-1

9:00 ~ 11:00 Room C (502)

Super-resolution microscopy: nano-scale spotlight for discovery of new principle in brain operation

Sponsored by Leica Microsystems K.K.

Chairpersons : Yasunori Hayashi *RIKEN Brain Science Institute, Japan*
Hiroko Bannai *Department of Biological Science, Graduate School of Science, Nagoya University, Japan*

S3-C-1-1 Supreresolution microscopy reveals molecular anatomy regulating synaptic functions

Kenzo Hirose
The University of Tokyo, Japan

S3-C-1-2 Strategy for the self organization of plasma membrane revealed by quantum-dot single particle tracking

Hiroko Bannai^{1,2}, Misa Arizono^{2,4}, Fumihiro Niwa², Antoine Triller³, Katsuhiko Mikoshiba²
¹Dept. Biol. Sci., Nagoya Univ, Aichi, Japan ²Dev. Neurobiol., RIKEN BSI, Saitama, Japan ³IBENS, INSERM U1024, Paris, France
⁴IINS, CNRS UMR 5297, Bordeaux, France

S3-C-1-3 Molecular dynamic at synapses: toward chemistry in cellulo

Antoine Triller
École Normale Supérieure, Paris, France

S3-C-1-4 Activity-dependent dynamic substructure of single postsynaptic densities and the control of synapse function

Thomas Blanpied
University of Maryland School of Medicine, Baltimore, USA

S3-C-1-5 Size matters: STED imaging of functional neuroanatomy

Valentin Nägerl
Université de Bordeaux - CNRS, France

Symposium S3-C-2

15:00 ~ 17:00 Room C (502)

Japan - Australia Collaborative Symposium : How can animal models inform us about human brain disease

Chairpersons : Seong-Seng Tan *Florey Institute of Neuroscience, University of Melbourne, Australia*
Noriko Osumi *Department of Developmental Neuroscience, Center for Neuroscience, Tohoku University Graduate School of Medicine, Japan*

S3-C-2-1 How PTEN keep neurons alive after stroke and injury

Seong-Seng Tan
University of Melbourne, Australia

- S3-C-2-2** An epigenetic model for gene and environmental risks for the onset of neurodevelopmental disorders
Noriko Osumi, Ryuichi Kimura, Kaichi Yoshizaki, Hitoshi Inada
Dept Devel Neurosci, CTAAR, Tohoku Univ. Sch. Med., Japan
- S3-C-2-3** A Transmembrane Protein Teneurin-4 Positively Regulates Neural and Glial Protrusion Formation through Focal Adhesion Kinase Signaling
Chihiro Akazawa, Nobuharu Suzuki, Yo Mabuchi
Dept. Biophysics and Biochem, Graduate School of Health Sciences, Tokyo Medical and Dental University, Japan
- S3-C-2-4** Attention-like defects in a *Drosophila* model of schizophrenia
Bruno Van Swinderen
Queensland Brain Institute, Australia

Symposium S3-C-3

17:10~19:10 Room C (502)

Network of attention in human and macaque

Co-hosted by Strategic International Research Cooperative Program (SICP) Japanese-German Research Cooperative Program

Chairpersons : Masatoshi Yoshida *Department of Developmental Physiology, National Institute for Physiological Sciences, Japan*Ziad Hafed *Physiology of Active Vision, Centre for Integrative Neuroscience, University of Tübingen, Germany***Introduction**

- S3-C-3-1** A cognitive function of the default mode network (DMN) in monkeys: shifting of selective attention
Wim Vanduffel^{1,2,3}, Natalie Caspari¹, Rik Vandenberghe¹
¹Laboratory of Neuro- and Psychophysiology, KU Leuven Medical School, Belgium
²Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, Massachusetts, USA
³Department of Radiology, Harvard Medical School, Boston, Massachusetts, USA
- S3-C-3-2** Network of attention revealed by TMS and fMRI
Katsuyuki Sakai
Tamagawa University, Japan
- S3-C-3-3** Neuronal response gain modulation around the time of microsaccades
Ziad Hafed
Tübingen University, Tübingen, Germany
- S3-C-3-4** Brain network for visual saliency
Masatoshi Yoshida^{1,2}
¹Dept. of Developmental Physiol., Natl Inst. for Physiol. Sci., Okazaki, Japan ²Sch. Life Sci., Grad. Univ. Adv. Stud., Hayama, Japan

Symposium S3-D-1

15:00~17:00 Room D (503)

Paradigm shift in brain formation researchChairpersons : Hiroshi Kawasaki *Department of Biophysical Genetics, Graduate School of Medical Sciences, Kanazawa University, Japan*Fumio Matsuzaki *Laboratory for Cell Asymmetry, RIKEN Center for Developmental Biology, Japan*

- S3-D-1-1** Dynamic control of bHLH factors in multipotency and fate choice of neural stem cells
Ryoichiro Kageyama^{1,2,3}
¹Insti Virus Res, Kyoto Univ, Kyoto, Japan ²WPI-iCeMS, Kyoto Univ, Kyoto, Japan ³JST-CREST, Saitama, Japan
- S3-D-1-2** Deciphering the rules of cell fate in the developing CNS
Benjamin Simons
University of Cambridge, UK
- S3-D-1-3** Control of cortical development by meningeal signals
Samuel Pleasure
University of California, San Francisco, USA
- S3-D-1-4** A feedback mechanism from neurons to progenitors regulates cortical layer proportion
Fumio Matsuzaki
Laboratory for Cell Asymmetry, Center for Developmental Biology, RIKEN, Japan
- S3-D-1-5** The role of birth in the development of sensory systems
Hiroshi Kawasaki
Dept of Biophys Genet, Grad Sch of Med Sci, Kanazawa Univ, Japan

Spatiotemporal regulation of glutamate distribution by transporters (EAATs/VGLUTs) and implications in neuropsychiatric disorders

Chairpersons : Kohichi Tanaka *Medical Research Institute & CBIR, Tokyo Medical & Dental University, Japan*
Makoto Kinoshita *Department of Molecular Biology, Nagoya University Graduate School of Science, Japan*

Introduction

S3-E-1-1 Role of the glutamate transporter in depression-like behaviors

Hidenori Aizawa¹, Wanpeng Cui¹, Hiroaki Mizukami², Michiko Yanagisawa¹, Tomomi Aida¹, Masatoshi Nomura³, Yoshikazu Isomura⁴, Ryoichi Takayanagi³, Keiya Ozawa², Kohichi Tanaka^{1,5,6}
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S3-E-1-2 Glial glutamate transporter deficiency alters neurotransmission, leading to excessive repetitive behaviours in mice

Tomomi Aida¹, Junichi Yoshida¹, Masatoshi Nomura², Asami Tanimura³, Yusuke Iino¹, Miho Soma¹, Ning Bai¹, Yukiko Ito¹, Wangpeng Cui¹, Hidenori Aizawa¹, Terumi Nagai⁴, Norio Takata⁴, Ryoichi Takayanagi², Masanobu Kano³, Götz Magdalena⁵, Hajime Hirase⁴, Kohichi Tanaka^{1,6,7}
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S3-E-1-3 CDC42EP4/septin-dependent localization of GLAST to parasynaptic domains of Bergmann glia facilitates glutamate clearance from the parallel fiber-Purkinje cell synapses and motor learning

Natsumi Ageta-Ishihara¹, Maya Yamazaki², Kohtarou Konno³, Hisako Nakayama⁴, Manabu Abe², Kenji Hashimoto⁵, Tomoki Nishioka⁶, Kozo Kaibuchi⁶, Tsuyoshi Miyakawa^{7,8}, Kouichi Hashimoto⁴, Masahiko Watanabe³, Kenji Sakimura², Makoto Kinoshita¹
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⁵Cent Forensic Mental Hlth, Chiba Univ, Chiba, Japan ⁶Dept Cell Pharm, Grad Sch Med, Nagoya Univ, Nagoya, Japan
⁷Cent for Gene Anal of Behavior, NIPS, Okazaki, Japan ⁸Div System Med Sci, Fujita Health Univ, Toyoake, Japan

S3-E-1-4 Fluorescence imaging of extrasynaptic glutamate dynamics in the brain

Yohei Okubo, Masamitsu Iino
Dept Pharmacol, Grad Sch Med, Univ of Tokyo, Tokyo, Japan

S3-E-1-5 Quantitative aspects of re-acidification and glutamate loading of synaptic vesicles

Shigeo Takamori
Grad School Brain Sci, Doshisha Univ, Kyoto, Japan

S3-E-1-6 The trimeric glutamate transporter core domain is the astrocyte process tip localizer / stabilizer

Mariko Kato Hayashi, Masato Yasui
Keio University, Japan

Conclusion

Recent progress in the regulation of blood-brain barrier (BBB)

Chairpersons : Tetsuya Terasaki *Department of Biochemical Pharmacology and Therapeutics, Tohoku University, Japan*
Takanori Yokota *Department of Neurology and Neurological Science, Tokyo Medical and Dental University, Japan*

S3-E-2-1 Human brain endothelial cells in vitro under laminar flow: an optimized model of the human Blood-Brain Barrier

Pierre-Olivier Couraud
Inserm U1016-CNRS UMR8104-Univ. Paris Descartes, France

S3-E-2-2 Molecular mechanism of cerebral clearance of human amyloid- β peptide across the blood-brain barrier

Sumio Ohtsuki¹, Shingo Ito¹, Tetsuya Terasaki²
¹Fac Life Sci, Kumamoto Univ, Kumamoto, Japan ²Grad Sch Pharm Sci, Tohoku Univ, Sendai, Japan

S3-E-2-3 Development of BBB-targeting nucleic acid medicine

Hiroya Kuwahara, Takanori Yokota

*Department of Neurology and Neurological Science, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan***S3-E-2-4 Overview: Recent Progress of the BBB Research**

Tetsuya Terasaki

*Tohoku University, Japan***Symposium S3-E-3**

17:10 ~ 19:10 Room E (301)

Disruption of quality control system of protein/organelle and Parkinson's diseasesChairpersons : Yuzuru Imai *Department of Research for Parkinson's Disease, Juntendo University Graduate School of Medicine, Japan*Takafumi Hasegawa *Division of Neurology, Department of Neuroscience & Sensory Organs, Tohoku University Graduate School of Medicine, Japan***S3-E-3-1 Retromer dysfunction as an emerging mechanism of Parkinson's disease**

Takafumi Hasegawa

*Department of Neurology, Tohoku University School of Medicine, Japan***S3-E-3-2 Multiple Roles of Ser129-Phosphorylation in Physiological and Pathological Functions of α -Synuclein**

Shigeki Arawaka, Hiroyasu Sato, Takeo Kato

*Dept Neurol, Yamagata Univ, Faculty of Med, Yamagata, Japan***S3-E-3-3 Mitochondrial quality control by the gene products of early-onset Parkinson's disease**

Yuzuru Imai

*Dept Med, Juntendo Univ, Tokyo, Japan***S3-E-3-4 Extracellular α -synuclein species: usefulness as a biomarker for Parkinson's disease, and their degradation system**

Takahiko Tokuda

*Kyoto Prefectural University of Medicine, Japan***S3-E-3-5 The role of protein aggregation in pathogenesis and spread of neurodegenerative disease**

Ron R. Kopito

*Department of Biology, Stanford University, USA***Symposium S3-F-1**

9:00 ~ 11:00 Room F (302)

Between neurodevelopmental disorders and normal brain formation: Focusing on neuronal differentiation and migration as key milestones.Chairpersons : Takeshi Kawauchi *PRESTO, JST / Department of Physiology, Keio University School of Medicine, Japan*Ryuta Koyama *Laboratory of Chemical Pharmacology, Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan***S3-F-1-1 Multiple cellular functions of Cdk5 in brain development and disease**Takeshi Kawauchi^{1,2}¹*Dept Physiol, Keio Univ Sch Med, Japan* ²*PRESTO, JST, Japan***S3-F-1-2 Roles of glycosaminoglycans in neuronal development**

Hiroshi Kitagawa

*Dept Biochem, Kobe Pharmaceutical Univ, Kobe, Japan***S3-F-1-3 Molecular basis for the regulation of excitatory synaptic transmission by the Rett syndrome causative protein MeCP2**Keita Tsujimura¹, Koichiro Irie¹, Hideyuki Nakashima¹, Yoshihiro Egashira², Yoichiro Fukao³,Masayuki Fujiwara³, Masayuki Ito⁴, Shigeo Takamori², Kinichi Nakashima¹¹*Dept Stem cell biology and Medicine, Kyushu University, Fukuoka, Japan* ²*Lab of Neural membrane Biol, Doshisha Univ, Kyoto, Japan*³*Plant Science Global Education Project, NAIST, Nara, Japan*⁴*Dept Mental Retardation and Birth Defect Reserch, National Inst Neurosci, NCNP, Tokyo, Japan***S3-F-1-4 Cellular and molecular mechanisms involved in the colonization of the cortex by GABAergic interneurons in the mouse embryo**Christine M \acute{e} tin¹, Jean-Pierre Baudoin^{1,2}, Lucie Viou^{1,2}, Camilla Luccardini^{1,2}, Fujio Murakami³¹*Institut du Fer \grave{a} Moulin, INSERM U839, Paris, France* ²*Universit \acute{e} Pierre et Marie Curie, Paris, France*³*Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan*

S3-F-1-5 Cell ectopia in the development of epilepsy

Ryuta Koyama

Laboratory of Chemical Pharmacology, Graduate School of Pharmaceutical Sciences, The University of Tokyo, Tokyo, Japan

Symposium S3-F-2

15:00 ~ 17:00 Room F (302)

Achievements and Agendas of Connectomics Analysis

Chairperson : Kei Ito *Institute of Molecular and Cellular Biosciences, The University of Tokyo, Japan*

S3-F-2-1 High-throughput Reconstruction of Insect and Mammalian Brain Connectomes

Hanchuan Peng

Allen Institute for Brain Science, USA

S3-F-2-2 Electron microscopy-based connectomics on the optic lobe of the *Drosophila* brain

Kazunori Shinomiya¹, Ian A. Meinertzhagen^{1,2}

¹Dept Psychol and Neurosci, LSC, Dalhousie Univ, Halifax, Canada ²Dept Biol, LSC, Dalhousie Univ, Halifax, Canada

S3-F-2-3 EM saturated connectomics in the mammalian brain

Haruo Mizutani, Jeff W. Lichtman

Dept Mol & Cell Biol, Harvard Univ, Cambridge, USA

S3-F-2-4 Dynamics of human macro connectome

Okito Yamashita

ATR Neural Information Analysis Laboratories, Japan

Symposium S3-F-3

17:10 ~ 19:10 Room F (302)

Pain Brain

Chairperson : Makoto Tominaga *Division of Cell Signaling, Okazaki Institute for Integrative Bioscience (National Institute for Physiological Sciences), National Institutes of Natural Sciences, Japan*

S3-F-3-1 Amygdala plasticity in the chronification process of inflammatory pain

Fusao Kato^{1,2}

¹Dept Neurosci, Jikei Univ Sch Med, Japan ²Center for Neuroscience of Pain, Jikei Univ Sch Med, Japan

S3-F-3-2 Chronic Nociceptive Stimuli Down-regulate the Mesolimbic Dopaminergic Transmission and Aggravate Pain Sensation

Minoru Narita^{1,2}

¹Dept. Pharmacol., Hoshi Univ., Japan ²Life Science TOKYO Advanced Research center (L-StaR), Japan

S3-F-3-3 Astrocyte induce cortical synapse remodeling in neuropathic pain model mice

Junichi Nabekura¹, Kwang Sun Kim², Shuichi Koizumi^{2,3}

¹National Institute for Physiological Sciences, Japan ²JST, Japan ³Dept. Pharmacol., Facult. Med, Univ. Yamanashi, Yamanashi, Japan

S3-F-3-4 Central Processing of Pain at Visceral Nociceptive Stimulation

Shin Fukudo

Dept Behav Med, Tohoku University, Sendai, Japan

Symposium S3-G-1

15:00 ~ 17:00 Room G (303)

RIKEN symposium : Manipulating the sense of reality - The potential of virtual reality for neuroscience in rodents

Co-hosted by MEXT "Comprehensive Brain Science Network"

Chairpersons : Norihiro Katayama *Biomodeling Laboratory, Graduate School of Information Sciences, Tohoku University, Japan*

Masaaki Sato *Japan Science and Technology Agency / RIKEN BSI, Japan*

S3-G-1-1 Technology for Providing a Sense of Reality to the Brain and Application to Neuroscience for Rodent

Norihiro Katayama¹, Toshio Araya¹, Yuto Yoshida¹, Yuto Takahashi^{1,2}, Ayako Ueno¹, Daiki Nakagawa¹, Akihiro Karashima¹, Mitsuyuki Nakao¹

¹Graduate School of Information Sciences, Tohoku University, Miyagi, Japan ²JSPS research fellow (DC), Japan

S3-G-1-2 A novel virtual reality system used to understand neural mechanisms that underlie active touch in mice

Masanori Murayama

RIKEN BSI Lab. for Behavioral Neurophysiology, Japan

S3-G-1-3 Spatial behavior of mice in virtual reality

Masaaki Sato^{1,2}

¹PRESTO, JST, Saitama, Japan ²RIKEN BSI, Saitama, Japan

S3-G-1-4 Active visual processing in visual cortex of behaving mice

Georg Keller

Friedrich Miescher Institute, Switzerland

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